LAYOFF AND EMPLOYMENT GUARANTEE ANNOUNCEMENTS:

HOW DO SHAREHOLDERS RESPOND?

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ABSTRACT

Event study methodology was used to assess the effects of both layoff and employment guarantee announcements on shareholder returns. The *Wall Street Journal* was used to identify 368 firms that announced layoffs and 13 firms that announced employment guarantees in 1993 or 1994. The results were used to test the validity of four hypotheses: labor-cost, efficiency, industrial-relations-effect, and signaling-effect. The results show that both layoff announcements and employment guarantee announcements induced a decrease in the shareholder returns of the firms that made the announcements. Each of the four models/hypotheses received partial support.

Key Words: layoffs, downsizing, event study, employment guarantee

JEL: J6 M10, M12

INTRODUCTION

Since the mid-1980s, many American companies have implemented layoffs in an attempt to reduce the size of their labor forces ("downsizing"), while a minority of firms have made employment guarantee announcements which usually promised the continuing employment of existing employees for a fixed term. Despite the practical and theoretical importance of this topic, the financial effects of layoff and employment guarantee announcements on the firm are still unclear. Studies empirically investigating the impact of layoff announcements on shareholder returns show mixed results, and to our knowledge, no published research treats the financial effects of employment guarantee announcements.

An article in the January 24, 1994 issue of Forbes entitled "How Layoffs Pay Off" reported: "[w]ith a few exceptions, the stock prices of [Fortune 500 companies that laid off large numbers of workers between September 1993 and January 1994] have risen on the day of their layoff announcements" (Fefer, 1994). In other words, this report suggests that the market views downsizing as a positive sign about a firm and its expected future profitability. On the other hand, Worrell, Davidson and Sharma (1991) and Caves and Krepps (1993) both the opposite results -- the downsizing announcements have negative effects on firm profitability. Interestingly, the study done by Chatrath, Ramchander and Song (1995) found seemingly contradictory results: layoff announcements throughout the 1980s had negative effects on shareholder returns, while such announcements had positive effects on shareholder returns in 1991-92. Thus, previous empirical findings on the impact of downsizing announcements on profitability has been inconclusive.

Utilizing a sample of 368 firms that announced layoffs and 13 firms that announced employment guarantees in 1993 or 1994, the present study attempted to measure the effects of both layoff and employment guarantee announcements on shareholder returns. The present study is intended to expand the existing knowledge on this issue in the following ways. First, while there are conflicting views on the effects these announcement will have on shareholder returns, previous attempts have focused more on measuring the effects of announcements than developing a theoretical framework. In the present study, we developed various competing hypotheses explaining the effects of these announcements on shareholder returns, and the empirical results will be used to examine the validity of each hypothesis. Second, the present study attempts to perform a more comprehensive analysis concerning the relationship between a firm's employment decision and its profitability by measuring the effects of both layoff and employment guarantee announcements on shareholder returns.

THEORETICAL FRAMEWORK

In this paper, event study methodology will be used to examine the impact of layoff announcements and employment guarantee announcements on the stock price of (shareholder return to) a firm. The essential idea behind an event study is: If a specific event affects the future profitability of a firm, that event will induce a change in the shareholder returns to that firm when information about the event is revealed to the investing public. By comparing the firm's shareholder returns given the event to what the return is predicted to have been had the event not occurred, we can determine the impact of the event on the market's estimate of the firm's future

profitability.

In order to predict how the shareholder returns to a firm will respond to a layoff (or employment guarantee) announcement, we must predict what the announcement, and the layoff (or employment guarantee) itself, portends about the future profitability of the firm. Previous theoretical discussions on the effects of layoff and employment guarantee announcements can be classified into the following four competing hypotheses: labor-cost, efficiency, industrial-relation-effect, and signalling-effect hypotheses. These competing hypotheses strongly suggest that layoffs and employment guarantees may send both positive and negative signals about the future profitability of the firm. Therefore, whether shareholder returns rose or fell in response to a layoff announcement or an employment guarantee announcement will depend on whether the positive or negative signals dominated. In this sense, the net effects of both layoff announcements and employment guarantee announcements on firm profitability are empirical, rather than, theoretical, questions. Table 1 summarizes the theoretical discussion and the predictions of the competing models.

Labor-Cost Hypothesis

The most overt effect of a layoff on firm profitability will be in the area of labor costs. Since a layoff is a reduction in the number of firm employees, layoffs will decrease a firm's labor costs in the long-run (Fuchsberg, 1993; Neinstedt, 1989; Reich, 1993). This decrease in labor costs would increase firm profitability, ceteris paribus. While there are short-term costs associated with lay-offs (e.g., severance pay), and hiring and training costs resulting from the need

to replace periodically laid-off workers (Atchison, 1991; Hansen, 1986; Holusha, 1987), the dominant view is that long-term cost-saving effect of layoffs may be greater than the additional costs associated with severance pay, hiring and training new employees. Consequently, we would expect shareholder returns to in response to the effects of a layoff announcement on labor costs.

On the other hand, an employment guarantee announcement should be associated with increased costs to the firm by retaining existing employees (Foulkes, 1980; Greenhalgh, Lawrence, and Sutton, 1988). While layoffs enable the firm to reduce labor costs, employment guarantees prevent the firm from reducing costs. Consequently, profits (and shareholder returns) should decrease in response to an employment guarantee announcement.

According to this view, layoff announcements will increase shareholder returns, while employment guarantee announcements will decrease shareholder returns.

Efficiency Hypothesis

One of the main reasons offered to explain many of the layoffs implemented throughout the 1980s and 1990s has been the firm's desire to increase its efficiency (De Meuse, Vanderheiden, and Bergmann, 1994; Byrne 1994). Among the ways in which layoffs would increase firm efficiency are through the elimination of unneeded tiers of management (Carroll, 1994, Collins, 1991), enabling the remaining employees to be more responsive to customer needs (Hendricks, 1992), enhancing the communication process (Hymowitz, 1990) and expediting the decision-making process (Neinstedt 1989).

These efficiency gains for the organization should be associated with increased profitability.

Hence, shareholder returns should increase in response to the efficiency effects associated with a layoff announcement.

On the other hand, the efficiency effects associated with a layoff announcement should be negative. Shareholder returns of a firm that announces an employment guarantee should decrease, as investors would realize that the firm would be prevented from reaping the efficiency gains associated with a layoff.

There is some evidence supporting this view. Caves and Krepps (1993), analyzing the effects of layoff announcements occurring from 1987 to 1991, found that while layoff announcements in general decrease shareholder returns, shareholder returns did not fall in response to the layoff of white collar employees only. If we one can assume that efficiency effects are stronger in the reduction of white-collar workers than that of production workers, this can be seen as supporting the view that there are positive efficiency effects associated with the layoff announcement.

In sum, this view suggests that layoff announcements will increase shareholder returns, while employment guarantee announcements will decrease shareholder returns.

Industrial-Relation-Effect Hypothesis

The industrial-relation-effect hypothesis expects that layoff announcements will decrease shareholder returns due to negative effects of downsizing on workers and industrial relations. It is contended that the workers who remain with a company after downsizing become less loyal to the firm (Foulkes and Whitman, 1985) and less motivated following the layoff (Holusha, 1987).

Brockner, J., S. Grover, T. F. Reed, R. L. Dewitt and M. O'Malley (1987), Brockner, J., S. Grover, T.F. Reed & R. L. Dewitt (1992), and Roberts (1992) specifically find negative relationships between layoffs and the productivity of employees who survive the layoff. Also, layoffs may deteriorate industrial relations climate or union-management relations of the firm, which could affect organizational performance in a negative way.

However, the industrial relation effects of an employment guarantee announcement would be positive. Among the hypothesized advantages are: protected employees are more receptive to changes in their jobs and more amenable to performing a wider range of tasks than are unprotected workers (Foulkes, 1980); protected employees are more loyal (Foulkes and Whitman, 1985) and more motivated than unprotected ones (Holusha, 1987); firms that provide job security enjoy greater recruiting advantages than firms that do not (Foulkes and Whitman, 1985); job security increases profitability (Lawrence, 1984), productivity (Mooney, 1984) strengthens organizational performance (Rosow and Zager, 1984), and enhances prospects for the firm's survival (Lawrence, 1984).[1]

According to this view, layoff announcements will decrease shareholder returns, while employment guarantee announcements will increase shareholder returns.

Signalling-Effect Hypothesis

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[1]In addition, there have been numerous reports in recent years attesting to the competitive advantage that Japanese companies have enjoyed by providing their employees, both in Japan and the United States, with job security. The practices of these Japanese firms include those used by American firms practicing job security, e.g., training employees to perform a variety of tasks, reassigning workers to other duties in slack periods, hiring temporary workers, and so on. (Abegglen, 1958; Calonius, 1983; Chira, 1986; Morita, 1986).

The signalling effects of a layoff announcement are an ambiguous question. Whether the announcement will affect shareholder returns positively or negatively will depend on two things: the firm's perceived financial condition at the time the layoff is announced and the perceived reasons given to explain why the layoff is being implemented. Some firms, particularly those that are operating profitability at the time they announce a layoff, might announce a layoff for reasons that would send positive signals to shareholders. Firms might announce layoffs in order to streamline operations (Hymowitz, 1990); implement new, money-saving technology; become more globally competitive (Fuchsberg, 1993); etc. We would expect shareholder returns to rise in response to layoffs implemented for any of those reasons.

On the other hand, if a firm in a financial distress announces a layoff, that announcement may be viewed as a signal that a firm's financial problems are real (Worrell, Davidson and Sharma, 1991). We would expect shareholder returns to fall if shareholders believed that the layoff announcement indicated anything negative about the firm's financial condition. Worrell, Davidson and Sharma (1991) examined the effects of 194 layoff announcements between 1979 and 1987.[2] While they found that downsizing announcements had overall negative effects on shareholder returns, shareholder returns responded more negatively to layoff announcements associated with financial distress than announcements associated with other things (i.e., mergers). This would appear to confirm the signalling effects argument.

The signalling effects of employment guarantee announcements should be positive. Presumably, a firm would not announce an employment guarantee unless it were certain that its

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[2]It should be noted that in their sample, only 194 firms remained from 411 firms originally identified as having announced layoffs during the relevant years.

financial condition was stable, and would remain stable in the future as well.

This view suggest that layoff announcements will either decrease or increase shareholder returns, while employment guarantee announcements will increase shareholder returns.

Based on the preceding discussion the effects of a layoff announcement on shareholder returns is an empirical question. The layoff announcement (and the layoff itself) should improve firm profitability through the decrease in labor costs and the enhancement of firm efficiency, while decreasing firm profitability through industrial-relations effects. The signalling effects of a layoff announcement are indeterminate, depending on the reasons for the layoff.

As was the case with layoff announcements, the effects of an employment guarantee announcement on shareholder returns is an empirical question. The employment guarantee announcement (and the employment guarantee itself) should improve firm profitability through the industrial-relations effects while decreasing firm profitability through the increased labor costs and decreased efficiencies associated with the employment guarantee.

METHODOLOGY

Event Study

The objective was to assess the effect of both layoff announcements and employment guarantee announcements on the value of the firm using standard event study methodology. The event study assesses the effect of an event on firm value by comparing the equity returns of the

firm given the event with the expected returns absent the event.[3] Any difference is attributed to the effect of the event being investigated (in this case, the announcement of a layoff or an employment guarantee).

The effect of the layoff announcement on security returns is given by the equation:

(1) $AR_{it} = R_{it}$ $E(R_{it}|\text{No layoff announcement})$

where AR_{it} is the abnormal return to firm "i"in time "t" due to the layoff announcement, R_{it} is the actual return to firm "i"in time "t" and $E(R_{it}|\text{no layoff announcement})$ is the expected return to firm "i"in time "t" had there been no layoff announcement. R_{it} is readily available, but $E(R_{it}|\text{no layoff announcement})$, the expected return to firm "i" in time "t" is unavailable and must be estimated. In this study, $E(R_{it}|\text{no layoff announcement})$ is predicted by the market model, which posits that the return to any security in time "t" is a function of the stock market as a whole and the risk of investing in that security relative to the risk of investing in the market. The ex ante return to security "i"in time period "t" equals:

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[3]Equity (shareholder) returns, rather than stock prices, are used to determine the impact of an event on a firm. The return to any security in time t is equal to its price change in that period plus any dividend disbursements:

$$R_{it} = \frac{Price_{it} - Price_{it-1} + Dividends_{it}}{Price_{it-1}}$$

A change in security returns in response to an event has the same interpretation as a change in stock prices in response to an event. Data on firm returns are maintained by "CRSP" -- the Center for Research on Security Prices connected with the University of Chicago School of Business.

(2) $R_{it} = \alpha_i + ß_i(R_{mt}) + \varepsilon_{it}$

where R_{it} is the return to security "i"in time "t," R_{mt} is the CRSP value-weighted index of all securities in time "t" and α_i and $ß_i$ are parameters. [4]

According to the market model, ε_{it} is a fair game variable with mean = 0 and var (σ^2). Therefore, equation (1) (the abnormal return to firm "i"in time "t" due to the layoff announcement) is tested by examining the equation:

(3) $AR_{it} = R_{it} - [\alpha_i + ß_i(R_{mt})]$

To determine the average effect of the event in period "t" for the sample of the firms, the researcher merely averages the ARs over all the firms in the sample.

(4) $1/n\ \Sigma AR_{it}$

When the effect of the layoff announcement is being assessed over more than one day, an average AR is computed for each event day and the ARs are then summed over all the event months to estimate the average <u>total</u> effect of the layoff. This total effect is known as the

[4]The parameters in equation (2) for each firm were estimated from 150 through 50 days before the layoff announcements. In other words, treating the date the layoff announcement was reported in the *Wall Street Journal* as day 0, the parameters are measured from day -150 through day -51. We believe that 100 days were long enough to gain an accurate market model without being so long as to risk the possibility of model parameter instability. Data from clearly outside the event period were used so as to minimize the possibility of the firms' parameters having been affected by the event in question.

cumulative abnormal return ("CAR"):

(5) $CAR = \Sigma AR_{it}$

Whether the layoff announcement affected firm value is determined by testing whether the CAR computed in equation (5) is statistically different from zero. In order to make this determination, the CAR must be standardized to account for the possibility of statistical error in the determination of the abnormal returns. Peterson (1989) discusses several ways to compute $\sigma(CAR)$ and obtain the following test statistic:

(6) $$\frac{CAR}{\sigma(CAR)}$$

where CAR is the cumulative normal return and $\sigma(CAR)$ is the standard error of the cumulative normal return. This is the test statistic used to determine whether the layoff announcement effected firm value.

As stated earlier, another goal of this paper was to compare the effects of employment guarantee announcements on equity returns. Thus the same methodology just discussed was applied, with the words employment guarantee substituted for layoff in the estimating equations. A final t-test was performed to check whether the effect of employment guarantee announcements equity returns was different from the effect of layoff announcements.

Sample

The effect of layoff announcements was assessed on firms that had layoff announcements reported in the *Wall Street Journal* in 1993 and 1994. A Lexis search in the "Nexis" library and the "WSJ" file initially identified 545 stories involving layoff announcements in 1993 and 1994. This sample was reduced to eliminate announcements that would have revealed no new information to investors (i.e., stories publishing the implementation of a layoff that had been announced previously), and the methodology required the elimination of firms whose stock was not traded on one of the three stock exchanges for each of the dates necessary for the appropriate statistical analysis. The resulting sample consisted of 368 firms that announced layoffs in 1993 or 1994.

A similar search was run to identify a sample of firms that had announced some sort of employment guarantee for their employees during the same period. The one difference, however, was that the Lexis search was done using the "Nexis" library and the "ALLNWS file. The final sample consisted of 13 firms that announced employment guarantees in 1993 or 1994. It should be noted that some of the employment guarantee announcements were the result of a collective bargaining agreement including a no layoff clause that was reached between the firm and the union representing its employees while others were the result of an employer unilaterally announcing that it would not layoff any employees.

Event Periods

Abnormal Returns were calculated for each of twenty-one days, consisting of ten days prior to the layoff announcements through ten days after the announcement. It is standard practice in event study methodology to calculate Abnormal Returns for a number of days before and after the event of interest. Abnormal Returns Re examined prior to the event date because there is always a possibility that information was "leaked" (i.e., became available) to certain investors prior to the event date (the date that it was announced officially). Returns are examined after the event date to account for the fact that it might have taken several days for the full effects of the event to be impounded into firms' equity returns. Clearly, it is assumed that the Abnormal Returns will be greatest on the event date (or within one or two days) and will be closer to zero as one examines returns further away from that date. When calculating Cumulative Abnormal Returns (CAR), four different periods were chosen. Test I examined shareholder returns over the 3 day period from one day prior to the layoff announcement until one day after. Test II examined shareholder returns over the seven day period from three days prior to the layoff announcement until three days after. Test III examined shareholder returns over the eleven day period from five days prior to the layoff announcement until five days after. Test IV examined shareholder returns over the twenty-one day period from ten days prior to the layoff announcement until ten days after.

RESULTS

The effect of layoff announcements on shareholder returns are presented in Tables 2 and 4 and the effect of employment guarantee announcements on shareholder returns are presented in

Tables 3 and 5. Table 6 presents the mean difference between the CAR for layoff announcements and employment guarantee announcements over the event periods encompassed by Tests I, II, III and IV.

Dealing first with layoff announcements, the 368 companies that announced layoffs in 1993 and 1994 experienced negative shareholder returns in response to the layoff announcement. On the day the layoff was announced, shareholder returns decreased by .07% (although this decrease was not statistically significant). On the day prior to the announcement, shareholder returns decreased by .85% (p-value <.05) although on the day after the layoff was announced, returns actually increased by .15% (p-value > .10). Looking at the results over the four tests discussed in the methodology section, the CAR was greatest for Test II. Over the seven days included in that test, CAR was -.99% (p-value <. 05). These results are consistent with Worrell, Davidson and Sharma (1991) and Caves and Krepps (1993), both of whom report negative shareholder returns in response to layoff announcements (albeit those papers examined layoff announcements that occurred in earlier years). The results are slightly different from those reported by Chatrath, Ramchander and Song (1995), who report negative returns associated with layoffs that occurred in 1981-1983 and 1984-1990 but report positive CAR in response to layoffs that took place in 1991-92.

Employment guarantee announcements also appear to have induced negative shareholder returns in the firms that announced such guarantees, although these results should be interpreted with some caution. Returns were negative in eight of the ten days after the layoff was announced. On the day after the employment guarantee was announced, shareholder returns decreased by 1.0% (p-value < .01) and over the seven day period included in Test II, CAR decreased by .16%

p-value <. 05). On the day the employment guarantee was announced, however, shareholder returns actually increased by .90% p-value <. 05).

Finally, in an effort was made to determine whether employment guarantee announcements induced a greater negative response in shareholder returns than did layoff announcements, the CARs were compared between the layoff sample and the employment guarantee sample. Over the four Tests used, however, the difference in CAR between the two samples was not statistically significant at conventional levels.

CONCLUSION

In the present study, the event study methodology was used to assess the effects of both layoff announcements and employment guarantee announcements on shareholder returns. The *Wall Street Journal* was used to identify a sample of 368 firms that announced layoffs and 13 firms that announced employment guarantees in 1993 or 1994.

Both layoff announcements and employment guarantee announcements induced a decrease in the shareholder returns of the firms that made the announcements. In addition, while shareholder returns fell by more in the employment guarantee sample than in the layoff sample, the difference between the two was not statistically significant at conventional levels.

One interpretation of the above results could be that employment guarantee announcements are influenced by different effects from layoff announcements. In other words, when firms announce layoffs, the savings to the firm in the area of labor costs and efficiency are less important than the industrial-relations and signalling effects. On the other hand, when firms announce employment guarantees, the increases in labor costs and the loss of efficiency to the

firm are more influential to the shareholders than are the industrial-relations effects and signalling effects.

While each of the above four models received partial support from he empirical results, none of them obtained full support. This again stress the fact that the net effects of layoff announcements and employment guarantee announcements on firm profitability are not theoretical, but empirical questions. These results suggest that to broaden our understanding of these phenomenon, future research should focus on the specific mechanisms of the effects of these announcements as well as their net effects.

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Table 11
Four Theoretical Models:
Hypothesized Effects on Shareholder Returns

Theoretical Models	Layoff Announcement	Employment Guarantee Announcement
Labor-Cost Hypothesis	Positive	Negative
Efficiency Hypothesis	Positive	Negative
Industrial-Relation-Effect Hypothesis	Negative	Positive
Signalling-Effect Hypothesis	Either positive or negative	Positive

TABLE 2
LAYOFF ANNOUNCEMENTS

Day	AR	CAR
-10	.0002	0.0002
-9	.0014	0.0016
-8	-.0011	0.0005
-7	.0009	0.0014
-6	.0023	0.0037
-5	.0037*	0.0074
-4	-.0014	0.006
-3	-.0028	0.0032
-2	.0018	0.005
-1	-.0085**	-0.0035
0	-.0007	-0.0042
1	.0015	-0.0027
2	-.0011*	-0.0038*
3	-.0002	-0.004*
4	-.0011*	-0.0051*
5	-.0014*	-0.0065*
6	.0007	-0.0058*
7	.0022	-0.0036
8	.0021	-0.0015
9	.002	-0.0013
10	.0006	-0.0007

* p-value < .10; ** p-value < .05 (two-sided test)

TABLE 3
EMPLOYMENT GUARANTEE ANNOUNCEMENTS

Day	AR	CAR
-10	0.006**	0.006**
-9	0.0021	0.0081**
-8	0.0046*	0.0126**
-7	-0.0077***	0.0049*
-6	-0.0021	0.0028
-5	0.0092***	0.012
-4	-0.0396***	-0.0277**
-3	-0.0018	-0.0295**
-2	0.0009	-0.0286**
-1	0.0023	-0.0264*
0	0.009***	-0.0174*
1	-0.0103***	-0.0276**
2	-0.0029	-0.0305***
3	-0.0128***	-0.0433***
4	-0.0022	-0.0455***
5	-0.0039	-0.0495***
6	0.0030	-0.0464***
7	-0.0064***	-0.0528***
8	0.0037	-0.0492***
9	-0.0006	-0.0498***
10	-0.0012	-0.0510***

* p-value < .10; ** p-value < .05; *** p-value < .01 (two-sided test)

TABLE 4
LAYOFF ANNOUNCEMENTS

TEST	CAR	T-STATISTIC
TEST I	-.0077	-1.99**
TEST II	-.0099	-2.07**
TEST III	-.0102	-1.69*
TEST IV	-.0007	-.082

* p-value < .10; ** p-value < .05; *** p-value < .01 (two-sided test)

TABLE 5

EMPLOYMENT GUARANTEE ANNOUNCEMENTS

TEST	CAR	T-STATISTIC
TEST I	.0010	.296
TEST II	-.0156	-2.97**
TEST III	-.0523	-7.90***
TEST IV	-.0510	-5.580***

* p-value < .10; ** p-value < .05; *** p-value < .01 (two-sided test)

TABLE 6
DIFFERENCE IN MEANS[5]

TEST	MEAN DIFFERENCE	T-STATISTIC
TEST I	-.0067	-.644
TEST II	.0059	.021
TEST III	.0423	.0858
TEST IV	.0503	.958

*p-value<.10; **p-value<.05; ***p-value<.01 (two-sided test)

[5]In all cases, the difference reported is obtained by subtracting the CAR for layoff announcements from the CAR for employment guarantee announcements.