

DOWNSIZING, TRUTH-TELLING AND MIMICKING BEHAVIOUR

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This paper addresses an ethical question: when there is little to lose, do corporate managers misrepresent the facts? The situation that we examine where truth-telling has minimal consequences is a firm's reason for eliminating employees. The consequence for misrepresenting the true reason is damage to the firm's reputation, but this impairment may be inconsequential. In general, our evidence is consistent with many firms telling the truth. However, for some firms, we find that managers apparently tell the truth, but perhaps not the whole truth. And for other companies, the evidence suggests 'mimicking' behavior. Some firms may try to mimic other firms — the ones in better financial condition — by giving the same reason for downsizing. In this sense these firms may be misrepresenting the truth.

INTRODUCTION

Given recent events involving financial statement fraud and other ‘misrepresentations’ by the managers of some American corporations, one wonders if misrepresenting the facts is indicative of the average company.¹ When there is very little to lose by ‘fudging’ the truth, do most corporate managers respond ethically by revealing all relevant information? To help explain the tendency to misrepresent the truth we examine one information type, downsizing, to determine the degree of consistency among the reason management provides for laying off employees, the market’s interpretation of the information, and the company’s financial status at the time of the downsizing. With downsizing announcements, the penalty for inaccurately disclosing information is perhaps quite small — minimal damage to the company’s reputation. Thus, management may have an incentive to inaccurately divulge the true reason for downsizing. Thus, these announcements provide a good environment in which to evaluate the tendency of corporate managers to misrepresent the facts.

When a company announces that it is dismissing employees, the management of that company usually gives a reason for the layoff decision. Our goal is to assess whether or not a company discloses the ‘true’ reason for downsizing. In reality, we can never really know for certain if management is telling the truth. To explore this possibility, we assess the degree of consistency among the reason, the stock market’s interpretation of the impact of the downsizing, and the firm’s financial characteristics. If all three of these attributes are consistent, then the evidence is consistent with management accurately divulging information. In the area of behavioural finance, much has been written about the motives and rationale from the investor’s point of view (Benartzi & Thaler, 1995, Barberis, Shleifer, and Vishny (1998), as well as Daniel, Hirshleifer and Subrahmanyam (1998) are but a few examples). This paper is exploratory in nature, in that we examine the motives and actions of the corporate manager. At this time, no other studies have addressed the subject of truth-telling from an empirical perspective.

From a theoretical perspective, this paper relates to the general class of screening models (Rothchild and Stiglitz, 1976) and truth-telling in sender-receiver games (i.e., Crawford and Sobel, 1982; Cai and Wang, 2005; Gneezy, 2005). Uninformed investors

do not know whether agents are telling the truth or lying. To mitigate the negative outcomes associated with an agent misrepresenting the facts, investors punish agents (for example, corporate managers) that have lied in the past by reducing their expectations, increasing the reputational risk premium which results in lower firm value. However, in the case of downsizing, this mechanism does not operate effectively. This is because the time between falsifying the reason for the layoff and finding out the truth is long. A lengthy interval encourages investors to overlook the relationship between lying and reputational risk. As time passes they forget to adjust reputational risk for lying because it happened so long ago they do not remember that management lied. In addition, the longer the time period between the announcement and the revelation of the truth, the higher the probability that intervening events will occur. Then, it becomes more difficult to tell if management lied or told the truth so the damage to the firm’s reputation is small.

Some prior research (Karpoff and Lott, 1993; Karpoff, Lott, and Wehrly, 2005; Gillet, Hubner, Plunus, 2007; Perry and de Fontnouvelle, 2005) examine the magnitude of reputational risk and find it material but these studies are limited to examining market reactions to fraud or wrongdoing. Lying about the reason for downsizing is not in the same category — it is not nearly as important a piece of information as fraud or wrongdoing. Fraud and wrongdoing have legal and/or moral consequences whereas misrepresenting the reason for downsizing may fall into the category of ‘fudging’ the truth. Legally, investor monetary losses are very difficult to prove and may be relatively small.

In general, our results indicate that the financial characteristics of most firms in our sample are consistent with the reason given for downsizing and consistent with the market reaction to the announcement. Thus, we have empirical evidence that many corporate managers do not intentionally mislead the public when announcing the decision to downsize. However, we also find evidence that some managers may not reveal all the relevant information in their downsizing announcement. That is, these firms tell the truth, but perhaps not the whole truth. Furthermore, for some managers, the evidence suggests that there may be some ‘mimicking’ behavior. Some managers act as if their companies are otherwise financially healthy, in the hopes that the market will not notice that they are perhaps

facing market pressures and deteriorating financial performance.

In the following section we discuss the data and statistical methodology. In Section 3 we present an analysis of the stock market's reaction to downsizing announcements. In Section 4 we investigate the corporate financial data and examine whether or not the financial characteristics are consistent with the reason for downsizing and the market reaction to the downsizing announcement. In Section 5 we report that for firms where the market response was favorable, the financial characteristics, and reason provided by management for downsizing are incongruent. Since this group may be non-homogeneous, we discuss the possibility of mimicking behavior. Section 6 concludes our study.

DATA

To identify a layoff announcement, we searched the *Wall Street Journal* (WSJ) for companies that publicised employee layoffs for the years 1990 to 2002. Because some firms announce a layoff multiple times and because market responses are most significant for the first of a series of layoffs (Ursel and Armstrong-Stassen, 1995), we limit our announcements to the first announcement made in three years.² In addition, we require our firms to have usable financial data in the CRSP and COMPUSTAT databases and we eliminate those firms whose downsizing announcement is not 'clean'. A layoff announcement is clean if there are no other significant news announcements for three days prior to and after the WSJ announcement date. In all, 625 announcements met these criteria.

To standardise financial ratios, we subtract the industry average from each firm ratio. The industry average is all firms in the COMPUSTAT database with the same 3-digit SIC code except the firm under study. This allows for industry-adjusted ratio comparisons among firms. To determine the impact of the downsizing, we compare financial ratios in each of the three years before and for the three years after the layoff as well as averages for the two (one) years before and after the layoff, but report only the most relevant ratios in the most significant time periods. We examine 15 ratios — current ratio, current liabilities to total debt, inventory turnover, days payables outstanding, receivables turnover, times interest earned, long-term debt to total assets, sales, basic earning power, gross profit margin, net profit margin, return on assets, return on equity, invested

capital per employee, and sales per employee. We expect that downsizing might directly significantly affect some of these ratios and others we examine to determine if problems other than the reason given might affect the downsizing. Although we look at all 15 ratios for each reason, we report only the most important ratios.

ABNORMAL RETURNS

To measure the market's interpretation of the impact of downsizing, we calculate abnormal returns using the single index market model and the CRSP equally-weighted index of NYSE and AMEX companies with 200 daily returns beginning 251 days prior to the announcement and ending 50 days before the announcement day. Table 1 presents the abnormal returns for the three days surrounding the layoff announcement. For the entire 625 announcements the market response is negative and statistically significant at the 1 per cent level the day of the announcement. Specifically, shareholders lost an average of 1.03 per cent of their value on the day of the WSJ announcement. To measure the cumulative impact of the announcement on stock returns we find that for the three-day period beginning two days before the announcement and ending on the day of the WSJ announcement, share values dropped a statistically significant 1.89 per cent (Table 1, Panel B).

These negative returns are generally consistent with the results of previous studies. Blackwell, Marr and Spivey (1991) and Gombola and Tsetsekos (1992) find negative returns for firms announcing plant closings. Iqbal and Shetty (1991) find a negative reaction for a sample of firms in the pre-1990 period. Palmon, Sun, and Tang (1997) find an unfavorable reaction for a declining demand subset of firms. Other studies have provided evidence that the market response may vary with the reason given for the layoff. For example, classic theoretical studies of human capital presume that employees are laid off due to a decline in demand (i.e., Stigler, 1951; Oi, 1962; Becker, 1962). However, there are numerous other reasons underlying a particular firm's decision to downsize, or lay off employees. Previous studies have focused on only three aspects of the layoff process: closing plants and discontinuing operations, declining sales (or declining demand), and increasing efficiency. Many layoffs cannot be classified into these three categories. We analyze all clean layoff announcements and classify each according to the justification provided by management. Table 2

lists the aspects of the layoff that firms chose to spotlight.

The most common reasons for downsizing are declining or stagnant sales, acquisitions, closing plants or discontinuing product lines, and reducing costs with declining or stagnant sales and reducing costs the most prevalent by far. As sales weaken, it becomes necessary to dismiss employees to cut production.³ When one company acquires another, there is usually duplication of work, so some positions can be eliminated.⁴ Also, companies close manufacturing plants or shut down lines of business, thereby eliminating the necessity for some employees.⁵ Reducing costs is a nebulous reason for employee dismissals. The reason that all companies eliminate workers is to reduce labor costs. If revenue or sales decline, then the company responds by cutting costs, and often the most significant cost is labor related. Companies shut down lines of business to cut costs. Firms restructure to cut costs. Companies also cut labor costs to increase efficiency. In this study, when another reason is given and it is more than tangentially discussed in the news article, we classify the reason as non-cost related. Thus, in our cost-reduction sample, the only reason given for the downsizing is related to decreasing expenditures.

The category labeled 'other' includes 18 firms that focused on eliminating employees as part of a restructuring plan, 7 highlighting financial difficulty, 27 citing loss of profits, and 33 listing assorted, non-classifiable reasons where most of these resulted in a loss of profit. Not all firms choose to elaborate on the layoff. Forty-two firms reported only that they were dismissing employees with no additional information reported.⁶

Our first task is to determine the market response associated with the reasons given in the news article. Prior research indicates that when the reason given is declining sales, the market response is unfavorable. The market response to the decreasing expenditures subgroup should be positive, somewhat consistent with prior research. We anticipate the market response to the closing plants subgroup will be negative, but our sample is small and includes only those firms

that indicated they were eliminating employees due to closing plants or discontinuing operations.⁷ Thus, the market response for these firms in our sample may be insignificant. We anticipate that the market response to the group labeled other will also be negative; the vast majority of these firms blamed the layoff on some version of lower profitability.

We have no basis on which to anticipate an average market response to the acquisitions subgroup and to the group of firms that declined to give a reason for the downsizing.

The market reactions to all reasons for the downsizing announcements are presented in Tables 3, Panels A and B. For firms that downsized because they lost sales, the market responded unfavorably. They lost 1.31 per cent on the day before the WSJ announcement and 1.47 per cent on the day of the announcement for a statistically significant two day total of -2.77 per cent. These results are consistent with the results of the Palmon, Sun, and Tang (1997) study. For those firms that dismissed employees because they acquired another company, the residuals are not statistically significant. This is not surprising since the market most likely knew a-priori that some employees would lose their jobs as a result of the acquisition. Thus the downsizing announcement was not a surprise. For firms that dismissed employees when they closed facilities or terminated projects, the market reaction is statistically positive on the day before the announcement and statistically negative on the day of the announcement for a two day total that is statistically insignificant. Since prior studies examine a much larger sample of plant closings and project terminations and in more detail (Blackwell, Marr, and Spivey, 1991; Gombola and Tsetsekos, 1992; Statman and Sepe, 1989), we have nothing to add to their results so we will not pursue this reason further.

For firms that cut employees in order to reduce costs, the market reaction is positive and statistically significant on the day before the announcement. The stock of these firms gained 0.52 per cent. This is the only group of firms whose stock value increased, but the increases in value are much less than the amounts that the other firms lost. In addition, only 48 per cent of the firms had positive residuals on the day before the announcement. This suggests that this group of announcements may not be homogeneous. In a later section, we find that this group of firms is indeed non-homogeneous and

For the loss of profits sub-group, the market response is significantly negative on the day of the announcement. When the announcement gives no additional information about the downsizing, the market response is also significantly negative the day before the announcement as well as two days before, for a three-day total of 6.42 per cent, the largest loss for any category. Thus, when no additional information is given, a firm's losses are large.

The first contribution of this study is that there are reasons for downsizing other than those previously examined. When firms downsize to cut costs, markets might interpret this as good news but for all other reasons, the market responds unfavorably.

FINANCIAL CHARACTERISTICS

How do we know that managers are telling the truth about the reasons they provide for layoffs? Since companies can choose the facet of the cost-cutting measure on which to emphasise, they can focus their reasoning on the amount of the cost savings rather than on the fact that sales have declined. The only penalties associated with this less-than-truthful information, is possible damage to management's reputation and perhaps, the risk of litigation. In fact, it may be argued that the market expects a certain amount of 'fudging', rendering the cost insignificant. Furthermore, as discussed earlier, the time lapse between the announcement of the reason and the time the market discovers the whole truth may be considerable. The litigation risk is also small because of the difficulty in 'proving' in a court of law that the company misrepresented the truth. As we discover later, even when other factors contribute to the downsizing, there is some element of truth to the reason given for downsizing. Consequently, the reputation damage may be very small.

Since management may have an incentive to 'fudge' the truth, market participants must wade through the verbiage to determine if the actual state of affairs is optimistic or pessimistic. In most cases, the market must use additional information to determine if the basis given for the layoff reflects an accurate picture. In this study we assume that this supplementary information is reflected in a company's financial statements. We next determine if the information contained in the financial statements is consistent with the reason given for the layoff and correlated with the significantly positive or negative market reaction.

4.1 *Declining or Stagnant Sales*

The first reason for downsizing that we analyze is that of declining or stagnant sales.⁸ Over the five-year period beginning two years prior to the layoff, sales levels for these firms are stagnant or declining (Table 4, Panel A). We observe that while sales three years before the layoff are significantly above industry averages, three years after the downsizing they have fallen to industry average levels. Also, at the time of the downsizing announcement, sales are falling relative to industry sales. The median sales growth rates in the year of and the year after the downsizing are not significantly different from zero. These findings are consistent with declining or stagnant sales as the reason given for the layoffs.

Even though profitability measures for these companies are well above industry averages for almost all years, profits are declining (Table 4, Panel B). The difference between the year after (year of) and the year before the downsizing is statistically significantly negative, indicating lower net profit margins, return on assets, and return on equity. This is consistent with a negative market reaction to the downsizing announcement.

Next, we look for other possible problems that may have contributed to the downsizing, problems other than declining sales. Except for inventory turnover, all ratios examined indicate no significant problems. As a result of downsizing, it appears as if these firms have become more efficient in handling their inventories. However, since the inventory levels were at industry averages before the layoffs, we cannot label large inventories rather than declining sales as the most significant reason for the downsizing.

Our purpose is to assess the degree of consistency between the market reaction and the financial characteristics at the time of the downsizing. We can say that the market reaction is consistent with the information contained in the financial statements before the layoffs in that, on average, sales declined or were stagnant in the past, and the news apparently foretold of declining sales in the year of the downsizing. The market reaction is consistent with declining short-run profitability.

4.2 *No Reason Given*

The next group of firms does not give a reason for downsizing. For the most part, the news article

announcing the layoff is short and only mentions that the firm is eliminating employees. The fact that these companies did not give a reason is evidence of incomplete information disclosure.

These firms are similar to other downsizing firms (Table 5). What we notice about these firms is that they lost sales in the year before and the year of the downsizing. The median sales growth rate in the year of the layoffs is roughly half what it was the previous two years. Also, the median growth rates for the next two years are not significantly different from zero. Although these companies did not lose sales relative to their industry counterparts, they did experience declining sales and sales growth rates. This is indicative of companies in industries that are experiencing industry-wide declining sales. These companies apparently did not suffer as much as the industry but the market reacted negatively anyway.

Since the news announcement gave no information about the reason for the layoff, investors had to use other information to decide if the downsizing was good news or bad. This other information, reflected in the financial statements, led to an unfavorable market reaction. Since these companies did not present a reason for downsizing, the downsizing announcement did not provide complete information. Although these firms did not misrepresent the facts, they did not fully divulge all pertinent information either.

4.3 *Loss of Profits*

Like other companies, firms citing loss of profits as the reason for downsizing have higher net profitability than industry averages (not shown). Unlike most other firms however, these companies have industry average sales, more efficient collection of receivables, and industry average current ratios. On average, these companies appeared to be operating efficiently. However, these firms do exhibit some problems in the year of the downsizing. Sales growth was insignificant in the years prior to, during and following the announcement. Even though gross profit margins were still above the industry average after downsizing, they were significantly below pre-downsizing levels (Tables 6). More importantly, in the year of the downsizing interest payments were larger relative to their gross profit margins. Although their times interest earned was more than sufficient to cover interest payments, it was below the industry average. Since this ratio

is one that rating agencies use to determine debt ratings, companies watch this ratio closely. Since a below average times interest earned is cause for concern, a company may increase this ratio by increasing EBIT. When sales are stagnant and the average company is already efficiently managing its short-term assets, cutting labor costs is a prudent strategy. This appears to be a good choice. Even though the capitalisation per employee after the layoff was below the industry average, it improved relative to pre-downsizing levels (Table 6). Sales per employee also improved after the layoff.

This group of firms, on average, had lower profits in the year of the downsizing and the market reaction to the announcement was unfavourable. Thus, the reason for the downsizing and the market reaction are consistent. However, 'loss of profits' does not seem to tell the whole story. On average, companies in this sample also needed to improve their times interest-earned ratio.⁹ Although these companies did not misrepresent the truth they also did not reveal all relevant information.

4.4 *Tendency to Substitute*

Downsizing because of declining sales or profits is not likely to be misrepresented since the market reaction is unfavorable. However, if the market views one reason more negatively than the other, a company may chose to substitute the less negative response reason for the more negative response reason. For example, if 'declining sales' resulted in a more negative market response than 'loss of profits', then a downsizing company may have an incentive to substitute the less deleterious reason. To address this issue we determine if the negative abnormal returns are significantly different for all groups with an unfavorable market response. Our results indicated that we cannot reject the hypothesis that the cumulative abnormal return for the interval -2 to 0 is the same for all reasons with unfavorable market reactions ($F = 1.19$). There is no incentive for firms substitute one unfavorable reason for another.

The second major contribution of this study is that companies with unfavorable market reactions to downsizing apparently do not intentionally try to mislead the public. However, there is evidence that that while these firms may not lie, some do not tell the whole truth either.

REDUCING COSTS

The final sample of firms announced that 'cutting

costs' was the primary reason for downsizing. The market reaction for these firms was slightly positive. Unlike the other samples of firms, the median sales growth rates for this sample are statistically significant — on average 4 per cent. These firms apparently did not signal declining sales when they downsized.

Consistent with the other groups of firms, these firms had a lower current ratio but well above one. Also, as with most other groups, the profitability of these firms is above the median for all other firms in their respective industries. These firms exhibited lower short-term debt than average and the amount does not change appreciably over the seven year period.

The capitalisation per employee and sales per employee are significantly larger after the layoff indicating that, on average, these companies dismissed a significant number of employees. While they are generating more sales with fewer employees, gross profit margins and basic earning power were not significantly higher after the layoff, as one might expect if the company is downsizing to cut costs. Of course, these companies could have cut costs but just not enough to make a statistically significant difference. Although changes in gross profit margins were not significant, basic earning power is lower two years following the layoff announcement than in the two years before.

An interesting finding with respect to these firms is the drop in net profitability after the downsizing. In the year of the downsizing announcement, net profit margins, return on assets, and return on equity were all lower than the previous year. Furthermore, return on assets is lower up to two years following the announcement and is inconsistent with a positive market reaction.

For those companies for which the downsizing was reported to be cost reduction, the evidence is not consistent with the reason given and inconsistent with a favorable market reaction. It is possible that this group of firms is non-homogeneous. Since this is the only group where the market response is tentatively positive, perhaps some firms try to mimic those firms for which the downsizing announcement elicited a favorable market reaction by claiming that they downsized to reduce costs.

5.1 *Mimicking Behavior*

To examine this supposition, we separate the cost cutting group into those with increasing gross profit margins (GPM), and those with declining gross profit margins focusing on the average of the two and three years before and the year after the downsizing. The firms with increasing GPM were most likely cutting costs to improve efficiency. Thus, we should see a positive market reaction for this group. In addition, their financial ratios should reveal no other problems or reasons for downsizing.

The second subset of companies has decreasing GPM. In this group we may have two types of firms: (1) the firms that downsized to cut costs and improve efficiency but random events led to lower gross profits, and (2) those firms that try to mimic the cost-cutting group. If the decreasing GPM group of firms consists primarily of firms that cut costs to improve efficiency, the market reaction should be positive and the financial ratios for these firms should look very much like the ratios for the increasing gross margin group. However, this would also be the case if there is a pooling equilibrium. That is, the market cannot distinguish the 'truth-telling' firms from the 'mimicking' firms.¹⁰

But, if there is a separating equilibrium, then the firms that try to mimic should be different from the truth-telling firms. Their financial ratios should be different and the market reaction should be unfavorable. If there is a separating equilibrium, why would these firms choose to lie? In theory, these firms either look like the truth-telling firms or they do not. However, in the real world, the differences may be marginal, in that some mimicking firms may look enough like the truth-telling firms to be mistaken for truth-telling firms. Before the market reacts, a company does not know how big a difference is necessary to be mistaken for a truth-telling company. Given that the costs associated with lying are small, there may be essentially a separating equilibrium but the mimicking firms are gambling that, at the margin, they look enough like the truth-telling firms. Under this scenario, most mimicking firms do not get away with imitating the truth-telling firms. However, given that the costs associated with this behavior is so small, they do it anyway. Our next step is to empirically examine this possibility.

The market reaction to the increasing and decreasing

GPM firms is presented in Table 10. The reaction to the increasing GPM firms is positive and significant as expected. The financial ratios for these firms are presented in Table 11. These firms exhibited good financial health; sales increased significantly as do net profit margin, return on assets, and return on equity. During the three years following the downsizing announcement, net profit margin, return on assets, and return on equity all increased relative to their industry average. Thus, the positive market reaction was warranted. In addition, there are no other problems apparent in the ratios before the announced downsizing. The evidence indicates that these are efficient, very profitable companies that are downsizing to improve the bottom line even more.

On the other hand, the market reaction for the decreasing GPM group is statistically insignificant. This may imply that these firms are composed of two different groups. One group of firms was profitable and operated efficiently, the market reaction was positive, but due to random events, their gross profit margin declined. The second group of firms is not quite as efficient or profitable, and downsized for some other reason but was hoping to mimic the very profitable firms. If there is a separating equilibrium the market reaction will be negative for this subset.

We separate the declining gross profit margin firms into two subgroups according to the market reaction to the downsizing announcement. If declining GPM group of firms contains firms that downsized to improve profitability but due to chance events gross profit margins actually declined, and those firms for which this was not the case, then we may have a case of mimicking behavior. If the market was able to tell the difference between these two types of firms, then the positive market response firms should be similar but different from the negative market response firms in at least one important way.

The results of segregating the declining gross profit margin group by favourable and unfavourable market reaction are presented in Table 12. Both positive and negative excess return groups have above industry average profitability. Both groups have below average current ratios but still substantially above one.¹¹ Both groups have average short-term debt, long-term debt, inventory and receivables. Thus, both groups are similar in that they exhibit above average profitability and adequate liquidity. However, there are some differences. Perhaps the

most important difference between the two groups is the times interest earned (TIE) ratio. The positive group has average TIE while the negative group has significantly below average TIE ratio. This would imply that the negatively revalued firms were reducing labour costs because they had to. They were in a situation where they had to increase EBIT to improve their interest coverage, a ratio that is followed closely by bond rating agencies. We rechecked the WSJ news articles and no articles indicated that a company was dismissing employees to improve their interest coverage. Doing so would have drawn the market's attention to a possible decline in debt service ability. Thus, we can say that the positive and negative excess return groups are similar in many respects but different in at least one important way. Some firms may have been trying to mimic the efficiency-enhancing firms in that they gave the same reason for downsizing, hoping that perhaps the market would not notice that the interest coverage ratio was a bit deficient.¹²

As a robustness check, we ran two PROBIT regressions between abnormal return and the times interest earned ratio for the negative gross profit margin firms. The first model included all firms and the second one included only the upper and lower third of the TIE firms on the grounds that the middle third contains firms with TIE ratios that are 'too close to call' and the market may have guessed wrong in some cases. For all firms the coefficient of the interest variable is positive (0.0128) and significant at the 10 per cent level with a robust standard error. For the model eliminating the middle third of the data, the coefficient of the interest variable is positive (0.0169) and significant at the 5 per cent level. The marginal effects are significant for both models.

The third contribution of this study is that a few firms may try to imitate the financially stable firms by giving the same reason for downsizing, a reason that elicits a favorable market response. Most of these firms do not get away with mimicking the good firms, but they try it anyway because the cost of mimicking is small.

CONCLUSIONS

This paper addresses an ethical question: when there is little to lose, do corporate managers misrepresent the facts when they announce a reason for downsizing? In general, our evidence is consistent with many firms telling the truth. However, for

some firms, we find that managers may ‘fudge’ the truth. Managers tell the truth, but maybe not the whole truth. And for a few companies, the evidence suggests ‘mimicking’ behavior. Some firms may try to mimic other firms — the ones in better financial condition — by giving the same reason for downsizing. In this sense these firms may be misrepresenting the truth. Do most firms tell the truth? Many do, but a significant percentage may also fudge the truth.

This paper leaves many questions unanswered but it is the first to address the issue of truth-telling from an empirical perspective. As a pioneering study, it may elicit more questions than it answers.

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NOTES

¹ These actions have sometimes resulted in new legislation by government officials or litigation by shareholders. Consider, for example, the *Sarbanes-Oxley Act*.

² For example, Sony recently announced that they planned to layoff 3000 employees over the next three years.

³ For example, Chips & Technologies Inc., a semi-conductor manufacturer, lost sales as it tried to switch from manufacturing basic chip sets to higher-end chips and, as a result, laid off employees.

⁴ AEP Industries eliminated 360 jobs over a four-month period when it acquired part of the global packaging division of Borden, Inc.

⁵ In response to poor test results, Synergen, a biotechnology concern, stopped the development of a promising drug for the treatment of sepsis and eliminating almost half of its employees.

⁶ Our table does not include efficiency as a motive for dismissing employees. Palmon, Sun, and Tang (1997) list efficiency as one of the reasons given for the layoff. Very few firms (one) actually say that they are laying off employees to improve efficiency. Instead, listing efficiency as the motive for a layoff requires the researcher to make a judgment call and we chose not to do this at this point. Our category that comes closest to efficiency is cutting costs. While not all firms reduce costs to improve efficiency, we do not have to make a judgment call as to the efficiency motive.

⁷ Thus, unlike previous studies, our sample does not include all observations of discontinuing operations, only those where layoffs are mentioned and the firm previously disclosed that they were closing plants (because we have a clean sample).

⁸ Declining sales may refer only to a segment of the company. Since very few companies are pure plays, company-wide sales may not decrease. If the segment is a significant part of the company and we assume that it is because the news made the WSJ, the declining segment sales should be reflected in company-wide sales in the manner of slower growth rates or declining sales relative to industry averages.

⁹ Again, for this group, downsizing seemed to contribute to increased profitability and efficiency after the downsizing.

¹⁰ Discussions of pooling equilibria can be found in, for example, Rothchild and Stiglitz (1976), Wilson, (1977), and Ligon and Thistle (1996a and 1996b).

¹¹ The positive excess return group has a median current ratio of 1.44 while the negative group's current ratio is 1.15.

¹² One question that occurred to us is if TIE will be lower in the year of the downsizing, how does the market know this before the financial statements are printed? Investors will have a good idea of the amount of the interest payments at the time of the downsizing. They will know if a company floated a new bond issue so that its interest payments will be larger. They can also discern the size of the interest payments from the notes to prior years' financial statements. Investors will also have forecasted (or had access to forecasts of) EBIT (or NI and then EBIT).

Table 1: Abnormal returns around layoff announcement dates

This table shows the abnormal return for three days prior to through five days following the announced layoff for the 625 clean announcements in this study. A clean announcement is defined as an announcement with no other significant announcements in the WSJ in the three days prior to the layoff announcement and the three days following the announcement. The Wall Street Journal date of publication is classified as day 0. The abnormal returns for each firm were calculated using the single index market model with the CRSP equally-weighted index including dividends and 200 daily returns beginning 250 days prior to the announcement and ending 51 days before day 0.

Panel A: Abnormal Returns

<u>Day</u>	<u>Abnormal Return</u>	<u>Percent Negative</u>
-3	0.22	52.9
-2	-0.34	53.9
-1	-0.46	56.9**
0	-1.03***	55.3*
1	-0.06*	52.7
2	0.40*	49.7
3	0.27*	49.0
Total Announcements		625

The symbols *, **, and *** denote statistical significance at the 5%, 1%, and 0.1% levels, respectively.

Panel B: Mean Abnormal Returns for Selected Time Intervals

<u>Time Interval</u>	<u>Mean CAR</u>	<u>Percent Negative</u>
(-1, 0)	-1.49***	55.9%*
(-2,0)	-1.83***	56.9**
(-2,1)	-1.89***	57.8**
(-3, 0)	-1.61***	54.5

The symbols *, **, and *** denote statistical significance at the 5%, 1%, and 0.1% levels, respectively.

Table 2: Reasons for the layoffs

This table details the reasons given by the company or the press for the layoff for the 625 layoff announcements in this study. The reasons were catalogued from the WSJ article announcing the layoff. In a few instances, multiple reasons are given for the layoff. In this case, we selected the reason that the press chose to highlight.

<u>Reason</u>	<u>Number</u>	<u>Percent</u>
Reduction in costs	192	30.7
Decline in demand	191	30.5
Acquisition	37	5.9
Close plants, shut down lines of business, consolidation	78	12.6
Other	85	13.6
No reason given	42	6.7
Total	625	

Table 3: Abnormal returns around layoff announcement dates by reason for downsizing

This table details the reasons given by the company or the press for the layoff for the 625 layoff announcements in this study. The reasons were catalogued from the WSJ article announcing the layoff. In a few instances, multiple reasons are given for the layoff. In this case, we selected the reason that the press chose to highlight.

This table shows the abnormal return for three days prior to through three days following the announced layoff for the 625 clean announcements in this study. A clean announcement is defined as an announcement with no other significant announcements in the WSJ in the three days prior to the layoff announcement and the three days following the announcement. The Wall Street Journal date of publication is classified as day 0. The abnormal returns for each firm were calculated using the single index market model with the CRSP equally-weighted index including dividends and 200 daily returns beginning 250 days prior to the announcement and ending 51 days before day 0. The reason is the one listed in the WSJ article announcing the downsizing.

Panel A: Abnormal Return

<u>Day</u>	<u>Cost Cutting</u>	<u>Demand Decline</u>	<u>Acquisitions</u>	<u>Plant Closing</u>	<u>Other</u>	<u>No Reason</u>
-3	-0.04	-0.04	0.26	0.33	2.10*	-1.45**
-2	-0.23	-0.06	-0.13	-0.13	-0.12	-3.28***
-1	0.52*	-1.31***	0.44	-0.22	-0.63	-1.91**
0	-0.74	-1.47***	0.00	0.31*	-2.26**	-1.23
+1	-0.05	-0.15	0.29	-0.34*	0.19	-0.13
+2	-0.47	0.18	0.44	0.53	2.35**	1.26**
+3	-0.12	0.58	-0.59	0.74**	0.88*	-0.66

The symbols *, **, and *** denote statistical significance at the 5%, 1%, and 0.1% levels, respectively.

Panel B: Mean Abnormal Return

<u>Days</u>	<u>Cost Cutting</u>	<u>Declining Sales</u>	<u>Acquisitions</u>	<u>Closing Plants</u>	<u>Other</u>	<u>No Reason</u>
(-1,0)	-0.22	-2.77***	0.45	0.09	-2.89*	-3.14*
(-2,0)	-0.45	-2.84***	0.32	-0.04	-3.01	-6.42***
(-3,0)	-0.48	-2.88***	0.58	0.29	-0.90	-7.87***

The symbols *, **, and *** denote statistical significance at the 5%, 1%, and 0.1% levels, respectively.

Table 4: Ratios for firms with declining sales**Panel A: Sales and Median Growth Rates**

This table lists the median dollar sales figures (in 000's) and median growth rates for the firms that give declining sales as the reason for the layoff.

Year	Median \$ Sales	Growth Rate (%)
-3	1477	
-2	1648	7.09%***
-1	1702	4.60***
0	1766	0.07
1	1718	0.92
2	1931	3.17***
3	1711	1.67

Table 5: Select ratios for firms giving no reason for downsizing

These tables list select ratios for those firms that did not indicate the reason for dismissing employees. Year 0 is the year of the downsizing. The numbers represent deviations from the industry average.

Panel A. Ratios

<u>Ratio</u>	<u>Year -3</u>	<u>Year -2</u>	<u>Year -1</u>	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
Sales	1843	1590	2198	1815	1821	2085	2096
<i>Liquidity</i>							
CLTD	-0.0895	-0.0742	-0.0635	-0.0361	-0.0170	-0.0283	-0.0371
CUR	-1.0213***	-1.2763***	-0.9118**	-0.7796**	-1.2542***	-1.7139**	-1.2069***
<i>Profitability</i>							
BEP	0.1157***	0.1321***	0.0967***	0.0951***	0.1405***	0.1548***	0.1959***
GPM	0.2132***	0.2174***	0.2150***	0.1912***	0.2749***	0.6202***	0.9257***
NPM	0.2358***	0.2964***	0.2018	0.3024***	0.2920**	0.4832***	1.2240***
ROA	0.1582***	0.1468***	0.0909**	0.1090***	0.1140**	0.1086***	0.1966**
ROE	0.0270	0.1757***	0.1711	0.0534	0.1862	0.1514**	0.0004

Panel B: Differences in Sales

<u>Ratio</u>	<u>2 Yrs.After Minus 2 Yrs. Before</u>	<u>Year After Minus Year Before</u>	<u>Year 0 Minus Year Before</u>
Sales	374**	300	92**

The symbols *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

CLTD = Current liabilities/Total debt. CUR = Current ratio = Current assets/Current liabilities BEP = Basic earning power = EBIT/Total Assets. GPM = Gross profit margin = EBIT/Sales. NPM = Net profit margin = NI/Sales. ROA = Return on assets = NI/Total Assets. ROE = Return on equity = NI/Equity

Table 6: Differences in Select Ratios for Firms with Loss of Profits as the Reason for Downsizing

This table lists select ratios for those firms that indicated that they dismissed employees because the recently closed facilities or discontinued projects. The numbers represent differences in the median ratio after the downsizing minus before.

<u>Ratio</u>	<u>2 Yrs.After Minus 2 Yrs. Before</u>	<u>Year After Minus Year Before</u>	<u>Year 0 Minus Year Before</u>
Sales	183*	90	25
<u>Profitability</u>			
BEP	0.0054	0.0096	-0.0104*
GPM	0.0027	0.0031	-0.0118**
NPM	-0.0139	-0.0178	-0.0229***
ROA	-0.0271*	-0.0234	-0.0276***
ROE	-0.0454*	-0.0314*	-0.0836
<u>Operational Efficiency</u>			
CAPEMP	10.7872***	3.2861	2.2129
SALEFF	21.0430***	15.2337***	4.0366
<u>Leverage</u>			
DCAP	0.0306	0.0238	0.0138
INT	-0.5554	-0.1822	-0.5367**

The symbols *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

BEP = Basic earning power = EBIT/Total Assets. GPM = Gross profit margin = EBIT/Sales. NPM = Net profit margin = NI/Sales. ROA = Return on assets = NI/Total Assets. ROE = Return on equity = NI/Equity. CAPEMP = Invested capital per employee. SALEFF = Sales per employee, DCAP = Long term debt/Total assets. INT = EBIT/Interest.

Table 7: Select Ratios for Firms with Cost Reduction as the Reason for Downsizing**Panel A: Ratios**

This table lists select ratios for those firms that indicated that they dismissed employees primarily to reduce labor costs. Year -3 is three years before the layoff, year 2 is two years after the announcement, and year 0 is the year of the downsizing. The numbers represent deviations from the industry average.

<u>Ratio</u>	<u>Year -3</u>	<u>Year -2</u>	<u>Year -1</u>	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
Sales	1868***	2168***	2013***	2358***	2588***	2457***	2492***
<i>Liquidity</i>							
CLTD	-0.0813***	-0.0822***	-0.0839***	-0.0987***	-0.0704***	-0.1098***	-0.0595***
CUR	-0.4366***	-0.3889***	-0.4198***	-0.3727***	-0.4405***	-0.6734***	-0.4028***
<i>Profitability</i>							
BEP	0.1561***	0.1106***	0.1048***	0.1054***	0.1221***	0.1258***	0.1468***
GPM	0.2161***	0.2861***	0.3063***	0.2604***	0.1668***	0.3374***	0.5760***
NPM	0.1675***	0.2457***	0.2503***	0.1749***	0.13510***	0.2462***	0.5192***
ROA	0.0701***	0.1030***	0.1076***	0.0791***	0.1062***	0.0746***	0.1033***
ROE	0.0069	0.0522***	0.0228	0.0967	0.0263**	0.0299*	0.0477*
<i>Operational Efficiency</i>							
CAPEMP	-21.8843	-12.4930	-2.8010	-6.5243	-29.7790**	-22.7881**	-7.6662
SALEFF	-1.3826	8.7337	4.1017	16.7812**	14.8336	10.9497	16.9650

The symbols *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

BEP = Basic earning power = EBIT/Total Assets. GPM = Gross profit margin = EBIT/Sales. NPM = Net profit margin = NI/Sales. ROA = Return on assets = NI/Total Assets. ROE = Return on equity = NI/Equity. CAPEMP = Invested capital per employee. SALEFF = Sales per employee.

Panel B: Differences in ratios

This table lists select ratios for those firms that indicated that they dismissed employees to cut costs. The numbers represent differences in the median ratio after the downsizing minus before.

<u>Ratio</u>	<u>2 Yrs.After Minus 2 Yrs. Before</u>	<u>Year After Minus Year Before</u>	<u>Year 0 Minus Year Before</u>
<i>Liquidity</i>			
CLTD	-0.0112	0.0135	-0.0055
CUR	-0.0437	-0.0515	0.0366
<i>Profitability</i>			
BEP	-0.013***	0.0009	-0.0058
GPM	-0.0013	0.0036	-0.0018
NPM	-0.0035	0.0017	-0.0147**
ROA	-0.0113**	-0.0009	-0.0108**
ROE	0.1187***	0.0062	-0.0254*
<i>Operational Efficiency</i>			
CAPEMP	24.0379***	11.2039***	8.5331***
SALEFF	31.7403***	17.7006***	13.2453***

The symbols *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

BEP = Basic earning power = EBIT/Total Assets. GPM = Gross profit margin = EBIT/Sales. NPM = Net profit margin = NI/Sales. ROA = Return on assets = NI/Total Assets. ROE = Return on equity = NI/Equity. CAPEMP = Invested capital per employee. SALEFF = Sales per employee, DCAP = Long term debt/Total assets. INT = EBIT/Interest.

Table 8: Abnormal returns around layoff announcement dates for cost reduction firms with increasing and decreasing gross profit margin

This table shows the abnormal return for five days prior to through three days following the announced layoff for firms with increasing and decreasing gross profit margin. The increasing gross profit margin group is the firms that announced a downsizing to cut costs and had gross profit margin that did not fall from one year before to one year after the layoff. The decreasing gross profit margin group had negative gross profit margin growth from years -1 to 1. A clean announcement is defined as an announcement with no other significant announcements in the WSJ in the three days prior to the layoff announcement and the three days following the announcement. The Wall Street Journal date of publication is classified as day 0. The abnormal returns for each firm were calculated using the single index market model with the CRSP equally-weighted index including dividends and 200 daily returns beginning 250 days prior to the announcement and ending 51 days before day 0. The reason is the one listed in the WSJ article announcing the downsizing.

<u>Day</u>	<u>GPM > 0</u>	<u>GPM < 0</u>
-3	0.04	0.50
-2	-0.78	0.72
-1	0.68**	0.57
0	0.22	-0.06
+1	0.04	-0.14
+2	-0.13	0.47
+3	0.11	0.62
N	43	30

The symbols *, **, and *** denote statistical significance at the 5%, 1%, and 0.1% levels, respectively.

Table 9: Select ratios for firms for costs-cutting firms with positive gross profit margin**Panel A: Ratios**

This table lists select ratios for those firms that indicated that they dismissed employees primarily to reduce labor costs and these firms' gross profit margin declined from years -1 to 1. Year -3 is three years before the layoff, year 2 is two years after the announcement, and year 0 is the year of the downsizing. The numbers represent deviations from the industry average.

<u>Ratio</u>	<u>Year -3</u>	<u>Year -2</u>	<u>Year -1</u>	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
Sales	2801***	2917***	3381***	3257***	3452***	4503***	3803***
<i>Leverage</i>							
DCAP	0.0203**	0.0073	-0.0041	0.0140	0.0084	0.0245	0.0167
INT	-0.4396	-2.1718**	-0.8348	-0.6731	0.8890	5.8400	0.3597
<i>Profitability</i>							
BEP	0.1636***	0.2008***	0.1595***	0.1692***	0.1656***	0.1967***	0.2480***
GPM	0.2603***	0.3230***	0.7131***	0.4309***	0.3259***	0.8506***	0.7320***
NPM	0.2257***	0.3488***	0.3466***	0.5925***	0.1648***	0.7568***	0.9378***
ROA	0.0956***	0.1229***	0.1408***	0.1702***	0.1542***	0.1113***	0.2083***
ROE	-0.0030	0.0279	0.0157	0.1964**	0.0268**	0.0346**	0.0900**

The symbols *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

BEP = Basic earning power = EBIT/Total Assets. GPM = Gross profit margin = EBIT/Sales. NPM = Net profit margin = NI/Sales. ROA = Return on assets = NI/Total Assets. ROE = Return on equity = NI/Equity, DCAP = Long term debt/Total assets. INT = EBIT/Interest.

Table 9. Select Ratios for Firms for Costs Cutting Firms with Positive Gross Profit Margin (continued)**Panel B: Differences in ratios**

This table lists select ratios for those firms that indicated that they dismissed employees to cut costs and these firms' gross profit margin declined from years -1 to 1. The numbers represent differences in the median ratio after the downsizing minus before.

<u>Ratio</u>	<u>2 Yrs.After Minus 2 Yrs. Before</u>	<u>Year After Minus Year Before</u>	<u>Year 0 Minus Year Before</u>
Sales	514**	68**	155***
<i>Profitability</i>			
BEP	0.0019	0.0124***	0.0068**
GPM	0.0143***	0.0250***	0.0090**
NPM	0.0192	0.0183***	-0.0001
ROA	-0.0020	0.0106*	-0.0001
ROE	-0.0034	0.0328***	0.0005
<i>Leverage</i>			
DCAP	-0.0098	-0.0177	0.0015
INT	0.9720***	1.3723***	0.2834

The symbols *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

CLTD = Current liabilities/Total debt. CUR = Current ratio = Current assets/Current liabilities. DI = Days in Inventory = Inventory/Cost of goods sold per day. DPO = E payables outstanding = Accounts payable/Sales per day. DSO = Days sales outstanding = Receivables/Sales per day. DCAP = Long term debt/Total assets. INT = EBIT/

Table 10. Ratios for firms for costs-cutting firms with negative gross profit margin segregated by CAR

This table lists select ratios for those firms that indicated that they dismissed employees primarily to reduce labor costs and these firms' gross profit margin declined from years -1 to 1. The cumulative average residuals is measured in the interval (-2, 0). The numbers represent deviations from the industry average.

<u>Ratio</u>	<u>Positive CAR</u>				<u>Negative CAR</u>			
	<u>3-year Average</u>	<u>2-year Average</u>	<u>Year -1</u>	<u>Year 0</u>	<u>3-year Average</u>	<u>2-year Average</u>	<u>Year -1</u>	<u>Year 0</u>
Sales	602	560	684	833*	605	591	658	796
<u>Liquidity</u>								
CLTD	-0.0887	-0.0972	-0.0386	-0.0592	-0.0161	-0.0237	-0.0538	-0.0499
CUR	-0.6536**	-0.7288**	-0.6165*	-0.6962**	-0.2979*	-0.243*	-0.3554	-0.3288**
<u>Asset Efficiency</u>								
DI	-7.3328	-5.8786	-38.2193	-21.9756	-5.3962	-2.1655	-8.3516	-7.5725
DPO	-11.3539	-14.5770*	-13.4953	-12.4981**	-3.8058	-2.6678	-2.1237	-10.8513
DSO	1.6390	6.9913	-7.2945	-1.6540	6.3649	2.4155	18.8179	13.9830
<u>Leverage</u>								
DCAP	-0.0052	-0.0006	-0.0141	0.0031	-0.0290	0.0273	-0.0205	0.0325
INT	-1.4411	-1.7163	-0.7638	-5.0851	-2.8918*	-3.1908*	-3.0867	-3.3296**

The symbols *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

CLTD = Current liabilities/Total debt. CUR = Current ratio = Current assets/Current liabilities. DI = Days in Inventory = Inventory/Cost of goods sold per day. DPO = Days payables outstanding = Accounts payable/Sales per day. DSO = Days sales outstanding = Receivables/Sales per day. DCAP = Long term debt/Total assets. INT = EBIT/Interest.

Table 10. Select Ratios for Firms for Costs Cutting Firms with Negative Gross Profit Margin Segregated by CAR (continued)

<u>Ratio</u>	<u>Positive CAR</u>				<u>Negative CAR</u>			
	<u>3-year Average</u>	<u>2-year Average</u>	<u>Year -1</u>	<u>Year 0</u>	<u>3-year Average</u>	<u>2-year Average</u>	<u>Year -1</u>	<u>Year 0</u>
<u>Profitability</u>								
BEP	0.1380***	0.1558***	0.0703***	0.0420	0.0623***	.0661***	.0596**	0.0326
GPM	0.2648***	0.2398***	0.2944***	0.0990**	0.11535***	.1226***	0.0939***	0.0403*
NPM	0.1553*	0.0899	0.2853***	0.1147	0.0879*	0.0749	0.0741***	0.0384
ROA	0.0591	0.0492*	0.0898**	0.0276	0.0776*	0.0569	0.0955***	0.0342
ROE	0.1292*	0.0609	0.1408	0.0129	-0.0437	-0.0332	0.0569	-0.1844
<u>Operational Efficiency</u>								
CAPEMP	-20.4331*	-22.803	-15.2063	-19.6288	4.7173	3.7495	6.6528	-16.4187
SALEFF	3.9237	2.6244	4.6651	18.4177	-52.1992	-35.999	-44.0230	-26.2343

The symbols *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

BEP = Basic earning power = EBIT/Total Assets. GPM = Gross profit margin = EBIT/Sales. NPM = Net profit margin = NI/Sales. ROA = Return on assets = NI/Total Assets. ROE = Return on equity = NI/Equity. CAPEMP = Invested capital per employee. SALEFF = Sales per employee.