Journal of Business, Economics & Finance ISSN: 2146-7943

Journal of Business, Economics & Finance
Year: 2013 Volume: 2 Issue: 1

DO PRESS ANNOUNCEMENTS OF CORPORATE DOWNSIZING PREDICT ACTUAL DOWNSIZING?

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KEYWORDS

Restructuring, layoffs, downsizing, press announcements, board independence.

ABSTRACT

We investigate the determinants of actual downsizing following corporate press announcements of downsizing and find that some announcements are followed by lower growth rates in assets and employees and some are not. Our analysis indicates that the downsizing announcement sometimes implies net downsizing and sometimes implies strategic re-alignment of assets. Firms with increased asset and employee growth rates have higher market to book, a proxy for investment opportunities. In contrast, ex-post decreases in growth occur for firms with lower operating performance. Further we find that during a normal economy, board independence is also associated with lower ex-post growth, but not during a period of economic decline. This suggests a relatively more board involvement in asset restructuring during normal or boom times. The results provide new evidence on the nature of information contained in announcements of asset downsizing and employee layoffs.

1. INTRODUCTION

Managerial announcements of intended future actions often resolve information asymmetry and lead investors to update their valuations (e.g., Huson, Malatesta and Parrino (2004), John and Ofek (1995), Daley, Mehrotra and Sivakumar (1997), Mulherin and Boone (2000),among many others). There is, however, significant variation in the nature of corporate announcements. Discrete actions such as CEO firingsor dividend changeshave high correlation with actual changes within the firm. In contrast, announcements ofdownsizing via asset sales or employee layoffs do not necessarily imply reduced growth rates in assets or employees.Our contention is that all downsizing announcements are not created equal. Rather, some can be correlated with subsequent reductions in firm growth rates, while other can be correlated with net expansion if the announcement denotes strategic realignment of assets.

The literature on determinants of corporate announcements of downsizing is well-established (e.g., Kang and Shivdasani (1997); Denis and Kruse (2000)). In contrast, there is scant evidence on the determinants of actual downsizing following these announcements. Our contribution to the literature is to investigate the firm characteristics associated with post-announcementchanges in asset and employee growth.We expect the nature of correlation between the announcement and ex-post changes within the firm to be associated with two non-mutually exclusive firm characteristics. First, to the extent that asset sales or employee layoffs represent shedding of under-performing

assets, we expect post-announcement growth to be positively related to pre-announcement performance. That is, firms with worse performance will have lower ex-post growth rates. Second, we argue that announcements from firms with greater investment opportunities likely denote a strategic re-alignment of assets, rather than net downsizing. Using market-to-book value of assets as a proxy for investment opportunities, we expect greater post-announcement growth rates for firms with higher market-to-book. To our knowledge, we are the first to provide empirical evidence of these hypothesized determinants of variation in actual downsizing following press announcements of downsizing.

The analysis is conducted using S&P 1500 firms that announce employee layoffs, divestitures, asset sales, or plant closings during two time periods. The "early sample" comprises 252 firmsmaking announcements in calendar years 2005 and 2006 and the "late sample" comprises 417 firms making announcements during calendar years 2008 and 2009. We choose these sample periods to represent two distinct states of the economy. The early sample represents a normal period in the economy with a yearly average real GDP growth of 1.33%. The late sample represents a recession period with a yearly average real GDP growth of -1.74%. By conducting the analysis with these two samples, we are able to investigate whether these distinct economic environments influence the way firm characteristics correlated with post-announcement growth rates in assets and employees. Examining this question for these two short and distinct macro-economic sample periods can also allay concern that the changes we observe following downsizing are influenced by a turnaround in economic conditions after the announcement is made, which is more likely over a longer, continuous sample period.

We find significantly lower growth in assets for firms with poor prior performance in both normal and recession states of the economy. We also find higher growth rates in assets and employees for firms with higher market-to-book in both economic states. These results are consistent with our hypothesis that the information contained in a corporate downsizing announcement can be mixed and must be evaluated in the context of specific firm characteristics. Interestingly, we find that board independence influences lower post-announcement growth rates in a normal economic environment, but not in recession. Our interpretation is that the external pressure of poor economic conditions combined with poor performance force firms to reduce growth rates during recessions. However, during a normal economy, the board has an important role in influencing reduced growth rates following downsizing announcements.

We also construct comparison samples of non-announcing S&P 1500 firms with declines in operating performance equal to or worse than the lowest quartile of sample firms in each sample period.We do find that samplefirms have significantly lower post-announcement growth than these non-announcing firms, suggesting that, among firms with a significant performance decline, the downsizing announcement is an unconditionally stronger predictor of future reductions in growth rates. We also find a positive relation between operating performance and future growth in this non-announcing sample, indicating that poor performance motivates downsizing, whether or not there is a public announcement.

Overall, our results indicate thatfirm growth rates following downsizing announcements arelower for firms with worse prior performance in a normal economy and higher for firms with greater investment opportunities.Thus, our paper makes a distinct contribution to the literature by demonstrating that all corporate announcements of downsizing do not contain the same information for future changes in the firm, and researchers should be cautious in their use of dummy variables to denote these events.For example, some announcements of asset sales or layoffs can be indicative of strategic realignment of assets, rather than net downsizing. This is evident in the positive and highly significant relation between market to book value of assets and

asset growth rates in both sample periods for announcers and non-announcers. Our sub-period analysis for the recent financial crisis also adds to the literature on asset restructuring around financial crises, such as Zhou, Li, and Svejnar (2011) who study restructuring by Thai firms around the Asian Financial Crisis and Kang, Lee and Na (2010) who study restructuring by Korean firms for the same crisis. Our study provides an additional benefit in that we include both normal and crises economic sub-periods and are able to compare and contrast the determinants of restructuring for both periods.

The rest of this paper is organized as follows. The next section develops testable hypotheses. Section 3 describes the sample formationand presents descriptive statistics, Section 4presents results of tests for the determinants of growth in assets and employees following downsizing announcements, Section 5 reports results from additional tests, and Section 6 contains a concluding discussion.

2. LITERATURE AND HYPOTHESES

Announcements of divestitures and layoffs are well-documented responses to poor firm performance. John, Lang and Netter (1992) find that many firms eliminate business segments and reduce employees following negative earnings. Lang, Poulsen, and Stulz (1995) also find that firms are likely to sell assets following poor performance. Denis and Kruse (2000), Denis and Shome (2005), and Perry and Shivdasani (2005) find that asset downsizing and employee layoffs are more likely in firms with poor operating performance, and Paul (2007) finds higher frequency of downsizing for firms with poor acquisition performance. Yang (2008) develops theoretical arguments that asset sales are driven by declines in productivity, and finds empirical support for his theory in a negative relation between asset productivity and downsizing. Maksimovic and Phillips (2001) find that asset sales re-allocate assets to more efficient users, also indicating that downsizing is in part driven by relatively poor asset productivity.

This evidence indicates that poor performance can motivate downsizing, yet there is little evidence whether poor performance also motivates the degree of implementation of the downsizing announcement. Thus, we expect that pre-announcement performance would also influence the degree of follow-through with the announcement. However, some downsizing announcements can also denote re-alignment of assets and not decreased growth rates. We expect such announcements to be concentrated in firms with greater growth opportunities.For example, Fazzari, Hubbard, Peterson, Blinder and Poterba (1988) and Hoshi, Kashyap, and Scharfstein (1991), among others, document that corporate investment levels are highly correlated with Tobin's Q, our proxy for growth opportunities. Ourtestable hypotheses areas follows.

H1: There is a positive relation between pre-announcement performance and post-announcement growth for firms announcing downsizing.

H2: There is a positive relation between pre-announcement growth opportunities and post-announcement growth for firms announcing downsizing.

3. METHODOLOGY AND DATA

The earlysample is drawn from S&P 1500 firms making announcements of layoffs or asset downsizing in calendar years 2005 or 2006 and the late sample has announcements in calendar years 2008 or 2009. We begin sample construction by identifyingS&P 1500 constituent firms as of December 2005 for the early sample and December 2008 for the late sample. We then search *Lexis-Nexis* news wires for announcements of asset sales, divestitures, layoffs, or plant closings in calendar years 2005-06 and 2008-09.This procedure produces an early sample of 252 unique firms

with 122layoff announcements and 171divestiture announcements, and a late sample of 417 unique firms with 330 layoff announcements and 184 divestiture announcements. Throughout the paper we use the term "divestiture" to refer to any form of shedding assets (divestiture, spinoff, asset sale, plant closing), and the term "downsizing" to encompass divestitures and layoffs.

There are obvious notable differences between the early and late samples. During the late period (recession) there are 65% more firms announcing any kind of downsizing (417 vs. 252), and these firms have almost three times the number of layoff announcements compared to the early sample (330 vs. 122). This suggests that layoffs are the preferred downsizing method during bad economic times, presumably because there are fewer potential buyers of assets during economic downturns. In unreported analysis, we check the Fama-French 48 industry distribution of sample firms in the early and late period to see if the late period differences might be driven primarily by financial firms in distress. We do find a higher percentage of firms in the Insurance industry in the late sample (5.5% vs. 3.6%) and lower percentages in the late sample for Pharmaceutical and Food Products (3.3% vs. 5.6% and 1.9% vs. 5.2%, respectively), but otherwise there are no notable differences in industry distribution between the two sample periods.

We also construct comparison samples for each sample period comprising S&P 1500 firms with a decline in ROS equal to or worse than the lowest quartile sample firms' decline, but that do not announce downsizing. Our intent in forming this sample is to investigate whether firms have measurable decreases in growth rates following poor performance without any press announcement. This approach provides further evidence on the importance of press announcements as precursors to significant changes in firm size. The"non-announcing" sample is selected as follows. We first compute percentage change in ROS from the year before to the year of the downsizing announcement in each sample of announcing firms. We then identify the lowest quartile of change in ROS, which is -13.93% for the early sample and -18.62% for the late sample. Finally, we select as the non-announcing comparison samples all S&P 1500 firms with ROS percentage growth that is less than or equal to -13.93% from 2004 to 2005, and with ROS growth less than or equal to -18.62% from 2007-2008.

Appendix 1 contains descriptive statistics.The first two columns contain data forthe early and late samples.We focus our discussion on median values because of the impact of outliers on means. Late sample firms have significantly lower median market-to-book value of assets and change in return on sales (ROS), likely due to system-wide declines in market valuations and profitability during the recession. It is noteworthy, however that there are no significant differences between the early and late samples in financial leverage or ROS. The Appendix also contains comparison data for the non-announcing firms with ROS decline in the third and fourth columns.By construction, these firms have significantly lower median change in ROS than sample firms. In addition, sample firms are largerand have higher financial leverage. The result on firm size is consistent with the idea that larger firms are more likely to downsize or perhaps justmore likely to have their downsizing event reported in the press, suggesting greater visibility for larger firms.The higher financial leverage is consistent with the hypothesis in Lang, Poulsen and Stulz (1995) that financially constrained firms use asset sales as a source of financing.

4. RESULTS

This section reports empirical results for the hypothesis that firms have higher growth rates in assets and employees following downsizing events if they have better prior performance and bettergrowth opportunities.

4.1 Changes in Assets and Employees

Appendix 2 contains percentage change in number of employees and book value of assets for sample firms compared to non-announcing samples. Recall that non-announcers have a recent significant decline in ROS, comparable to the lowest quartile of sample firms. The intent of this analysis is to investigate whether firms respond to performance declines with downsizing, even if there is no press announcement, providing evidence on the significance of the announcement itself. Early sample growth rates are in Panel A (assets) and Panel B (employees) and corresponding late sample growth rates are in Panels C and D.

We first discuss results for the early sample in Panels A and B. Comparing all sample firms with the non-announcers (column (1) vs. column (2)) shows that non-announcers have significantly higher growth ratesthan sample firms. The median change in employees (assets) from t-1 to t+1 is 8.33% (11.27%) for non-announcers compared to -0.30% (5.40%) for sample firms. Column (3) contains data for sample firms in the first quartile of ROS decline to examine a subsample of announcing firms that are comparable to the non-announcers interms of recent change in ROS. Sample firms in this lowest quartile of ROS change have negative median growth rates in employees and assets of -0.559% and -1.48% respectively, which are significantly lower than the growth rates for the non-announcing sample, and also significantly lower than the growth rates for the sample overall. Thus, noticeable declines in growth rates occur only for announcing firms with a significant recent decline in performance.

Overall, the results for the early period in Panels A and B indicate that a performance decline by itself is not sufficient to prompt announced or actual declines in firm size. This analysis indicates a significant correlation between press announcements of downsizing and ex-post growth among firms with a significant performance decline. However, note from Panel A of Appendix 1 that non-announcers are significantly smaller than sample firms. Thus, we are likely also picking up a visibility effect in the sense that larger firms are subject to greater implicit external monitoring and thus more prone to initiating a public response to a performance decline. This idea that external scrutiny motivates explicit corporate action is consistent with results in Farrell and Whidbee (2002) that forced CEO turnover is more likely for firms with greater external monitoring via press coverage. It is also consistent with Offenberg (2009) who finds that larger firms are more likely to face external discipline when they make value-decreasing acquisitions.

Panels C and D contain growth rates in assets and employees for late sample firms,and show different patterns compared to the early period. Panel C shows that non-announcers have significantly lower median growth in book value of assets from t-1 to t+1 (-6.26% versus 2.13%) compared to announcers.Thus, compared to a normal economy (early period), in a recession period firms seem to respond to performance declines by reducing asset growth rates whether or not there is a public announcement of the downsizing. We note, however, that sample firms with comparable performance declines to the non-announcing sample do have significantly lower growth rates (column (3) vs. column (2)), suggesting that there is still a greater response by firms with announcements. Panel D contains results for the layoff subsample. Columns (1) and (2) show that sample firms have similar declines in employees as non-announcers. However, similar to results in Panel C, we see that sample firms with comparable performance decline to announcers do have much lower declines in employees.

4.2 Determinants of Changes in Asset and Employees: Growth Tercile Sorts

To perform the first set of conditional tests for changes in employees and assets following downsizing announcements, we divide sample and non-announcing firms into thirds based on post-announcement asset and employee growth. We then compare differences in firm characteristics for the top and bottom terciles and report results in Appendix3. Panel A contains results for total assets growth, Panel B contains results for employee growth for sample firms, and Panels C and D report corresponding growth rates for non-announcing comparison firms. Lowest tercile asset growth firms have significantly lower ROS than highest tercile ROS firms (14.64% vs. 21.77% for the early sample and 7.12% vs. 20.22% for the late sample). This extends existing evidence in papers such as Denis and Kruse (2000) and Denis and Shome (2005) that downsizing announcements are typically motivated by poor performance. The results in Appendix 3 show that the degree of post-announcement change is also negatively related to pre-announcement performance. Thus, we extend the literature by providing additional evidence on the importance of a negative performance shock in motivating measurable ex-post downsizing following these announcements.

Lowest tercile asset growth firms also have significantly lower market-to-book than highest tercile growth firms. This is consistent with the hypothesis that firms with better investment opportunities grow at relatively faster rates,and suggests that some announcementscould besignals of strategic re-alignment of assets rather than decreases in firm size. The results in Panel B for employee growth are similar to Panel A, showing significantly lower ROS and market-to-book for bottom tercile employee growth firms.

Panels C and D repeat the analysis for non-announcing comparison firms with performance declines. Again we see significantly lower ROS in firms with low employee and asset growth, indicating that growth rates are influenced by prior performance, whether or not an announcement of downsizing is made.Recall, however, that Appendix 1 does shows significantly lower growth rates for announcers compared to non-announcers. Thus, the announcement itself does appear to have some economic significance for the magnitude of change in growth. These panels also show a positive relation between growth rates in both employees and assets and market-to-book. This is consistent with results in Panels A and B for sample firms, indicating that firms with greater investment opportunities have higher growth rates.

4.3 Determinants of Asset Growth Rates: Regression Analysis

The results so far suggest are consistent with our hypotheses that pre-event operating performance and growth opportunities are associated with the degree of post-announcement downsizing. In this section, we perform conditional analysis of the determinants of changes in growth rates following downsizing announcements by estimating OLS regression coefficients. The dependent variables in the models arepercentage change in total assets and percentage change in employees from the year before to the year following the downsizing announcement.The test variables in the modelsareROS, change in ROS, and market-to-book value of assets.

The modelsalso include control variables for other firm characteristics that might influence growth rates. We include the governance variables board independence, board size and institutional ownership. Research and Development Expense (scaled by sales),and capital expenditures are included as additional proxies for growth opportunities, with predicted positive signs. Financial leverage controls for capital structure effects on growth. High financial leverage can constrain growth; however, firms can lever up in order to fund growth, so the sign prediction forleverage is uncertain.Book value of assets and employees scaled by sales are included to condition post-event changes on pre-event levels. Finally, we include two industry dummy variables denoting whether

firms are in manufacturing industries (SIC codes 2000-4000). We separate out manufacturing firms in high-tech industries (SIC 2830-2839; 3570-3579; 3660-3679; 3820-3829; 3840-3849) and denote them by the dummy variable "Manufacturing High-Tech." All other manufacturing firms are denoted by the dummy variable "Manufacturing Non-High-Tech." All variables are measured in the year before the announcement.

The OLS regression coefficients are presented in Appendix4.Sample size decreases primarily because of missing board and institutional ownership data for some firms. Odd-numbered columns contain results for the early sample and even-numbered columns contain results for the late sample. Panel A contains results for percentage change in assets. We first focus on results in columns (1) and (2) for the full sample of announcing firms. Column (1)shows a positive coefficient on ROS, indicating that early period firms with lower ROS have lower asset growth rates. This result extends the existing literature, which shows that poor performance increases the likelihood of a downsizing announcement (Espahbodi, John and Vasudevan (2000)). Here, we show that the degree of poor performance influences the magnitude of actual *ex-post*change within the firm. However, in the late period (column (2)) the coefficient on ROS is insignificant.

We also hypothesize that the announced divestiture or layoff may not reflect the firm's intention to achieve a net decline in size or growth rates. Rather, it could represent a strategic re-alignment of assets as firms decrease investment in one sector and increase investment in another. Thus, we expect that, among firms with downsizing announcements, those with greater investment opportunities are likely to be strategically re-aligning assets, while firms with fewer investment opportunities may be dis-investing. The positive coefficient on market-to-book in all columns of Panel Ais consistent with this argument, indicating higher post-announcement growth rates in firms with better investment opportunities. We note, however, that this effect is not mutually exclusive with decreases in growth being motivated by poor performance.

We note the negative coefficient on board independence in column (1) for the early sample, indicating that firms with greater board independence have lower post-announcement growth rates in assets. Thus, it appears that boards are more involved in actions related to reducing growth rates. We note that in the late period there is a positive coefficient on board independence, indicating higher growth rates for firms with more independent boards, however, this result is not robust to subsample analysis in later Appendices.

The full sample contains firms with announcements of both layoffs and divestitures. Effects on asset growth rates should arguably be concentrated in the sub-sample of firms announcing divestitures, although we recognize that a divestiture is effectively a layoff event and layoff announcements also portend reductions in firm size. Nevertheless, it remains an empirical question whether effects are different in the divestiture and layoff subsamples. Columns (3) through (6)contain coefficients for the divestiture and layoff subsamples.

Looking first at the results for the early period, we see the coefficient on ROS for divestitures is larger in magnitude in column (3) compared to the full sample, and insignificant in column (5) for the layoff subsample, indicating that the effect of ROS on post-event asset growth rates is concentrated in the divestiture subsample. At the same time, we see that the impact of board independence on post-event asset growth occurs primarily in the layoff subsample. Our interpretation is that in a normal economy firms respond to poor performance by downsizing via divestitures, presumably because there is a more liquid market for the assets. In contrast, in an economic recession, layoffs are the preferred option to downsize when performance is bad. We also note in column (5) for the early period layoff subsample that the institutional ownership variable is positive and significant. This indicates that greater institutional presence is associated

with higher growth rates, consistent with existing evidence that institutions prefer growth firms (e.g., Chan, Chen and Lakonishok (2002)and Jiang (2010)).

The subsample divestiture and layoff results for the late sample (columns (4) and (6)) show a positive and significant coefficient on ROS for layoffs and insignificant for divestitures. Recall that in the early sample ROS is significant only for divestiture announcing firms. This result seems consistent with the relatively higher of layoff announcements during the late (recession) period compared to the early (normal) period. The sensitivity of decreases in asset growth rates to prior performance is concentrated in the layoff subsample during the recession period and in the divestiture subsample during a normal economy.

The last two columns of Panel A contain coefficients for asset growth in the comparison samples of non-announcing firms with performance decline. The positive and significant coefficient on ROSindicates that ROS has a similar effect on ex-post growth rates as the subsample of firms announcing divestitures in the early periods (column (7) compared to column (3)). The coefficients on market-to-book and R&D are also positive and significant. Our interpretation of this result is that, independent of an announcement of asset downsizing, firms with lowerROS and investment opportunities have lower growth rates in assets. It is noteworthy, however, in the non-announcing samplethere is no relation between asset growth and board independence. Indeed,the effect of board independence on asset growth rates appearsonly forlayoffannouncing firms in the early sample period. This is consistent with the hypothesis that, in a normal economy,boards are more involved in decreases in asset growth rates. In contrast, the board has a lesser to non-existent role in a recession because the pressure of macro-economic conditions force reduced growth rates.

4.4 Determinants of Employee Growth Rates: Regression Analysis

Panel B of Appendix 4 reports results for change in employees following the downsizing announcements. Columns (1) and (2) contain coefficients for employee growth for the full samples. In contrast to results in Panel A for asset growth, results for the full sample show the coefficient on ROS is insignificant in the early period, but significant in the late period. However, the insignificant coefficient in column (1) for the early period must be interpreted in light of the coefficients on ROS in the early period divestiture and layoff subsamples (columns (3) and (5)), whichare opposite in sign. Column (3) shows that for the divestiture subsample, lower ROS is associated with lower employee growth, consistent with the results for the late period in columns (2) and (4) and with results for asset growth for the early period in Panel A. In contrast, Column (5) shows that lower ROS is associated with higher employee growth for the layoff announcing subsample.

We conclude from the results on ROS in both Panels A and B for the layoff subsample that poor pre-event performance does not motivate the degree of reduction in either assets or employees for firms announcing layoffs in the early period.However, in the late period of economic recession, we see that poor performance is significantly associated with lower growth rates in employees, in the predicted direction, for firms announcing divestitures.Finally, Columns (7) and (8)of Panel B contains OLS coefficients for employee growth rates in the non-announcing samples. There is a positive coefficient on ROS in both early and late samples, indicating that poor performance is associated with lowerex-post employee growth rates, with or without a layoff or downsizing announcement. In all but one model, the coefficient on market-to-book is positive and highly significant, consistent with the idea that high growth firms announcing downsizing are likely restructuring assets.

5. ADDITIONAL TESTS

The early(late) sample includes 41 (97) firms that have announcements of both divestitures and layoffs. Given that these firms represent a significant percentage of the sample, we perform additional tests to check whether their omission from the empirical analysis alters the results. We also perform further tests on the relation between prior performance and degree of announcement follow-through by evaluating subsamples formed on pre-event change in ROS.

5.1 Post-Event Growth for Pure Announcers

Appendix 5 contains OLS regression coefficients for post-announcement growth in assets and employees for pure announcers: firms that had a pure divestiture or layoff announcement in that they did not announce both divestiture and layoff during the sample period.The results in Panel A for asset growth are consistent with comparable in Appendix 4 for the full sample, although we note that for the pure announcers in this Appendix, the size and significance of the coefficient on ROS is higher.

Panel B contains results on employee growth for pure announcers. The results here reveal some notable differences compared to the Panel B of Appendix4. For the full sample of early period announcers in columns (1), there is now a significant positive coefficient on ROS, indicating that poor prior performance does motivate lower post-announcement employee growth. In earlieranalysis in columns (3) and (5) of Appendix4, we saw the puzzling result that the ROS variable had opposite and significant signs for the divestiture (positive) and layoff (negative) subsamples. This result is not present in Appendix 5 for subsamples of pure announcers. Rather, the positive coefficient on ROS for the divestiture subsample is larger and more significant, and the coefficient on ROS for the layoff subsample is insignificant.We conclude that the effect of pre-announcement ROS on ex-post asset and employee growth occurs primarily in the pure divestiture subsample. Thus, firms that have announcements of both layoffs and divestitures appear to have varied motives for the announcements.

One other notable result in Panel B is the negative and significant coefficient on capital expenditures in early period pure divestiture announcing firms (column (3)). This negative relation between capital expenditures and employee growth in the divestiture announcing subsamplessuggests a labor for capital substitution, in that firms with lowcapital expenditures have higherpost-announcement employee growth. There is also evidence of this labor-capital substitution effect in Atanassov and Kim (2009), who find that some poorly performing firms divest assets to avoid layoffs.

Panel C of Appendix 5 contains regression coefficients for the early and late samples combined, with the dummy variable “early” equal to one if the observation is from the early sample period. The primary purpose for Panel C is to test for significant differences between the early and late periods in our test variables. The results confirm that the differences discussed above between the early and late periods are significant. The positive and significant coefficient on the early dummy in columns (1) and (2) indicate that late period firms have lower growth rates in assets, consistent with external macro-economic pressure to downsize. The negative coefficient on the interaction of board independence and the early dummy goes along with this result, indicating that in the early period, board independence is important in attenuating growth, but in the late period, the poor economic conditions dominate.

5.2 Post-Event Growth for Change in ROS Subsamples

To further examine the impact of prior performance on growth, we split the samples of pure announcers into two based on median change in ROS from the year before to the year containing the downsizing announcement. Our purpose is to evaluate whether determinants of ex-post growth are concentrated in subsamples with greater recent performance declines. Panel Aof Appendix 6 contains OLS coefficients for percentage change in total assets by subsamples. Columns (1) and (2) are for firms that have a below median pre-announcement decline in ROS, and columns (3) and (4) have above median decline in ROS. As in earlier Appendices, odd- (even-) numbered columns contain results for early (late) samples.

The results show that the positive relation in the early sample between ROS and asset growth is contained in the subsample of pure announcers that have below sample median pre-announcement decline in performance. Thus, ex-ante performance explains ex-post growth only for firms that suffer a significant decline in performance. This result also holds for the effect of board independence on ex-post growth. Board independence curbs asset growth only in announcing firms with significant performance declines. Looking at results for the late sample, we see for the first time a positive and significant relation between change in ROS and asset growth in the below median firms (column (2)). In this below-median sample, the lower the change in ROS, the lower is the post-announcement growth in assets. Thus, we find that performance influences growth in different ways in different economic environments. In a normal economy, the recent *level* of ROS influences post-announcement growth, but in a recession, it is the recent *change* in ROS that matters for ex-post growth in assets.

Panel B of Appendix 6 contains results for employee growth. Again, we see significant positive coefficients on ROS in both columns (1) and (2), indicating that the effect of ROS on growth obtains only for firms with significant performance decline. There is also a negative and significant coefficient on board independence in Column (1) for the early period, which does not obtain for the full sample. This again indicates that boards are involved in downsizing activity for firms with performance declines.

We again include a Panel C that contains results for the sample combined with the early dummy interacting with test variables. The results in columns (1) and (2) for firms with below median change in ROS mirror results in Panel C of Appendix 5 for the full sample. Late period firms have lower overall growth rates than early period firms, and early period firms with greater board independence have lower growth rates.

6. CONCLUSION

Most empirical studies of managerial press announcements are premised on a high correlation between announced and actual managerial actions, assuming high signal strength in these announcements. We argue that downsizing announcements carry mixed signals because they may denote either reductions in firm size or asset restructuring. Thus, we investigate determinantsof the changes in asset and employee growth rates following publicly announced intentions to shed assets or layoff employees both during a normal economy and during a recession. Our testable hypothesis is that lower pre-announcement performance influences attenuated ex-post growth rates and greater investment opportunities influence higher ex-post growth.

Consistent with these predictions, we find that pre-announcement ROS is reliably related to post-announcement growth in assets and employees only for firms announcing divestitures, and that market-to-book influences higher growth rates in all samples. We conclude that downsizing

announcements do not contain a pure signal for future decreases in firm growth rates but can also denote increased growth as firms strategically re-align assets. Firms with poor past performance tend to cut their assets and employees in accordance with the announcement, whereas firms with good growth opportunities tend to re-align and grow their assets, rather than pursue net downsizing. Since all corporate announcements are not created equal,wesuggest that empiricists use dummy variables denoting downsizing based on corporate press announcements with caution.

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Appendix 1

Descriptive Statistics

The sample comprises 252 S&P 1500 firms in calendar years 2005 or 2006 (early sample), and 417 S&P 1500 firms in calendar year 2008 or 2009 (late sample) making announcements of layoffs or asset downsizing. The non-announcer sample contains 219 S&P 1500 firms for early sample period and 261 S&P 1500 firms for late sample period with a significant decline in performance and no downsizing announcement. Performance decline is defined as change of return on sales (ROS) from 2004 to 2005 for early sample period, or from 2007 to 2008 for late sample period, less than lowest quartile of change in ROS of sample firms. All the variables are obtained from CRSPSift. Total assets is book value of assets. Leverage is long-term debt divided by long-term debt plus common equity. Market to book value is market cap plus total assets minus common equity divided by total assets. Market cap is year-end stock price times year-end common shares outstanding. Capex is capital expenditures divided by total assets. Return on sales (ROS) is EBITDA divided by net sales. For sample firms, all data are calculated in the year before the announcement (t-1). For non-announcing firms, all data arecalculated in year 2004 for early sample period, and 2007 for late sample period. a, b, and c denote significance between early period sample firms and late period sample firms at 1%, 5% and 10% levels, respectively.

	Mean (Median) Sample Firm		Mean (Median) Non-announcers with performance decline		P-value for sample vs. non-announcers	
	2005-2006	2008-2009	2005-2006	2008-2009	2005-2006	2008-2009
Total Assets	41130.44	45937.46	10750.09	20813.76	0.0066	0.0429
	(4514.25)	(5695.55) b	(905.73)	(1723.16) a	(0.0001)	(0.0000)
Leverage	0.3293	0.4176	0.2754	0.2454	0.0172	0.0810
	(0.3265)	(0.3112)	(0.2321)	(0.2139)	(0.0058)	(0.0000)
MV/BV Assets	1.8390	1.5836 a	1.8074	1.4935 a	0.7303	0.1782
	(1.5270)	(1.3323) a	(1.4365)	(1.2031) a	(0.3336)	(0.0294)
Capex	0.0366	0.0461 a	0.0424	0.0452	0.1059	0.8400
	(0.0287)	(0.0343) b	(0.0277)	(0.0184) a	(0.9585)	(0.0000)
Return on Sales	0.1745	0.1521	0.1527	-0.2253	0.1806	0.1758
	(0.1419)	(0.1478)	(0.1341)	(0.1440)	(0.1254)	(0.4263)
Change in ROS (t-1 to t)	-0.6251	0.3608 c	-0.9700	-1.1617	0.5589	0.0010
	(-0.0186)	(-0.0550) b	(-0.2564)	(-0.4359) a	(0.0001)	(0.0000)
N	252	417	219	261		

Appendix 2: Change in Assets and Employees

Percentage change in asset (Panel A) and number of employees (Panel B) from the year before announcement (t-1) to the year of announcement (t), and from the year of announcement (t) to the year after announcement (t+1). Samples and variables are described in the Appendix1 header.

Panel A: Percentage Change in Book Value of Assets (2005-2006)

	(1) All Sample firms	N	(2) Non-announcers	N	(3)Sample firms in Q1 of ROS change	N	P-value (1) vs. (2)	P-value (2) vs. (3)	P-value (1) vs. (3)
t-1 to t	0.0554	252	0.1012	219	-0.0164	63	0.0600	0.0016	0.0070
	(0.0149)		(0.0427)		(-0.0055)		(0.0053)	(0.0004)	(0.0107)
t-1 to t+1	0.1373	246	0.1910	205	-0.0202	62	0.1403	0.0001	0.0002
	(0.0540)		(0.1127)		(-0.0148)		(0.0052)	(0.0001)	(0.0001)

Panel B: Percentage Change in Number of Employees (2005-2006)

	(1) All Sample firms	N	(2) Non-announcers	N	(3)Sample firms in Q1 of ROS change	N	P-value (1) vs. (2)	P-value (2) vs. (3)	P-value (1) vs. (3)
t-1 to t	-0.0121	251	0.1312	214	-0.0652	63	0.0001	0.0063	0.0031
	(-0.0066)		(0.0408)		(-0.0318)		(0.0001)	(0.0001)	(0.0023)
t-1 to t+1	-0.0022	244	0.2104	199	-0.0164	61	0.0001	0.0007	0.0004
	(-0.0030)		(0.0833)		(-0.0055)		(0.0001)	(0.0001)	(0.0001)

Panel C: Percentage Change in Book Value of Assets (2008-2009)

	(1) All Sample firms	N	(2) Non-announcers	N	(3)Sample firms in Q1 of ROS change	N	P-value (1) vs. (2)	P-value (2) vs. (3)	P-value (1) vs. (3)
t-1 to t	-0.0055 (-0.0068)	397	0.0072 (-0.0314)	261	-0.0726 (-0.0850)	100	0.5662 (0.1361)	0.0368 (0.0027)	0.0014 (0.0000)
t-1 to t+1	0.0290 (0.0213)	388	-0.0240 (-0.0626)	248	-0.0879 (-0.1060)	96	0.0645 (0.0000)	0.1621 (0.1758)	0.0000 (0.0000)

Panel D: Percentage Change in Number of Employees (2008-2009)

	(1) All Sample firms	N	(2) Non-announcers	N	(3)Sample firms in Q1 of ROS change	N	P-value (1) vs. (2)	P-value (2) vs. (3)	P-value (1) vs. (3)
t-1 to t	-0.0329 (-0.0323)	390	0.0219 (-0.0118)	258	-0.0461 (-0.0620)	97	0.0027 (0.0053)	0.0299 (0.0002)	0.4977 (0.0085)
t-1 to t+1	-0.0452 (-0.0595)	381	-0.0200 (-0.0507)	245	-0.1027 (-0.1198)	94	0.3164 (0.6422)	0.0242 (0.0083)	0.0366 (0.0006)

Appendix 3

Analysis of Changes in Assets or Employees by Tercile sorts

In Panels A and C, the sample is equally divided into three groups based on percentage change in total assets from the year before announcement (t-1) to the year after announcement (t+1). In Panel B and D, the sample is equally divided into three groups based on percentage change in employees from the year before announcement (t-1) to the year after announcement (t+1). Samples and variables are described in the Appendix1 header. ***, **, and * denote significance at 1%, 5% and 10% levels, respectively.

Panel A: Total assets growth (t-1 to t+1)

	2005-2006			*2008-2009*		
	(1) Low (bottom third)	(2) High (Top third)	P-value (1) vs. (2)	(1) Low (bottom third)	(2) High (Top third)	P-value (1) vs. (2)
ROS	0.1464	0.2177	0.0144	0.0712	0.2022	0.0891
	(0.1390)	(0.1860)	(0.0251)	(0.1198)	(0.1788)	(0.0000)
Market to Book	1.6779	2.2619	0.0006	1.4000	1.8748	0.0000
	(1.3838)	(1.7807)	(0.0006)	(1.1642)	(1.4583)	(0.0000)

Panel B: Employee growth (t-1 to t+1)

	2005-2006			*2008-2009*		
	(1) Low (bottom third)	(2) High (Top third)	P-value (1) vs. (2)	(1) Low (bottom third)	(2) High (Top third)	P-value (1) vs. (2)
ROS	0.1545	0.2134	0.0131	0.0708	0.2121	0.0726
	(0.1273)	(0.1680)	(0.0058)	(0.1229)	(0.1862)	(0.0001)
Market to Book	1.5943	2.1991	0.0002	1.4757	1.8027	0.0032
	(1.3571)	(1.6774)	(0.0000)	(1.2606)	(1.4680)	(0.0035)

Panel C Non-Announcers: total assets growth (t-1 to t+1)

	2005-2006			*2008-2009*		
	(1) Low (bottom third)	(2) High (Top third)	P-value (1) vs. (2)	(1) Low (bottom third)	(2) High (Top third)	P-value (1) vs. (2)
ROS	0.0968	0.1775	0.0232	0.0398	0.1381	0.3878
	(0.0896)	(0.1661)	(0.0002)	(0.0830)	(0.2069)	(0.0000)
Market to Book	1.4820	2.1557	0.0003	1.4129	1.6991	0.0711
	(1.3107)	(1.5946)	(0.0002)	(1.1519)	(1.3366)	(0.0026)

Panel D Non-Announcers: Employee growth (t-1 to t+1)

	2005-2006			*2008-2009*		
	(1) Low (bottom third)	(2) High (Top third)	P-value (1) vs. (2)	(1) Low (bottom third)	(2) High (Top third)	P-value (1) vs. (2)
ROS	0.1263	0.1560	0.3862	0.1168	0.1561	0.6396
	(0.0972)	(0.1631)	(0.0057)	(0.1080)	(0.2079)	(0.0002)
1.6161	0.0156	2.3641	0.0000	1.3166		
	(1.2554)	(0.1689)	(0.0000)	(1.0982)	(1.3059)	(0.0015)

Appendix 4

OLS Coefficients for Change in Assets and Employees

OLS coefficient estimates for determinants of changes in total assets and number of employees from the year before announcement to the year of announcement for sample firms, from 2004 to 2006 for non-announcers in early sample period, and from 2007 to 2009 for non-announcers in late sample period. The dependent variable equals the percentage change in total assets (Panel A) or number of employees (Panel B). ROS is EBITDA divided by net sales. Market to book value is market cap plus total assets minus common equity divided by total assets. Market cap is year-end stock price time year-end common shares outstanding. Leverage is long-term debt divided by long-term debt plus total common equity. Board data are from ISS RiskMetrics Group. Institutional ownership is year-end institutional holding (from 13f) divided by year-end total

number of share outstanding. All independent variables collected in the year before the announcement (t-1) for sample firms, in 2004 for non-announcers in early sample period, and in 2007 for non-announcers in late sample period. Columns (1) (3) (5) and (7) contain sample firms in 2005-06, and columns (2) (4) (6) and (8) contain sample firms in 2008-09. ***, **, and * denote significance at 1%, 5% and 10% levels, respectively.

Panel A: Change in Total Assets (t-1 to t+1)

	Sample of Announcers		Announce divestiture only		Announce layoff only		Non-announcers with performance decline	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ROS	0.4661**	0.0443	0.6150**	0.0496	-0.2307	0.3251**	0.7343***	0.1416
	(0.0487)	(0.1259)	(0.0465)	(0.1731)	(0.4485)	(0.0365)	(0.0003)	(0.2906)
Change in ROS	0.0002	0.0027	-0.0118	0.0204	-0.0004	0.0029	0.0111	0.0126
(t-1 to t)	(0.9365)	(0.2067)	(0.3498)	(0.4693)	(0.8765)	(0.1719)	(0.2308)	(0.3772)
Board	-0.4181**	0.3122*	-0.3526	0.4517	-0.4270*	0.2318	-0.1116	-0.3227
Independence	(0.0230)	(0.0581)	(0.1364)	(0.1191)	(0.0548)	(0.1932)	(0.5510)	(0.1009)
Institutional	0.1093	0.0165	-0.1129	-0.0843	0.4211**	-0.0125	0.2437	0.0043
ownership	(0.5135)	(0.9060)	(0.5804)	(0.7456)	(0.0435)	(0.9354)	(0.1530)	(0.9780)
Market value/	0.1677***	0.0937***	0.1894***	0.0966**	0.1978***	0.0860***	0.0973***	0.0885***
Book value	(0.0000)	(0.0000)	(0.0000)	(0.0143)	(0.0000)	(0.0001)	(0.0041)	(0.0024)
R&D/sales	0.3654	-0.6591**	0.2936	-1.0203**	0.5293*	-0.4787	0.6617***	0.1933
	(0.2494)	(0.0172)	(0.6731)	(0.0495)	(0.0827)	(0.1801)	(0.0047)	(0.2061)
Capex/total	-0.3798	0.4155	-0.7085	0.1987	-0.4555	0.2029	-0.1217	0.0781
assets	(0.6568)	(0.2277)	(0.5053)	(0.7506)	(0.7067)	(0.5946)	(0.8580)	(0.8213)
Book leverage	-0.0876	-0.0064	-0.1472	0.1987	0.1514	-0.0042	0.3166**	0.2394**
	(0.4931)	(0.4794)	(0.3459)	(0.8242)	(0.3896)	(0.6290)	(0.0293)	(0.0366)
Log (book value of assets)	0.0101	0.0208	-0.0001	0.0152	0.0359	0.0130	-0.0680***	0.0248
	(0.6374)	(0.1098)	(0.9979)	(0.5170)	(0.1918)	(0.3741)	(0.0069)	(0.2064)
Employees/	-6.1402	4.0781	-9.8441	13.6674	11.0980	-0.6617	-0.0680***	-0.3599
Sales	(0.4169)	(0.3522)	(0.2426)	(0.1448)	(0.3945)	(0.8840)	(0.0050)	(0.8313)
Log	-0.1536	0.0453	-0.1321	0.0483	-0.1566	0.0184	0.0584	0.0673
(board size)	(0.2808)	(0.5779)	(0.4699)	(0.7328)	(0.3854)	(0.8454)	(0.6721)	(0.5316)
Manufacturing	-0.0125	-0.0704*	0.0140	-0.0643	-0.0936	-0.0853**	-0.0404	-0.0580
Non-High-Tech	(0.8359)	(0.0560)	(0.8508)	(0.3296)	(0.1925)	(0.0305)	(0.5569)	(0.3804)
Manufacturing	-0.0012	0.0751	0.0587	0.1633	-0.0363	0.0598	-0.1611*	0.0986
High-Tech	(0.9883)	(0.1702)	(0.6632)	(0.1096)	(0.6910)	(0.3132)	(0.0730)	(0.2116)
Intercept	0.2934	-0.6786***	0.4280	-0.7162	-0.2267	-0.4507	0.0137	-0.3562
	(0.4021)	(0.0084)	(0.3417)	(0.1088)	(0.6047)	(0.1272)	(0.9693)	(0.2035)
Number of observations	219	321	148	143	108	254	169	184
Adjusted R^2	0.2396	0.1026	0.2668	0.0628	0.3256	0.1194	0.2147	0.1051

Appendix 4 – Continued:

Panel B: Change in Employees (t-1 to t+1)

	Sample of Announcers		Announce divestiture only		Announce layoff only		Non-announcers with performance decline	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ROS	0.2253	0.0489**	0.5099***	0.0533**	-0.4118*	0.1072	0.7646*	0.4533***
	(0.1309)	(0.0176)	(0.0073)	(0.0500)	(0.0729)	(0.3347)	(0.0737)	(0.0003)
Change in ROS	0.0006	0.0007	-0.0012	-0.0116	0.0004	0.0006	0.0053	0.0090
(t-1 to t)	(0.7433)	(0.6598)	(0.8812)	(0.5808)	(0.8587)	(0.6966)	(0.7897)	(0.4901)
Board	-0.1363	-0.0098	-0.0529	-0.0003	-0.1153	0.0137	0.0001	-0.1912
Independence	(0.2400)	(0.9328)	(0.7159)	(0.9989)	(0.4862)	(0.9143)	(0.9998)	(0.2869)
Institutional	0.2274**	-0.0303	0.1824	-0.3371*	0.2399	0.0469	0.7859**	0.0001
ownership	(0.0336)	(0.7596)	(0.1474)	(0.0843)	(0.1242)	(0.6708)	(0.0319)	(0.9994)
Market value/	0.0731***	0.0662	0.0590**	0.0517*	0.1050***	0.0599***	0.0350	0.0537**
Book value	(0.0001)	(0.0000)	(0.0181)	(0.0777)	(0.0000)	(0.0002)	(0.6267)	(0.0428)
R&D/sales	0.0296	-0.6759***	0.5057	-0.9964**	0.0837	-0.2384	0.6111	0.5162***
	(0.8831)	(0.0006)	(0.2570)	(0.0107)	(0.7125)	(0.3515)	(0.2680)	(0.0003)
Capex/total assets	-0.3866	0.0517	-1.0069	-0.2351	0.3251	-0.0029	-1.7193	0.1253
	(0.4765)	(0.8325)	(0.1256)	(0.6148)	(0.7202)	(0.9916)	(0.2359)	(0.6920)
Book leverage	-0.0981	-0.0036	-0.1103	0.0006	0.0655	-0.0038	0.2056	0.1849*
	(0.2248)	(0.5704)	(0.2469)	(0.9406)	(0.6194)	(0.5385)	(0.5125)	(0.0771)
Log (book value of assets)	0.0190	0.0107	0.0061	-0.0094	0.0486**	0.0157	-0.1054**	-0.0101
	(0.1637)	(0.2475)	(0.7192)	(0.5917)	(0.0204)	(0.1359)	(0.0500)	(0.5754)
Employees/ Sales	0.5168	0.2467	1.3727	2.4679	-1.2029	-0.0883	-5.2892	-0.8118
	(0.9142)	(0.9368)	(0.7901)	(0.7235)	(0.9017)	(0.9783)	(0.6116)	(0.5995)
Log	-0.0060	0.0399	0.0188	0.0732	-0.1187	0.0173	0.0545	0.1070
(board size)	(0.9484)	(0.4904)	(0.8738)	(0.4887)	(0.3814)	(0.7977)	(0.8526)	(0.2773)
Manufacturing	0.0431	-0.0870***	0.0585	-0.0874*	0.0220	-0.1013***	0.1001	-0.0898
Non-High-Tech	(0.2600)	(0.0009)	(0.2023)	(0.0770)	(0.6839)	(0.0004)	(0.4925)	(0.1390)
Manufacturing	0.0445	0.0539	0.0257	0.1677**	0.0156	0.0109	-1.1454	0.1125
High-Tech	(0.3894)	(0.1664)	(0.7632)	(0.0286)	(0.8206)	(0.7985)	(0.4495)	(0.1196)
Intercept	-0.3853*	-0.2766	-0.3846	0.0641	-0.4213	-0.3431	0.1020	-0.2650
	(0.0977)	(0.1290)	(0.1934)	(0.8470)	(0.2005)	(0.1056)	(0.8940)	(0.3007)
Number of observations	219	321	148	143	108	254	169	184
Adjusted R^2	0.1244	0.1254	0.1335	0.1185	0.1086	0.1179	0.0222	0.1610

Appendix 5

OLS Coefficients for Pure Announcers

OLS coefficient estimates for determinants of changes in total assets and number of employees from the year before announcement to the year of announcement for 211 firms in 2005-06 and 320

firms in 2008-09 with announcement of either layoff or divestiture, but not both. Samples and variables are described in the header to Appendix4. In Panel C, Early=1 if firm is from 2005-06 sample, otherwise Early=0. Columns (1) (3) (5) and (7) contain sample firms in 2005-06, and columns (2) (4) (6) and (8) contain sample firms in 2008-09. ***, **, and * denote significance at 1%, 5% and 10% levels, respectively.

Panel A: Change in Total Assets (t-1 to t+1)

	Sample of Announcers		Announce divestiture only		Announce layoff only	
	(1)	(2)	(3)	(4)	(5)	(6)
ROS	0.6542**	0.0399	0.8405**	0.0655	0.0059	0.2847*
	(0.0161)	(0.1549)	(0.0267)	(0.1157)	(0.9896)	(0.0846)
Change in ROS (t-1 to t)	-0.0000	0.0025	-0.0114	0.0346	-0.0022	0.0025
	(0.9989)	(0.2216)	(0.4224)	(0.2548)	(0.5211)	(0.2055)
Board Independence	-0.4650**	0.2934	-0.3883	0.5286	-0.5316	0.1392
	(0.0296)	(0.1002)	(0.1934)	(0.2006)	(0.1053)	(0.4729)
Institutional ownership	0.1386	0.0738	-0.2104	-0.0239	0.6777**	0.0534
	(0.4911)	(0.6090)	(0.4380)	(0.9414)	(0.0406)	(0.7367)
Market value/ Book value	0.1628***	0.0754***	0.1877***	0.0336	0.1620***	0.0708***
	(0.0000)	(0.0006)	(0.0011)	(0.5779)	(0.0013)	(0.0030)
R&D/sales	0.2992	-0.7113**	-0.3063	-1.2724**	0.6161	-0.6969*
	(0.3945)	(0.0119)	(0.7399)	(0.0439)	(0.1163)	(0.0696)
Capex / total assets	-0.4261	0.5641	-0.7489	0.8070	-0.2964	0.3653
	(0.6543)	(0.1292)	(0.5530)	(0.3531)	(0.8569)	(0.3883)
Book leverage	-0.1578	-0.1625*	-0.2867	0.0692	0.0634	-0.1730*
	(0.2798)	(0.0530)	(0.1318)	(0.7349)	(0.8115)	(0.0641)
Log (book value of assets)	0.0121	0.0296**	0.0060	0.0218	0.0557	0.0278*
	(0.6318)	(0.0457)	(0.8609)	(0.5638)	(0.1972)	(0.0934)
Employees / Sales	-5.7261	5.0027	-0.8604	32.4515**	27.8687	-0.7143
	(0.5045)	(0.2749)	(0.3683)	(0.0225)	(0.2154)	(0.8787)
Log (board size)	-0.1624	0.0519	-0.1898	-0.0034	-0.1393	0.0103
	(0.3196)	(0.5463)	(0.4085)	(0.9853)	(0.5906)	(0.9197)
Manufacturing	0.0257	-0.0471	0.0854	0.0223	-0.0246	-0.0651
Non-High-Tech	(0.7208)	(0.2432)	(0.3800)	(0.8265)	(0.8226)	(0.1300)
Manufacturing High-Tech	0.0110	0.0360	0.1714	0.1253	-0.0366	0.0220
	(0.9039)	(0.5433)	(0.3382)	(0.4086)	(0.7608)	(0.7292)
Intercept	0.3167	-0.7377***	0.6075	-0.8454	-0.5963	-0.4581
	(0.4390)	(0.0066)	(0.2949)	(0.1325)	(0.3738)	(0.1496)
Number of observations	182	245	111	67	71	178
Adjusted R^2	0.1961	0.1139	0.2237	0.0815	0.1659	0.1264

Appendix 5 - Continued:

Panel B: Change in Employees (t-1 to t+1)

	Sample of Announcers		Announce divestiture only		Announce layoff only	
	(1)	(2)	(3)	(4)	(5)	(6)
ROS	0.3677**	0.0447**	0.7537***	0.0495*	-0.3003	0.0471
	(0.0248)	(0.0157)	(0.0005)	(0.0936)	(0.3583)	(0.6458)
Change in ROS (t-1 to t)	0.0007	0.0006	0.0013	-0.0097	0.0002	0.0003
	(0.7372)	(0.6696)	(0.8669)	(0.6501)	(0.9443)	(0.8046)
Board Independence	-0.1667	-0.0632	-0.0508	-0.1485	-0.1683	-0.0646
	(0.1943)	(0.5897)	(0.7628)	(0.6091)	(0.4681)	(0.5927)
Institutional ownership	0.2414**	0.0501	0.1829	-0.2890	0.3095	0.1719*
	(0.0498)	(0.5978)	(0.2369)	(0.2124)	(0.1851)	(0.0837)
Market value/ Book value	0.0706***	0.0659***	0.0644**	0.0530	0.0958***	0.0630***
	(0.0011)	(0.0000)	(0.0421)	(0.2165)	(0.0070)	(0.0000)
R&D/sales	-0.0648	-0.7337***	0.2680	-1.2088***	-0.0065	-0.2665
	(0.7601)	(0.0000)	(0.6064)	(0.0077)	(0.9812)	(0.2639)
Capex / total assets	-0.5654	0.2715	-1.3933*	0.5353	0.2085	0.3450
	(0.3274)	(0.2667)	(0.0524)	(0.3839)	(0.8589)	(0.1914)
Book leverage	-0.1619*	-0.0855	-0.1970*	0.0187	-0.0292	-0.0426
	(0.0667)	(0.1213)	(0.0660)	(0.8971)	(0.8776)	(0.4626)
Log (book value of assets)	0.0096	0.0179*	-0.0101	-0.0136	0.0357	0.0297***
	(0.5310)	(0.0668)	(0.5997)	(0.6091)	(0.2456)	(0.0044)
Employees / Sales	0.9283	-0.0912	1.5858	5.8760	5.3545	-0.5179
	(0.8582)	(0.9758)	(0.7779)	(0.5502)	(0.7370)	(0.8590)
Log (board size)	0.0660	0.0449	0.1560	0.1149	0.0378	-0.0009
	(0.5174)	(0.4276)	(0.2606)	(0.3847)	(0.8377)	(0.9886)
Manufacturing	0.0431	-0.0618**	0.0632	-0.0003	0.0190	-0.0782***
Non-High-Tech	(0.3217)	(0.0204)	(0.2488)	(0.9972)	(0.8087)	(0.0038)
Manufacturing High-Tech	0.0451	0.0261	0.0414	0.1569	0.0064	-0.0264
	(0.4155)	(0.5035)	(0.6801)	(0.1464)	(0.9402)	(0.5049)
Intercept	-0.4436*	-0.3511**	-0.5656	0.0069	-0.6541	-0.4538**
	(0.0902)	(0.0485)	(0.1161)	(0.9860)	(0.1734)	(0.0225)
Number of observations	182	245	111	67	71	178
Adjusted R^2	0.1378	0.1709	0.1789	0.1674	0.0090	0.1901

Appendix 5 - Continued:

Panel C: Differences between Early and Late Samples

	Change in Total Assets (t-1 to t+1)			Change in Employees (t-1 to t+1)		
	Sample of Announcers	Announce divestiture only	Announce layoff only	Sample of Announcers	Announce divestiture only	Announce layoff only
	(1)	(2)	(3)	(4)	(5)	(6)
Early (dummy)	1.2898***	1.4873**	0.9418	0.0774	0.0874	-0.2537
	(0.0041)	(0.0110)	(0.2281)	(0.7864)	(0.8084)	(0.6407)
ROS	0.0310	0.2264	0.0658	0.0453**	0.1091	0.0563**
	(0.3520)	(0.2674)	(0.1066)	(0.0296)	(0.3665)	(0.0484)
ROS*Early	0.5522***	0.3762	0.2446	0.1542	0.2165	-0.1803
	(0.0044)	(0.1799)	(0.5433)	(0.2007)	(0.1926)	(0.5204)
Change in ROS (t-1 to t)	0.0026	0.0032	-0.0152	0.0006	0.0008	-0.0369**
	(0.2926)	(0.2060)	(0.5659)	(0.7177)	(0.5910)	(0.0468)
Change in ROS	-0.0034	-0.0172	0.0131	-0.0004	-0.0025	0.0377**
(t-1 to t)*Early	(0.3616)	(0.1267)	(0.6213)	(0.8537)	(0.7126)	(0.0441)
Board Independence	0.3312	0.1293	0.6631	-0.0372	-0.0463	-0.1095
	(0.1219)	(0.6028)	(0.1226)	(0.7801)	(0.7528)	(0.7134)
Board Independence*Early	-0.7991***	-0.6363*	-1.1435**	-0.1333	-0.1266	-0.0431
	(0.0040)	(0.0554)	(0.0339)	(0.4392)	(0.5195)	(0.9079)
Institutional ownership	0.0191	0.0249	0.0088	0.0038	0.1017	-0.2318
	(0.9110)	(0.9009)	(0.9792)	(0.9719)	(0.3911)	(0.3252)
Institutional	0.1038	-0.2142	0.5887	0.2254	0.1131	0.4923
ownership*Early	(0.6608)	(0.4523)	(0.2013)	(0.1296)	(0.5082)	(0.1260)
Log (board size)	0.1172	0.0808	0.0839	0.0818	0.0598	0.1208
	(0.2327)	(0.5139)	(0.6393)	(0.1818)	(0.4156)	(0.3338)
Log (board size)*early	-0.3254**	-0.3572*	-0.1813	-0.0599	-0.0410	-0.0035
	(0.0252)	(0.0550)	(0.4872)	(0.5175)	(0.7205)	(0.9847)
Market value/ Book value	0.1107***	0.1147***	0.1124***	0.0696***	0.0694***	0.0735***
	(0.0000)	(0.0000)	(0.0021)	(0.0000)	(0.0000)	(0.0038)
R&D/sales	-0.1837	-0.7373*	0.1704	-0.3792***	-0.2175	-0.3208
	(0.4110)	(0.0602)	(0.5895)	(0.0067)	(0.3492)	(0.1466)
Capex / total assets	0.4149	0.3053	0.3598	0.1660	0.0863	0.2983
	(0.2812)	(0.5115)	(0.6379)	(0.4898)	(0.7544)	(0.5759)
Book leverage	-0.1425*	-0.1883**	-0.0424	-0.1012**	-0.0842	-0.0579
	(0.0685)	(0.0424)	(0.7912)	(0.0382)	(0.1250)	(0.6046)
Log (book value of assets)	0.0175	0.0171	0.0271	0.0140*	0.0157	0.0052
	(0.1912)	(0.3001)	(0.3314)	(0.0944)	(0.1090)	(0.7887)
Employees / Sales	1.7254	-3.5161	29.9271**	0.6703	0.4587	5.9760
	(0.6952)	(0.4613)	(0.0141)	(0.8074)	(0.8713)	(0.4770)
Manufacture	-0.0262	-0.0124	-0.0359	-0.0272	-0.0318	-0.0078
(no High-tech)	(0.4904)	(0.7812)	(0.6295)	(0.2503)	(0.2308)	(0.8813)
Manufacture (High-tech)	0.0164	0.1115	-0.0553	0.0231	0.0094	0.0245
	(0.7536)	(0.1109)	(0.5310)	(0.4770)	(0.8210)	(0.6899)
Intercept	-0.8377***	-0.5748	-1.2782**	-0.4133**	-0.4552*	-0.2498
	(0.0087)	(0.1448)	(0.0268)	(0.0374)	(0.0517)	(0.5309)
Number of observations	427	289	138	426	288	138
Adjusted R^2	0.1645	0.1785	0.1523	0.1433	0.1414	0.1127

Appendix 6

OLS Coefficients for Pure Announcers by Change in ROS sorts

OLS coefficient estimates for determinants of changes in total assets and number of employees from the year before announcement to the year of announcement for sample firms with announcement of either layoff or divestiture, but not both. Columns (1) and (2) contains firms with below sample median change in ROS in the year before the downsizing announcement, and columns (3) and (4) contain above sample median change in ROS firms. Samples and variables are described in the header to Appendix4. In Panel C, Early=1 if firm is from 2005-06 sample, otherwise Early=0. Columns (1) (3) (5) and (7) contain sample firms in 2005-06, and columns (2) (4) (6) and (8) contain sample firms in 2008-09. ***, **, and * denote significance at 1%, 5% and 10% levels, respectively.

Panel A: Change in Total Assets (t-1 to t+1)

	Change in ROS (t-1 to t) below median (no double event)		Change in ROS (t-1 to t) above median (no double event)	
	(1)	(2)	(3)	(4)
ROS	1.4648***	0.0134	-0.0674	0.1476
	(0.0016)	(0.6471)	(0.8447)	(0.5482)
Change in ROS (t-1 to t)	-0.0009	0.0554**	-0.0024	0.0025
	(0.8129)	(0.0438)	(0.8819)	(0.2414)
Board Independence	-0.6117*	0.2747	-0.2993	0.2923
	(0.0646)	(0.2674)	(0.2875)	(0.2405)
Institutional ownership	0.3571	0.1011	0.1006	-0.0172
	(0.2888)	(0.6158)	(0.6925)	(0.9319)
Market value/ Book value	0.0728	0.0185	0.1780***	0.0814***
	(0.2800)	(0.6237)	(0.0000)	(0.0041)
R&D/sales	0.3216	0.6407	0.4250	-1.0318***
	(0.5193)	(0.2835)	(0.4369)	(0.0011)
Capex / total assets	-1.8824	1.6906***	1.5789	0.4032
	(0.1604)	(0.0040)	(0.2881)	(0.4208)
Book leverage	-0.2631	0.0161	-0.1682	-0.2045*
	(0.3243)	(0.9001)	(0.3282)	(0.0675)
Log (book value of assets)	-0.0186	0.0342*	0.0385	0.0183
	(0.6474)	(0.0904)	(0.2296)	(0.4128)
Employees / Sales	0.2551	-11.9014*	-12.4211	16.8409***
	(0.9842)	(0.0938)	(0.3316)	(0.0058)
Log (board size)	0.0185	0.1838	-0.3400*	-0.0015
	(0.9472)	(0.1710)	(0.0902)	(0.9893)
Manufacturing Non-High-Tech	0.0703	0.0072	0.0736	-0.0889
	(0.5683)	(0.9046)	(0.4131)	(0.1006)
Manufacturing High-Tech	0.1433	0.0747	-0.0936	0.0356
	(0.3255)	(0.4224)	(0.4961)	(0.6373)
Intercept	0.1433	-1.1325***	0.4798	-0.4412
	(0.3255)	(0.0051)	(0.3474)	(0.2374)
Number of observations	91	120	91	125
Adjusted R^2	0.1904	0.1288	0.2039	0.1911

Appendix 6 – Continued:

Panel B: Change in Employees (t-1 to t+1)

	Change in ROS (t-1 to t) below median (no double event)		Change in ROS (t-1 to t) above median (no double event)	
	(1)	(2)	(3)	(4)
ROS	0.6033***	0.0498***	0.1997	-0.1934
	(0.0074)	(0.0091)	(0.4288)	(0.2579)
Change in ROS (t-1 to t)	-0.0002	0.0033	-0.0036	0.0008
	(0.9329)	(0.8515)	(0.7547)	(0.6058)
Board Independence	-0.2883*	-0.0682	-0.0385	-0.1066
	(0.0742)	(0.6676)	(0.8520)	(0.5366)
Institutional ownership	0.2831*	0.0621	0.2675	0.0699
	(0.0868)	(0.6315)	(0.1575)	(0.6174)
Market value/ Book value	0.0528	0.0185	0.0758**	0.0884***
	(0.1101)	(0.4475)	(0.0129)	(0.0000)
R&D/sales	0.0689	0.2780	-0.2293	-1.0940***
	(0.7771)	(0.4681)	(0.5667)	(0.0000)
Capex / total assets	-1.1566*	0.2211	0.7683	0.8429**
	(0.0783)	(0.5507)	(0.4866)	(0.0166)
Book leverage	-0.3035**	-0.0743	-0.1197	-0.0613
	(0.0216)	(0.3689)	(0.3418)	(0.4271)
Log (book value of assets)	0.0275	0.0314**	-0.0044	0.0094
	(0.1687)	(0.0162)	(0.8495)	(0.5452)
Employees / Sales	3.0862	-2.2464	-0.2527	4.1599
	(0.6232)	(0.6203)	(0.9787)	(0.3186)
Log (board size)	-0.0655	0.1028	0.2098	0.0445
	(0.6318)	(0.2327)	(0.1814)	(0.5654)
Manufacturing Non-High-Tech	0.0464	-0.0247	0.0667	-0.0934**
	(0.4411)	(0.5218)	(0.3125)	(0.0137)
Manufacturing High-Tech	0.0093	-0.0157	0.1134	0.0617
	(0.8960)	(0.7927)	(0.2615)	(0.2413)
Intercept	-0.2366	-0.5867**	-0.7732*	-0.2765
	(0.4864)	(0.0231)	(0.0655)	(0.2859)
Number of observations	91	120	91	125
Adjusted R^2	0.2387	0.1050	0.0618	0.2671

Appendix 6 - Continued:

Panel C: Differences between Early and Late Samples

	Change in Total Assets (t-1 to t+1)		Change in Employees (t-1 to t+1)	
	Change in ROS (t-1 to t) below median	Change in ROS (t-1 to t) above median	Change in ROS (t-1 to t) below median	Change in ROS (t-1 to t) above median
	(1)	(2)	(3)	(4)
Early (dummy)	1.0877*	1.3231*	0.4553	-0.3179
	(0.0646)	(0.0563)	(0.2138)	(0.4690)
ROS	0.0263	0.0725	0.0540***	-0.0326
	(0.3944)	(0.8285)	(0.0055)	(0.8735)
ROS*Early	0.8218***	0.2983	0.3491**	0.1439
	(0.0013)	(0.4699)	(0.0279)	(0.5685)
Change in ROS (t-1 to t)	0.0504*	0.0030	-0.0022	0.0013
	(0.0844)	(0.2988)	(0.9040)	(0.4556)
Change in ROS	-0.0531*	-0.0140	0.0016	-0.0073
(t-1 to t)*Early	(0.0704)	(0.3800)	(0.9309)	(0.4579)
Board Independence	0.2479	0.4535	-0.0509	-0.0577
	(0.3422)	(0.1905)	(0.7544)	(0.7848)
Board	-0.7843**	-0.8804**	-0.2287	0.0012
Independence*Early	(0.0264)	(0.0413)	(0.2967)	(0.9965)
Institutional ownership	-0.0055	0.0067	0.0571	-0.0198
	(0.9791)	(0.9809)	(0.6602)	(0.9075)
Institutional	0.4109	-0.0207	0.2282	0.2641
ownership*Early	(0.1894)	(0.9540)	(0.2424)	(0.2339)
Log (board size)	0.1960	0.0477	0.0980	0.0873
	(0.1343)	(0.7443)	(0.2294)	(0.3300)
Log (Board Size)*Early	-0.4034**	-0.2276	-0.2317*	0.0734
	(0.0425)	(0.2930)	(0.0615)	(0.5944)
Market value/ Book value	0.0428	0.1422*	0.0417**	0.0841***
	(0.1272)	(0.0000)	(0.0177)	(0.0000)
R&D/sales	0.4270	-0.6908**	0.0430	-0.7952***
	(0.1458)	(0.0423)	(0.8141)	(0.0002)
Capex / total assets	0.5110	0.5691	-0.3057	0.8229**
	(0.2973)	(0.3618)	(0.3174)	(0.0324)
Book leverage	-0.1374	-0.1812	-0.1565**	-0.0980
	(0.1804)	(0.1295)	(0.0149)	(0.1796)
Log (book value of assets)	0.0230	0.0111	0.0320***	-0.0041
	(0.1663)	(0.6099)	(0.0022)	(0.7616)
Employees / Sales	-3.6454	10.4246	1.1834	3.3297
	(0.5175)	(0.1329)	(0.7362)	(0.4333)
Manufacture	-0.0024	-0.0299	-0.0184	-0.0279
(no High-tech)	(0.9626)	(0.6051)	(0.5566)	(0.4295)
Manufacture (High-tech)	0.0106	0.0990	-0.0170	0.0987*
	(0.8713)	(0.2375)	(0.6775)	(0.0552)
Intercept	-0.8873**	-0.7736	-0.5793**	-0.2697
	(0.0264)	(0.1334)	(0.0202)	(0.3914)
Number of observations	211	216	211	215
Adjusted R^2	0.1669	0.1727	0.1641	0.1697