Layoffs, Stock Price, And Financial Condition of The Firm

Dr. Zahid Iqbal, Finance, Texas Southern University
Dr. Shekar Shetty, Finance, University of South Dakota

Abstract

Prior empirical studies indicate that investors’ perceptions of managerial decisions are contingent on the financial condition of the firm. We extend this argument to employee layoffs and find that financially healthy firms exhibit lower shareholders’ reactions when compared with financially weak firms. The findings lend support to the potential benefit hypothesis that the future benefits of layoffs are likely to be less for financially healthy firms than for financially weak firms.

1. Introduction

The corporate world has experienced a series of major layoffs in recent years. For example, in the period between January 1985 and June 1986, AT&T laid off 35,251 employees, General Electric 26,000 employees, and Eastman Kodak 13,700 employees (Business Week, August 4, 1986, p.45). Even more recently, on January 25, 1993, Sears, Roebuck and Company announced that it would trim its work force by 50,000 employees.

Although there is an extensive body of literature on layoffs, the stock price and financial performance of firms that lay off employees have received little attention (footnote 1). The focus of this study is, therefore, on stock returns and financial condition associated with layoffs. To some extent, our study is analogous to a recent study by Worrell, Davidson, and Sharma (1991). Our analysis, however, takes a different approach to the examination of stockholders’ wealth consequences of layoffs. Specifically, this paper analyzes whether share price reactions to layoffs are higher for financially healthy firms than for financially weak firms. Financially weak firms exhibit poor earnings performance and bond downgrading prior to and in the year of layoffs, while financially healthy firms experience high earnings and no bond downgradings.

We argue that stock price reactions to layoffs are conditioned by the firm’s financial position for two reasons. The financial distress argument follows from the empirical findings of Worrell, Davidson, and Sharma (1991) on layoffs and Blackell, Marr, and Spivey (1990) on plant closings. The potential benefit explanation is drawn from the studies by Grammatikos and Papaioannou (1986) and Baker and Edelman (1991) on exchange listing and Hsieh, Ferris, and Chen (1990) on pension plan terminations.

The paper is organized as follows. An overview of the background and development of hypotheses is presented in section 2. Section 3 describes the data and sample. The methodology is discussed in section 4. The results are presented in section 5. The final sections provide concluding remarks and implications for future research.

2. Background and Development of Hypotheses

Financial Distress Hypothesis

Worrell, Davidson, and Sharma (1991) and Blackwell, Marr, and Spivey (1990) find that stockholders’ reactions are unfavorable for firms that are financially weak. Based on the stated reasons for layoffs reported in the Wall Street Journal, Worrell, Davidson, and Sharma (1991) divide the sample into “financial difficulty” and “restructuring or consolidation” categories. Layoffs in the first category occurred because of financial problems, while layoffs in the latter category were due to non-financial reasons. Their findings indicate that share price reactions around layoff announcements are more unfavorable for financial layoffs than for nonfinancial layoffs. They claim that layoffs resulting from financial difficulties are viewed as a signal that the firm’s problems are serious and long-lasting. In their plant-closing study, Blackwell, Marr, and Spivey (1990) also classify the sample by the stated reasons for plant closings. They find that stockholders react negatively to plant closings resulting from poor performance only. Plant closings due to unprofitable operations signify that there are fewer investment opportunities available to the firm and that the prospects for future cash flows are not favorable. Plant closings because of consolidation of facilities and labor-management disputes do not provide any negative information about the firm’s cash flows and profitability.
While the empirical studies by Worrell, Davidson, and Sharma (1991) and Blackwell, Marr, and Spivey (1990) utilize publicly reported reasons, our study focuses on earnings and bond downgrading to assess the financial performance of the firm. We define financially weak firms as those that experience earnings losses and bond downgradings one year prior to and in the year of the layoff announcements. Financially healthy firms, on the other hand, have positive earnings and do not experience bond downgradings.

The financial distress hypothesis proposed in this study is based on the premise that layoffs reinforce the current financial condition of the firm. Layoffs by financially weak firms confirm that the current financial problems reflected in poor earnings and bond downgradings are real and long-lasting. Share price reactions to layoffs are expected to be negative for these firms. Layoffs by financially healthy firms, on the other hand, contradict investors' perceptions of the current financial performance of the firm. Share price reactions can be non-negative to the extent that these layoffs are viewed as nonfinancial. Shareholders' reactions to these layoffs can also be negative to the extent that layoff news indicates financial difficulties in the future. However, the severity of the current and future financial problems is more pronounced for financially weak than for financially strong firms. We, therefore, propose the following financial distress hypothesis for layoffs: *Stock price reactions to layoffs are higher for financially healthy firms than for financially weak firms.*

**Potential Benefit Hypothesis**

To some extent, all layoffs are obvious attempts to cut expenses and improve earnings. Bailey and Sherman (1988) note that downsizing is virtually synonymous with a boost in profitability. Bhagat, Shleifer, and Vishny (1990) note that the effect of such labor cost savings on a firm's value can be substantial since labor costs are by far the largest component of costs in most corporations. The stockholders' assessments of the potential benefits of layoffs could, however, depend on the financial performance of the firm. In their studies of exchange listing, Grammatikos and Papaioannou (1986) and Baker and Edelman (1991) find that listing has different informational value for stocks that have performed differently in the prelisting period. The stockholders' evaluation of the firm's future prospects is more favorable for poorly performing firms than for high earnings firms. Listing, as a signal of the firm's future prospects, is less effective if the firm is already performing well. Hsieh, Ferris, and Chen (1990) have also examined this phenomenon in their study of pension plan terminations. They find that financially distressed firms exhibit favorable stock price reactions to plan terminations, while financially healthy firms show no reactions. Plan termination by a financially troubled firm represents a significant gain to the stockholders. It may also allow the firm to avoid bankruptcy. Following the same line of reasoning, it could be argued that the potential benefits of layoffs are greatest to the stockholders of financially weak firms. By laying off employees, a financially troubled firm can avoid a deterioration of its already poor performance. The potential benefit hypothesis for layoffs is as follows: *Stock price reactions are lower for financially strong firms than for financially weak firms.*

3. Data and Sample

The empirical analysis of this study is primarily conducted with stock returns of firms that laid off employees. The initial stock price reactions to layoffs are measured by abnormal stock returns at the time the layoff news first appeared in the *Wall Street Journal* (*WSJ*). We assume that the *WSJ* announcement day or the day before is when the layoff information is made public.

The original sample of this study consists of 411 layoffs that were announced in the *WSJ* from 1986 through 1989. From the original sample, 163 layoffs are removed because the daily stock returns of the firms are not listed on the *Center for Research in Security Prices* (CRSP) tape. An additional 60 layoff announcements are removed because they fall within six months of each other. This arbitrary six-month interval is used to avoid confounding effects between any two layoffs. Firms with multiple layoff announcements occurring at least six months apart are treated as separate observations. An additional firm (Commodore International) is deleted because the *WSJ* explicitly reports that its layoff announcement was expected. The final sample consists of 187 layoffs.

A general description of the final sample of 187 layoffs is provided in Table 1. Panel A presents the distribution of the sample by year. There are 51 layoffs in 1986, 32 in 1987, 53 in 1988, and 51 in 1989. The distribution of the sample by 2-digit SIC (Standard Industrial Classification) code is given in Panel B. Although the layoffs in the sample are distributed across 32 industries, the frequencies for 8 industries with the most layoffs are reported. The remaining 24 industries are combined under the "other" category. The 8 industries whose layoffs are reported in Table 1, include approximately 56 percent of the total layoffs. The largest number of layoffs occurs in the "machinery and computer equipment" industry (26 layoffs), followed by the "electronic and electrical equipment" industry (20 layoffs).

Panel C reports the number of employees laid off as a percentage of the firm's total work force in the year of the layoff announcements. Data on the number of employees laid off are collected from the *WSJ*. The
For a sample of N firms, the cumulative average prediction error (CPE) from t=T1 to t=T2 is expressed as:

\[ CPE_{T1, T2} = \frac{1}{N} \left[ \sum_{j=1}^{N} \left( \sum_{t=T1}^{T2} PE_{jt} \right) \right]. \tag{2} \]

The test statistic for the CPE is given by:

\[ Z = \frac{1}{\sqrt{N}} \left[ \sum_{j=1}^{N} \left( \sum_{t=T1}^{T2} \frac{PE_{jt}}{s_{jt}} \right) \right], \tag{3} \]

where \( s_{jt} \) is the square root of the adjusted residual variance from the market model.

To test for the differences in CPEs between two portfolios (portfolio 1 and portfolio 2), we use the following \( Z \) statistic:

\[ Z = \frac{Z_1 \sqrt{N_2} - Z_2 \sqrt{N_1}}{\sqrt{N_1 + N_2}}, \tag{4} \]

where \( Z_1 \) and \( Z_2 \) are the \( Z \) statistics for portfolio 1 and portfolio 2, respectively, and \( N_1 \) and \( N_2 \) are the number of firms in portfolio 1 and portfolio 2, respectively.

5. Empirical Results

Earnings Performance

Table 2 reports the findings on earnings performance of layoff firms one year prior to \( y=-1 \) and in the year \( y=0 \) of the layoff announcements. Return on common equity (ROE) is used as the measure of earnings. ROE is computed as net income before extraordinary items minus preferred stock dividends divided by tangible common equity from the COMPSTAT tape. In Panel A, the average ROE for firms in the sample is 11.2 percent one year prior to the layoff announcements and 0.5 percent in the year of the announcements. The average ROE decreased by 10.7 percent (Wilcoxon \( p=0.0275 \)) from \( y=-1 \) to \( y=0 \). The findings indicate that, on average, firms that lay off employees experience a decrease in their earnings.

Additionally, we assess the earnings performance by comparing the firm’s ROE with the median ROE of all firms listed on the COMPSTAT tape that have the same 4-digit SIC code as the firm. A similar approach to measuring earnings performance is used by Brickley and Van Druten (1990) and Blackwell, Marr, and Spivey (1990). The results in Panel B indicate that the firm ROE and the industry median are not significantly different in \( y=-1 \). The firm ROE in \( y=0 \) is, however, significantly less relative to the industry median. The firm ROE is -0.1 percent while the average industry
Table 2
Return on Equity (ROE) for Firms that have Laid Off Employees, 1986-1989. y=0 is the Year of the Layoff Announcement.

<table>
<thead>
<tr>
<th>Panel A: Firm ROE (N=160)¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE, y=1</td>
</tr>
<tr>
<td>0.112</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B: Firm ROE vs. Industry Median (N=152)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
</tr>
<tr>
<td>Year</td>
</tr>
<tr>
<td>y=1</td>
</tr>
<tr>
<td>y=0</td>
</tr>
</tbody>
</table>

¹Significant at the 0.05 level.
²Significant at the 0.01 level.
³Of the 187 firms, we delete 33 firms because they have negative net worth or their ROE data are not available on the COMPUSTAT tape. We increase the sample size to 160 firms by obtaining ROE values for 6 additional firms from the Standard and Poor's Stock Reports.
²Of the 160 firms in the final ROE sample, 8 firms are deleted due to lack of industry median data.

The median is 10.4 percent. The difference (firm ROE minus industry median) of -10.5 percent is significant (Wilcoxon p=0.0002).

Overall, the findings in Table 2 indicate that layoff firms experience a deterioration of their earnings and that they are poor performers in the industry during the year of the layoff announcement.

Share Price Reactions to Layoffs

Table 3 presents the findings on stock returns associated with layoffs from t=-1 to t=0. Of the 187 firms, 38 are removed from the stock return analysis because of the confounding news around the layoff announcements. The CPE for the clean sample of 149 firms are reported in Panel A. The CPE of -0.3 percent (Z-statistic=-2.32) indicates that stockholders generally react negatively to layoff announcements. This finding is consistent with that of Worrell, Davidson, and Sharma (1991).

In order to address the issue of how the enactment of the Worker Adjustment and Retraining Notification (WARN) Act of 1988 has affected share price reactions to layoffs, we compare the CPEs between the pre- and post-WARN periods. The WARN Act requires a 60-day advance notice of plant closings and mass layoffs to employees and local governments. Worrell, Davidson, and Sharma (1991) indicate that this mandatory advance notice of layoffs may have little bearing on stockholders' reactions to layoff announcements. Since they detect negative reactions to layoffs that were preceded by leakage of information, they contend any early warning or information cannot eliminate stockholders reactions around layoff announcements. Our findings in Panel B indicate that the CPE for the pre-WARN (1986 and 1987) sample is -0.5 percent (Z-statistic=-1.57).(footnote 2). For the post-WARN (1989) sample, the CPE is -1.5 percent (Z-statistic=-3.19). The difference in the CPEs is not significant indicating that the passage of the WARN Act has little effect on how stockholders react to layoffs.

To analyze stockholders' reactions by the financial condition, we divide our sample into financially weak and financially healthy firms based on the ROE performance and bond downgrading. Bond downgrading information are obtained from the Moody's Bond Survey. Financially weak firms have negative ROEs in both y=1 and y=0 and a bond downgrading anytime during this two-year period, but prior to the layoff announcement. Financially healthy firms are those that have positive ROEs in both y=1 and y=0 and no bond downgrading in the two-year period. Of the 149 firms, only 79 meet these criteria to be classified as either a financially weak or a financially strong firm. Of the 79 firms, 17 are classified as financially weak and 62 as financially healthy. Panel C provides the share price reactions by the financial condition. While the financially weak firms exhibit a positive CPE of 1.4 percent, it is not significant (Z-statistic=1.88). The financially healthy firms, on the other hand, have a negative CPE of -0.5 percent (Z-statistic=-2.09). Also, the difference in the CPEs (financially weak minus financially healthy) of 1.0 percent is significant (Z-statistic=2.64). Our results lend support to the potential benefit hypothesis. The share price reactions are lower for financially strong firms than for financially weak firms. Our findings are, therefore, not consistent with that of Worrell, Davidson, and Sharma (1991) who find that nonfinancial layoffs outperform financial layoffs around in the announcement period. It should be pointed out, however, that the final sample for the financially weak firms used in this study is smaller than that used by Worrell, Davidson, and Sharma (1991). This may make our results less reliable.

6. Conclusions

This study examines stock returns and financial condition of firms that lay off employees. Our empirical evidence indicates that firms that lay off employees.
Table 3
Cumulative Prediction Errors (CPE) from t=1 to t=0 for the
Total Sample, by the Pre-WARN and Post-WARN periods,
and by the Financial Condition of Firms. t=0 is the Layoff
Announcement Day.

<table>
<thead>
<tr>
<th>Negative</th>
<th>CPE, Z-value</th>
<th>CPEs (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel A:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPE for Total Sample (N=149)¹</td>
<td>-0.003</td>
<td>-2.32*</td>
</tr>
<tr>
<td>Panel B:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPE by Pre-WARN and Post-WARN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-WARN, 1986-1987, (N=68)</td>
<td>-0.005</td>
<td>-1.57</td>
</tr>
<tr>
<td>Post-WARN, 1989, (N=38)</td>
<td>-0.015</td>
<td>-3.19**</td>
</tr>
<tr>
<td>Difference</td>
<td>-0.010</td>
<td>-1.62</td>
</tr>
<tr>
<td>Panel C:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPE by Financial Condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financially Weak (N=17)²</td>
<td>0.014</td>
<td>1.88</td>
</tr>
<tr>
<td>Financially Healthy (N=62)³</td>
<td>-0.005</td>
<td>-2.09*</td>
</tr>
<tr>
<td>Difference</td>
<td>0.010</td>
<td>2.64**</td>
</tr>
</tbody>
</table>

¹Significant at the 0.05 level.
²Significant at the 0.01 level.
³Of the 187 firms, 38 are removed because of confounding news in the interval, t=5 to t=0. These 38 firms have news pertaining to dividends (12 firms), earnings (14 firms), restructurings (3 firms), strike (1 firm), addition to the S & P 500 Index (1 firm), takeovers (4 firms), bankruptcy (1 firm), creditwatch (1 firm), and spinoff (1 firm).

Experience poor earnings before layoffs. This implies that major structural changes such as layoffs generally occur in response to poor earnings. Managers implement these changes to improve firm performance and cut costs. Thus layoffs can be viewed as a value-maximizing strategy.

From the investors point of view layoffs are generally unfavorable events. Our findings for the total sample indicate that the stockholders react unfavorably to layoffs. A further analysis, however, indicates that investors' perceptions of layoffs are contingent on the firm's financial position. We find that the stock returns for the financially healthy firms are negative and lower than the stock returns for the financially weak firms. This favors the potential benefit hypothesis. Lower stock returns for the financially healthy firms indicate that, from the investors' point of view, the potential benefits of layoffs are less when firms are already financially sound. Since layoffs by financially strong firms have unfavorable effects on stockholders' wealth, managers of this type of firms should seek alternatives to layoffs such as wage cuts, job sharing, and reduction in work hours.

7. Implications for Future Research

The primary implication of this study for research on stockholders' evaluation of layoffs is that firm's financial condition matters and warrants scholarly attention. Several issues for future research are raised by this study. First, are investors' perceptions of layoffs influenced by economy-wide and industry factors? The study could be refined further by examining stock price reactions by industry performance and general economic condition. Layoffs in a declining industry during a recession can be perceived differently than layoffs in a profitable industry during a rising economy. Second, does firm performance improve after layoffs? An examination of postlayoff operating performance should help determine if layoffs actually improve firm performance and explain equity revaluations around layoff announcements. Third, what are the effects of other cost-cutting measures such as wage cuts and job sharing on stockholders' wealth? Since our findings show that layoffs by financially healthy firms elicit unfavorable reactions, these firms can implement other cost-cutting measures that might not be as undesirable as layoffs.

***Footnotes***


2. This result is consistent with the findings by Worrell, Davidson, and Sharma (1991) who find an
insignificant CPE of -0.3 percent (Z-statistic=-1.22) from t=-1 to t=0. Although not reported in Table 3, we find a significant daily average prediction error (APE) of -0.4 percent (Z-statistic=-2.5) for t=-1 which is consistent with an APE of -0.5 percent (Z-statistic=-3.25) for t=-1 found by Worrell, Davidson, and Sharma (1991). The APE on day t and the associated Z-statistic are computed in the following way:

\[ APE_t = \frac{1}{N} \left( \sum_{j=1}^{N} PE_{jt} \right) \quad \text{and} \quad Z = \frac{1}{\sqrt{N}} \left( \sum_{j=1}^{N} \frac{PE_{jt}}{S_{jt}} \right) \]

***References***


