Stock Return Momentum and Corporate Policies

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Abstract

We investigate the effect of a firm being a winner or a loser based on recent stock return performance (in the sense of Jegadeesh and Titman (1993)) on subsequent changes in its corporate investment, cash, dividend, and financing polices. We hypothesize that being a past winner (loser) creates incentives for a firm to increase (decrease) its investment in capital expenditures, research and development (R&D), and acquisitions, as well as increase (decrease) cash holdings, decrease (do not change) dividend payouts, and increase (decrease) debt and equity issuance. We further hypothesize that such changes in corporate policies of a winner (loser) firm are expected to improve (deteriorate) its operating performance, which, in its turn, helps to maintain the momentum effect. We use a large sample of firms in 1971-2014 to empirically test the above hypotheses. Our empirical results are largely consistent with our hypotheses except for R&D expenses. We find that past winners (losers) decrease (increase) their investment in R&D. Our findings provide a rational explanation for the momentum effect linking it to the changes in corporate policies.

Stock Return Momentum and Corporate Policies

1. Introduction

In their seminal study, Jegadeesh and Titman (1993) are the first to document the existence of the *momentum effect* in stock returns. They show that when stocks are ranked into deciles based on their past returns, the winners continue to outperform the losers in medium-term. That is, the winners (losers) in the stock market over the last several months continue to be winners (losers) over the next several months.[1] Even though the academic literature agrees in general on the existence of the momentum effect, there are significant debates in the literature on what causes it or whether it persists in the long run. The two main explanations for the momentum effect provided in the literature are the behavioral explanation and the rational risk-based explanation.[2]

While the above two explanations deal with the immediate implications of the momentum effect for stock market investors (the market prices higher those stocks that have been performing well, but punishes those that have been doing poorly in the recent past), they largely overlook the implications of the momentum effect for corporate policies. Given that corporate managers have fiduciary duty to best serve their shareholders, they must consider the momentum effect in their corporate decisions since it may have nontrivial consequences for the shareholders' wealth. We attempt to fill this gap in the literature by providing another rational explanation for the momentum effect by linking it to corporate policies. We

[1] A large number of subsequent studies document the existence of the momentum effect using other data sets. Among others, Rouwenhorst (1998) finds evidence of momentum in equities in developed markets; Rouwenhorst (1999) documents the momentum effect in emerging markets; Asness, Liew, and Stevens (1997) demonstrate the momentum effect in investing in country indexes. Jegadeesh and Titman (2001) confirm that momentum profits persist for the U.S. market following their initial sample period. The momentum effect is discovered outside of the stock market as well. Okunev and White (2003) find the momentum effect in the currency market; Erb and Harvey (2006) find it in the commodities market; and Moskowitz, Ooi, and Pedersen (2012) discover it in exchange traded futures contracts.

[2] According to the behavioral explanation momentum profits result from investors' irrational underreaction to firm-specific information (see, e.g., Barberis, Shleifer, and Vishny, 1998; Daniel, Hirshleifer, and Subrahmanyam, 1998; Hong and Stein, 1999; Zhang, 2006; or Chui, Titman, and Wei, 2010). According to the rational risk-based explanation momentum profits are realizations of risk premiums because winner stocks are riskier than loser stocks (see, e.g., Conrad and Kaul, 1998; Berk, Green, and Naik, 1999; Johnson, 2002; Ahn, Conrad, and Dittmar, 2002; Bansal, Dittmar, and Lundblad, 2005; Sagi and Seasholes, 2007; or Liu and Zhang, 2008). Further, according to the behavioral explanation (Hirshleifer, 2001) firms with larger momentum should experience greater reversals, while according to the rational argument (Johnson, 2002) momentum should not be followed by reversal.

argue that the momentum effect in stock returns is a reaction by the financial markets to the changes in corporate policies that firms have incentives to initiate in response to being winners or losers in past periods. These changes in corporate policies lead to changes in operating performance, which, in their turn, help to maintain the momentum effect.

In particular, in the first part of the paper we derive testable hypotheses regarding the effect of being winners or losers in past periods on the changes in four different (and interrelated) corporate polices—investment policy, cash policy, dividend policy, and financing policy. We argue that the winners and losers in past periods will alter their subsequent corporate polices differently with different outcomes for their operating performance. Specifically, the changes in corporate policies initiated by past winners are expected to result in improvement in operating performance, whereas the changes initiated by past losers are expected to result in deterioration in operating performance. Given that operating performance and stock return performance often go hand in hand, such changes in operating performance are likely to maintain the momentum effect. We empirically test these hypotheses in the second part of the paper.

We start our analysis by hypothesizing about the effect of being past winners or losers on subsequent changes in corporate investment policies: capital expenditures, research and development (R&D) expenses, and acquisitions. We argue that past stock returns can affect corporate investments through their impact on the cost of equity (Baker, Stein, and Wurgler, 2003). In particular, higher past returns will make the cost of winning firms' capital fall, which will increase the value of their certain projects above the threshold (NPV of such projects will become positive), creating incentives for managers to intensify their investment activities. On the other hand, the managers of past losers are likely to cut back on their investment activities due to rising cost of capital.

Next, we derive testable predications on how firms change their cash holdings, dividend policy, and financing policy in response to past stock returns and in accordance with the changes in investment policy. According to Myers and Majluf (1984) a firm will undertake all positive NPV projects if it has ample financial slack (large holdings of cash and marketable securities). Therefore we expect past winners (losers) who have more (less) valuable investment projects to increase their cash holdings in response to past positive (negative) returns. Further, past winners can accumulate cash for investment purposes using internal sources first by restricting dividends and retaining equity and then raising debt and equity externally, starting with debt first. In this setting we expect past winners to reduce their dividend payouts, increase their net debt issuance, as well as increase their net equity issuance. Some of these firms which generate large enough earnings can build up slack by simply retaining such earnings, some others will reduce their dividend payments if earnings are not large enough, and the ones with smaller earnings will raise capital externally starting with debt first. On the other hand, past losers who are expected to cut back on investment and reduce their cash holdings, will be likely to keep their dividend payouts unchanged, decrease their net debt issuance, as well as decrease their net equity issuance.[3] Finally, the net effect of the above changes in retained earnings, in dividend payouts, as well as in debt and equity issuance on leverage ratios can be positive or negative (both for past winners and past losers) depending on the relative magnitude of the changes in these policy variables.

We start our empirical analysis by first identifying past winners and past losers based on their stock return performance in previous periods. We follow the methodology in Jegadeesh and Titman (1993) and identify past winners and losers by assigning them to the highest and the lowest deciles, respectively, based on their stock returns in previous three, six, nine, or twelve months. We then compare the changes in corporate policy variables of winners and losers to those firms assigned either to deciles two through nine or deciles five and six. For robustness, we also identify winners (losers) by requiring them to have positive (negative) raw or index-adjusted returns in *each* of the past three, six, nine, or twelve months. We conduct our empirical tests by regressing the changes in various corporate policy variables in subsequent one, two, three, or four fiscal quarters (after winners or losers are determined) on dummy variables identifying winners or losers and other controls. We chose to construct the changes in corporate policy variables using quarterly, rather than annual, data to be able to better capture such changes.

[3] Even though past losers are expected to reduce their cash holdings, such firms will be unlikely to increase their dividend payouts since in the absence of valuable investment projects increasing dividends will not be sustainable in long run. Thus keeping dividend payouts unchanged is the optimal policy for past losers.

Our empirical findings can be summarized as follows. First, as expected, past winners respond to their positive stock returns by significantly increasing capital expenditures and the number of acquisitions over the next four quarters after the positive returns are observed, while past losers reduce their subsequent capital expenditures and the number of acquisitions over the same period. However, contrary to our expectation, we find past stock returns to have an opposite effect on R&D expenses: past winners significantly reduce their R&D expenses, while past losers significantly increase their R&D expenses. Since R&D expenses are generally considered to be a riskier investment than capital expenditures (see, e.g., Chan, Lakonishok, Sougiannis, 2001; Kothari, Laguerre and Leone, 2002; Li, 2011), one possible explanation for this latter finding is that firms with positive (negative) past returns are less (more) risky and tend to implement safer (riskier) corporate policies (see, e.g., Coles, Daniel, and Naveen, 2006).

Second, as predicted, we find that past winners increase their cash holdings, while the opposite is true for past losers. Given our findings involving capital expenditures and acquisitions, this indicates that firms which have access to more valuable investment opportunities are likely to accumulate cash to be able to take full advantage of such value-enhancing opportunities.

Third, largely consistent with our prediction, we find past winners to either reduce their dividend payout ratios or keep them unchanged, and we find past losers to keep their dividend payout ratios unchanged as well. These results imply that, in general, firms (both winners and losers) are unwilling to significantly change their dividend payouts in response to either positive or negative past stock returns; however, some winners do reduce their dividends since such an action can be more cost beneficial compared to the alternatives such as raising debt and equity externally.

Fourth, partially consistent with our prediction, we find that past winner do not significantly change their net debt issuance (the difference between new debt issues and existing debt retirement), while past losers significantly reduce their net debt issuance. At the same time, as expected, we find past winners significantly increasing their net equity issuance (the difference between new equity sales and outstanding equity repurchases) and past losers significantly decreasing their net equity issuance. However, interestingly, the increase in net equity issuance of past winner occurs mostly in the first two fiscal quarters immediately after winners are identified. This indicates that past winners take advantage of their higher stock prices rather quickly and increase their equity issuance without much delay. Finally, we find that the net effects of the above changes in debt and equity issuance as well as in dividend payouts and earnings retention are that past winners significantly reduce their leverage ratios while past losers significantly increase their leverage ratios.

Lastly, we find that past winners realize significant improvements in their subsequent operating performance while past losers realize significant deterioration in operating performance. This indicates that the changes in corporate polices instituted in response to past positive or negative stock returns (in particular changes in investment polices) have a significant impact on subsequent operating performance. Since operating performance and stock returns often move hand in hand, it is not surprising that past winners continue to realize higher stock returns given that their operating performance improves as a result of the changes in corporate polices. The opposite is true for past losers; such firms continue realizing lower returns as their operating performance deteriorates as a result of the changes in their corporate policies. This provides a rational link between past returns and future returns through corporate polices. Thus, our findings in this paper provide evidence of a significant relationship between past stock returns and subsequent changes in corporate policies and firm performance, which, in their turn, are likely to affect future stock returns.

Our contribution to the literature is three-fold. First, our paper contributes to literature on the momentum effect. While the existing studies in the literature have concentrated on the existence of the momentum effect and on various behavioral and rational risk-based explanations for the effect, our study provides another rational (non-risk-based) explanation for the momentum effect by associating it with corporate policy decisions. Second, our paper contributes to the literature on various corporate policies such as investment, financing, and dividend policies. While there is a multitude of studies investigating the effect of various corporate policy variables on future stock returns, there are surprisingly very few studies on the effect of past stock return performance on these corporate policies. We add to the literature by establishing the link between past stock returns and subsequent changes in various corporate policies.

Further, an increasing number of studies (e.g., Bond, Edmans, and Goldstein, 2012) document that corporate decisions on investment, financing, and dividend policies cannot be determined independent of each other. This paper addresses this issue in the context of the momentum effect. Finally, our study adds to the literature on managerial ability to respond to market developments. There are many studies documenting how managers exploit market developments in their favor. Graham and Harvey (2001), among others, report survey evidence that managers explicitly consider the possibility of equity overvaluation when deciding whether to issue shares; Eckbo, Masulis, and Norli (2006) and Baker and Wurgler (2012) provide evidence on managerial market timing ability in firm decisions.[4] We provide further evidence on managerial market timing by showing that past stock return performance is an important determinant in subsequent corporate policy decisions.

The rest of the paper is structured as follows. Section 2 develops testable hypotheses. Section 3 describes the data and sample selection. Section 4 describes our empirical methodology and presents our empirical findings. Section 5 concludes.

2. Hypotheses Development

We start our analysis with the effect of past stock return performance on corporate investment policies. A firm realizing positive stock return performance in recent periods will see its stock price increasing over that period. A higher stock price, everything else constant, will result in a lower cost of equity. The overall cost of capital will decrease as well, since the market value of equity (proportion of equity) will increase. This decrease in the overall cost of capital will increase the value of firm's certain projects above the threshold (NPV of such projects will become positive) and will allow the firm to intensify its investment activities, in particular, increasing capital expenditures and R&D expenses.[5] Also,

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[4] On the other hand, DeAngelo, DeAngelo, and Stulz (2010) show that a near-term cash need is the primary driver of the decision to issue equity in secondary market, with market-timing opportunities and firm lifecycle stage exerting only ancillary influence on such decision.

[5] In addition, if the positive past stock returns are related to the market's endorsement of the projects that firms have, they may have even a larger impact on investment (Hayashi, 1982).

the lower cost of capital (and greater availability of cheaper financing) may allow the firm to intensify its acquisition activities as well.

On the other hand, a firm realizing negative stock return performance in recent periods is likely to have its cost of capital increase which, in its turn, will decrease the value of investment projects available to the firm. This will result in less investment both internally (in capital expenditures and R&D expenses) as well as externally (in acquisitions). This leads to our first set of hypotheses:

H1. *A firm realizing positive (negative) stock return performance in recent periods is likely to increase (decrease) its investment in capital expenditures.*[6]

H2. *A firm realizing positive (negative) stock return performance in recent periods is likely to increase (decrease) its investment in R&D expenses.*

H3. *A firm realizing positive (negative) stock return performance in recent periods is likely to increase (decrease) its investment in acquisitions.*

Next, we discuss the effect of past stock return performance on a firm's financing policies such as cash holdings, dividend payout ratios, debt and equity issuance, and leverage ratios. As discussed above, a firm realizing positive stock return performance in recent periods is likely to have a greater supply of valuable investment projects and, as a result, to increase its investment in capital expenditures, R&D expenses, and acquisitions. Such increased investment activity is likely to require additional capital which can come from a variety of sources: internally generated funds, debt issues, and equity issues. In a setting of information asymmetry between firm insiders and outside investors, Myers and Majluf (1984) show that a firm will undertake all positive NPV projects if it has ample financial slack (large holdings of cash and marketable securities) whereas it will pass up some of these projects if it does not have slack and needs to raise capital externally. This is because cash generated internally is the least costly source of

[6] Consistent with our hypothesis, Titman, Wei, and Xie (2004) find that firms that increase capital investments tend to have high past returns. They also find that such firms often issue equity, which is consistent with our hypothesis **H7** presented below.

financing compared to external debt and equity.[7] It follows then that a firm realizing positive stock return performance in recent periods is likely to increase its cash holdings to be able to maximize the number of valuable investment projects it can undertake.

The firm can accumulate cash by restricting dividends and retaining equity. Myers and Majluf (1984) suggest that firms can build up slack by restricting dividends when investment requirements are modest. The other sources of cash are debt and equity issues. In general, in Myers and Majluf's (1984) setting, firms will issue debt first and use external equity as a last resort. Thus, firms which generate large enough earnings can build up slack by simply retaining such earnings, some others will reduce their dividend payments if earnings are not large enough, and the ones with smaller earnings will raise capital externally starting with debt first.[8, 9, 10, 11] As firms retain more earnings as well as issue more equity, the total equity value will increase reducing leverage ratios. At the same time issuing more debt is expected to

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[7] Opler, Pinkowitz, Stulz, and Williamson (1999) find that firms with large amounts of excess cash acquire it through the accumulation of internal funds. They also find that spending on new projects and acquisitions is only slightly higher for firms with excess cash. Harford (1999) finds that cash-rich firms are more likely than other firms to attempt acquisitions and that acquisitions by cash-rich firms are value decreasing. Denis and Sibilkov (2009) show that greater cash holdings are associated with higher levels of investment for financially constrained firms and conclude that higher cash holdings allow constrained firms to undertake value-increasing projects that might otherwise be bypassed.

[8] Implementation of a greater number of valuable investment projects by firms realizing positive stock returns in recent periods is likely to improve their operating performance and increase the cash flows generated internally. If this is the case then such firms will build up financial slack using their internally generated cash flows without resorting either to divided cuts or raising capital externally.

[9] There is a large literature suggesting that firms are rather reluctant to reduce their dividend payments as it sends a negative signal to the financial markets regarding their future prospects. Firms are also reluctant to increase their dividend payments if such increased dividends are not sustainable in long run. Thus, if the costs associated with sending a negative signal to the markets by restricting dividend payments are larger than the costs associated with raising capital in external markets, then firms will raise capital externally instead of changing their dividend policy. So some firms will restrict dividend payments while some others will raise capital externally depending on this trade-off.

[10] Higher stock prices resulting from positive momentum in stock returns and higher market value of equity will increase the firm's debt capacity and create an incentive to issue more debt in order to utilize the tax shields provided by debt financing.

[11] The decrease in the cost of equity resulting from past positive returns, everything else constant, can make equity financing relatively more attractive creating an incentive for the firm to issue more equity. We do not argue that the cost of equity will be lower than the cost of debt, however in the presence of such market imperfections as, e.g., the costs of financial distress associated with debt, a firm may be more inclined, in equilibrium, to raise financing by issuing equity. Further, increasing stock prices as a result of past positive stock returns may result in a relative overvaluation of the firm's equity which will create more incentives to issue equity. Even though the issuance of equity amidst increasing stock prices may send a negative signal to the financial market about the firm's equity overvaluation, there exists an extensive literature documenting market timing as one of the possible drivers in seasoned equity issues (see, e.g., Loughran and Ritter (1997) or Baker and Wurgler (2002) among others).

increase leverage ratios. The net effect of the above actions on leverage ratios will depend on the relative magnitude of retained earnings, equity issues, and debt issues.

We now turn to the firms which realize negative stock return performance in recent periods. As discussed above, such firms will have fewer valuable investment opportunities and are expected to reduce their capital expenditures, R&D expenses, and the number of acquisitions. For such firms the opportunity cost of cash is relatively higher and financial slack will be less valuable. Therefore these firms will be likely to reduce their cash holdings. Instead of accumulating cash to have it available for valuable investment projects when they come along, in the absence of such valuable investment projects firms will be likely to draw down their cash holdings paying dividends, retiring outstanding debt, and repurchasing equity. [12, 13, 14, 15] As firms repurchase equity their leverage ratios will increase. On the other hand, as firms retire outstanding debt their leverage ratios will decrease. The net effect of such equity repurchases and debt retirement on leverage ratios will depend on their relative magnitudes.

The discussion above leads to our next set of hypotheses:

H4. *Firms realizing positive (negative) stock return performance in recent periods are likely to increase (decrease) their cash holdings.*

H5. *Dividend payout ratios of firms realizing positive (negative) stock return performance in recent periods are likely to decrease (remain unchanged).*

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[12] If firms realizing negative stock returns in recent periods also experience significant deterioration in their operating performance (due to fewer valuable investment projects being available) and generate lower cash flows as a result, these itself will have an effect of contracting their cash holdings.

[13] As the market value of equity of firms realizing negative stock returns in recent periods decreases, they will have an incentive to reduce the amount of their outstanding debt by retiring some portion of it so that they can reduce the potential costs of financial distress associated with having excess amounts of debt.

[14] Firms realizing negative stock returns in recent periods may have an incentive to engage in stock repurchase programs given the depressed prices of their equity.

[15] As mentioned previously, firms are rather reluctant to increase their dividend payments if such increased dividends are not sustainable in long run. Provided that firms realizing negative stock returns in recent periods are likely to have fewer valuable investment projects and, as a result, relatively bleaker future prospects, increasing dividends for such firms may not be sustainable in long run. Such firms are likely to either keep their dividend payments at previous levels or even reduce them if deteriorating operating performance puts a pressure on firms' financial resources.

H6. *Firms realizing positive (negative) stock return performance in recent periods are likely to have positive (negative) changes in their net long-term debt issuance.* [16]

H7. *Firms realizing positive (negative) stock return performance in recent periods are likely to have positive (negative) changes in their net equity issuance.*

H8. *Positive (negative) past stock return performance is likely to lead to either lower or higher (lower or higher) leverage ratios depending on the relative magnitudes of net equity issues, net debt issues, as well as the magnitude of net retained earnings.*

Finally, we also discuss the effect of past stock return performance on subsequent changes in operating performance. We have already mentioned above that implementation of a greater number of valuable investment projects by firms realizing positive stock return performance in recent periods is likely to improve their operating performance. At the same time, firms realizing negative stock return performance in recent periods are likely to reduce their investment in valuable investment projects, and, as a result, realize deterioration in subsequent operating performance. This is our last hypothesis:

H9. *Firms realizing positive (negative) stock return performance in recent periods are likely to realize improvement (deterioration) in their operating performance.*

If the operating performance of firms realizing positive (negative) stock return performance in recent periods improves (deteriorates) as a result of the expected changes in various corporate policies, and assuming that operating performance and stock return performance often go hand in hand, such firms are likely to also realize positive (negative) stock return performance in subsequent periods as well. If this is the case, it will maintain the positive (negative) momentum in stock returns documented in prior literature.

[16] Net debt issuance is the difference between the issues of new long-term debt and the retirement of outstanding long-term debt. Net equity issuance is the difference between the issues of new equity and the repurchases (retirement) of existing equity.

3. Data and Sample Selection

We collect stock price and return data necessary for identifying past winners and past losers in the stock market from the Center for Research in Security Prices (CRSP). The sample period is from 1971 to 2014. Only common stocks traded on the NYSE, AMEX, or NASDAQ are included in the sample (SHRCD = 10 or 11). We exclude American Depository Receipts (ADRs), Real Estate Investment Trusts (REITs), and closed-end mutual funds from our sample. We also exclude highly regulated utility firms (SIC codes between 4900 and 4999) and financial institutions (SIC codes between 6000 and 6999). We exclude firms with stock prices below $5 when constructing our variables identifying past winners and past losers (described in the next section). Accounting data necessary for construction of our corporate policy variables comes from Quarterly Compustat. Acquisition data comes from SDC/Platinum Mergers & Acquisitions database. Our final sample includes 440,025 firm-fiscal quarter observations. However, our tests include fewer observations than this number due to the availability of various accounting and stock return data.

4. Empirical Methodology and Results

To study the effect of past stock returns on various corporate policy variables we use the following estimation model:

$$\Delta y_{i,t} = \alpha + \beta Momentum_{i,t-1} + \gamma X_{i,t} + \varepsilon_{i,t}\,. \tag{1}$$

In the above equation, the dependent variable Δy represents the change in various corporate policy variables for firm i from current fiscal quarter t to one (t + 1), two (t + 2), three (t + 3), and four (t + 4) fiscal quarters after. In other words, Δy is equal to the level of a corporate policy variable in fiscal quarters t + 1, t + 2, t + 3, or t + 4 minus the level of that corporate policy variable in current quarter t. Given that a firm may experience some unexpected and unusual activity in current fiscal quarter t (which serves as the basis for comparison with subsequent quarters), instead of the level of the corporate policy variable in current fiscal quarter t we use the average level of that corporate policy variable in the past four fiscal quarters (including current quarter *t*). We construct our corporate policy variables using quarterly data, instead of annual data, to be able to better capture the changes in various corporate policy variables following positive or negative past stock returns, since such changes are likely to be implemented by corporate executives rather quickly in order to capitalize on such positive or negative returns.

The main independent variable of interest is *Momentum*, which is an indicator variable capturing the stock return performance of the firm prior to the end of the current fiscal quarter *t*. We run separate regression for firms which realize positive stock return performance in recent past (past winners) and for firms which realize negative stock return performance in recent past (past losers). We use several proxies for *Momentum* both for firms realizing positive and negative past return performance as described below.

To identify firms realizing positive stock return performance in recent periods (past winners), we follow Jegadeesh and Titman (1993) and use *JTDec10M3All*, *JTDec10M6All*, *JTDec10M9All*, and *JTDec10M12All* which are dummy variables equal to one for firms allocated to decile ten (best performers) based on their stock return performance in previous three, six, nine, or twelve months, respectively, and zero for firm in deciles two through nine. We assign firms to deciles based on their holding periods returns in past three, six, nine, or twelve months ending on the last day of the current fiscal quarter *t*. These dummy variables allow us to compare past winners (in decile ten) with the firms which are neither winners nor losers (firms in deciles two through nine) in order to identify the effect of past positive stock return performance on subsequent changes in various corporate policies. Further, we also use *JTDec10M3*, *JTDec10M6*, *JTDec10M9*, and *JTDec10M12* which are dummy variables equal to one for firms allocated to decile ten as described above (past winners) based on their stock return performance in previous three, six, nine, and twelve months, respectively, and zero for firm in deciles five and six. In other words, with these four dummies we identify firms which are neither winners nor losers as those in deciles five and six only.

For robustness, we also use additional proxies for past winners. In particular, we use *PosM3*, *PosM6*, *PosM9*, and *PosM12*, which are dummy variables equal to one for firms which realized positive returns in *each* of past three, six, nine, and twelve months, respectively, and zero for the rest of the sample. These dummies are more restrictive in identifying past winners compared to the dummies constructed following the Jegadeesh and Titman (1993) methodology as described above. This is because, while some firms may end up in decile ten (past winners) according to the Jegadeesh and Titman (1993) methodology even if they have negative returns in one or more months in past three, six, nine, or twelve month of estimation period, *PosM3*, *PosM6*, *PosM9*, and *PosM12* are equal to one only if stocks experienced positive returns in each of the three, six, nine, or twelve months of estimation period. Finally, we also use index-adjusted versions of the above dummies, namely, *PosM3S&P*, *PosM6S&P*, *PosM9S&P*, and *PosM12S&P*, which are dummy variables equal to one for firms which realized positive S&P 500 index-adjusted returns in each of past three, six, nine, and twelve months, respectively, and zero for rest of the sample.

We construct *Momentum* variables for past losers in a similar way. In particular, *JTDec1M3All*, *JTDec1M6All*, *JTDec1M9All*, and *JTDec1M12All* are dummy variables equal to one for firms allocated to decile one (past losers) based on their stock return performance in previous three, six, nine, and twelve months, respectively, and zero for firm in deciles two through nine, following Jegadeesh and Titman (1993). Next, *JTDec1M3*, *JTDec1M6*, *JTDec1M9*, and *JTDec1M12* are dummy variables equal to one for firms allocated to decile one (past losers) based on their stock return performance in previous three, six, nine, and twelve months, respectively, and zero for firms in deciles five and six, following Jegadeesh and Titman (1993). Additionally, *NegM3*, *NegM6*, *NegM9*, and *NegM12* are dummy variables equal to one for firms which realized negative returns in *each* of past three, six, nine, and twelve months, respectively, and zero for the rest of the sample. Finally, *NegM3S&P*, *NegM6S&P*, *NegM9S&P*, and *NegM12S&P* are dummy variables equal to one for firms which realized negative S&P 500 index-adjusted returns in each of past three, six, nine, and twelve months, respectively, and zero for the rest of the sample.

In equation (1), *X* represents a vector of control variables, which include Tobin's Q, return on assets (ROA), and cash flow (CF) as of the end of current fiscal quarter *t*, as well as 2-digit SIC industry code dummies and year dummies as control variables. Tobin's Q is defined as the ratio of the market value of assets to the book value of total assets (Compustat item ATQ), where the market value of assets is equal to the book value of assets minus the book value of common equity (Compustat item CEQQ) and deferred taxes (Compustat item TXDBQ) plus the number of shares outstanding (Compustat item CSHOQ) times the share price (Compustat item PRCCQ). ROA is defined as the ratio of income before extraordinary items (Compustat item IBQ) over total assets. CF is the ratio of the sum of income before extraordinary items (Compustat item IBQ) and depreciation (Compustat item DPQ) over total assets. Similar control variables were used by Bertrand and Schoar (2003) in their study of the effect of individual managers on their firms' corporate policies. Year dummies are based on the calendar year of current fiscal quarter *t*. We estimate our regressions in equation (1) as clustered regressions, where each firm's observations are treated as cluster groups.

4.1. Past Stock Return Performance and Corporate Investment Policies

In this section we present our empirical findings on three investment policy variables, namely, capital expenditures, research and development expenses (R&D), and acquisitions. We construct our capital expenditures variable as *CapEx*/*Assets*, where *CapEx* is the level of capital expenditures for a given fiscal quarter and *Assets* is the total assets (Compustat item ATQ) for the same quarter. The levels of capital expenditures for each fiscal quarter are derived from year-to-date levels of quarterly capital expenditures (Compustat item CAPXY). Next, we construct our R&D variable as *R&D*/*Assets*, where *R&D* is the level of research and development expenses (Compustat item XRDQ) for a given fiscal quarter and *Assets* is the total assets for the same quarter. Finally, our acquisitions variable is *NAcq*, which is the number of acquisitions implemented by a firm during a given fiscal quarter.[17] Then we construct the changes in the above variables *ΔCapEx*/*Assets*, *ΔR&D*/*Assets*, and *ΔNAcq* from current fiscal quarter *t* to four subsequent fiscal quarters as described above and use them as our dependent variables.

[17] We identify acquisitions conducted by sample firms in SDC/Platinum Mergers & Acquisitions database as completed transactions categorized as "Acquisition of assets" or "Acquisition of certain assets" where acquirer acquires 100% of the target.

The results of our regressions as in equation (1) using *ΔCapEx/Assets* as the dependent variable are presented in Table 1. Panel A of Table 1 presents our results on past winners and Panel B of Table 1 presents our results on past losers. Each entry in Panels A and B in Table 1 corresponds to a separate regression with *ΔCapEx/Assets* from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. For the sake of brevity, each entry reports only coefficient estimates of various *Momentum* variables (as described above) used as independent variables along with *t*-statistics in parentheses. Panel A of Table 1 shows that the coefficient estimates of various *Momentum* variables are mostly positive and highly significant (except for a few negative and statistically insignificant ones). This indicates that past winners respond to positive stock return performance by increasing their capital expenditures. On the other hand, Panel B of Table 1 demonstrates that the coefficient estimates of various *Momentum* variables are mostly negative and highly significant (except for one positive and statistically insignificant coefficient), suggesting that past losers reduce their subsequent capital expenditures. These findings provide support for our hypothesis **H1**.

Table 2 presents the results of our regressions as in equation (1) using *ΔR&D/Assets* as the dependent variable. Again, Panel A of Table 2 presents our results on past winners and Panel B of Table 2 presents our results on past losers. Similar to Table 1, each entry in Panels A and B of Table 2 corresponds to a separate regression with *ΔR&D/Assets* from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables, and reports only the coefficient estimates of various *Momentum* variables used as independent variables. Panel A of Table 2 shows that the vast majority of coefficient estimates are negative and highly significant. This finding is contrary to our expectation and indicates that past winners decrease their subsequent investment in R&D expenses. Panel B of Table 2 shows that out of total 64 regressions, 24 regressions report positive and significant coefficient estimates for *Momentum* variables (constructed following Jegadeesh and Titman (1993)), while six regressions report negative and weakly significant coefficient estimates (constructed using more restrictive momentum definition as described above). These findings provide an indication that past losers in general tend to increase their R&D expenses; however, there is also a weak indication that firms which experience negative returns in each of the past six, nine, or twelve months tend to somewhat decrease their R&D expenses. These findings largely contradict our hypothesis **H2**.

One possible explanation for such contradicting findings could be that past losers tend to be more risky and likely to implement more risky corporate policies. See, for example, Coles, Daniel, and Naveen (2006) who show that higher sensitivity to stock volatility in the managerial compensation scheme gives executives an incentive to both invest in riskier assets, such as increase R&D expenses and decrease capital expenditures, and implement more aggressive debt policy, such as increase financial leverage. We demonstrate later that past losers indeed increase their leverage ratios. This indicates that the changes in corporate polices following either positive or negative stock returns can be a result of changing firm risk characteristics as a result of such momentum.

Finally, Table 3 presents the results of our regressions as in equation (1) using *ΔNAcq* as the dependent variable. Panel A of Table 3 presents our results on past winners and Panel B of Table 3 presents our results on past losers. Similar to Tables 1 and 2, each entry in Panels A and B of Table 3 corresponds to a separate regression with *ΔNAcq* from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables, and reports only the coefficient estimates of various *Momentum* variables used as independent variables. As Panel A of Table 3 demonstrates, the majority of coefficient estimates of *Momentum* variables are positive and significant (except for a few negative and statistically insignificant coefficient estimates) indicating that past winners are likely to significantly increase the number of their acquisitions. Panel B of Table 3 shows that a large majority of coefficient estimates are negative and highly significant implying that past losers are likely to reduce the number of their acquisitions. Our findings in Table 3 provide support for our hypothesis **H3**.

Overall our findings in this section indicate that past winners tend to increase both their internal investments in capital expenditure as well as external investments in acquisitions. At the same time, such firms tend to decrease their investment in R&D. The opposite effects are generally true for past losers.

4.2. Past Stock Return Performance and Corporate Cash Holdings

In this section we present our empirical findings on the effect of past stock return performance on corporate cash holdings. Our cash holdings variable is *Cash/Assets* where *Cash* is the level of cash and short-term investments (Compustat item CHEQ) for a given fiscal quarter and *Assets* is total assets for the same quarter (Compustat item ATQ). We construct the changes in cash holdings *ΔCash/Assets* from current fiscal quarter 0 to four subsequent fiscal quarters as described above and use them as our dependent variables.

The results of our regressions as in equation (1) using *ΔCash/Assets* as the dependent variable are presented in Table 4. Panel A of Table 4, which reports the coefficient estimates of *Momentum* variables for past winners, shows that the vast majority of these coefficients are positive and highly significant. This indicates that past winners move to increase their cash holdings. Panel B of Table 4, which reports the coefficient estimates of *Momentum* variables for past losers, demonstrates that the great majority of these coefficients are negative and highly significant. This suggests that past losers end up reducing their cash holdings. These findings provide support for our hypothesis **H4** and indicate that firms which have a greater supply of valuable investment opportunities are indeed likely to accumulate financial slack (cash and other equivalents) to be able to take a full advantage of such opportunities, and firms which have less valuable investment opportunities are likely to reduce their cash holdings paying dividends, retiring debt, and repurchasing equity.

4.3. Past Stock Return Performance and Corporate Dividend Policies

In this section we study the relationship between past stock return performance and corporate dividend policies. Our dependent variable is dividend payout ratio *Div/Earn* where *Div* is the sum of common and preferred (Compustat item DVPQ) dividends for a given fiscal quarter and *Earn* is operating income before depreciation (Compustat item OIBDPQ) for the same quarter. Quarterly levels of common dividends are derived from year-to-date levels of quarterly cash dividends on common stock (Compustat item DVY).

We report our findings on how past stock return performance affects the changes in dividend payout ratios *ΔDiv/Earn* from current fiscal quarter 0 to subsequent fiscal quarters 1, 2, 3, and 4 in Table 5. In panel A of Table 5 we report the coefficient estimates of *Momentum* variables for past winners and show that these coefficients are negative and significant in 31 out of 64 regressions and statistically insignificant in the remaining regressions. This suggests that the dividend payout ratios of past winners either decrease or remain unchanged in response to past positive stock return performance. In panel B of Table 6 we present the coefficient estimates of *Momentum* variables for past losers. Most of these coefficients are statistically insignificant; only 13 out of 64 reported coefficient estimates are statistically significant and all are negative. This finding indicates that past losers do not significantly alter their dividend payouts.

Our findings in this section are largely consistent with our hypothesis **H5** and indicate that some past winners choose to reduce their dividend payout ratios while some others keep their dividend payout ratios unchanged. The former perhaps do not generate enough cash flow internally and are unwilling to raise capital externally (due to its cost which is relatively higher than the cost of sending a negative signal to the financial markets) while the latter either generate enough funds internally or find it more advantageous to raise capital externally rather than restrict dividends.[18] On the other hand, past losers do not significantly alter their dividend payout ratios indicating that increasing dividends is not sustainable for such firms in long run and decreasing dividends unnecessarily sends a negative signal to the financial markets, and therefore keeping dividend payouts unchanged is the optimal policy.

[18] One could argue that past winners will have better access to the capital markets and, as a result, cash flows will be a less binding condition allowing managers to pay a larger amount of dividends. Also, if momentum is associated with market sentiment, past winners could be encouraged to pay a larger amount of dividends (Shefrin and Statman, 1984). However, our empirical findings do not support such a line of reasoning.

4.4. Past Stock Return Performance and Corporate Financing Policies

In this section we present our empirical findings on the effect of past stock return performance on corporate financing policies. We study the following three financing policy variables: net long-term debt issuance, net equity issuance, and leverage ratio. Our net long-term debt issuance variable is *NDIss/Assets*, where *NDIss* is the difference between the amounts of long-term debt issuance and long-term debt reduction in a given fiscal quarter and *Assets* is total assets for the same quarter (Compustat item ATQ). The amount of long-term debt issued in a given fiscal quarter is derived from year-to-date amount of quarterly long-term debt issuance (Compustat item DLTISY) and the amount of long-term debt reduction in the same quarter is derived from year-to-date amount of quarterly long-term debt reduction (Compustat item DLTRY). Next, our net equity issuance variable is *NSIss/Assets*, where *NSIss* is the difference between the amounts of the sale of common and preferred stock in a given fiscal quarter and the purchase of common and preferred stock in the same quarter. The amount of the sale of common and preferred stock for a given fiscal quarter is derived from year-to-date amount of quarterly sale of common and preferred stock (Compustat item SSTKY) and the amount of the purchase of common and preferred stock in the same quarter is derived from year-to-date amount of quarterly purchase of common and preferred stock (Compustat item PRSTKCY).[19] Finally, our leverage ratio variable is *LTD/Assets*, where *LTD* is the sum of total long-term debt (Compustat item DLTTQ) and debt in current liabilities (Compustat item DLCQ) for a given fiscal quarter. Then we construct the changes in the above variables from current fiscal quarter 0 to four subsequent fiscal quarters and use them as our dependent variables.

In Table 6 we present our findings on the relationship between past stock return performance and subsequent changes in net long-term debt issuance. In Panel A of Table 6 we report the coefficient estimates of *Momentum* variables from our regressions for past winners. Most of the coefficient estimates in Panel A of Table 6 for *Momentum* variables are statistically insignificant: only 20 out of 64 coefficient

[19] We have also conducted our analysis using debt and equity issuance variables instead of net debt and net equity issuance variables. In other words, debt issuance variable includes only new debt issues and equity issuance variable includes only new equity issues. Our empirical findings using debt and equity issuance variables were similar to those reported here using net debt and net equity issuance variables.

estimates reported are statistically significant and 12 of these are negative and 8 are positive. Further, positive and statistically significant coefficient estimates are found only for the changes in net long-term debt issuance from current fiscal quarter to three and four quarters after. These mostly statistically insignificant and inconclusive findings suggest that, in general, past winners do not significantly increase or decrease their net long-term debt issuance. Further, in Panel B of Table 6 we report the coefficient estimates of *Momentum* variables from our regressions for past losers. All the coefficient estimates which are statistically significant (in 51 out of 64 regressions) have negative signs which provides a strong indication that past losers issue less and retire more long-term debt after realizing negative stock returns.

Our findings in Table 6 are partially consistent with our hypothesis **H6**. We do not find past winners increasing their net long-term debt issuance as expected. Perhaps these firms acquire the funds necessary for their increased investment activity either from internally generated cash flow (we present evidence for this in section 4.5 where we show that such firms realize significant improvement in their operating performance which is expected to increase their cash flow generated intern), reduced dividends (we find weak evidence for this in the previous section), or greater net equity issuance (we report some evidence for this in the next section). However, we do find, as expected, that past losers significantly decrease their net long-term debt issuance, indicating that such firms either issue less debt than previously or retire more debt than previously, or do both, in response to negative stock returns.

We present the results of our regressions on the effect of past stock return performance on subsequent net equity issuance in Table 7. In panel A of Table 7 we report the coefficient estimates of *Momentum* variables for past winners. This panel shows that the coefficient estimates of *Momentum* variables constructed using more restrictive momentum definition described previously are mostly positive and statistically significant (10 out of 32 coefficients are positive and significant and only one is negative and significant). Further, the coefficient estimates of *Momentum* variables constructed following Jegadeesh and Titman (1993) are positive and significant for the first fiscal quarter after positive stock return performance is recorded in previous three, six, or nine months, and for the first two fiscal quarters after positive stock return performance is recorded in previous three or six months. At the same time, the coefficient estimates of *Momentum* variables constructed following Jegadeesh and Titman (1993) are negative and significant for the first two fiscal quarters after positive stock return performance is recorded in previous nine or twelve months, for the first three fiscal quarters after positive stock return performance is recorded in previous six, nine, or twelve months, and for the first four fiscal quarters after positive stock return performance is recorded in previous three, six, nine, or twelve months. Overall our findings in Panel A of Table 7 indicate that, in general, firms tend to issue more equity if they experience positive stock return performance in the past three to six months, and they do so mostly within the next two fiscal quarters after such performance is observed. However, our findings also show that firms issue less equity in fiscal quarters two, three, and four after positive performance is recorded. This suggests that firms are not likely to wait for long to issue equity after they observe positive stock return performance, but do it rather quickly within the next few months.

In panel B of Table 7 we report the coefficient estimates of *Momentum* variables for past losers. This panel demonstrates that the large majority of these coefficient estimates have negative signs and are highly statistically significant. This implies that firms issue significantly less equity, or repurchase more equity, or both, after they realize negative stock return performance.[20]

Our results in Table 7 are largely consistent with our hypothesis **H7**. As expected, past winners (losers) increase (decrease) their net equity issuance, though the increase in net equity issuance after positive stock return performance occurs mostly in the first two fiscal quarters immediately after such performance. This findings combined with our results on net long-term debt issuance indicate that past winners are more likely to issue equity than debt, which is in contrast with Myers and Majluf (1984).[21] A possible explanation for this is that higher stock prices resulting from positive stock return performance make equity a relatively more attractive source of financing compared to debt despite all the

[20] Jagannathan, Stephens, and Weisbach (2000) find that firms repurchase stock following poor stock market performance and increase dividends following good performance. While our finding of lower net equity issuance for past losers is consistent with this study, we do not find past winners increasing their dividends.
[21] Consistent with our findings here, Hovakimian, Hovakimian, and Tehranian (2004) also find that high stock returns increase the probability of equity issuance but have no effect on target leverage.

disadvantages associated with issuing equity in general and in periods of possible overvaluation in particular.

Finally, Table 8 presents our findings on the effect of past stock return performance on leverage ratios. Panel A of Table 8 presents our findings on past winners and Panel B of Table 8 presents our findings on past losers. Each entry in Panels A and B of Table 8 corresponds to a separate regression with *ΔLTD/Assets* from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables, and reports only the coefficient estimates of various *Momentum* variables used as independent variables. Panel A of Table 8 shows that the vast majority of coefficient estimates are negative and highly significant signifying that, as expected, leverage ratios of past winners decrease in response to positive stock return performance. Panel B of Table 8 demonstrates the opposite; the coefficient estimates in their great majority are positive and highly significant which indicates that leverage ratios of past losers increase in response to negative stock return performance.

Our findings in Table 8 are consistent with our hypothesis **H8**. Decreasing leverage ratios of past winners indicate that positive stock return performance increases firms' equity by more than their debt. Indeed, this is consistent with our finding above on past winners increasing their net equity issuance and decreasing or leaving unchanged their net long-term debt issuance. Also, in the next section, we show that the operating performance of past winners improves which is likely to increase the earnings generated internally, which, in its turn, should further increase firm's equity through retention of larger earnings. Further, increasing leverage ratios of past losers indicate that negative stock return performance decreases firms' equity by more than their debt. We also show in the next section that the operating performance of past losers deteriorates which is likely to decrease the earnings generated internally, which, in its turn, can potentially decrease firm's equity further through negative retained earnings (we also show above that such firms do not alter they dividend payout ratios which makes lower earnings more likely to be converted into negative retained earnings).

4.5. Past Stock Return Performance and Operating Performance

In this section we present our findings on the effect of past stock return performance on subsequent operating performance. Our measure of operating performance is return on assets (*ROA*) measured as the ratio of quarterly income before extraordinary items (Compustat item IBQ) over quarterly total assets (Compustat ATQ).[22] The results are presented in Panels A (for past winners) and B (for past losers) of Table 9, where each entry corresponds to a separate regression with *ΔROA* from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. Table 9 reports only the coefficient estimates of various *Momentum* variables used as independent variables.[23] Panel A of Table 9 shows that the majority of these coefficient estimates are positive and statistically significant indicating that past winners realize significant improvement in their subsequent operating performance. Panel B of Table 9 demonstrates that 44 out of 64 coefficient estimates reported have negative signs and are highly statistically significant, while there are only two positive and significant coefficient estimates. These results suggest that past losers in general realize deterioration in their subsequent operating performance.

Our findings in this section are consistent with our hypothesis **H9** and with our findings in previous sections. They also provide partial support for our hypotheses **H4**, **H5**, **H6**, and **H8** and suggest that the changes in various corporate policies resulting from either positive or negative stock return performance are likely to have a significant impact on the changes in operating performance. These changes in operating performance are likely to affect subsequent stock return performance helping to maintain either positive or negative momentum in stock returns.

[22] We have used another measure of operating performance in our analysis as well. Namely, we used the ratio of the quarterly level of net cash flow from operating activities over quarterly total assets, where the quarterly level of net cash flow from operating activities is derived from year-to-date levels of net cash flow from operating activities (Compustat item OANCFY). Our findings using this alternative measure of operating performance were qualitatively similar to the ones reported here.
[23] We have estimated our regressions by also dropping return on assets at the end of current fiscal quarter 0 as a control variable. The results were similar to those reported here.

5. Conclusion

In this paper we investigate the effect of a firm being a winner or a loser based on recent stock return performance (in the sense of Jegadeesh and Titman (1993)) on subsequent changes in its corporate polices such as investments, cash holdings, dividends, and financing. We hypothesize that being a past winner (loser) creates incentives for a firm to increase (decrease) its investment in capital expenditures, research and development (R&D), and acquisitions, as well as increase (decrease) cash holdings, decrease (do not change) dividend payouts, and increase (decrease) debt and equity issuance. We further hypothesize that such changes in corporate policies of a winner (loser) firm are expected to improve (deteriorate) its operating performance, which, in its turn, helps to maintain the momentum effect. Our empirical results are largely consistent with our hypotheses except for R&D expenses. We find that past winners (losers) decrease (increase) their investment in R&D, which can be partly explained by different risk characteristics of winner and loser firms. Our findings provide a rational explanation for the momentum effect linking it to the changes in corporate policies.

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Table 1

Relationship between past stock return performance and the changes in subsequent capital expenditures for a sample of firms in 1971 to 2014.

Each entry corresponds to a separate regression with the changes in capital expenditures over assets from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. Each entry reports coefficient estimates of past stock return performance variables (described below) used as independent variables along with *t*-statistics in parentheses. Each regression also includes Tobin's Q, return on assets (ROA), and cash flow (CF) at the end of quarter 0, as well as 2-digit SIC industry code dummies and year dummies as control variables. Data items used in construction of dependent and independent variables are quarterly data items from Quarterly Compustat. Quarter 0 is the last fiscal quarter of the stock return performance measurement period. Quarters 1 through 4 are the first through the fourth fiscal quarters after the stock return performance measurement period. Quarterly levels of capital expenditures (CapEx) are derived from year-to-date levels of quarterly capital expenditures (CAPXY). Assets are quarterly total assets (ATQ). The changes in capital expenditures over assets are calculated by subtracting CapEx/Assets in quarter 0 from CapEx/Assets in quarters 1, 2, 3, and 4, respectively. CapEx/Assets in quarter 0 is the average CapEx/Assets in the past four quarters (including quarter 0). Tobin's Q is the ratio of the market value of assets to the book value of assets (ATQ), where the market value of assets is equal to the book value of assets minus the book value of common equity (CEQQ) and deferred taxes (TXDBQ) plus the number of shares outstanding (CSHOQ) times the share price (PRCCQ). ROA is the ratio of income before extraordinary items (IBQ) over assets (ATQ). CF is the ratio of the sum of income before extraordinary items (IBQ) and depreciation (DPQ) over assets (ATQ). Year dummies are based on calendar year of current quarter 0. All regressions are clustered regressions, where each firm's observations are treated as cluster groups. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Relationship between past positive stock return performance and the changes in subsequent capital expenditures for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec10M3All, JTDec10M6All, JTDec10M9All, and JTDec10M12All are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec10M3, JTDec10M6, JTDec10M9, and JTDec10M12 are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). PosM3, PosM6, PosM9, and PosM12 are dummy variables equal to one for firms which realized positive returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. PosM3S&P, PosM6S&P, PosM9S&P, and PosM12S&P are dummy variables equal to one for firms which realized positive S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔCapEx/Assets 0 to 1	ΔCapEx/Assets 0 to 2	ΔCapEx/Assets 0 to 3	ΔCapEx/Assets 0 to 4
JTDec10M3All	0.0011 (7.74)***	0.0014 (9.91)***	0.0014 (9.84)***	0.0013 (8.87)***
	N = 279,028; R^2 = 0.0184	N = 273,068; R^2 = 0.0221	N = 267,551; R^2 = 0.0288	N = 266,719; R^2 = 0.0383
JTDec10M6All	0.0015 (11.01)***	0.0019 (12.58)***	0.0019 (11.92)***	0.0020 (12.61)***
	N = 264,529; R^2 = 0.0203	N = 258,933; R^2 = 0.0249	N = 253,785; R^2 = 0.0313	N = 253,059; R^2 = 0.0392
JTDec10M9All	0.0017 (12.00)***	0.0020 (12.61)***	0.0020 (12.04)***	0.0019 (12.58)***
	N = 252,431; R^2 = 0.0216	N = 247,137; R^2 = 0.0261	N = 242,219; R^2 = 0.0323	N = 241,617; R^2 = 0.0411
JTDec10M12All	0.0016 (11.50)***	0.0017 (10.95)***	0.0019 (10.77)***	0.0019 (9.93)***
	N = 242,003; R^2 = 0.0218	N = 236,892; R^2 = 0.0259	N = 232,208; R^2 = 0.0331	N = 231,777; R^2 = 0.0429
JTDec10M3	0.0012 (7.94)***	0.0014 (8.73)***	0.0015 (8.75)***	0.0014 (8.15)***
	N = 91,600; R^2 = 0.0192	N = 89,551; R^2 = 0.0242	N = 87,794; R^2 = 0.0293	N = 87,482; R^2 = 0.0395
JTDec10M6	0.0014 (9.74)***	0.0019 (11.53)***	0.0018 (10.74)***	0.0017 (9.51)***
	N = 87,158; R^2 = 0.0207	N = 85,293; R^2 = 0.0256	N = 83,597; R^2 = 0.0326	N = 83,572; R^2 = 0.0400
JTDec10M9	0.0014 (9.40)***	0.0018 (10.58)***	0.0017 (9.56)***	0.0017 (9.28)***
	N = 83,457; R^2 = 0.0202	N = 81,660; R^2 = 0.0286	N = 80,102; R^2 = 0.0305	N = 80,002; R^2 = 0.0397
JTDec10M12	0.0014 (9.89)***	0.0017 (9.94)***	0.0018 (9.44)***	0.0018 (8.87)***
	N = 80,186; R^2 = 0.0222	N = 78,556; R^2 = 0.0246	N = 77,051; R^2 = 0.0325	N = 77,073; R^2 = 0.0411
PosM3	0.0007 (6.96)***	0.0009 (8.93)***	0.0012 (11.38)***	0.0011 (10.91)***
	N = 281,440; R^2 = 0.0175	N = 275,218; R^2 = 0.0203	N = 269,422; R^2 = 0.0278	N = 268,128; R^2 = 0.0374
PosM6	0.0010 (5.00)***	0.0010 (4.89)***	0.0017 (6.66)***	0.0014 (6.00)***
	N = 291,240; R^2 = 0.0197	N = 284,938; R^2 = 0.0241	N = 279,157; R^2 = 0.0315	N = 278,140; R^2 = 0.0396
PosM9	0.0004 (0.75)	0.0017 (2.39)**	0.0013 (1.79)*	0.0013 (2.13)**
	N = 279,852; R^2 = 0.0208	N = 273,870; R^2 = 0.0256	N = 268,308; R^2 = 0.0325	N = 267,521; R^2 = 0.0413
PosM12	-0.0000 (-0.06)	0.0011 (1.01)	0.0011 (1.12)	0.0007 (0.68)
	N = 268,371; R^2 = 0.0214	N = 262,616; R^2 = 0.0262	N = 257,364; R^2 = 0.0334	N = 256,770; R^2 = 0.0431
PosM3S&P	0.0008 (8.07)***	0.0010 (8.99)***	0.0013 (11.38)***	0.0012 (10.90)***
	N = 272,833; R^2 = 0.0182	N = 266,956; R^2 = 0.0217	N = 261,442; R^2 = 0.0286	N = 260,260; R^2 = 0.0386
PosM6S&P	0.0013 (4.74)***	0.0016 (5.92)***	0.0021 (7.45)***	0.0018 (6.38)***
	N = 289,661; R^2 = 0.0198	N = 283,432; R^2 = 0.0242	N = 277,664; R^2 = 0.0315	N = 276,675; R^2 = 0.0397
PosM9S&P	0.0008 (1.00)	0.0017 (2.28)**	0.0007 (0.92)	0.0010 (1.41)
	N = 279,674; R^2 = 0.0208	N = 273,699; R^2 = 0.0255	N = 268,142; R^2 = 0.0325	N = 267,349; R^2 = 0.0413
PosM12S&P	0.0008 (1.09)	0.0009 (0.99)	-0.0001 (-0.07)	0.0000 (0.00)
	N = 268,348; R^2 = 0.0214	N = 262,594; R^2 = 0.0262	N = 257,345; R^2 = 0.0334	N = 256,748; R^2 = 0.0431

Table 1 (continued)

Panel B: Relationship between past negative stock return performance and the changes in subsequent capital expenditures for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec1M3All, JTDec1M6All, JTDec1M9All, and JTDec1M12All are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec1M3, JTDec1M6, JTDec1M9, and JTDec1M12 are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). NegM3, NegM6, NegM9, and NegM12 are dummy variables equal to one for firms which realized negative returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. NegM3S&P, NegM6S&P, NegM9S&P, and NegM12S&P are dummy variables equal to one for firms which realized negative S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔCapEx/Assets 0 to 1	ΔCapEx/Assets 0 to 2	ΔCapEx/Assets 0 to 3	ΔCapEx/Assets 0 to 4
JTDec1M3All	-0.0013 (-10.55)***	-0.0022 (-16.47)***	-0.0026 (-17.40)***	-0.0028 (-18.21)***
	N = 280,548; R^2 = 0.0198	N = 274,663; R^2 = 0.0242	N = 269,052; R^2 = 0.0319	N = 268,027; R^2 = 0.0403
JTDec1M6All	-0.0022 (-17.21)***	-0.0027 (-18.76)***	-0.0033 (-21.32)***	-0.0036 (-22.55)***
	N = 265,861; R^2 = 0.0231	N = 260,269; R^2 = 0.0279	N = 255,048; R^2 = 0.0354	N = 254,075; R^2 = 0.0441
JTDec1M9All	-0.0023 (-17.65)***	-0.0030 (-20.06)***	-0.0035 (-20.68)***	-0.0038 (-22.44)***
	N = 253,437; R^2 = 0.0250	N = 248,097; R^2 = 0.0300	N = 243,036; R^2 = 0.0375	N = 242,256; R^2 = 0.0468
JTDec1M12All	-0.0024 (-18.44)***	-0.0031 (-21.35)***	-0.0035 (-21.13)***	-0.0035 (-20.72)***
	N = 242,735; R^2 = 0.0252	N = 237,568; R^2 = 0.0313	N = 232,794; R^2 = 0.0389	N = 232,196; R^2 = 0.0488
JTDec1M3	-0.0012 (-8.58)***	-0.0023 (-14.57)***	-0.0026 (-15.38)***	-0.0029 (-16.52)***
	N = 93,120; R^2 = 0.0234	N = 91,146; R^2 = 0.0298	N = 89,295; R^2 = 0.0386	N = 88,790; R^2 = 0.0462
JTDec1M6	-0.0022 (-15.70)***	-0.0028 (-16.88)***	-0.0035 (-20.65)***	-0.0039 (-21.78)***
	N = 88,490; R^2 = 0.0299	N = 86,629; R^2 = 0.0342	N = 84,860; R^2 = 0.0446	N = 84,588; R^2 = 0.0555
JTDec1M9	-0.0026 (-17.12)***	-0.0034 (-19.59)***	-0.0039 (-20.25)***	-0.0041 (-21.44)***
	N = 84,463; R^2 = 0.0289	N = 82,620; R^2 = 0.0402	N = 80,919; R^2 = 0.0449	N = 80,641; R^2 = 0.0577
JTDec1M12	-0.0026 (-17.77)***	-0.0034 (-20.42)***	-0.0038 (-20.12)***	-0.0038 (-20.30)***
	N = 80,918; R^2 = 0.0320	N = 79,232; R^2 = 0.0406	N = 77,637; R^2 = 0.0486	N = 77,492; R^2 = 0.0582
NegM3	-0.0005 (-3.93)***	-0.0012 (-9.41)***	-0.0015 (-11.21)***	-0.0015 (-11.75)***
	N = 263,793; R^2 = 0.0197	N = 258,082; R^2 = 0.0247	N = 252,980; R^2 = 0.0320	N = 252,441; R^2 = 0.0386
NegM6	-0.0010 (-2.41)**	-0.0030 (-8.44)***	-0.0028 (-7.02)***	-0.0023 (-6.11)***
	N = 286,607; R^2 = 0.0203	N = 280,439; R^2 = 0.0248	N = 274,814; R^2 = 0.0320	N = 273,942; R^2 = 0.0393
NegM9	-0.0013 (-1.33)	-0.0009 (-0.67)	-0.0002 (-0.16)	-0.0016 (-1.96)*
	N = 278,991; R^2 = 0.0209	N = 273,041; R^2 = 0.0256	N = 267,510; R^2 = 0.0323	N = 266,759; R^2 = 0.0411
NegM12	-0.0002 (-0.22)	-0.0007 (-0.70)	-0.0009 (-0.51)	0.0004 (0.21)
	N = 268,203; R^2 = 0.0214	N = 262,455; R^2 = 0.0261	N = 257,211; R^2 = 0.0334	N = 256,627; R^2 = 0.0430
NegM3S&P	-0.0006 (-5.89)***	-0.0009 (-7.40)***	-0.0012 (-9.84)***	-0.0013 (-10.50)***
	N = 271,628; R^2 = 0.0193	N = 265,684; R^2 = 0.0232	N = 260,121; R^2 = 0.0311	N = 259,456; R^2 = 0.0383
NegM6S&P	-0.0014 (-4.22)***	-0.0022 (-6.29)***	-0.0029 (-8.19)***	-0.0027 (-7.36)***
	N = 288,884; R^2 = 0.0202	N = 282,624; R^2 = 0.0247	N = 276,908; R^2 = 0.0320	N = 275,992; R^2 = 0.0398
NegM9S&P	-0.0025 (-2.63)***	-0.0033 (-3.27)***	-0.0030 (-3.17)***	-0.0026 (-2.94)***
	N = 279,423; R^2 = 0.0210	N = 273,449; R^2 = 0.0257	N = 267,903; R^2 = 0.0323	N = 267,130; R^2 = 0.0414
NegM12S&P	-0.0015 (-0.75)	-0.0010 (-0.51)	-0.0019 (-0.99)	-0.0012 (-0.45)
	N = 268,302; R^2 = 0.0214	N = 262,549; R^2 = 0.0262	N = 257,298; R^2 = 0.0334	N = 256,706; R^2 = 0.0431

Table 2

Relationship between past stock return performance and the changes in subsequent R&D expenses for a sample of firms in 1971 to 2014.

Each entry corresponds to a separate regression with the changes in R&D expenses over assets from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. Each entry reports coefficient estimates of past stock return performance variables (described below) used as independent variables along with *t*-statistics in parentheses. Each regression also includes Tobin's Q, return on assets (ROA), and cash flow (CF) at the end of quarter 0, as well as 2-digit SIC industry code dummies and year dummies as control variables. Data items used in construction of dependent and independent variables are quarterly data items from Quarterly Compustat. Quarter 0 is the last fiscal quarter of the stock return performance measurement period. Quarters 1 through 4 are the first through the fourth fiscal quarters after the stock return performance measurement period. R&D are quarterly research and development expenses (XRDQ). Assets are quarterly total assets (ATQ). The changes in R&D expenses over assets are calculated by subtracting R&D/Assets in quarter 0 from R&D/Assets in quarters 1, 2, 3, and 4, respectively. R&D/Assets in quarter 0 is the average R&D/Assets in the past four quarters (including quarter 0). Tobin's Q is the ratio of the market value of assets to the book value of assets (ATQ), where the market value of assets is equal to the book value of assets minus the book value of common equity (CEQQ) and deferred taxes (TXDBQ) plus the number of shares outstanding (CSHOQ) times the share price (PRCCQ). ROA is the ratio of income before extraordinary items (IBQ) over assets (ATQ). CF is the ratio of the sum of income before extraordinary items (IBQ) and depreciation (DPQ) over assets (ATQ). Year dummies are based on calendar year of current quarter 0. All regressions are clustered regressions, where each firm's observations are treated as cluster groups. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Relationship between past positive stock return performance and the changes in subsequent R&D expenses for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec10M3All, JTDec10M6All, JTDec10M9All, and JTDec10M12All are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec10M3, JTDec10M6, JTDec10M9, and JTDec10M12 are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). PosM3, PosM6, PosM9, and PosM12 are dummy variables equal to one for firms which realized positive returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. PosM3S&P, PosM6S&P, PosM9S&P, and PosM12S&P are dummy variables equal to one for firms which realized positive S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔR&D/Assets 0 to 1	ΔR&D/Assets 0 to 2	ΔR&D/Assets 0 to 3	ΔR&D/Assets 0 to 4
JTDec10M3All	-0.0008 (-4.51)***	-0.0006 (-3.40)***	-0.0006 (-2.41)**	-0.0008 (-4.41)***
	N = 285,532; R^2 = 0.0052	N = 279,887; R^2 = 0.0087	N = 274,268; R^2 = 0.0090	N = 273,317; R^2 = 0.0051
JTDec10M6All	-0.0010 (-6.64)***	-0.0010 (-6.07)***	-0.0012 (-6.78)***	-0.0012 (-7.39)***
	N = 270,190; R^2 = 0.0036	N = 264,843; R^2 = 0.0047	N = 259,580; R^2 = 0.0061	N = 258,789; R^2 = 0.0034
JTDec10M9All	-0.0023 (-17.65)***	-0.0030 (-20.06)***	-0.0035 (-20.68)***	-0.0038 (-22.44)***
	N = 253,437; R^2 = 0.0250	N = 248,097; R^2 = 0.0300	N = 243,036; R^2 = 0.0375	N = 242,256; R^2 = 0.0468
JTDec10M12All	-0.0024 (-18.44)***	-0.0031 (-21.35)***	-0.0035 (-21.13)***	-0.0035 (-20.72)***
	N = 242,735; R^2 = 0.0252	N = 237,568; R^2 = 0.0313	N = 232,794; R^2 = 0.0389	N = 232,196; R^2 = 0.0488
JTDec10M3	-0.0008 (-4.88)***	-0.0007 (-4.36)***	-0.0005 (-2.64)***	-0.0006 (-3.34)***
	N = 93,789; R^2 = 0.0055	N = 91,829; R^2 = 0.0049	N = 89,942; R^2 = 0.0043	N = 89,706; R^2 = 0.0094
JTDec10M6	-0.0009 (-6.44)***	-0.0013 (-6.25)***	-0.0011 (-5.84)***	-0.0010 (-5.78)***
	N = 89,017; R^2 = 0.0081	N = 87,209; R^2 = 0.0047	N = 85,475; R^2 = 0.0114	N = 85,389; R^2 = 0.0147
JTDec10M9	-0.0009 (-4.91)***	-0.0011 (-5.74)***	-0.0011 (-5.44)***	-0.0011 (-5.21)***
	N = 85,110; R^2 = 0.0111	N = 83,412; R^2 = 0.0108	N = 81,799; R^2 = 0.0167	N = 81,692; R^2 = 0.0109
JTDec10M12	-0.0007 (-3.02)***	-0.0009 (-4.23)***	-0.0007 (-3.39)***	-0.0008 (-3.87)***
	N = 81,719; R^2 = 0.0055	N = 80,151; R^2 = 0.0057	N = 78,601; R^2 = 0.0061	N = 78,532; R^2 = 0.0115
PosM3	-0.0003 (-3.45)***	-0.0004 (-3.62)***	-0.0003 (-2.61)***	-0.0004 (-3.33)***
	N = 288,202; R^2 = 0.0049	N = 282,346; R^2 = 0.0078	N = 276,464; R^2 = 0.0082	N = 275,035; R^2 = 0.0050
PosM6	-0.0002 (-1.07)	-0.0004 (-2.60)***	-0.0003 (-1.91)*	-0.0005 (-2.70)***
	N = 297,824; R^2 = 0.0036	N = 291,867; R^2 = 0.0045	N = 285,922; R^2 = 0.0057	N = 284,870; R^2 = 0.0036
PosM9	-0.0002 (-0.43)	-0.0002 (-0.70)	-0.0006 (-1.66)*	0.0002 (0.52)
	N = 285,972; R^2 = 0.0036	N = 280,291; R^2 = 0.0042	N = 274,577; R^2 = 0.0055	N = 273,739; R^2 = 0.0032
PosM12	0.0006 (1.42)	-0.0000 (-0.00)	0.0001 (0.04)	0.0005 (1.35)
	N = 274,067; R^2 = 0.0033	N = 268,608; R^2 = 0.0042	N = 263,172; R^2 = 0.0055	N = 262,552; R^2 = 0.0031
PosM3S&P	-0.0002 (-1.80)*	-0.0004 (-4.40)***	-0.0003 (-2.03)**	-0.0005 (-4.59)***
	N = 279,308; R^2 = 0.0053	N = 273,736; R^2 = 0.0086	N = 268,154; R^2 = 0.0090	N = 266,813; R^2 = 0.0054
PosM6S&P	-0.0003 (-1.76)*	-0.0002 (-0.98)	-0.0003 (-1.29)	-0.0004 (-2.55)**
	N = 296,185; R^2 = 0.0036	N = 290,291; R^2 = 0.0045	N = 284,373; R^2 = 0.0057	N = 283,336; R^2 = 0.0036
PosM9S&P	0.0003 (0.59)	0.0001 (0.13)	-0.0007 (-1.82)*	0.0001 (0.26)
	N = 285,786; R^2 = 0.0036	N = 280,110; R^2 = 0.0041	N = 274,400; R^2 = 0.0055	N = 273,555; R^2 = 0.0032
PosM12S&P	-0.0002 (-0.32)	-0.0006 (-0.57)	-0.0011 (-1.01)	0.0017 (1.13)
	N = 274,045; R^2 = 0.0033	N = 268,586; R^2 = 0.0042	N = 263,152; R^2 = 0.0055	N = 262,529; R^2 = 0.0031

Table 2 (continued)

Panel B: Relationship between past negative stock return performance and the changes in subsequent R&D expenses for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec1M3All, JTDec1M6All, JTDec1M9All, and JTDec1M12All are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec1M3, JTDec1M6, JTDec1M9, and JTDec1M12 are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). NegM3, NegM6, NegM9, and NegM12 are dummy variables equal to one for firms which realized negative returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. NegM3S&P, NegM6S&P, NegM9S&P, and NegM12S&P are dummy variables equal to one for firms which realized negative S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔR&D/Assets 0 to 1	ΔR&D/Assets 0 to 2	ΔR&D/Assets 0 to 3	ΔR&D/Assets 0 to 4
JTDec1M3All	0.0005 (1.84)*	0.0006 (2.25)**	0.0007 (2.31)**	0.0007 (2.20)**
	N = 287,212; R^2 = 0.0038	N = 281,666; R^2 = 0.0066	N = 275,966; R^2 = 0.0094	N = 274,817; R^2 = 0.0048
JTDec1M6All	0.0002 (1.45)	0.0000 (0.20)	0.0004 (2.74)***	0.0004 (1.94)*
	N = 271,798; R^2 = 0.0046	N = 266,545; R^2 = 0.0050	N = 261,169; R^2 = 0.0062	N = 260,185; R^2 = 0.0035
JTDec1M9All	-0.0000 (-0.24)	0.0003 (1.57)	0.0006 (3.33)***	0.0006 (2.43)**
	N = 258,962; R^2 = 0.0052	N = 253,901; R^2 = 0.0054	N = 248,708; R^2 = 0.0059	N = 247,899; R^2 = 0.0033
JTDec1M12All	0.0001 (0.76)	0.0005 (2.89)***	0.0009 (5.50)***	0.0007 (2.74)***
	N = 247,897; R^2 = 0.0054	N = 242,999; R^2 = 0.0053	N = 238,065; R^2 = 0.0065	N = 237,447; R^2 = 0.0031
JTDec1M3	0.0001 (0.42)	0.0001 (0.83)	0.0004 (2.48)**	0.0007 (4.59)***
	N = 95,469; R^2 = 0.0076	N = 93,608; R^2 = 0.0066	N = 91,640; R^2 = 0.0067	N = 91,206; R^2 = 0.0080
JTDec1M6	0.0002 (1.02)	-0.0001 (-0.37)	0.0007 (3.43)***	0.0009 (4.23)***
	N = 90,625; R^2 = 0.0071	N = 88,911; R^2 = 0.0068	N = 87,064; R^2 = 0.0070	N = 86,785; R^2 = 0.0085
JTDec1M9	-0.0000 (-0.04)	0.0004 (1.73)*	0.0007 (3.16)***	0.0007 (3.25)***
	N = 86,444; R^2 = 0.0054	N = 84,733; R^2 = 0.0063	N = 82,958; R^2 = 0.0082	N = 82,704; R^2 = 0.0101
JTDec1M12	-0.0000 (-0.12)	0.0002 (1.11)	0.0006 (3.03)***	0.0010 (5.23)***
	N = 82,804; R^2 = 0.0071	N = 81,255; R^2 = 0.0089	N = 79,577; R^2 = 0.0100	N = 79,342; R^2 = 0.0097
NegM3	0.0004 (2.96)***	0.0002 (1.16)	0.0000 (0.05)	0.0002 (0.94)
	N = 270,444; R^2 = 0.0043	N = 265,082; R^2 = 0.0062	N = 259,838; R^2 = 0.0080	N = 259,219; R^2 = 0.0048
NegM6	-0.0003 (-0.85)	-0.0010 (-2.85)***	-0.0002 (-0.49)	-0.0005 (-1.28)
	N = 293,149; R^2 = 0.0035	N = 287,327; R^2 = 0.0044	N = 281,535; R^2 = 0.0058	N = 280,642; R^2 = 0.0036
NegM9	-0.0001 (-0.28)	-0.0003 (-0.88)	-0.0006 (-1.84)*	0.0000 (0.00)
	N = 285,101; R^2 = 0.0036	N = 279,450; R^2 = 0.0042	N = 273,767; R^2 = 0.0056	N = 272,967; R^2 = 0.0033
NegM12	-0.0004 (-1.51)	-0.0004 (-1.66)*	-0.0003 (-0.92)	-0.0010 (-1.51)
	N = 273,897; R^2 = 0.0033	N = 268,445; R^2 = 0.0042	N = 263,017; R^2 = 0.0055	N = 262,405; R^2 = 0.0031
NegM3S&P	0.0004 (2.71)***	0.0002 (1.86)*	0.0001 (1.13)	0.0003 (1.68)*
	N = 278,380; R^2 = 0.0041	N = 272,797; R^2 = 0.0062	N = 267,105; R^2 = 0.0079	N = 266,355; R^2 = 0.0048
NegM6S&P	-0.0001 (-0.37)	-0.0005 (-1.60)	0.0000 (0.09)	-0.0002 -(0.78)
	N = 295,457; R^2 = 0.0035	N = 289,547; R^2 = 0.0043	N = 283,668; R^2 = 0.0058	N = 282,715; R^2 = 0.0035
NegM9S&P	0.0006 (0.78)	0.0009 (0.80)	-0.0002 (-0.43)	0.0000 (0.03)
	N = 285,536; R^2 = 0.0036	N = 279,865; R^2 = 0.0042	N = 274,164; R^2 = 0.0055	N = 273,343; R^2 = 0.0032
NegM12S&P	-0.0011 (-1.92)*	-0.0012 (-2.16)**	-0.0012 (-1.83)*	-0.0008 (-0.95)
	N = 273,995; R^2 = 0.0033	N = 268,538; R^2 = 0.0042	N = 263,104; R^2 = 0.0055	N = 262,486; R^2 = 0.0031

Table 3

Relationship between past stock return performance and the changes in subsequent number of acquisitions for a sample of firms in 1971 to 2014. Each entry corresponds to a separate regression with the changes in the number of acquisitions from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. Each entry reports coefficient estimates of past stock return performance variables (described below) used as independent variables along with *t*-statistics in parentheses. Each regression also includes Tobin's Q, return on assets (ROA), and cash flow (CF) at the end of quarter 0, as well as 2-digit SIC industry code dummies and year dummies as control variables. Data items used in construction of independent variables are quarterly data items from Quarterly Compustat. Quarter 0 is the last fiscal quarter of the stock return performance measurement period. Quarters 1 through 4 are the first through the fourth fiscal quarters after the stock return performance measurement period. NAcq is the quarterly number of acquisitions. The changes in the number of acquisitions are calculated by subtracting NAcq in quarter 0 from NAcq in quarters 1, 2, 3, and 4, respectively. NAcq in quarter 0 is the average number of quarterly acquisitions in the past four quarters (including quarter 0). Tobin's Q is the ratio of the market value of assets to the book value of assets (ATQ), where the market value of assets is equal to the book value of assets minus the book value of common equity (CEQQ) and deferred taxes (TXDBQ) plus the number of shares outstanding (CSHOQ) times the share price (PRCCQ). ROA is the ratio of income before extraordinary items (IBQ) over assets (ATQ). CF is the ratio of the sum of income before extraordinary items (IBQ) and depreciation (DPQ) over assets (ATQ). Year dummies are based on calendar year of current quarter 0. All regressions are clustered regressions, where each firm's observations are treated as cluster groups. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Relationship between past positive stock return performance and the changes in subsequent number of acquisitions for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec10M3All, JTDec10M6All, JTDec10M9All, and JTDec10M12All are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec10M3, JTDec10M6, JTDec10M9, and JTDec10M12 are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). PosM3, PosM6, PosM9, and PosM12 are dummy variables equal to one for firms which realized positive returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. PosM3S&P, PosM6S&P, PosM9S&P, and PosM12S&P are dummy variables equal to one for firms which realized positive S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔNAcq 0 to 1	ΔNAcq 0 to 2	ΔNAcq 0 to 3	ΔNAcq 0 to 4
JTDec10M3All	0.0061 (3.10)***	0.0091 (4.21)***	0.0081 (4.30)***	0.0113 (5.09)***
	N = 291,331; R^2 = 0.0015	N = 291,331; R^2 = 0.0021	N = 291,331; R^2 = 0.0034	N = 291,331; R^2 = 0.0044
JTDec10M6All	0.0111 (5.38)***	0.0150 (6.51)***	0.0157 (6.86)***	0.0164 (7.17)***
	N = 275,751; R^2 = 0.0014	N = 275,751; R^2 = 0.0022	N = 275,751; R^2 = 0.0038	N = 275,751; R^2 = 0.0048
JTDec10M9All	0.0117 (5.36)***	0.0164 (6.74)***	0.0173 (7.17)***	0.0145 (5.86)***
	N = 262,969; R^2 = 0.0016	N = 262,969; R^2 = 0.0026	N = 262,969; R^2 = 0.0041	N = 262,969; R^2 = 0.0054
JTDec10M12All	0.0114 (5.05)***	0.0148 (6.43)***	0.0152 (6.22)***	0.0092 (3.33)***
	N = 252,019; R^2 = 0.0017	N = 252,019; R^2 = 0.0027	N = 252,019; R^2 = 0.0043	N = 252,019; R^2 = 0.0050
JTDec10M3	0.0068 (2.89)***	0.0087 (3.39)***	0.0069 (2.96)***	0.0125 (4.86)***
	N = 95,728; R^2 = 0.0029	N = 95,728; R^2 = 0.0023	N = 95,728; R^2 = 0.0039	N = 95,728; R^2 = 0.0048
JTDec10M6	0.0113 (4.74)***	0.0134 (5.02)***	0.0143 (5.49)***	0.0166 (6.28)***
	N = 90,907; R^2 = 0.0022	N = 90,907; R^2 = 0.0026	N = 90,907; R^2 = 0.0039	N = 90,907; R^2 = 0.0047
JTDec10M9	0.0106 (4.23)***	0.0166 (6.06)***	0.0166 (5.99)***	0.0144 (5.06)***
	N = 86,967; R^2 = 0.0021	N = 86,967; R^2 = 0.0026	N = 86,967; R^2 = 0.0037	N = 86,967; R^2 = 0.0048
JTDec10M12	0.0100 (3.86)***	0.0125 (4.67)***	0.0157 (5.45)***	0.0100 (3.31)***
	N = 83,502; R^2 = 0.0027	N = 83,502; R^2 = 0.0030	N = 83,502; R^2 = 0.0050	N = 83,502; R^2 = 0.0053
PosM3	0.0056 (3.31)***	0.0079 (4.40)***	0.0133 (7.71)***	0.0101 (5.40)***
	N = 293,743; R^2 = 0.0016	N = 293,743; R^2 = 0.0021	N = 293,743; R^2 = 0.0035	N = 293,743; R^2 = 0.0044
PosM6	0.0053 (1.18)	0.0152 (3.17)***	0.0166 (3.61)***	0.0087 (2.08)**
	N = 303,912; R^2 = 0.0017	N = 303,912; R^2 = 0.0026	N = 303,912; R^2 = 0.0043	N = 303,912; R^2 = 0.0054
PosM9	0.0115 (1.16)	0.0076 (0.81)	0.0028 (0.32)	0.0119 (1.23)
	N = 291,926; R^2 = 0.0019	N = 291,926; R^2 = 0.0029	N = 291,926; R^2 = 0.0046	N = 291,926; R^2 = 0.0058
PosM12	0.0012 (0.06)	-0.0035 (-0.18)	-0.0018 (-0.09)	0.0215 (0.93)
	N = 279,877; R^2 = 0.0020	N = 279,877; R^2 = 0.0031	N = 279,877; R^2 = 0.0046	N = 279,877; R^2 = 0.0055
PosM3S&P	0.0037 (2.14)**	0.0058 (3.08)***	0.0102 (5.71)***	0.0088 (4.41)***
	N = 284,687; R^2 = 0.0016	N = 284,687; R^2 = 0.0021	N = 284,687; R^2 = 0.0034	N = 284,687; R^2 = 0.0043
PosM6S&P	0.0025(0.48)	0.0102 (1.90)*	0.0108 (2.01)**	0.0099 (1.85)*
	N = 302,246; R^2 = 0.0017	N = 302,246; R^2 = 0.0026	N = 302,246; R^2 = 0.0042	N = 302,246; R^2 = 0.0053
PosM9S&P	0.0153 (1.09)	0.0027 (0.20)	-0.0000 (-0.00)	-0.0044 (-0.37)
	N = 291,724; R^2 = 0.0019	N = 291,724; R^2 = 0.0029	N = 291,724; R^2 = 0.0046	N = 291,724; R^2 = 0.0058
PosM12S&P	-0.0092 (-0.25)	0.0478 (0.99)	-0.0169 (-0.58)	-0.0146 (-0.55)
	N = 279,852; R^2 = 0.0020	N = 279,852; R^2 = 0.0031	N = 279,852; R^2 = 0.0046	N = 279,852; R^2 = 0.0054

Table 3 (continued)

Panel B: Relationship between past negative stock return performance and the changes in subsequent number of acquisitions for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec1M3All, JTDec1M6All, JTDec1M9All, and JTDec1M12All are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec1M3, JTDec1M6, JTDec1M9, and JTDec1M12 are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). NegM3, NegM6, NegM9, and NegM12 are dummy variables equal to one for firms which realized negative returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. NegM3S&P, NegM6S&P, NegM9S&P, and NegM12S&P are dummy variables equal to one for firms which realized negative S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔNAcq 0 to 1	ΔNAcq 0 to 2	ΔNAcq 0 to 3	ΔNAcq 0 to 4
JTDec1M3All	-0.0128 (-6.72)*** N = 292,960; R^2 = 0.0019	-0.0182 (-9.46)*** N = 292,960; R^2 = 0.0030	-0.0185 (-9.46)*** N = 292,960; R^2 = 0.0045	-0.0184 (-9.26)*** N = 292,960; R^2 = 0.0057
JTDec1M6All	-0.0201 (-10.38)*** N = 277,369; R^2 = 0.0025	-0.0224 (-10.28)*** N = 277,369; R^2 = 0.0037	-0.0212 (-9.33)*** N = 277,369; R^2 = 0.0054	-0.0213 (-9.17)*** N = 277,369; R^2 = 0.0067
JTDec1M9All	-0.0180 (-9.32)*** N = 264,293; R^2 = 0.0025	-0.0190 (-8.61)*** N = 264,293; R^2 = 0.0038	-0.0182 (-7.89)*** N = 264,293; R^2 = 0.0053	-0.0180 (-7.63)*** N = 264,293; R^2 = 0.0068
JTDec1M12All	-0.0125 (-6.81)*** N = 253,099; R^2 = 0.0024	-0.0157 (-7.93)*** N = 253,099; R^2 = 0.0037	-0.0114 (-5.58)*** N = 253,099; R^2 = 0.0053	-0.0149 (-7.13)*** N = 253,099; R^2 = 0.0062
JTDec1M3	-0.0125 (-5.51)*** N = 97,357; R^2 = 0.0036	-0.0191 (-8.29)*** N = 97,357; R^2 = 0.0050	-0.0204 (-8.49)*** N = 97,357; R^2 = 0.0072	-0.0184 (-7.60)*** N = 97,357; R^2 = 0.0086
JTDec1M6	-0.0217 (-9.42)*** N = 92,525; R^2 = 0.0052	-0.0266 (-10.38)*** N = 92,525; R^2 = 0.0073	-0.0247 (-9.28)*** N = 92,525; R^2 = 0.0088	-0.0246 (-8.96)*** N = 92,525; R^2 = 0.0106
JTDec1M9	-0.0204 (-8.80)*** N = 88,291; R^2 = 0.0054	-0.0227 (-8.37)*** N = 88,291; R^2 = 0.0061	-0.0210 (-7.21)*** N = 88,291; R^2 = 0.0067	-0.0216 (-7.35)*** N = 88,291; R^2 = 0.0087
JTDec1M12	-0.0148 (-6.31)*** N = 84,582; R^2 = 0.0045	-0.0197 (-7.70)*** N = 84,582; R^2 = 0.0052	-0.0132 (-4.97)*** N = 84,582; R^2 = 0.0068	-0.0160 (-6.00)*** N = 84,582; R^2 = 0.0083
NegM3	-0.0113 (-5.65)*** N = 276,340; R^2 = 0.0020	-0.0126 (-6.68)*** N = 276,340; R^2 = 0.0031	-0.0151 (-8.14)*** N = 276,340; R^2 = 0.0047	-0.0116 (-5.84)*** N = 276,340; R^2 = 0.0058
NegM6	-0.0207 (-2.92)*** N = 299,272; R^2 = 0.0019	-0.0267 (-4.15)*** N = 299,272; R^2 = 0.0028	-0.0249 (-3.49)*** N = 299,272; R^2 = 0.0044	-0.0161 (-2.24)** N = 299,272; R^2 = 0.0055
NegM9	-0.0122 (-0.70) N = 291,060; R^2 = 0.0019	-0.0185 (-1.05) N = 291,060; R^2 = 0.0029	-0.0027 (-0.12) N = 291,060; R^2 = 0.0045	0.0029 (0.16) N = 291,060; R^2 = 0.0058
NegM12	-0.0180 (-0.29) N = 279,708; R^2 = 0.0020	0.1058 (0.72) N = 279,708; R^2 = 0.0031	0.1685 (0.84) N = 279,708; R^2 = 0.0047	-0.0053 (-0.11) N = 279,708; R^2 = 0.0055
NegM3S&P	-0.0093 (-4.92)*** N = 284,257; R^2 = 0.0018	-0.0080 (-4.61)*** N = 284,257; R^2 = 0.0028	-0.0122 (-7.02)*** N = 284,257; R^2 = 0.0045	-0.0102 (-5.52)*** N = 284,257; R^2 = 0.0055
NegM6S&P	-0.0117 (-2.11)** N = 301,577; R^2 = 0.0018	-0.0208 (-4.05)*** N = 301,577; R^2 = 0.0028	-0.0237 (-4.34)*** N = 301,577; R^2 = 0.0044	-0.0126 (-2.23)** N = 301,577; R^2 = 0.0055
NegM9S&P	-0.0072 (-0.56) N = 291,494; R^2 = 0.0019	-0.0180 (-1.48) N = 291,494; R^2 = 0.0029	-0.0127 (-1.07) N = 291,494; R^2 = 0.0045	-0.0270 (-2.22)** N = 291,494; R^2 = 0.0058
NegM12S&P	0.0014 (0.08) N = 279,804; R^2 = 0.0020	0.0076 (0.33) N = 279,804; R^2 = 0.0031	-0.0105 (-0.68) N = 279,804; R^2 = 0.0046	-0.0066 (-0.42) N = 279,804; R^2 = 0.0054

Table 4
Relationship between past stock return performance and the changes in subsequent cash holdings for a sample of firms in 1971 to 2014.
Each entry corresponds to a separate regression with the changes in cash holdings over assets from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. Each entry reports coefficient estimates of past stock return performance variables (described below) used as independent variables along with *t*-statistics in parentheses. Each regression also includes Tobin's Q, return on assets (ROA), and cash flow (CF) at the end of quarter 0, as well as 2-digit SIC industry code dummies and year dummies as control variables. Data items used in construction of dependent and independent variables are quarterly data items from Quarterly Compustat. Quarter 0 is the last fiscal quarter of the stock return performance measurement period. Quarters 1 through 4 are the first through the fourth fiscal quarters after the stock return performance measurement period. Cash is quarterly cash and short-term investments (CHEQ). Assets are quarterly total assets (ATQ). The changes in cash holdings over assets are calculated by subtracting Cash/Assets in quarter 0 from Cash/Assets in quarters 1, 2, 3, and 4, respectively. Cash/Assets in quarter 0 is the average Cash/Assets in the past four quarters (including quarter 0). Tobin's Q is the ratio of the market value of assets to the book value of assets (ATQ), where the market value of assets is equal to the book value of assets minus the book value of common equity (CEQQ) and deferred taxes (TXDBQ) plus the number of shares outstanding (CSHOQ) times the share price (PRCCQ). ROA is the ratio of income before extraordinary items (IBQ) over assets (ATQ). CF is the ratio of the sum of income before extraordinary items (IBQ) and depreciation (DPQ) over assets (ATQ). Year dummies are based on calendar year of current quarter 0. All regressions are clustered regressions, where each firm's observations are treated as cluster groups. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Relationship between past positive stock return performance and the changes in subsequent cash holdings for a sample of firms in 1971 to 2014.
Independent stock return performance variables used in this panel are as follows. JTDec10M3All, JTDec10M6All, JTDec10M9All, and JTDec10M12All are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec10M3, JTDec10M6, JTDec10M9, and JTDec10M12 are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). PosM3, PosM6, PosM9, and PosM12 are dummy variables equal to one for firms which realized positive returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. PosM3S&P, PosM6S&P, PosM9S&P, and PosM12S&P are dummy variables equal to one for firms which realized positive S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔCash/Assets 0 to 1	ΔCash/Assets 0 to 2	ΔCash/Assets 0 to 3	ΔCash/Assets 0 to 4
JTDec10M3All	0.0091 (15.95)***	0.0106 (15.28)***	0.0118 (15.15)***	0.0108 (12.53)***
	N = 284,343; R^2 = 0.0221	N = 278,687; R^2 = 0.0274	N = 273,036; R^2 = 0.0334	N = 272,318; R^2 = 0.0381
JTDec10M6All	0.0131 (20.19)***	0.0154 (19.22)***	0.0150 (16.61)***	0.0128 (13.17)***
	N = 269,041; R^2 = 0.0250	N = 263,674; R^2 = 0.0294	N = 258,384; R^2 = 0.0324	N = 257,802; R^2 = 0.0368
JTDec10M9All	0.0130 (19.31)***	0.0141 (16.93)***	0.0136 (14.30)***	0.0107 (10.47)***
	N = 256,534; R^2 = 0.0240	N = 251,453; R^2 = 0.0267	N = 246,395; R^2 = 0.0292	N = 245,949; R^2 = 0.0334
JTDec10M12All	0.0115 (16.76)***	0.0114 (13.35)***	0.0103 (10.52)***	0.0080 (7.65)***
	N = 245,740; R^2 = 0.0216	N = 240,793; R^2 = 0.0233	N = 235,962; R^2 = 0.0253	N = 235,725; R^2 = 0.0293
JTDec10M3	0.0080 (13.08)***	0.0097 (12.73)***	0.0105 (12.22)***	0.0098 (10.68)***
	N = 93,386; R^2 = 0.0197	N = 91,421; R^2 = 0.0255	N = 89,529; R^2 = 0.0321	N = 89,363; R^2 = 0.0370
JTDec10M6	0.0120 (17.72)***	0.0137 (16.68)***	0.0132 (14.38)***	0.0114 (11.54)***
	N = 88,676; R^2 = 0.0233	N = 86,862; R^2 = 0.0287	N = 85,109; R^2 = 0.0318	N = 85,095; R^2 = 0.0370
JTDec10M9	0.0125 (17.26)***	0.0134 (15.18)***	0.0133 (13.16)***	0.0105 (9.65)***
	N = 84,782; R^2 = 0.0232	N = 83,067; R^2 = 0.0254	N = 81,436; R^2 = 0.0289	N = 81,407; R^2 = 0.0322
JTDec10M12	0.0113 (14.85)***	0.0118 (12.80)***	0.0103 (10.01)***	0.0078 (7.02)***
	N = 81,381; R^2 = 0.0218	N = 79,799; R^2 = 0.0244	N = 78,240; R^2 = 0.0262	N = 78,237; R^2 = 0.0291
PosM3	0.0055 (14.58)***	0.0070 (15.57)***	0.0080 (15.74)***	0.0071 (13.03)***
	N = 287,012; R^2 = 0.0233	N = 281,140; R^2 = 0.0292	N = 275,227; R^2 = 0.0345	N = 274,018; R^2 = 0.0392
PosM6	0.0081 (8.35)***	0.0107 (9.34)***	0.0114 (9.05)***	0.0091 (6.84)***
	N = 296,573; R^2 = 0.0238	N = 290,595; R^2 = 0.0281	N = 284,617; R^2 = 0.0321	N = 283,796; R^2 = 0.0371
PosM9	0.0080 (3.45)***	0.0105 (3.63)***	0.0114 (3.78)***	0.0081 (2.52)**
	N = 284,755; R^2 = 0.0214	N = 279,050; R^2 = 0.0248	N = 273,300; R^2 = 0.0281	N = 272,690; R^2 = 0.0328
PosM12	0.0074 (1.30)	0.0107 (1.79)*	0.0076 (1.25)	0.0040 (0.60)
	N = 272,886; R^2 = 0.0188	N = 267,401; R^2 = 0.0219	N = 261,934; R^2 = 0.0253	N = 261,537; R^2 = 0.0298
PosM3S&P	0.0056 (13.57)***	0.0068 (13.77)***	0.0080 (14.52)***	0.0068 (11.76)***
	N = 278,150; R^2 = 0.0230	N = 272,565; R^2 = 0.0290	N = 266,951; R^2 = 0.0346	N = 265,817; R^2 = 0.0399
PosM6S&P	0.0102 (8.72)***	0.0131 (9.31)***	0.0138 (8.95)***	0.0109 (6.65)***
	N = 294,939; R^2 = 0.0238	N = 289,023; R^2 = 0.0283	N = 283,072; R^2 = 0.0322	N = 282,260; R^2 = 0.0372
PosM9S&P	0.0094 (2.77)***	0.0107 (2.66)***	0.0117 (2.81)***	0.0083 (1.92)*
	N = 284,569; R^2 = 0.0215	N = 278,869; R^2 = 0.0248	N = 273,123; R^2 = 0.0281	N = 272,508; R^2 = 0.0329
PosM12S&P	-0.0050 (-0.49)	0.0025 (0.23)	0.0063 (0.55)	0.0049 (0.37)
	N = 272,864; R^2 = 0.0188	N = 267,379; R^2 = 0.0219	N = 261,914; R^2 = 0.0253	N = 261,514; R^2 = 0.0298

Table 4 (continued)

Panel B: Relationship between past negative stock return performance and the changes in subsequent cash holdings for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec1M3All, JTDec1M6All, JTDec1M9All, and JTDec1M12All are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec1M3, JTDec1M6, JTDec1M9, and JTDec1M12 are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). NegM3, NegM6, NegM9, and NegM12 are dummy variables equal to one for firms which realized negative returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. NegM3S&P, NegM6S&P, NegM9S&P, and NegM12S&P are dummy variables equal to one for firms which realized negative S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔCash/Assets 0 to 1	ΔCash/Assets 0 to 2	ΔCash/Assets 0 to 3	ΔCash/Assets 0 to 4
JTDec1M3All	-0.0094 (-18.61)***	-0.0106 (-18.01)***	-0.0110 (-16.44)***	-0.0097 (-13.34)***
	N = 286,007; R^2 = 0.0291	N = 280,447; R^2 = 0.0343	N = 274,719; R^2 = 0.0389	N = 273,788; R^2 = 0.0429
JTDec1M6All	-0.0083 (-15.70)***	-0.0086 (-13.30)***	-0.0088 (-11.99)***	-0.0074 (-9.24)***
	N = 270,616; R^2 = 0.0302	N = 265,352; R^2 = 0.0336	N = 259,947; R^2 = 0.0362	N = 259,172; R^2 = 0.0399
JTDec1M9All	-0.0076 (-14.03)***	-0.0073 (-10.91)***	-0.0069 (-8.89)***	-0.0053 (-6.20)***
	N = 257,840; R^2 = 0.0271	N = 252,756; R^2 = 0.0300	N = 247,537; R^2 = 0.0321	N = 246,935; R^2 = 0.0361
JTDec1M12All	-0.0055 (-9.94)***	-0.0050 (-7.27)***	-0.0047 (-5.82)***	-0.0029 (-3.26)***
	N = 246,820; R^2 = 0.0233	N = 241,903; R^2 = 0.0257	N = 236,940; R^2 = 0.0283	N = 236,525; R^2 = 0.0320
JTDec1M3	-0.0096 (-17.12)***	-0.0105 (-15.79)***	-0.0112 (-15.02)***	-0.0100 (-12.08)***
	N = 95,050; R^2 = 0.0399	N = 93,181; R^2 = 0.0447	N = 91,212; R^2 = 0.0474	N = 90,833; R^2 = 0.0503
JTDec1M6	-0.0091 (-15.28)***	-0.0092 (-12.75)***	-0.0094 (-11.46)***	-0.0078 (-8.84)***
	N = 90,251; R^2 = 0.0404	N = 88,540; R^2 = 0.0418	N = 86,672; R^2 = 0.0435	N = 86,465; R^2 = 0.0459
JTDec1M9	-0.0080 (-12.98)***	-0.0076 (-10.16)***	-0.0072 (-8.29)***	-0.0054 (-5.67)***
	N = 86,088; R^2 = 0.0344	N = 84,370; R^2 = 0.0363	N = 82,578; R^2 = 0.0379	N = 82,393; R^2 = 0.0408
JTDec1M12	-0.0059 (-9.07)***	-0.0051 (-6.40)***	-0.0045 (-4.96)***	-0.0027 (-2.76)***
	N = 82,461; R^2 = 0.0295	N = 80,909; R^2 = 0.0338	N = 79,218; R^2 = 0.0361	N = 79,037; R^2 = 0.0378
NegM3	-0.0057 (-13.16)***	-0.0059 (-11.31)***	-0.0062 (-10.58)***	-0.0058 (-9.18)***
	N = 269,313; R^2 = 0.0260	N = 263,927; R^2 = 0.0320	N = 258,677; R^2 = 0.0370	N = 258,275; R^2 = 0.0415
NegM6	-0.0079 (-5.33)***	-0.0078 (-4.57)***	-0.0081 (-4.21)***	-0.0056 (-2.80)***
	N = 291,906; R^2 = 0.0241	N = 286,070; R^2 = 0.0285	N = 280,242; R^2 = 0.0324	N = 279,581; R^2 = 0.0374
NegM9	-0.0040 (-1.02)	-0.0009 (-0.17)	0.0001 (0.02)	0.0012 (0.24)
	N = 283,887; R^2 = 0.0215	N = 278,209; R^2 = 0.0248	N = 272,491; R^2 = 0.0282	N = 271,919; R^2 = 0.0329
NegM12	0.0014 (0.14)	0.0031 (0.25)	-0.0021 (-0.18)	0.0093 (0.74)
	N = 272,717; R^2 = 0.0188	N = 267,238; R^2 = 0.0219	N = 261,779; R^2 = 0.0254	N = 261,390; R^2 = 0.0298
NegM3S&P	-0.0054 (-13.86)***	-0.0057 (-12.33)***	-0.0063 (-11.96)***	-0.0055 (-9.53)***
	N = 277,211; R^2 = 0.0259	N = 271,612; R^2 = 0.0317	N = 265,897; R^2 = 0.0366	N = 265,368; R^2 = 0.0411
NegM6S&P	-0.0062 (-5.65)***	-0.0062 (-4.77)***	-0.0061 (-4.12)***	-0.0042 (-2.70)***
	N = 294,204; R^2 = 0.0239	N = 288,277; R^2 = 0.0282	N = 282,365; R^2 = 0.0321	N = 281,643; R^2 = 0.0371
NegM9S&P	-0.0031 (-1.04)	-0.0052 (-1.33)	-0.0048 (-1.20)	-0.0005 (-0.14)
	N = 284,319; R^2 = 0.0214	N = 278,623; R^2 = 0.0247	N = 272,887; R^2 = 0.0281	N = 272,294; R^2 = 0.0329
NegM12S&P	-0.0044 (-0.62)	0.0082 (0.62)	0.0044 (0.49)	0.0119 (1.38)
	N = 272,814; R^2 = 0.0188	N = 267,331; R^2 = 0.0219	N = 261,866; R^2 = 0.0253	N = 261,471; R^2 = 0.0298

Table 5

Relationship between past stock return performance and the changes in subsequent dividends for a sample of firms in 1971 to 2014.

Each entry corresponds to a separate regression with the changes in dividends over earnings from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. Each entry reports coefficient estimates of past stock return performance variables (described below) used as independent variables along with *t*-statistics in parentheses. Each regression also includes Tobin's Q, return on assets (ROA), and cash flow (CF) at the end of quarter 0, as well as 2-digit SIC industry code dummies and year dummies as control variables. Data items used in construction of dependent and independent variables are quarterly data items from Quarterly Compustat. Quarter 0 is the last fiscal quarter of the stock return performance measurement period. Quarters 1 through 4 are the first through the fourth fiscal quarters after the stock return performance measurement period. Div is the sum of quarterly common and preferred (DVPQ) dividends. Quarterly levels of common dividends are derived from year-to-date levels of quarterly cash dividends on common stock (DVY). Earn is the quarterly operating income before depreciation (OIBDPQ). The changes in dividends over earnings are calculated by subtracting Div/Earn in quarter 0 from Div/Earn in quarters 1, 2, 3, and 4, respectively. Div/Earn in quarter 0 is the average Div/Earn in the past four quarters (including quarter 0). Tobin's Q is the ratio of the market value of assets to the book value of assets (ATQ), where the market value of assets is equal to the book value of assets minus the book value of common equity (CEQQ) and deferred taxes (TXDBQ) plus the number of shares outstanding (CSHOQ) times the share price (PRCCQ). ROA is the ratio of income before extraordinary items (IBQ) over assets (ATQ). CF is the ratio of the sum of income before extraordinary items (IBQ) and depreciation (DPQ) over assets (ATQ). Year dummies are based on calendar year of current quarter 0. All regressions are clustered regressions, where each firm's observations are treated as cluster groups. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Relationship between past positive stock return performance and the changes in subsequent dividends for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec10M3All, JTDec10M6All, JTDec10M9All, and JTDec10M12All are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec10M3, JTDec10M6, JTDec10M9, and JTDec10M12 are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). PosM3, PosM6, PosM9, and PosM12 are dummy variables equal to one for firms which realized positive returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. PosM3S&P, PosM6S&P, PosM9S&P, and PosM12S&P are dummy variables equal to one for firms which realized positive S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔDiv/Earn 0 to 1	ΔDiv/Earn 0 to 2	ΔDiv/Earn 0 to 3	ΔDiv/Earn 0 to 4
JTDec10M3All	-0.0180 (-1.84)* N = 271,591; R^2 = 0.0002	-0.0192 (-2.15)** N = 263,060; R^2 = 0.0005	-0.0223 (-2.42)** N = 254,940; R^2 = 0.0003	-0.0153 (-1.73)* N = 252,614; R^2 = 0.0003
JTDec10M6All	-0.0023 (-0.12) N = 257,330; R^2 = 0.0004	-0.0243 (-2.55)** N = 249,282; R^2 = 0.0004	-0.0242 (-2.63)*** N = 241,740; R^2 = 0.0004	-0.0169 (-1.79)* N = 239,580; R^2 = 0.0004
JTDec10M9All	-0.0246 (-2.58)*** N = 245,580; R^2 = 0.0003	-0.0311 (-3.55)*** N = 238,015; R^2 = 0.0004	-0.0285 (-3.44)*** N = 230,786; R^2 = 0.0004	-0.0274 (-2.88)*** N = 228,931; R^2 = 0.0004
JTDec10M12All	-0.0265 (-3.07)*** N = 235,489; R^2 = 0.0004	-0.0258 (-3.20)*** N = 228,137; R^2 = 0.0004	-0.0251 (-2.68)*** N = 221,281; R^2 = 0.0004	0.0071 (0.24) N = 219,753; R^2 = 0.0004
JTDec10M3	-0.0322 (-1.35) N = 89,431; R^2 = 0.0013	-0.0204 (-1.63) N = 86,459; R^2 = 0.0017	-0.0044 (-0.47) N = 83,760; R^2 = 0.0020	-0.0503 (-1.70)* N = 83,007; R^2 = 0.0012
JTDec10M6	-0.0384 (-1.21) N = 85,124; R^2 = 0.0015	-0.0408 (-1.71)* N = 82,386; R^2 = 0.0013	-0.0328 (-1.94)* N = 79,852; R^2 = 0.0014	-0.0012 (-0.10) N = 79,197; R^2 = 0.0019
JTDec10M9	-0.0354 (-2.20)** N = 81,471; R^2 = 0.0009	-0.0582 (-3.80)*** N = 78,905; R^2 = 0.0014	-0.0298 (-2.60)*** N = 76,536; R^2 = 0.0015	-0.0348 (-2.32)** N = 75,930; R^2 = 0.0050
JTDec10M12	-0.0442 (-2.74)*** N = 78,294; R^2 = 0.0012	-0.0506 (-3.21)*** N = 75,925; R^2 = 0.0020	-0.0431 (-1.69)* N = 73,667; R^2 = 0.0015	0.0046 (0.11) N = 73,207; R^2 = 0.0031
PosM3	0.0130 (0.68) N = 273,678; R^2 = 0.0003	0.0121 (0.85) N = 264,953; R^2 = 0.0006	-0.0024 (-0.21) N = 256,508; R^2 = 0.0004	0.0315 (1.53) N = 253,746; R^2 = 0.0004
PosM6	-0.0146 (-1.75)* N = 282,805; R^2 = 0.0002	0.0116 (0.31) N = 273,824; R^2 = 0.0003	-0.0195 (-2.03)** N = 265,384; R^2 = 0.0003	-0.0020 (-0.15) N = 262,917; R^2 = 0.0003
PosM9	-0.0106 (-0.97) N = 271,680; R^2 = 0.0003	-0.0283 (-2.24)** N = 263,122; R^2 = 0.0004	-0.0118 (-0.76) N = 255,044; R^2 = 0.0004	0.0011 (0.05) N = 252,908; R^2 = 0.0004
PosM12	0.0052 (0.19) N = 260,477; R^2 = 0.0003	-0.0186 (-0.88) N = 252,271; R^2 = 0.0004	0.0158 (0.39) N = 244,636; R^2 = 0.0004	-0.0300 (-1.13) N = 242,828; R^2 = 0.0004
PosM3S&P	0.0311 (0.87) N = 265,414; R^2 = 0.0003	-0.0048 (-0.26) N = 256,938; R^2 = 0.0005	-0.0077 (-0.54) N = 248,984; R^2 = 0.0003	0.0018 (0.09) N = 246,290; R^2 = 0.0004
PosM6S&P	-0.0212 (-1.73)* N = 281,297; R^2 = 0.0003	-0.0328 (-2.93)*** N = 272,380; R^2 = 0.0003	-0.0208 (-1.65)* N = 263,983; R^2 = 0.0003	-0.0127 (-0.71) N = 261,537; R^2 = 0.0003
PosM9S&P	-0.0419 (-1.50) N = 271,514; R^2 = 0.0003	-0.0510 (-1.79)* N = 262,962; R^2 = 0.0004	-0.0279 (-0.81) N = 254,885; R^2 = 0.0004	-0.0075 (-0.17) N = 252,749; R^2 = 0.0004
PosM12S&P	0.0030 (0.17) N = 260,457; R^2 = 0.0003	-0.0003 (-0.02) N = 252,249; R^2 = 0.0004	0.0438 (0.94) N = 244,617; R^2 = 0.0004	-0.0146 (-0.76) N = 242,804; R^2 = 0.0004

Table 5 (continued)

Panel B: Relationship between past negative stock return performance and the changes in subsequent dividends for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec1M3All, JTDec1M6All, JTDec1M9All, and JTDec1M12All are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec1M3, JTDec1M6, JTDec1M9, and JTDec1M12 are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). NegM3, NegM6, NegM9, and NegM12 are dummy variables equal to one for firms which realized negative returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. NegM3S&P, NegM6S&P, NegM9S&P, and NegM12S&P are dummy variables equal to one for firms which realized negative S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔDiv/Earn 0 to 1	ΔDiv/Earn 0 to 2	ΔDiv/Earn 0 to 3	ΔDiv/Earn 0 to 4
JTDec1M3All	-0.0667 (-2.32)**	0.0464 (0.55)	-0.0664 (-2.26)**	-0.0504 (-1.59)
	N = 272,358; R^2 = 0.0003	N = 263,930; R^2 = 0.0003	N = 255,795; R^2 = 0.0004	N = 253,354; R^2 = 0.0004
JTDec1M6All	0.0663 (0.81)	0.0533 (0.60)	-0.0223 (-0.73)	-0.0158 (-0.51)
	N = 257,817; R^2 = 0.0003	N = 249,850; R^2 = 0.0003	N = 242,239; R^2 = 0.0003	N = 240,049; R^2 = 0.0003
JTDec1M9All	0.0425 (0.52)	0.0750 (0.85)	-0.0111 (-0.50)	-0.0363 (-1.99)**
	N = 245,750; R^2 = 0.0004	N = 238,107; R^2 = 0.0004	N = 230,805; R^2 = 0.0004	N = 228,909; R^2 = 0.0004
JTDec1M12All	0.0626 (0.74)	0.0875 (0.95)	-0.0281 (-1.03)	-0.0205 (-0.98)
	N = 235,258; R^2 = 0.0004	N = 227,896; R^2 = 0.0004	N = 220,986; R^2 = 0.0004	N = 219,377; R^2 = 0.0004
JTDec1M3	-0.0732 (-1.94)*	0.0545 (0.61)	-0.0444 (-1.38)	-0.0947 (-1.83)*
	N = 90,198; R^2 = 0.0015	N = 87,329; R^2 = 0.0013	N = 84,615; R^2 = 0.0025	N = 83,747; R^2 = 0.0012
JTDec1M6	0.0362 (0.40)	0.0407 (0.41)	-0.0312 (-0.93)	0.0034 (0.12)
	N = 85,611; R^2 = 0.0011	N = 82,954; R^2 = 0.0012	N = 80,351; R^2 = 0.0013	N = 79,666; R^2 = 0.0020
JTDec1M9	0.0516 (0.59)	0.0508 (0.51)	-0.0019 (-0.10)	-0.0295 (-1.47)
	N = 81,641; R^2 = 0.0012	N = 78,997; R^2 = 0.0013	N = 76,555; R^2 = 0.0013	N = 75,908; R^2 = 0.0051
JTDec1M12	0.0516 (0.56)	0.0726 (0.70)	-0.0591 (-1.07)	-0.0230 (-0.97)
	N = 78,063; R^2 = 0.0012	N = 75,684; R^2 = 0.0014	N = 73,372; R^2 = 0.0015	N = 72,831; R^2 = 0.0034
NegM3	0.0031 (0.16)	0.1004 (1.11)	-0.0047 (-0.25)	0.0129 (0.71)
	N = 256,077; R^2 = 0.0003	N = 247,846; R^2 = 0.0003	N = 240,303; R^2 = 0.0003	N = 238,430; R^2 = 0.0003
NegM6	0.1713 (1.03)	-0.0149 (-1.05)	0.0444 (0.71)	-0.0131 (-0.76)
	N = 278,183; R^2 = 0.0003	N = 269,375; R^2 = 0.0003	N = 261,137; R^2 = 0.0003	N = 258,892; R^2 = 0.0003
NegM9	-0.0284 (-2.00)**	-0.0287 (-1.78)*	-0.0382 (-2.22)**	-0.0349 (-2.14)**
	N = 270,827; R^2 = 0.0003	N = 262,297; R^2 = 0.0004	N = 254,264; R^2 = 0.0004	N = 252,179; R^2 = 0.0004
NegM12	-0.0477 (-1.64)	-0.0573 (-1.89)*	-0.0284 (-0.54)	-0.0418 (-1.05)
	N = 260,312; R^2 = 0.0003	N = 252,112; R^2 = 0.0004	N = 244,489; R^2 = 0.0004	N = 242,689; R^2 = 0.0004
NegM3S&P	-0.0162 (-1.18)	0.0544 (0.81)	-0.0017 (-0.09)	-0.0103 (-0.64)
	N = 263,645; R^2 = 0.0002	N = 255,216; R^2 = 0.0003	N = 247,120; R^2 = 0.0003	N = 245,107; R^2 = 0.0003
NegM6S&P	-0.0125 (-0.47)	-0.0428 (-2.65)***	0.1016 (-0.71)	-0.0201 (-0.91)
	N = 280,402; R^2 = 0.0003	N = 271,494; R^2 = 0.0003	N = 263,166; R^2 = 0.0003	N = 260,804; R^2 = 0.0003
NegM9S&P	-0.0565 (-1.64)	-0.0598 (-1.75)*	-0.0285 (-0.69)	-0.0575 (-1.73)*
	N = 271,250; R^2 = 0.0003	N = 262,697; R^2 = 0.0004	N = 254,634; R^2 = 0.0004	N = 252,521; R^2 = 0.0004
NegM12S&P	-0.1875 (-1.40)	-0.1804 (-1.41)	-0.1885 (-1.34)	-0.1705 (-1.41)
	N = 260,404; R^2 = 0.0003	N = 252,200; R^2 = 0.0004	N = 244,570; R^2 = 0.0004	N = 242,763; R^2 = 0.0004

Table 6

Relationship between past stock return performance and the changes in subsequent net long-term debt issuance for a sample of firms in 1971 to 2014.

Each entry corresponds to a separate regression with the changes in long-term debt issuance over assets from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. Each entry reports coefficient estimates of past stock return performance variables (described below) used as independent variables along with *t*-statistics in parentheses. Each regression also includes Tobin's Q, return on assets (ROA), and cash flow (CF) at the end of quarter 0, as well as 2-digit SIC industry code dummies and year dummies as control variables. Data items used in construction of dependent and independent variables are quarterly data items from Quarterly Compustat. Quarter 0 is the last fiscal quarter of the stock return performance measurement period. Quarters 1 through 4 are the first through the fourth fiscal quarters after the stock return performance measurement period. Net long-term debt issuance (NDIss) is the difference between long-term debt issuance and long-term debt reduction. Quarterly amounts of long-term debt issuance are derived from year-to-date amounts of quarterly long-term debt issuance (DLTISY) and quarterly amounts of long-term debt reduction are derived from year-to-date amounts of quarterly long-term debt reduction (DLTRY). Assets are the quarterly total assets (ATQ). The changes in net long-term debt issuance over assets are calculated by subtracting NDIss/Assets in quarter 0 from NDIss/Assets in quarters 1, 2, 3, and 4, respectively. NDIss/Assets in quarter 0 is the average NDIss/Assets in the past four quarters (including quarter 0). Tobin's Q is the ratio of the market value of assets to the book value of assets (ATQ), where the market value of assets is equal to the book value of assets minus the book value of common equity (CEQQ) and deferred taxes (TXDBQ) plus the number of shares outstanding (CSHOQ) times the share price (PRCCQ). ROA is the ratio of income before extraordinary items (IBQ) over assets (ATQ). CF is the ratio of the sum of income before extraordinary items (IBQ) and depreciation (DPQ) over assets (ATQ). Year dummies are based on calendar year of current quarter 0. All regressions are clustered regressions, where each firm's observations are treated as cluster groups. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Relationship between past positive stock return performance and the changes in subsequent net long-term debt issuance for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec10M3All, JTDec10M6All, JTDec10M9All, and JTDec10M12All are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec10M3, JTDec10M6, JTDec10M9, and JTDec10M12 are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). PosM3, PosM6, PosM9, and PosM12 are dummy variables equal to one for firms which realized positive returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. PosM3S&P, PosM6S&P, PosM9S&P, and PosM12S&P are dummy variables equal to one for firms which realized positive S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔNDIss/Assets 0 to 1	ΔNDIss/Assets 0 to 2	ΔNDIss/Assets 0 to 3	ΔNDIss/Assets 0 to 4
JTDec10M3All	-0.0014 (-2.25)**	-0.0015 (-2.10)**	-0.0013 (-1.82)*	0.0008 (1.87)*
	N = 285,418; R^2 = 0.0030	N = 279,711; R^2 = 0.0011	N = 274,129; R^2 = 0.0014	N = 273,158; R^2 = 0.0048
JTDec10M6All	-0.0013 (-1.90)*	-0.0011 (-1.43)	-0.0005 (-0.67)	0.0007 (1.63)
	N = 270,210; R^2 = 0.0029	N = 264,808; R^2 = 0.0012	N = 259,568; R^2 = 0.0015	N = 258,784; R^2 = 0.0019
JTDec10M9All	-0.0010 (-2.19)**	0.0000 (0.07)	0.0003 (0.64)	0.0013 (2.68)***
	N = 257,647; R^2 = 0.0032	N = 252,543; R^2 = 0.0014	N = 247,548; R^2 = 0.0018	N = 246,876; R^2 = 0.0018
JTDec10M12All	-0.0005 (-1.07)	-0.0001 (-0.21)	0.0009 (1.80)*	0.0008 (1.53)
	N = 246,829; R^2 = 0.0032	N = 241,865; R^2 = 0.0014	N = 237,075; R^2 = 0.0018	N = 236,617; R^2 = 0.0018
JTDec10M3	-0.0012 (-1.63)	-0.0015 (-2.02)**	-0.0012 (-1.55)	0.0007 (1.39)
	N = 93,744; R^2 = 0.0030	N = 91,766; R^2 = 0.0043	N = 89,885; R^2 = 0.0042	N = 89,642; R^2 = 0.0045
JTDec10M6	-0.0017 (-2.20)**	-0.0018 (-1.56)	-0.0007 (-0.82)	0.0003 (0.67)
	N = 89,024; R^2 = 0.0030	N = 87,205; R^2 = 0.0017	N = 85,478; R^2 = 0.0046	N = 85,391; R^2 = 0.0067
JTDec10M9	-0.0014 (-2.36)**	-0.0002 (-0.41)	-0.0003 (-0.33)	0.0016 (3.06)***
	N = 85,119; R^2 = 0.0041	N = 83,412; R^2 = 0.0045	N = 81,808; R^2 = 0.0032	N = 81,694; R^2 = 0.0063
JTDec10M12	-0.0006 (-0.98)	-0.0003 (-0.50)	0.0007 (1.35)	-0.0001 (-0.13)
	N = 81,727; R^2 = 0.0039	N = 80,153; R^2 = 0.0052	N = 78,590; R^2 = 0.0056	N = 78,534; R^2 = 0.0030
PosM3	-0.0000 (-0.01)	-0.0006 (-0.99)	0.0014 (1.32)	0.0006 (0.90)
	N = 288,074; R^2 = 0.0029	N = 282,153; R^2 = 0.0011	N = 276,310; R^2 = 0.0014	N = 274,857; R^2 = 0.0017
PosM6	0.0007 (0.86)	0.0000 (0.04)	0.0011 (1.49)	0.0013 (1.28)
	N = 297,847; R^2 = 0.0030	N = 291,816; R^2 = 0.0012	N = 285,908; R^2 = 0.0016	N = 284,859; R^2 = 0.0020
PosM9	-0.0006 (-0.27)	-0.0034 (-1.89)*	0.0006 (0.34)	0.0034 (1.89)*
	N = 285,995; R^2 = 0.0033	N = 280,244; R^2 = 0.0015	N = 274,567; R^2 = 0.0019	N = 273,726; R^2 = 0.0019
PosM12	-0.0037 (-0.92)	-0.0124 (-2.44)**	-0.0063 (-1.80)*	-0.0012 (-0.27)
	N = 274,089; R^2 = 0.0034	N = 268,565; R^2 = 0.0015	N = 263,154; R^2 = 0.0018	N = 262,536; R^2 = 0.0019
PosM3S&P	0.0002 (0.64)	-0.0000 (-0.13)	0.0002 (0.67)	0.0012 (3.11)***
	N = 279,182; R^2 = 0.0030	N = 273,553; R^2 = 0.0012	N = 268,004; R^2 = 0.0014	N = 266,645; R^2 = 0.0017
PosM6S&P	0.0005 (0.59)	-0.0003 (-0.38)	0.0018 (1.91)*	0.0030 (3.44)***
	N = 296,208; R^2 = 0.0030	N = 290,240; R^2 = 0.0013	N = 284,360; R^2 = 0.0016	N = 283,325; R^2 = 0.0020
PosM9S&P	-0.0014 (-0.52)	-0.0012 (-0.43)	0.0014 (0.59)	0.0029 (1.30)
	N = 285,809; R^2 = 0.0033	N = 280,063; R^2 = 0.0015	N = 274,390; R^2 = 0.0019	N = 273,542; R^2 = 0.0019
PosM12S&P	-0.0114 (-2.04)**	-0.0063 (-1.05)	-0.0040 (-0.93)	0.0095 (1.11)
	N = 274,067; R^2 = 0.0034	N = 268,543; R^2 = 0.0015	N = 263,134; R^2 = 0.0018	N = 262,513; R^2 = 0.0019

Table 6 (continued)

Panel B: Relationship between past negative stock return performance and the changes in subsequent net long-term debt issuance for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec1M3All, JTDec1M6All, JTDec1M9All, and JTDec1M12All are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec1M3, JTDec1M6, JTDec1M9, and JTDec1M12 are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). NegM3, NegM6, NegM9, and NegM12 are dummy variables equal to one for firms which realized negative returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. NegM3S&P, NegM6S&P, NegM9S&P, and NegM12S&P are dummy variables equal to one for firms which realized negative S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔNDIss/Assets 0 to 1	ΔNDIss/Assets 0 to 2	ΔNDIss/Assets 0 to 3	ΔNDIss/Assets 0 to 4
JTDec1M3All	-0.0023 (-6.09)*** N = 287,112; R^2 = 0.0035	-0.0023 (-5.97)*** N = 281,496; R^2 = 0.0014	-0.0030 (-7.68)*** N = 275,840; R^2 = 0.0017	-0.0006 (-0.30) N = 274,672; R^2 = 0.0019
JTDec1M6All	-0.0026 (-6.98)*** N = 271,818; R^2 = 0.0040	-0.0029 (-7.21)*** N = 266,491; R^2 = 0.0016	-0.0036 (-8.93)*** N = 261,154; R^2 = 0.0020	-0.0046 (-10.33)*** N = 260,166; R^2 = 0.0022
JTDec1M9All	-0.0030 (-8.08)*** N = 258,983; R^2 = 0.0040	-0.0033 (-8.18)*** N = 253,859; R^2 = 0.0016	-0.0040 (-9.06)*** N = 248,697; R^2 = 0.0020	-0.0050 (-11.07)*** N = 247,884; R^2 = 0.0021
JTDec1M12All	-0.0038 (-10.10)*** N = 247,917; R^2 = 0.0041	-0.0042 (-10.15)*** N = 242,954; R^2 = 0.0016	-0.0041 (-9.27)*** N = 238,050; R^2 = 0.0020	-0.0044 (-8.77)*** N = 237,427; R^2 = 0.0021
JTDec1M3	-0.0026 (-5.91)*** N = 95,438; R^2 = 0.0048	-0.0026 (-5.82)*** N = 93,551; R^2 = 0.0057	-0.0034 (-7.67)*** N = 91,596; R^2 = 0.0064	-0.0011 (-0.42) N = 91,156; R^2 = 0.0031
JTDec1M6	-0.0034 (-7.46)*** N = 90,632; R^2 = 0.0050	-0.0040 (-6.46)*** N = 88,888; R^2 = 0.0028	-0.0040 (-8.61)*** N = 87,064; R^2 = 0.0073	-0.0054 (-11.27)*** N = 86,773; R^2 = 0.0093
JTDec1M9	-0.0038 (-8.19)*** N = 86,455; R^2 = 0.0062	-0.0040 (-8.92)*** N = 84,728; R^2 = 0.0070	-0.0057 (-7.47)*** N = 82,957; R^2 = 0.0036	-0.0056 (-11.43)*** N = 82,702; R^2 = 0.0097
JTDec1M12	-0.0040 (-8.32)*** N = 82,815; R^2 = 0.0064	-0.0048 (-10.14)*** N = 81,242; R^2 = 0.0071	-0.0052 (-10.04)*** N = 79,565; R^2 = 0.0083	-0.0061 (-7.95)*** N = 79,344; R^2 = 0.0034
NegM3	-0.0009 (-2.37)** N = 270,334; R^2 = 0.0032	-0.0009 (-1.80)* N = 264,906; R^2 = 0.0013	-0.0015 (-3.66)*** N = 259,699; R^2 = 0.0048	-0.0012 (-2.61)*** N = 259,062; R^2 = 0.0022
NegM6	-0.0020 (-1.34) N = 293,172; R^2 = 0.0030	-0.0022 (-1.68)* N = 287,277; R^2 = 0.0013	-0.0032 (-2.72)*** N = 281,523; R^2 = 0.0016	-0.0030 (-2.63)*** N = 280,629; R^2 = 0.0021
NegM9	-0.0046 (-1.27) N = 285,124; R^2 = 0.0034	-0.0032 (-0.67) N = 279,404; R^2 = 0.0015	-0.0075 (-2.09)** N = 273,757; R^2 = 0.0019	-0.0075 (-2.49)** N = 272,953; R^2 = 0.0020
NegM12	-0.0270 (-1.10) N = 273,919; R^2 = 0.0034	-0.0145 (-1.02) N = 268,402; R^2 = 0.0015	-0.0130 (-1.25) N = 262,999; R^2 = 0.0018	-0.0098 (-1.51) N = 262,389; R^2 = 0.0019
NegM3S&P	-0.0010 (-2.75)*** N = 278,266; R^2 = 0.0032	-0.0006 (-1.39) N = 272,613; R^2 = 0.0012	-0.0017 (-4.53)*** N = 266,968; R^2 = 0.0016	-0.0019 (-4.67)*** N = 266,197; R^2 = 0.0018
NegM6S&P	-0.0023 (-2.19)** N = 295,480; R^2 = 0.0030	-0.0034 (-3.43)*** N = 289,496; R^2 = 0.0013	-0.0037 (-3.96)*** N = 283,655; R^2 = 0.0016	-0.0031 (-3.21)*** N = 282,702; R^2 = 0.0021
NegM9S&P	-0.0049 (-2.43)** N = 285,559; R^2 = 0.0034	-0.0074 (-2.72)*** N = 279,818; R^2 = 0.0015	-0.0057 (-2.41)** N = 274,154; R^2 = 0.0019	-0.0061 (-2.54)** N = 273,330; R^2 = 0.0020
NegM12S&P	-0.0037 (-0.78) N = 274,017; R^2 = 0.0034	-0.0081 (-1.46) N = 268,495; R^2 = 0.0015	0.0128 (1.00) N = 263,086; R^2 = 0.0018	-0.0076 (-1.18) N = 262,470; R^2 = 0.0019

Table 7

Relationship between past stock return performance and the changes in subsequent net equity issuance for a sample of firms in 1971 to 2014.

Each entry corresponds to a separate regression with the changes in equity issuance over assets from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. Each entry reports coefficient estimates of past stock return performance variables (described below) used as independent variables along with *t*-statistics in parentheses. Each regression also includes Tobin's Q, return on assets (ROA), and cash flow (CF) at the end of quarter 0, as well as 2-digit SIC industry code dummies and year dummies as control variables. Data items used in construction of dependent and independent variables are quarterly data items from Quarterly Compustat. Quarter 0 is the last fiscal quarter of the stock return performance measurement period. Quarters 1 through 4 are the first through the fourth fiscal quarters after the stock return performance measurement period. Net equity issuance (NSIss) is the difference between the sale of common and preferred stock and the purchase of common and preferred stock. Quarterly amounts of the sale of common and preferred stock are derived from year-to-date amounts of quarterly sale of common and preferred stock (SSTKY) and quarterly amounts of the purchase of common and preferred stock are derived from year-to-date amounts of quarterly purchase of common and preferred stock (PRSTKCY). The changes in net equity issuance over assets are calculated by subtracting NSIss/Assets in quarter 0 from NSIss/Assets in quarters 1, 2, 3, and 4, respectively. NSIss/Assets in quarter 0 is the average NSIss/Assets in the past four quarters (including quarter 0). Tobin's Q is the ratio of the market value of assets to the book value of assets (ATQ), where the market value of assets is equal to the book value of assets minus the book value of common equity (CEQQ) and deferred taxes (TXDBQ) plus the number of shares outstanding (CSHOQ) times the share price (PRCCQ). ROA is the ratio of income before extraordinary items (IBQ) over assets (ATQ). CF is the ratio of the sum of income before extraordinary items (IBQ) and depreciation (DPQ) over assets (ATQ). Year dummies are based on calendar year of current quarter 0. All regressions are clustered regressions, where each firm's observations are treated as cluster groups. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Relationship between past positive stock return performance and the changes in subsequent net equity issuance for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec10M3All, JTDec10M6All, JTDec10M9All, and JTDec10M12All are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec10M3, JTDec10M6, JTDec10M9, and JTDec10M12 are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). PosM3, PosM6, PosM9, and PosM12 are dummy variables equal to one for firms which realized positive returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. PosM3S&P, PosM6S&P, PosM9S&P, and PosM12S&P are dummy variables equal to one for firms which realized positive S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔNSIss/Assets 0 to 1	ΔNSIss/Assets 0 to 2	ΔNSIss/Assets 0 to 3	ΔNSIss/Assets 0 to 4
JTDec10M3All	0.0078 (10.56)***	0.0033 (4.74)***	0.0009 (1.29)	-0.0003 (-0.59)
	N = 285,418; R^2 = 0.0091	N = 279,711; R^2 = 0.0045	N = 274,129; R^2 = 0.0062	N = 273,158; R^2 = 0.0137
JTDec10M6All	0.0059 (8.41)***	0.0016 (2.20)**	-0.0011 (-1.52)	-0.0033 (-5.81)***
	N = 270,210; R^2 = 0.0096	N = 264,808; R^2 = 0.0039	N = 259,568; R^2 = 0.0048	N = 258,784; R^2 = 0.0060
JTDec10M9All	0.0022 (3.88)***	-0.0012 (-2.08)**	-0.0036 (-6.28)***	-0.0054 (-9.54)***
	N = 257,647; R^2 = 0.0083	N = 252,543; R^2 = 0.0035	N = 247,548; R^2 = 0.0044	N = 246,876; R^2 = 0.0050
JTDec10M12All	-0.0003 (-0.63)	-0.0043 (-7.75)***	-0.0065 (-11.73)***	-0.0077 (-13.94)***
	N = 246,829; R^2 = 0.0089	N = 241,865; R^2 = 0.0034	N = 237,075; R^2 = 0.0039	N = 236,617; R^2 = 0.0044
JTDec10M3	0.0060 (7.34)***	0.0021 (2.71)***	-0.0005 (-0.69)	-0.0011 (-1.83)*
	N = 93,744; R^2 = 0.0124	N = 91,766; R^2 = 0.0081	N = 89,885; R^2 = 0.0119	N = 89,642; R^2 = 0.0170
JTDec10M6	0.0049 (6.25)***	0.0010 (1.11)	-0.0023 (-3.08)***	-0.0035 (-6.25)***
	N = 89,024; R^2 = 0.0128	N = 87,205; R^2 = 0.0036	N = 85,478; R^2 = 0.0117	N = 85,391; R^2 = 0.0204
JTDec10M9	0.0014 (2.44)**	-0.0023 (-3.67)***	-0.0042 (-5.65)***	-0.0060 (-9.57)***
	N = 85,119; R^2 = 0.0094	N = 83,412; R^2 = 0.0090	N = 81,808; R^2 = 0.0051	N = 81,694; R^2 = 0.0180
JTDec10M12	-0.0007 (-1.08)	-0.0041 (-7.38)***	-0.0071 (-12.03)***	-0.0076 (-10.83)***
	N = 81,727; R^2 = 0.0103	N = 80,153; R^2 = 0.0113	N = 78,590; R^2 = 0.0162	N = 78,534; R^2 = 0.0054
PosM3	0.0058 (12.89)***	0.0035 (7.43)***	0.0008 (1.10)	0.0020 (3.85)***
	N = 288,074; R^2 = 0.0093	N = 282,153; R^2 = 0.0051	N = 276,310; R^2 = 0.0064	N = 274,857; R^2 = 0.0078
PosM6	0.0046 (5.33)***	0.0014 (1.58)	0.0009 (1.20)	0.0005 (0.69)
	N = 297,847; R^2 = 0.0096	N = 291,816; R^2 = 0.0045	N = 285,908; R^2 = 0.0055	N = 284,859; R^2 = 0.0063
PosM9	0.0024 (1.32)	0.0008 (0.48)	0.0007 (0.50)	-0.0014 (-0.92)
	N = 285,995; R^2 = 0.0091	N = 280,244; R^2 = 0.0039	N = 274,567; R^2 = 0.0044	N = 273,726; R^2 = 0.0048
PosM12	0.0007 (0.17)	0.0011 (0.33)	0.0014 (0.66)	-0.0034 (-1.58)
	N = 274,089; R^2 = 0.0090	N = 268,565; R^2 = 0.0033	N = 263,154; R^2 = 0.0035	N = 262,536; R^2 = 0.0038
PosM3S&P	0.0056 (12.97)***	0.0033 (7.91)***	0.0018 (4.59)***	0.0019 (4.63)***
	N = 279,182; R^2 = 0.0104	N = 273,553; R^2 = 0.0051	N = 268,004; R^2 = 0.0066	N = 266,645; R^2 = 0.0077
PosM6S&P	0.0050 (4.68)***	0.0019 (1.83)*	0.0006 (0.68)	-0.0001 (-0.11)
	N = 296,208; R^2 = 0.0095	N = 290,240; R^2 = 0.0044	N = 284,360; R^2 = 0.0054	N = 283,325; R^2 = 0.0063
PosM9S&P	0.0021 (0.77)	0.0019 (0.87)	-0.0000 (-0.01)	-0.0006 (-0.32)
	N = 285,809; R^2 = 0.0091	N = 280,063; R^2 = 0.0039	N = 274,390; R^2 = 0.0044	N = 273,542; R^2 = 0.0048
PosM12S&P	-0.0004 (-0.06)	0.0021 (0.34)	-0.0007 (-0.34)	-0.0053 (-1.78)*
	N = 274,067; R^2 = 0.0090	N = 268,543; R^2 = 0.0033	N = 263,134; R^2 = 0.0035	N = 262,513; R^2 = 0.0038

Table 7 (continued)

Panel B: Relationship between past negative stock return performance and the changes in subsequent net equity issuance for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec1M3All, JTDec1M6All, JTDec1M9All, and JTDec1M12All are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec1M3, JTDec1M6, JTDec1M9, and JTDec1M12 are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). NegM3, NegM6, NegM9, and NegM12 are dummy variables equal to one for firms which realized negative returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. NegM3S&P, NegM6S&P, NegM9S&P, and NegM12S&P are dummy variables equal to one for firms which realized negative S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔNSIss/Assets 0 to 1	ΔNSIss/Assets 0 to 2	ΔNSIss/Assets 0 to 3	ΔNSIss/Assets 0 to 4
JTDec1M3All	-0.0102 (-20.99)***	-0.0083 (-16.79)***	-0.0074 (-15.17)***	-0.0087 (-6.19)***
	N = 287,112; R^2 = 0.0112	N = 281,496; R^2 = 0.0064	N = 275,840; R^2 = 0.0072	N = 274,672; R^2 = 0.0082
JTDec1M6All	-0.0074 (-16.87)***	-0.0059 (-13.32)***	-0.0064 (-14.11)***	-0.0048 (-10.13)***
	N = 271,818; R^2 = 0.0102	N = 266,491; R^2 = 0.0047	N = 261,154; R^2 = 0.0052	N = 260,166; R^2 = 0.0051
JTDec1M9All	-0.0050 (-12.47)***	-0.0040 (-9.45)***	-0.0038 (-8.36)***	-0.0021 (-4.77)***
	N = 258,983; R^2 = 0.0093	N = 253,859; R^2 = 0.0035	N = 248,697; R^2 = 0.0037	N = 247,884; R^2 = 0.0036
JTDec1M12All	-0.0021 (-5.73)***	-0.0014 (-3.48)***	-0.0007 (-1.66)*	-0.0001 (-0.31)
	N = 247,917; R^2 = 0.0088	N = 242,954; R^2 = 0.0031	N = 238,050; R^2 = 0.0029	N = 237,427; R^2 = 0.0028
JTDec1M3	-0.0099 (-18.38)***	-0.0082 (-14.86)***	-0.0084 (-15.38)***	-0.0097 (-5.68)***
	N = 95,438; R^2 = 0.0211	N = 93,551; R^2 = 0.0203	N = 91,596; R^2 = 0.0199	N = 91,156; R^2 = 0.0079
JTDec1M6	-0.0077 (-14.76)***	-0.0062 (-10.79)***	-0.0075 (-14.15)***	-0.0051 (-10.05)***
	N = 90,632; R^2 = 0.0163	N = 88,888; R^2 = 0.0048	N = 87,064; R^2 = 0.0154	N = 86,773; R^2 = 0.0153
JTDec1M9	-0.0049 (-11.21)***	-0.0044 (-9.27)***	-0.0036 (-5.65)***	-0.0019 (-3.95)***
	N = 86,455; R^2 = 0.0129	N = 84,728; R^2 = 0.0112	N = 82,957; R^2 = 0.0045	N = 82,702; R^2 = 0.0102
JTDec1M12	-0.0018 (-4.30)***	-0.0013 (-2.88)***	-0.0009 (-1.82)*	0.0001 (0.22)
	N = 82,815; R^2 = 0.0110	N = 81,242; R^2 = 0.0103	N = 79,565; R^2 = 0.0105	N = 79,344; R^2 = 0.0036
NegM3	-0.0051 (-11.59)***	-0.0029 (-5.84)***	-0.0029 (-6.69)***	-0.0026 (-5.95)***
	N = 270,334; R^2 = 0.0100	N = 264,906; R^2 = 0.0058	N = 259,699; R^2 = 0.0138	N = 259,062; R^2 = 0.0084
NegM6	-0.0024 (-1.85)*	-0.0018 (-1.45)	-0.0011 (-0.95)	-0.0009 (-0.73)
	N = 293,172; R^2 = 0.0093	N = 287,277; R^2 = 0.0045	N = 281,523; R^2 = 0.0055	N = 280,629; R^2 = 0.0063
NegM9	0.0013 (0.47)	0.0008 (0.29)	0.0016 (0.56)	0.0016 (0.55)
	N = 285,124; R^2 = 0.0092	N = 279,404; R^2 = 0.0039	N = 273,757; R^2 = 0.0044	N = 272,953; R^2 = 0.0048
NegM12	0.0020 (1.24)	0.0061 (2.13)**	0.0053 (2.03)**	0.0024 (0.95)
	N = 273,919; R^2 = 0.0090	N = 268,402; R^2 = 0.0033	N = 262,999; R^2 = 0.0035	N = 262,389; R^2 = 0.0038
NegM3S&P	-0.0045 (-11.46)***	-0.0030 (-7.21)***	-0.0022 (-5.47)***	-0.0021 (-5.20)***
	N = 278,266; R^2 = 0.0095	N = 272,613; R^2 = 0.0056	N = 266,968; R^2 = 0.0069	N = 266,197; R^2 = 0.0079
NegM6S&P	-0.0037 (-3.88)***	-0.0016 (-1.56)	-0.0031 (-3.08)***	-0.0020 (-2.04)**
	N = 295,480; R^2 = 0.0094	N = 289,496; R^2 = 0.0045	N = 283,655; R^2 = 0.0055	N = 282,702; R^2 = 0.0063
NegM9S&P	0.0028 (1.17)	0.0040 (1.71)*	-0.0005 (-0.28)	0.0006 (0.30)
	N = 285,559; R^2 = 0.0091	N = 279,818; R^2 = 0.0039	N = 274,154; R^2 = 0.0044	N = 273,330; R^2 = 0.0048
NegM12S&P	0.0025 (1.39)	0.0044 (1.82)*	0.0042 (2.01)**	0.0038 (1.94)*
	N = 274,017; R^2 = 0.0090	N = 268,495; R^2 = 0.0033	N = 263,086; R^2 = 0.0035	N = 262,470; R^2 = 0.0038

Table 8

Relationship between past stock return performance and the changes in subsequent long-term debt for a sample of firms in 1971 to 2014.

Each entry corresponds to a separate regression with the changes in long-term debt over assets from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. Each entry reports coefficient estimates of past stock return performance variables (described below) used as independent variables along with *t*-statistics in parentheses. Each regression also includes Tobin's Q, return on assets (ROA), and cash flow (CF) at the end of quarter 0, as well as 2-digit SIC industry code dummies and year dummies as control variables. Data items used in construction of dependent and independent variables are quarterly data items from Quarterly Compustat. Quarter 0 is the last fiscal quarter of the stock return performance measurement period. Quarters 1 through 4 are the first through the fourth fiscal quarters after the stock return performance measurement period. LTD is the sum of quarterly long-term debt (DLTTQ) and debt in current liabilities (DLCQ). Assets are quarterly total assets (ATQ). The changes in long-term debt over assets are calculated by subtracting LTD/Assets in quarter 0 from LTD/Assets in quarters 1, 2, 3, and 4, respectively. LTD/Assets in quarter 0 is the average LTD/Assets in the past four quarters (including quarter 0). Tobin's Q is the ratio of the market value of assets to the book value of assets (ATQ), where the market value of assets is equal to the book value of assets minus the book value of common equity (CEQQ) and deferred taxes (TXDBQ) plus the number of shares outstanding (CSHOQ) times the share price (PRCCQ). ROA is the ratio of income before extraordinary items (IBQ) over assets (ATQ). CF is the ratio of the sum of income before extraordinary items (IBQ) and depreciation (DPQ) over assets (ATQ). Year dummies are based on calendar year of current quarter 0. All regressions are clustered regressions, where each firm's observations are treated as cluster groups. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Relationship between past positive stock return performance and the changes in subsequent long-term debt for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec10M3All, JTDec10M6All, JTDec10M9All, and JTDec10M12All are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec10M3, JTDec10M6, JTDec10M9, and JTDec10M12 are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). PosM3, PosM6, PosM9, and PosM12 are dummy variables equal to one for firms which realized positive returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. PosM3S&P, PosM6S&P, PosM9S&P, and PosM12S&P are dummy variables equal to one for firms which realized positive S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔLTD/Assets 0 to 1	ΔLTD/Assets 0 to 2	ΔLTD/Assets 0 to 3	ΔLTD/Assets 0 to 4
JTDec10M3All	-0.0069 (-11.30)*** N = 267,235; R^2 = 0.0214	-0.0101 (-9.12)*** N = 261,133; R^2 = 0.0253	-0.0116 (-12.58)*** N = 255,163; R^2 = 0.0242	-0.0119 (-11.55)*** N = 256,952; R^2 = 0.0252
JTDec10M6All	-0.0103 (-14.67)*** N = 252,603; R^2 = 0.0247	-0.0136 (-15.02)*** N = 246,831; R^2 = 0.0244	-0.0156 (-14.64)*** N = 241,246; R^2 = 0.0266	-0.0156 (-13.19)*** N = 243,138; R^2 = 0.0294
JTDec10M9All	-0.0118 (-14.80)*** N = 240,652; R^2 = 0.0262	-0.0142 (-14.44)*** N = 235,207; R^2 = 0.0248	-0.0157 (-13.25)*** N = 229,888; R^2 = 0.0273	-0.0150 (-11.40)*** N = 231,820; R^2 = 0.0297
JTDec10M12All	-0.0105 (-13.33)*** N = 230,416; R^2 = 0.0252	-0.0131 (-13.11)*** N = 225,115; R^2 = 0.0260	-0.0138 (-11.37)*** N = 220,044; R^2 = 0.0271	-0.0135 (-9.71)*** N = 222,099; R^2 = 0.0283
JTDec10M3	-0.0072 (-11.00)*** N = 87,701; R^2 = 0.0210	-0.0099 (-10.96)*** N = 85,591; R^2 = 0.0202	-0.0119 (-12.04)*** N = 83,595; R^2 = 0.0236	-0.0122 (-11.54)*** N = 84,288; R^2 = 0.0244
JTDec10M6	-0.0098 (-13.06)*** N = 83,215; R^2 = 0.0233	-0.0131 (-13.64)*** N = 81,294; R^2 = 0.0245	-0.0151 (-13.48)*** N = 79,478; R^2 = 0.0263	-0.0152 (-12.50)*** N = 80,279; R^2 = 0.0275
JTDec10M9	-0.0122 (-14.25)*** N = 79,414; R^2 = 0.0224	-0.0148 (-13.71)*** N = 77,563; R^2 = 0.0235	-0.0165 (-12.76)*** N = 75,887; R^2 = 0.0262	-0.0163 (-11.06)*** N = 76,588; R^2 = 0.0301
JTDec10M12	-0.0111 (-12.89)*** N = 76,138; R^2 = 0.0225	-0.0140 (-12.77)*** N = 74,439; R^2 = 0.0256	-0.0149 (-10.93)*** N = 72,797; R^2 = 0.0279	-0.0152 (-9.81)*** N = 73,552; R^2 = 0.0297
PosM3	-0.0038 (-9.22)*** N = 269,764; R^2 = 0.0231	-0.0064 (-10.62)*** N = 263,440; R^2 = 0.0266	-0.0072 (-11.76)*** N = 257,218; R^2 = 0.0245	-0.0072 (-10.67)*** N = 258,557; R^2 = 0.0260
PosM6	-0.0059 (-5.73)*** N = 278,616; R^2 = 0.0266	-0.0088 (-6.29)*** N = 272,177; R^2 = 0.0251	-0.0108 (-7.27)*** N = 265,879; R^2 = 0.0266	-0.0104 (-6.50)*** N = 267,742; R^2 = 0.0289
PosM9	-0.0070 (-2.49)** N = 267,311; R^2 = 0.0272	-0.0136 (-4.24)*** N = 261,168; R^2 = 0.0259	-0.0172 (-4.64)*** N = 255,140; R^2 = 0.0275	-0.0176 (-4.62)*** N = 257,128; R^2 = 0.0290
PosM12	0.0003 (0.06) N = 256,012; R^2 = 0.0264	-0.0110 (-1.66)* N = 250,122; R^2 = 0.0266	-0.0180 (-2.45)** N = 244,386; R^2 = 0.0272	-0.0226 (-3.09)*** N = 246,517; R^2 = 0.0282
PosM3S&P	-0.0050 (-11.58)*** N = 261,466; R^2 = 0.0226	-0.0071 (-12.92)*** N = 255,428; R^2 = 0.0225	-0.0086 -(13.54)*** N = 249,491; R^2 = 0.0245	-0.0086 (-12.42)*** N = 250,786; R^2 = 0.0266
PosM6S&P	-0.0084 (-7.13)*** N = 277,079; R^2 = 0.0266	-0.0122 (-7.70)*** N = 270,702; R^2 = 0.0251	-0.0140 (-8.32)*** N = 264,434; R^2 = 0.0266	-0.0136 (-7.34)*** N = 266,298; R^2 = 0.0285
PosM9S&P	-0.0093 (-2.87)*** N = 267,146; R^2 = 0.0271	-0.0141 (-3.35)*** N = 261,009; R^2 = 0.0258	-0.0172 (-3.58)*** N = 254,984; R^2 = 0.0275	-0.0155 (-2.86)*** N = 256,959; R^2 = 0.0290
PosM12S&P	-0.0110 (-1.29) N = 255,991; R^2 = 0.0264	-0.0158 (-1.27) N = 250,101; R^2 = 0.0266	-0.0173 (-1.15) N = 244,367; R^2 = 0.0272	-0.0085 (-0.49) N = 246,495; R^2 = 0.0282

Table 8 (continued)

Panel B: Relationship between past negative stock return performance and the changes in subsequent long-term debt for a sample of firms in 1971 to 2014.

Independent stock return performance variables used in this panel are as follows. JTDec1M3All, JTDec1M6All, JTDec1M9All, and JTDec1M12All are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec1M3, JTDec1M6, JTDec1M9, and JTDec1M12 are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). NegM3, NegM6, NegM9, and NegM12 are dummy variables equal to one for firms which realized negative returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. NegM3S&P, NegM6S&P, NegM9S&P, and NegM12S&P are dummy variables equal to one for firms which realized negative S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔLTD/Assets 0 to 1	ΔLTD/Assets 0 to 2	ΔLTD/Assets 0 to 3	ΔLTD/Assets 0 to 4
JTDec1M3All	0.0071 (12.48)*** N = 268,859; R^2 = 0.0278	0.0098 (14.85)*** N = 262,838; R^2 = 0.0319	0.0114 (14.00)*** N = 256,780; R^2 = 0.0277	0.0116 (12.47)*** N = 258,416; R^2 = 0.0288
JTDec1M6All	0.0084 (12.96)*** N = 254,250; R^2 = 0.0309	0.0106 (14.10)*** N = 248,552; R^2 = 0.0287	0.0126 (14.15)*** N = 242,852; R^2 = 0.0299	0.0119 (11.39)*** N = 244,569; R^2 = 0.0315
JTDec1M9All	0.0081 (13.30)*** N = 242,111; R^2 = 0.0315	0.0100 (12.83)*** N = 236,632; R^2 = 0.0294	0.0110 (11.51)*** N = 231,150; R^2 = 0.0308	0.0107 (9.43)*** N = 232,933; R^2 = 0.0315
JTDec1M12All	0.0073 (10.28)*** N = 231,667; R^2 = 0.0295	0.0086 (10.64)*** N = 226,360; R^2 = 0.0294	0.0103 (10.08)*** N = 221,153; R^2 = 0.0296	0.0109 (9.41)*** N = 223,049; R^2 = 0.0306
JTDec1M3	0.0069 (10.73)*** N = 89,325; R^2 = 0.0381	0.0092 (11.83)*** N = 87,296; R^2 = 0.0353	0.0108 (11.41)*** N = 85,212; R^2 = 0.0318	0.0112 (10.63)*** N = 85,752; R^2 = 0.0328
JTDec1M6	0.0084 (8.17)*** N = 84,862; R^2 = 0.0399	0.0112 (13.06)*** N = 83,015; R^2 = 0.0370	0.0129 (13.65)*** N = 81,084; R^2 = 0.0349	0.0126 (10.98)*** N = 81,710; R^2 = 0.0333
JTDec1M9	0.0086 (10.92)*** N = 80,873; R^2 = 0.0354	0.0108 (12.47)*** N = 78,988; R^2 = 0.0353	0.0114 (10.93)*** N = 77,149; R^2 = 0.0345	0.0112 (8.78)*** N = 77,701; R^2 = 0.0339
JTDec1M12	0.0089 (12.86)*** N = 77,389; R^2 = 0.0361	0.0096 (10.36)*** N = 75,684; R^2 = 0.0351	0.0113 (9.59)*** N = 73,906; R^2 = 0.0342	0.0118 (8.70)*** N = 74,502; R^2 = 0.0355
NegM3	0.0052 (10.55)*** N = 253,286; R^2 = 0.0261	0.0078 (12.17)*** N = 247,455; R^2 = 0.0289	0.0082 (11.60)*** N = 241,910; R^2 = 0.0263	0.0088 (11.15)*** N = 243,871; R^2 = 0.0273
NegM6	0.0079 (5.01)*** N = 274,271; R^2 = 0.0270	0.0096 (4.95)*** N = 267,981; R^2 = 0.0254	0.0104 (4.55)*** N = 261,849; R^2 = 0.0268	0.0083 (2.50)** N = 263,838; R^2 = 0.0288
NegM9	0.0069 (1.73)* N = 266,512; R^2 = 0.0273	0.0075 (1.39) N = 260,398; R^2 = 0.0259	0.0094 (1.45) N = 254,404; R^2 = 0.0275	0.0014 (0.18) N = 256,419; R^2 = 0.0290
NegM12	0.0215 (1.54) N = 255,857; R^2 = 0.0265	0.0131 (0.82) N = 249,974; R^2 = 0.0266	0.0416 (1.60) N = 244,246; R^2 = 0.0272	0.0376 (1.40) N = 246,380; R^2 = 0.0282
NegM3S&P	0.0047 (10.55)*** N = 260,685; R^2 = 0.0257	0.0071 (11.68)*** N = 254,646; R^2 = 0.0284	0.0074 (11.94)*** N = 248,632; R^2 = 0.0261	0.0079 (11.04)*** N = 250,556; R^2 = 0.0274
NegM6S&P	0.0064 (5.38)*** N = 276,398; R^2 = 0.0269	0.0075 (5.20)*** N = 270,015; R^2 = 0.0253	0.0082 (4.74)*** N = 263,793; R^2 = 0.0267	0.0101 (5.37)*** N = 265,738; R^2 = 0.0287
NegM9S&P	0.0045 (1.54) N = 266,907; R^2 = 0.0272	0.0061 (1.41) N = 260,773; R^2 = 0.0258	0.0089 (1.82)* N = 254,760; R^2 = 0.0275	0.0061 (1.14) N = 256,761; R^2 = 0.0290
NegM12S&P	0.0071 (1.11) N = 255,944; R^2 = 0.0265	-0.0012 (-0.14) N = 250,056; R^2 = 0.0266	0.0165 (1.15) N = 244,323; R^2 = 0.0272	0.0139 (0.96) N = 246,453; R^2 = 0.0282

Table 9

Relationship between past stock return performance and the changes in subsequent return on assets (ROA) for a sample of firms in 1971 to 2014. Each entry corresponds to a separate regression with the changes in ROA from current fiscal quarter (quarter 0) to 1, 2, 3, and 4 fiscal quarters after as dependent variables. Each entry reports coefficient estimates of past stock return performance variables (described below) used as independent variables along with *t*-statistics in parentheses. Each regression also includes Tobin's Q, return on assets (ROA), and cash flow (CF) at the end of quarter 0, as well as 2-digit SIC industry code dummies and year dummies as control variables. Data items used in construction of dependent and independent variables are quarterly data items from Quarterly Compustat. Quarter 0 is the last fiscal quarter of the stock return performance measurement period. Quarters 1 through 4 are the first through the fourth fiscal quarters after the stock return performance measurement period. ROA is defined as the ratio of income before extraordinary items (IBQ) over total assets (ATQ). The changes in ROA are calculated by subtracting ROA in quarter 0 from ROA in quarters 1, 2, 3, and 4, respectively, where ROA in quarter 0 is the average ROA in the past four quarters (including quarter 0). Tobin's Q is the ratio of the market value of assets to the book value of assets (ATQ), where the market value of assets is equal to the book value of assets minus the book value of common equity (CEQQ) and deferred taxes (TXDBQ) plus the number of shares outstanding (CSHOQ) times the share price (PRCCQ). CF is the ratio of the sum of income before extraordinary items (IBQ) and depreciation (DPQ) over assets (ATQ). Year dummies are based on calendar year of current quarter 0. All regressions are clustered regressions, where each firm's observations are treated as cluster groups. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Relationship between past positive stock return performance and the changes in subsequent ROA for a sample of firms in 1971 to 2014. Independent stock return performance variables used in this panel are as follows. JTDec10M3All, JTDec10M6All, JTDec10M9All, and JTDec10M12All are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec10M3, JTDec10M6, JTDec10M9, and JTDec10M12 are dummy variables equal to one for firms allocated to decile 10 (best performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). PosM3, PosM6, PosM9, and PosM12 are dummy variables equal to one for firms which realized positive returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. PosM3S&P, PosM6S&P, PosM9S&P, and PosM12S&P are dummy variables equal to one for firms which realized positive S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔROA 0 to 1	ΔROA 0 to 2	ΔROA 0 to 3	ΔROA 0 to 4
JTDec10M3All	0.0049 (12.48)***	0.0049 (12.48)***	0.0024 (1.34)	0.0034 (6.28)***
	N = 285,353; R^2 = 0.0176	N = 285,353; R^2 = 0.0176	N = 274,008; R^2 = 0.0038	N = 273,069; R^2 = 0.0179
JTDec10M6All	0.0057 (14.79)***	0.0023 (0.85)	0.0055 (10.24)***	0.0039 (6.76)***
	N = 270,025; R^2 = 0.0117	N = 264,651; R^2 = 0.0019	N = 259,342; R^2 = 0.0194	N = 258,555; R^2 = 0.0150
JTDec10M9All	0.0022 (0.95)	0.0046 (11.19)***	0.0036 (6.89)***	0.0020 (3.77)***
	N = 257,482; R^2 = 0.0036	N = 252,399; R^2 = 0.0122	N = 247,322; R^2 = 0.0173	N = 246,667; R^2 = 0.0142
JTDec10M12All	0.0035 (9.93)***	0.0030 (8.03)***	0.0020 (3.97)***	0.0003 (0.62)
	N = 246,677; R^2 = 0.0056	N = 241,725; R^2 = 0.0131	N = 236,882; R^2 = 0.0179	N = 236,439; R^2 = 0.0136
JTDec10M3	0.0045 (11.17)***	0.0013 (0.54)	0.0029 (4.31)***	0.0024 (3.72)***
	N = 93,732; R^2 = 0.0329	N = 91,769; R^2 = 0.0024	N = 89,851; R^2 = 0.0027	N = 89,618; R^2 = 0.0271
JTDec10M6	0.0042 (9.22)***	0.0020 (0.76)	0.0040 (7.01)***	0.0029 (4.36)***
	N = 88,968; R^2 = 0.0145	N = 87,154; R^2 = 0.0013	N = 85,392; R^2 = 0.0263	N = 85,313; R^2 = 0.0178
JTDec10M9	0.0042 (11.48)***	0.0044 (10.25)***	0.0028 (5.21)***	0.0019 (3.14)***
	N = 85,067; R^2 = 0.0248	N = 83,350; R^2 = 0.0273	N = 81,720; R^2 = 0.0244	N = 81,616; R^2 = 0.0167
JTDec10M12	0.0030 (7.22)***	0.0026 (5.47)***	0.0013 (2.32)**	0.0004 (0.54)
	N = 81,679; R^2 = 0.0140	N = 80,109; R^2 = 0.0140	N = 78,539; R^2 = 0.0186	N = 78,470; R^2 = 0.0147
PosM3	0.0037 (15.13)***	0.0030 (1.63)	0.0028 (1.77)*	0.0039 (10.59)***
	N = 288,012; R^2 = 0.0150	N = 282,131; R^2 = 0.0027	N = 276,194; R^2 = 0.0041	N = 274,773; R^2 = 0.0176
PosM6	0.0026 (1.41)	-0.0063 (-0.54)	0.0061 (10.98)***	0.0051 (9.62)***
	N = 297,636; R^2 = 0.0021	N = 291,647; R^2 = 0.0024	N = 285,648; R^2 = 0.0154	N = 284,606; R^2 = 0.0150
PosM9	0.0012 (0.51)	0.0050 (5.92)***	0.0052 (5.22)***	0.0042 (4.06)***
	N = 285,801; R^2 = 0.0028	N = 280,092; R^2 = 0.0116	N = 274,315; R^2 = 0.0155	N = 273,495; R^2 = 0.0142
PosM12	0.0023 (2.29)**	0.0042 (3.61)***	0.0065 (5.37)***	0.0057 (3.85)***
	N = 273,910; R^2 = 0.0058	N = 268,418; R^2 = 0.0128	N = 262,933; R^2 = 0.0168	N = 262,327; R^2 = 0.0137
PosM3S&P	0.0041 (15.54)***	0.0026 (1.22)	0.0031 (1.69)*	0.0041 (10.32)***
	N = 279,135; R^2 = 0.0182	N = 273,523; R^2 = 0.0033	N = 267,906; R^2 = 0.0040	N = 266,569; R^2 = 0.0170
PosM6S&P	0.0031 (1.53)	-0.0117 (-0.69)	0.0062 (10.81)***	0.0055 (9.65)***
	N = 296,002; R^2 = 0.0021	N = 290,070; R^2 = 0.0024	N = 284,101; R^2 = 0.0153	N = 283,071; R^2 = 0.0150
PosM9S&P	0.0018 (0.69)	0.0053 (5.23)***	0.0055 (4.06)***	0.0038 (2.82)***
	N = 285,615; R^2 = 0.0028	N = 279,911; R^2 = 0.0116	N = 274,138; R^2 = 0.0155	N = 273,312; R^2 = 0.0142
PosM12S&P	0.0057 (3.17)***	0.0050 (2.74)***	0.0069 (2.90)***	0.0079 (2.97)***
	N = 273,888; R^2 = 0.0058	N = 268,396; R^2 = 0.0128	N = 262,913; R^2 = 0.0168	N = 262,304; R^2 = 0.0137

Table 9 (continued)

Panel B: Relationship between past negative stock return performance and the changes in subsequent ROA for a sample of firms in 1971 to 2014. Independent stock return performance variables used in this panel are as follows. JTDec1M3All, JTDec1M6All, JTDec1M9All, and JTDec1M12All are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 2 through 9, following Jegadeesh and Titman (1993). JTDec1M3, JTDec1M6, JTDec1M9, and JTDec1M12 are dummy variables equal to one for firms allocated to decile 1 (worst performers) based on their stock return performance in previous 3, 6, 9, and 12 months, respectively, and zero for firm in deciles 5 and 6, following Jegadeesh and Titman (1993). NegM3, NegM6, NegM9, and NegM12 are dummy variables equal to one for firms which realized negative returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample. NegM3S&P, NegM6S&P, NegM9S&P, and NegM12S&P are dummy variables equal to one for firms which realized negative S&P 500 index-adjusted returns in each of past 3, 6, 9, and 12 months, and zero for rest of the sample.

	(1)	(2)	(3)	(4)
Dependent variable	ΔROA 0 to 1	ΔROA 0 to 2	ΔROA 0 to 3	ΔROA 0 to 4
JTDec1M3All	-0.0109 (-15.22)***	-0.0119 (-16.19)***	-0.0111 (-14.19)***	-0.0096 (-12.87)***
	N = 287,021; R^2 = 0.0024	N = 281,440; R^2 = 0.0172	N = 275,686; R^2 = 0.0216	N = 274,562; R^2 = 0.0174
JTDec1M6All	-0.0106 (-8.18)***	-0.0124 (-16.02)***	-0.0120 (-14.99)***	-0.0093 (-13.01)***
	N = 271,626; R^2 = 0.0030	N = 266,346; R^2 = 0.0169	N = 260,926; R^2 = 0.0177	N = 259,946; R^2 = 0.0169
JTDec1M9All	-0.0052 (-1.03)	-0.0108 (-15.69)***	-0.0102 (-15.30)***	-0.0073 (-11.14)***
	N = 258,804; R^2 = 0.0035	N = 253,722; R^2 = 0.0139	N = 248,474; R^2 = 0.0179	N = 247,679; R^2 = 0.0151
JTDec1M12All	-0.0085 (-11.66)***	-0.0094 (-14.66)***	-0.0091 (-13.97)***	-0.0059 (-9.15)***
	N = 247,754; R^2 = 0.0082	N = 242,826; R^2 = 0.0153	N = 237,845; R^2 = 0.0191	N = 237,243; R^2 = 0.0149
JTDec1M3	-0.0073 (-1.92)*	-0.0122 (-12.91)***	-0.0122 (-12.60)***	-0.0110 (-12.11)***
	N = 95,400; R^2 = 0.0063	N = 93,534; R^2 = 0.0228	N = 91,529; R^2 = 0.0221	N = 91,111; R^2 = 0.0218
JTDec1M6	-0.0049 (-0.78)	-0.0124 (-16.59)***	-0.0121 (-14.96)***	-0.0103 (-15.11)***
	N = 90,569; R^2 = 0.0085	N = 88,849; R^2 = 0.0194	N = 86,976; R^2 = 0.0177	N = 86,704; R^2 = 0.0214
JTDec1M9	-0.0109 (-13.41)***	-0.0121 (-15.96)***	-0.0112 (-15.01)***	-0.0085 (-11.54)***
	N = 86,389; R^2 = 0.0125	N = 84,673; R^2 = 0.0211	N = 82,872; R^2 = 0.0217	N = 82,628; R^2 = 0.0172
JTDec1M12	-0.0097 (-12.56)***	-0.0099 (-13.82)***	-0.0098 (-12.72)***	-0.0070 (-9.30)***
	N = 82,756; R^2 = 0.0147	N = 81,210; R^2 = 0.0181	N = 79,502; R^2 = 0.0205	N = 79,274; R^2 = 0.0183
NegM3	-0.0082 (-4.82)***	-0.0055 (-9.51)***	-0.0052 (-9.75)***	-0.0044 (-8.63)***
	N = 270,261; R^2 = 0.0020	N = 264,875; R^2 = 0.0148	N = 259,570; R^2 = 0.0205	N = 258,970; R^2 = 0.0178
NegM6	-0.0057 (-1.51)	-0.0077 (-4.04)***	-0.0068 (-3.83)***	-0.0031 (-2.23)**
	N = 292,962; R^2 = 0.0021	N = 287,108; R^2 = 0.0136	N = 281,267; R^2 = 0.0154	N = 280,384; R^2 = 0.0149
NegM9	0.0040 (0.90)	-0.0073 (-1.12)	-0.0015 (-0.37)	0.0102 (1.55)
	N = 284,931; R^2 = 0.0028	N = 279,252; R^2 = 0.0116	N = 273,507; R^2 = 0.0155	N = 272,725; R^2 = 0.0142
NegM12	0.0067 (0.73)	0.0183 (2.13)**	-0.0205 (-0.68)	0.0180 (1.96)*
	N = 273,740; R^2 = 0.0058	N = 268,255; R^2 = 0.0128	N = 262,779; R^2 = 0.0169	N = 262,180; R^2 = 0.0137
NegM3S&P	-0.0070 (-6.49)***	-0.0055 (-9.99)***	-0.0049 (-10.45)***	-0.0039 (-9.04)***
	N = 278,197; R^2 = 0.0019	N = 272,587; R^2 = 0.0152	N = 266,830; R^2 = 0.0203	N = 266,108; R^2 = 0.0171
NegM6S&P	-0.0045 (-1.45)	-0.0079 (-4.59)***	-0.0054 (-4.44)***	-0.0036 (-3.45)***
	N = 295,272; R^2 = 0.0021	N = 289,330; R^2 = 0.0137	N = 283,399; R^2 = 0.0155	N = 282,450; R^2 = 0.0151
NegM9S&P	-0.0008 (-0.15)	-0.0064 (-1.87)*	-0.0020 (-0.90)	0.0038 (0.99)
	N = 285,366; R^2 = 0.0028	N = 279,667; R^2 = 0.0116	N = 273,904; R^2 = 0.0155	N = 273,099; R^2 = 0.0142
NegM12S&P	0.0035 (0.54)	0.0079 (1.50)	-0.0031 (-0.25)	0.0056 (0.96)
	N = 273,838; R^2 = 0.0058	N = 268,348; R^2 = 0.0128	N = 262,865; R^2 = 0.0169	N = 262,261; R^2 = 0.0137