

An Analysis of the Operating Performance and  
Financial Statement Disclosures Associated with Corporate Restructurings

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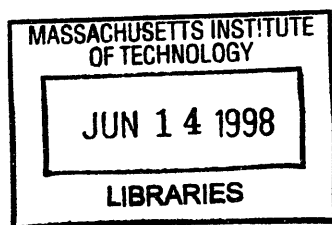
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## ABSTRACT

My thesis examines the operating performance and financial statement disclosures of firms that restructure their business strategy, structure or operations and, as a result, record restructuring charges in their financial statements.

Chapter One examines three questions related to corporate restructuring and firm performance. First, do firms that take restructuring charges experience improvements in operating performance relative to performance absent a restructuring? Second, how many years after the restructuring does it take for any improvements to appear? Third, does the stock market reaction to the restructuring announcement reflect any subsequent performance changes? The results suggest that the operating performance of restructuring firms is lower than the expectation of performance absent a restructuring in the first three years after a restructuring and generally is no different from that expectation of performance in the fourth and fifth years after restructuring. Subsequent performance changes in the sample firms are not correlated with the stock price reaction to the restructuring announcement, but are correlated with stock returns in the year following the announcement. The effects of the accounting for restructurings and of survivor bias are discussed.

Chapter Two examines two questions related to the financial statement disclosure of restructurings using the performance measures developed in Chapter One. First, are disclosures made about the actions taken in restructuring and the motivation for the restructuring associated with subsequent restructuring-related performance changes? Second, do firms that provide more detailed disclosure about the actions taken in the restructuring have higher stock returns? I find that, in general, disclosures made about the restructurings are not correlated with subsequent performance. However, there is some evidence that the motivation for the restructuring can explain some cross-sectional variation in subsequent performance. In addition, firms that provide more detailed disclosures do have higher market-adjusted stock returns but do not have higher subsequent operating performance. The effects of self-selection are discussed.

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## **Chapter One**

### **Does Operating Performance Improve After Corporate Restructurings?**

## 1. Introduction

Restructuring charges have become more commonplace in recent years, capturing the attention of regulators, market participants, and academics. Companies such as AT&T, Eastman Kodak, and Citibank have recorded billions of dollars in restructuring charges on their financial statements. Between 1991 and 1995, 26 of the 30 companies comprising the Dow Jones Industrial Average took restructuring charges.<sup>1</sup> A recent Goldman Sachs research report on the quality of earnings states that the write-offs taken by the S&P 500 amounted to approximately 40% of reported earnings in 1991.<sup>2</sup>

The increased frequency and magnitude of restructuring charges have caused analysts to express concerns about the effect of such charges on reported operating performance. An analyst with Oppenheimer & Company said of Pepsi, “this company has massive write-offs more often than one quarter every year, and we wonder what it all means ... It’s hard to really understand these numbers.”<sup>3</sup>

The concerns surrounding restructurings appear to stem from the problems financial statement users have in interpreting firm performance when there are restructuring charges. The difficulties arise because future operating performance reflects both the operating and the accounting decisions made by managers at the restructuring. The operating decisions of when and how to restructure are complex and this complexity affects when and to what extent the benefits of restructuring appear in operating performance. When PhyCor, a physician management company announced its restructuring, an analyst commented that the charges themselves were not the issue, but rather the uncertainty in the business environment, stating “... you never know for a couple of quarters -- you want to see

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<sup>1</sup> Reed Abelson, “Truth or Consequences? Hardly: Excuses Aplenty When Companies Tinker With Their Profit Reports”, *The New York Times*, June 23, 1996, Sec. 3, p. 1.

<sup>2</sup> Gabrielle Napolitano and Abby Joseph Cohen, “The Quality of Reported Earnings Has Improved, But ...”, Goldman Sachs U.S. Research, January 2, 1997, p. 8.

<sup>3</sup> Glenn Collins, “Pepsi Results are Bolstered by Upswing in Restaurants”, *The New York Times*, February 7, 1996, p. D2.

momentum re-established.”<sup>4</sup> When Kodak announced its \$1 billion restructuring charge, Standard & Poor’s did not immediately downgrade the debt, but instead placed it on CreditWatch. “CreditWatch placement reflects ... Standard & Poor’s concerns regarding the extent to which management’s restructuring actions will restore its profitability and market position.”<sup>5</sup>

Managers also make accounting decisions related to restructurings, including estimates of asset write-downs and accruals for future restructuring costs. The accuracy of these accounting decisions affects whether performance measures in future periods reflect operations in those periods. Thus, the combined complexities of these operating and accounting decisions create uncertainty as to whether, when and to what extent restructurings will lead to improved operating performance.

This paper examines three questions related to the evaluation of firm performance when there are restructuring charges. First, do firms that take restructuring charges experience improvements in operating performance relative to performance absent a restructuring? Second, when are any improvements reflected in operating performance? Third, is the stock market reaction to the restructuring announcement related to any subsequent performance improvements?

Earlier studies have examined the issue of firm performance after restructurings. These studies have examined the stock price effects of restructuring announcements and the operating performance of firms after restructurings. The results are mixed. Stock price studies find both positive and negative responses at the announcement, but the reaction is generally small. Long-term stock price performance after restructurings [Bartov et al. (1997), Rees et al. (1996)] is generally negative using either market- or risk-adjusted

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<sup>4</sup> Anita Sharpe, “PhyCor to Take More Than \$100 Million in Charges, Sending Stock Down 15%, *The Wall Street Journal*, January 13, 1998, p. A3.

<sup>5</sup> “Eastman Kodak Put on S&PWatch Negative Re Increased Business Risk”, PR Newswire, November 12, 1997.

returns, suggesting that investors continue to revise expectations of future performance. Studies that examine operating performance following restructurings [Blackwell et al. (1990), Brickley and Van Druenen (1990)] conclude that the level of post-restructuring performance is the same as or lower than that of the market or industry. However, there is weak evidence of improvements in industry-adjusted firm performance following restructurings.

My study contributes to the existing literature in two ways. First, in examining the question of whether restructurings lead to improvements in operating performance, I use a different research design that seeks to isolate the improvements due to the restructurings. This design controls for mean reversion in earnings, uses performance measures that exclude the accounting impact of the restructuring charge, and allows for the possibility that performance improvements may not be reflected in operating performance until five years after the restructuring. Second, I provide additional evidence on whether investors have difficulty assessing future operating performance changes at the time the restructuring is announced by directly relating post-announcement stock returns to future operating performance.

Using 1,050 restructuring announcements by 795 firms in fiscal years ending 1987 to 1992, I find that restructuring firms experience improved return on assets (ROA) relative to non-restructuring firms that have similar pre-restructuring performance. However, these improvements do not appear until four years after the restructuring. Since ROA can be factored into two components: profitability (return on sales) and turnover (sales/average assets), tests for operating performance improvements using return on sales (ROS) provide further insight into the source of improvements. When ROS is used as the performance measure, the operating performance of restructuring firms is generally no different from that of non-restructuring firms in Years +3 to +5. These results, which are robust to tests for survivor bias, suggest that asset turnover, either from improved productivity or from asset

write-downs, is an important component of operating improvements. In general, they suggest that restructurings may lead to improved performance relative to performance absent a restructuring, but that these improvements may not appear until four years after the restructuring is initiated.

Tests also suggest that subsequent performance improvements in the sample firms are not correlated with the stock price reaction to the restructuring announcement. However, stock returns in the year following the restructurings (i.e. Year +1) are positively correlated with subsequent operating performance in Years +3 to +5. These results are consistent with investors finding it difficult to evaluate the implications of the restructuring at the initial announcement and therefore continuing to revise their expectations of future performance in the year after the announcement.

This paper is organized into seven sections. Section 2 describes background information about restructurings. I provide examples of companies' restructuring decisions to highlight patterns of operating performance in the years surrounding the restructuring and to motivate the importance of addressing these patterns in the research design. Section 3 reviews the prior literature. In Section 4, I discuss the research design used in this study. Sections 5 present the analyses of tests of operating performance improvements. Section 6 presents the analyses tests of stock price reactions and subsequent performance improvements. In Section 7, I summarize the findings of this paper and describe my future research related to disclosures of restructurings and subsequent performance.

## **2. Background Information on Restructurings**

The FASB describes restructurings as a “fundamental change in ... business strategy, operations, or structure in hopes of achieving improved results of operations in future



periods, often as a result of reduced costs.”<sup>6</sup> When a restructuring plan is conceived and approved, a charge to earnings should be taken that represents the costs to implement the plan as well as any charges to write down assets to the appropriate carrying value, given the expected future cash flows to be generated by the asset.

Restructurings involve complex business issues that may affect operating performance in the years surrounding the restructurings. Managers must determine when a restructuring is needed and what actions should be taken. In some cases, the business decisions and their timing may be relatively clear for managers because the condition causing the possible restructuring decision is known to be permanent. With a merger, the consolidation of two businesses may result in operating redundancies. In this case, the decision to restructure is clear soon after (or possibly even before) the acquisition and the actions to be taken are straightforward -- eliminate duplication and excess capacity. In other cases, the decision to restructure may not be as straightforward, particularly when caused by competitive or macroeconomic factors that are not immediately known to be permanent or temporary. Because these are complex decisions with potentially serious consequences, managers may take time to evaluate the decision to restructure and the actions to be taken.<sup>7</sup> Once the decision to restructure is made, performance is unlikely to improve immediately, reflecting the difficulty of implementing restructurings.

Researchers interested in measuring changes in operating performance are affected by the complexities of the restructuring decision. The effect of changes in pre-restructuring performance should be considered in evaluating post-restructuring performance. In addition, the post-restructuring measurement window should be sufficiently long to capture

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<sup>6</sup> Financial Accounting Standards Board Emerging Issues Task Force Issue No. 94-3 “Accounting for Restructuring Charges”, minutes of the March 24, 1994 meeting.

<sup>7</sup> Wolff (1998) provides evidence that, because of the uncertainty of the signal, managers wait to initiate downsizing actions. Therefore, operating performance in the periods leading to the downsizing may deteriorate as managers assess whether the condition causing the decision is temporary or permanent. Similar logic can be applied to restructurings.

performance that would reflect the benefits of the actions. In the following paragraphs, examples are presented to provide some insight into the restructuring decision. They highlight the complexity of the decision as it relates to temporary or permanent signals and as it relates to implementation, and the effects of the complexity on operating performance in the years surrounding restructurings.

Companies will not immediately restructure at the first sign of reduced demand, if they expect the demand to change in the future. For example, in its second quarter earnings conference call on January 27, 1997, managers at Standard Products fielded questions from analysts relating to their decision to close two automotive parts plants. Analysts questioned the cause of the overcapacity, presuming that at some point the firm was operating at the “right” level. Management acknowledged that several factors ultimately led to the decision. Demand for different types of construction for body side molding contributed to lower demand for existing production. In addition, price competition had become more intense in the past five years. The company had earlier recognized that utilization was low, but the price reductions demanded by customers ultimately made it too costly to continue to carry excess capacity.

Decisions to alter methods of production may be the result of changes in input prices; however, management may not propose to make significant changes until price changes are deemed permanent. In September 1994, Crown Cork & Seal announced a restructuring of its food and aerosol can plants because of reduced demand and pricing pressures. At that time, they did not consider restructuring the beverage can lines because they felt that, despite pricing pressures, demand would still be high because of hotter than expected weather and no capacity in substitute containers.<sup>8</sup> However, one year later, the company

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<sup>8</sup> Cornelius Thornton, Goldman Sachs U.S. Research Report: Crown Cork & Seal Company, Inc., September 20, 1994.

announced a restructuring of its beverage can line, stating higher costs of raw materials and volume declines.<sup>9</sup>

In addition to the difficulty of determining when to restructure, companies may have difficulty implementing the restructuring actions. These difficulties subsequently affect the time it takes for benefits of the restructuring to appear in operating performance. For example, at Varian Associates' presentation to the New York Society of Security Analysts meeting on July 31, 1990, the company's CEO explained the new strategic plan that resulted in \$74 million of restructuring charges. The company was to undergo a divestiture program of defense-related businesses to focus on the more profitable civilian lines, intending to go from 24-25 separate businesses to five or six. Given the magnitude of the changes, this program was to be implemented over a two-year period with the intent of improving operating performance after the implementation was completed.<sup>10</sup> When Service Merchandise announced a \$130 million restructuring charge in March 1997 in connection with 60 store closings, observers noted that it "mark(s) one of the most aggressive moves yet in the company's two-year-old turnaround effort."<sup>11</sup> This effort began in early 1995 with the assembly of a new senior management team and then a nine-month analysis of company operations.

Others suggest that it may take even longer to realize benefits from restructuring. Donaldson (1990) notes that it may take as long as a decade for a company to get out of trouble. Vaughn Beals, former CEO and Chairman of the Board of Harley-Davidson, spoke of his experience turning around the company and stated that restructurings can take years or decades to complete. On the other hand, many companies disclose in the annual

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<sup>9</sup> "Crown Cork & Seal Lowers Earnings Outlook for 1995 and Will Review Manufacturing Capacity", PR Newswire, September 19, 1995.

<sup>10</sup> B. Leverone, Investext® Company Report -- Varian Associates, Inc., July 31, 1990.

<sup>11</sup> Martha Brannigan, "Closings, Charge Loom at Service Merchandise Co.", *The Wall Street Journal*, March 28, 1997, p. A4.

report that they expect to see the benefits from restructuring activities as early as the next year.

These examples suggest that firms may experience deterioration in performance in the years leading to the restructuring as managers assess the restructuring decision and determine the appropriate course of action. The examples also suggest that it is difficult to predict, ex-ante, whether or when any performance improvements will emerge.

### **3. Prior Literature**

Earlier studies examining the effects of operational restructurings have taken two approaches: measuring the impact of the restructuring on stock price and measuring changes in subsequent operating performance.

There have been several studies of the stock price performance of firms announcing restructurings [see Bartov et al. (1997) for a summary].<sup>12</sup> The findings are mixed. Brickley and Van Drunen (1990), Francis et al. (1996) and Lindahl and Ricks (1991) find positive responses for announcements involving operating decisions. Bunsis (1997) finds a positive reaction for a subsample of write-off announcements that are known to be anticipated. Other studies find negative responses for the overall sample [Blackwell et al. (1990), Elliot and Hanna (1996), Elliot and Shaw (1988), Francis et al. (1996)], for subsamples of asset write-downs [(Francis et al. (1996), Lindahl and Ricks (1991)], and for unexpected write-offs [(Bunsis (1997)]. Finally, Strong and Meyer (1987), find insignificant reactions to restructuring announcements. The mixed results of these studies highlight the difficulty in interpreting performance effects using stock prices.

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<sup>12</sup> In many of these studies, restructurings have been referred to as write-offs. The term write-off has meant to refer to only asset write-downs, or it has referred to both asset write-downs and accruals for future operating changes, often labeled "operating decisions". Since my study focuses on firms that take restructuring charges, including both asset write-downs and accruals for future operating changes, only prior studies that appear to consider both are reviewed.

Bartov et al. (1997) note that the stock price response is small in relation to the amount of the charge and suggest two explanations. First, they suggest that the market anticipates the restructuring charges as much as two years prior to the announcement. Their study finds that sample firms experience cumulative abnormal returns over the preceding two years of -21% for charges related to operating decisions, and -34% for charges related to asset write-downs. Second, they suggest that the value implications of the write-off are not clearly interpretable by investors at the announcement. They find that the stock price performance of these firms continues to deteriorate in the year following the write-off announcement. For operating decision firms and asset write-down firms, the cumulative abnormal returns are -6% and -12%, respectively. Rees et al. (1996) find a similar effect.

Given that restructurings appear to be anticipated and perhaps not clearly understood at the announcement, it is difficult for researchers to use a short-window stock price response to the restructuring announcement as an indication of the implications of the restructuring. Extending the measurement window prior to the announcement may capture anticipation. However, since these firms are experiencing deterioration in performance in the same period, anticipation of the announcement cannot be distinguished from investors' response to concurrent performance changes. Studying the long-term, post-restructuring stock price performance will capture the implications of the restructurings as they become better understood. However, it does not address the problems of any anticipation of the effects of restructurings.

A second research approach is to examine the effect of restructuring on operating performance.<sup>13</sup> Wolff (1998), studies the operating performance of firms that downsize by reducing employment more than 20%. Using return on sales (ROS) and industry-adjusted

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<sup>13</sup> This approach has been used in the study of other corporate events including mergers [Healy et al. (1992)] and management buyouts [Kaplan (1989)].

return on sales, he finds the operating performance in the pre-downsizing period is greater than performance in the post-downsizing period. In addition, performance while downsizing is lower than performance in the post-downsizing period, suggesting some improvement. The study, however, is not directly related to explicit restructurings, indicated by the fact that only 20% of the sample firms take restructuring charges. Further, he defines the event year as the end of implementation, making it difficult to draw post-event performance comparisons to my study.

Two studies for which a more direct comparison can be made are Brickley and Van Drunen (1990) and Blackwell et al. (1990). Brickley and Van Drunen (1990) examine the operating performance of 222 firms that made internal divisional changes from 1980 to 1984. They measure operating performance as industry- and market-adjusted return on equity (ROE) from three years before to three years after the restructuring (Years -3 to +3, where Year 0 is the restructuring year). They find the adjusted ROEs to be significantly positive in Year -3, and, in general, statistically insignificant between Years -2 and +3. However, adjusted ROE in the post-restructuring period is lower than adjusted ROE before restructuring. For a subsample of firms that report restructuring for cost-cutting/efficiency reasons, their study finds that adjusted performance is negative from Years -2 to +3. Blackwell et al. (1990) study the performance of 286 firms that announced plant closings from 1980 to 1984. They find that industry- and market-adjusted ROEs are negative for each of the Years -2 to +2. In addition, they find industry-adjusted ROE is significantly higher in Year +2 than Year 0.

These studies of operating performance provide mixed evidence of whether two specific types of restructurings, internal reorganizations and plant closings, lead to improved operating performance. However, the research designs used by these authors affect the interpretation of their findings. First, the performance measure used in both studies may not be sufficient to isolate the operating effects of restructurings. This has

several implications. Firms with negative shareholders' equity are excluded from the analysis. These firms are likely to have severe performance problems and therefore may either benefit most from a restructuring or be more likely to fail. Their exclusion possibly biases the results. In addition, the numerator in these studies, after-tax net income, includes any charges taken in connection with the restructuring. If the benchmark performance measure includes large accruals for the restructuring [for example, Blackwell, et al. (1990) do not adjust for restructuring charges], then subsequent improvements relative to Year 0 may be the result of the timing of expenses in Year 0 and not underlying operating improvements. Also, subsequent performance may be affected by any additional restructuring charges that firms take.

The second research design concern is that the measurement windows chosen by the researchers may not be long enough to capture the benefits of restructuring. If improvements take several years to appear, then a two or three year post-restructuring window may not be long enough for the benefits to be reflected in operating performance.

The final concern is that measuring the restructuring firm's performance against a market or industry median benchmark may be inappropriate to capture performance improvements due to the restructuring. If the restructuring firms have lower operating performance relative to these benchmarks before the restructuring, it is not clear how to interpret lower performance after the restructuring. These benchmarks may be failing to capture improvements that are related to the restructuring, but that are not large enough to increase operating performance to levels greater than the benchmarks.

My study makes two contributions to the existing literature. First, I examine the question of whether performance improves after restructuring using a broader definition of restructuring and a different research design. Second, I provide additional evidence on whether investors have difficulty interpreting the long-term performance effects of restructurings at the announcement. In re-examining post-restructuring performance, I

address the question of whether firms that take restructuring charges experience improvements in operating performance relative to the performance that would have been had they not restructured. As a proxy for expected performance absent a restructuring, I use the operating performance of firms that have similar pre-restructuring performance but that do not take a restructuring charge in the same year as the restructuring firm. This proxy isolates performance changes that result from restructuring as well as controls for mean reversion in earnings. In addition, I use operating performance measures that exclude the accounting effects of restructuring charges. Finally, I extend the post-restructuring performance measurement window to allow for the possibility that the benefits of restructurings may not appear in operating performance for at least three years.

Figure 1 provides a comparison of the operating performance of the sample firms studied in my paper with the sample firms studied in Brickley and Van Drunen (1990) and Blackwell et al. (1990). Following the methodology of the prior studies, I plot the sample median adjusted ROE for the firms in my study, against the results of the prior studies. For each restructuring firm, adjusted ROE is measured as ROE (after-tax net income scaled by book value of shareholders' equity) adjusted for the median ROE of the market (Panel A) and the median ROE of the industry (Panel B). The prior studies compare performance in a five or seven year event window centered around the restructuring; Figure 1 plots the operating performance in the eleven year event window.

Several points emerge from these figures that distinguish the current study from prior studies. First, the operating performance of restructuring firms in the current study is different from sample firms' performance in either prior study. Firms in the current study tend to perform better than the market or industry prior to restructuring, but experience a significant decline in performance in the period leading to the restructuring. This suggests that controlling for prior performance is important for drawing inferences about post-restructuring performance. Second, the restructuring charges have a significant effect on



operating performance in the year of the restructuring. While this is a consequence of the sample selection procedures used in the current study, the figures reinforce the need to control for the accounting effects of restructurings on operating performance. Finally, the importance of the length of the post-event performance window is shown. Different inferences on the effects of restructurings would be drawn if the post-event performance window were only two or three years, relative to five years.

The second contribution is to provide additional evidence on whether investors are able to fully incorporate the long-term effects of restructurings on future operating performance at the time the restructurings are announced. Bartov et al. (1997) provide evidence that one reason the stock price reaction to restructuring announcements is small relative to the charge is that investors continue to incorporate the implications in the post-announcement period, perhaps as more information is revealed. As a further test of this, my study analyzes whether post-announcement stock returns are related to long-term operating performance improvements.

#### **4. Research Design**

This section presents the research design used in this study. First, the sample selection process is described and some descriptive statistics about the sample are presented in Section 4.1. Then, in Section 4.2, I present the design of tests for operating performance improvements, including a discussion of the operating performance measures and the proxies for expected performance. Finally, Section 4.3 presents the design of tests of the incorporation of subsequent performance improvements in the stock price reaction to the restructuring announcement.

#### 4.1. Sample Selection

Firms announcing restructuring charges are identified from a search of the Reuters Financial Wire on Lexis/Nexis® from 1987 to 1993 (search term “restruct! w/10 charge!”).<sup>14</sup> Only announcements of current charges are included, resulting in 1,253 firm-year observations announcing restructuring charges in fiscal years ending between 1987 and 1992. Multiple restructurings by the same firm within the same fiscal year are treated as one observation, with the restructuring date being the first announcement of a restructuring charge in that year. Multiple restructurings by the same firm over multiple years in the sample period are treated as separate observations.

Firms in the financial services industry are deleted because the Standard and Poor’s Compustat database reports net interest income as sales for these firms. As this item can be negative, it is difficult to meaningfully estimate one of the key performance measures used in this study. Since negative sales are isolated to this industry, the industry was excluded from the final sample. Therefore, after dropping 130 firm-year observations in the financial services industry, as well as observations without Compustat data (73), there are 1,050 firm-year observations, representing 795 companies.

As shown in Table 1 Panel A, the sample spans 52 industries with some concentration in industrial/commercial machinery and computer equipment (SIC=35) and electronics and other electrical equipment (SIC=36). The firm-year observations are from fiscal years ending in 1987 to 1992. Observations from 1991 and 1992 represent 57% of the total sample (Table 1 Panel B). Finally, 194 of the 795 companies took more than one restructuring in this sample period. Approximately 43% of all firm-year observations are from multiple restructurers (Table 1 Panel C).

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<sup>14</sup> Other studies have identified restructuring charges using Compustat Data Item A17, Special Items. This method was not used because this data item includes several categories of other special charges beyond restructuring charges (i.e. litigation expense, environmental clean-up costs).

In Table 1 Panel D, some summary statistics are provided for potential indicators of economic changes being made by restructuring firms. I compare the indicators averaged over the three years after the restructuring (Years +1 to +3) to the indicators averaged over the three years prior to the restructuring (Years -3 to -1). Restructuring firms have lower employment (9.57%) and fewer employees per \$1,000 of assets (16.14%) in the post-restructuring period. In addition, these firm have lower sales of property, plant and equipment (8.22%). Finally, these firms spend less on capital expenditures (5.87%) and spend significantly less on acquisitions (86.77%) after restructuring.

#### 4.2. Research Design - Operating Performance Improvements

To test whether restructurings lead to improved operating performance, measures of operating performance must be selected and proxies for expected performance determined. This section discusses the measures and proxies chosen. An additional consideration is the performance window over which performance improvements are tested. I selected the five year period after the restructuring to balance the benefit of having a period that is long enough to capture the impact of restructurings on operating performance against the drawback of including performance effects that are not attributable to the restructuring.

##### Operating Performance Measures

Operating performance measures are affected by both the operating changes that result from restructurings and any accompanying asset write-downs. The effect of these two factors is considered in selecting performance measures. Since tests compare performance across firms, a measure of standardized earnings performance is adopted. The earnings measure and deflator used are discussed separately.

##### *Earnings Measure*

At the time restructurings are approved by management, firms estimate and take a charge for the write-down of assets and for future cash expenditures needed to implement

the restructuring. Measures of performance that include the charge may lead to erroneous conclusions about the operating effects of the restructuring. In this case, operating results in the year of the charge will be lower than future results because of the timing of the expenses and write-offs. In addition, if firms take charges in subsequent years, any performance improvements from earlier restructurings may be masked by subsequent charges. This study, therefore, uses a measure of operating performance that typically does not include a restructuring charge: operating income [sales less cost of goods sold (CGS) and selling, general and administrative expenses (SG&A)] including charges for depreciation and amortization (Compustat Items A13 less A14).<sup>15</sup> However, because the restructuring charge is not always isolated as a separate category on the income statement, it is possible this operating performance measure will include any portion of the charge reported in CGS or SG&A.

#### *Deflator*

I use two alternatives for scaling operating income: assets and sales.<sup>16</sup> Return on assets (ROA), measured as operating income scaled by average total assets, is a common measure used by firms to benchmark their performance against competitors. Therefore, a change in ROA may not only lead to the restructuring but also be the measure against which subsequent performance is evaluated. Return on assets will incorporate any improvements that result from improved turnover. However, if asset write-downs are included as part of the restructuring, this measure can also show improved performance that does not result from any operational changes. As a result, ROA reflects both the operating changes and the induced improvement resulting from any write-downs.

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<sup>15</sup> Tests of improvements are replicated using operating income excluding charges for depreciation and amortization and the results are similar.

<sup>16</sup> As noted earlier, other studies have scaled by book value of shareholders' equity to generate return on equity (ROE). One problem with using shareholders' equity is that negative equity firms must be dropped to make appropriate inferences. As these firms may be the more interesting cases of restructurings, I do not use ROE as a performance measure in this study.

Operating income scaled by sales (ROS) is the second measure used. Because sales are not directly affected by asset write-downs included in the restructuring, ROS provides a measure of operating performance that captures improvements generated by operating changes, but not improvements induced by write-downs. However, ROS fails to capture asset utilization reasons for the restructuring and therefore part of operating improvements that result from increased turnover. When ROA is decomposed into its two components, profitability and turnover, ROS reflects profitability (turnover would be captured by sales/average assets). Therefore, by using both ROA and ROS as performance measures, I segregate improvements generated by increased profitability from improvements generated by increased turnover.

#### Proxies for Expected Performance

To test whether restructurings are followed by performance improvements, the operating income of restructuring firms is compared to the earnings of non-restructuring firms. Prior studies have used market or industry median performance as the benchmark. As mentioned earlier, these benchmarks may not be appropriate because they fail to capture improvements whose magnitudes, while making the firm better off than it would have been without restructuring, are not large enough to bring performance to a level exceeding market or industry medians. An alternative proxy for the expectation of performance is the firm's own performance prior to the restructuring, adjusted for market or industry effects. One problem with this proxy is that, given the expectation that performance may decline in the periods leading to the restructuring as suggested in Section 2, any improvements that are documented could be attributed to mean reversion in earnings data.

Descriptions of the sample firms' performance highlight some of these problems. Tables 2a and 2b describe the ROA and ROS, respectively, of restructuring firms in the eleven years centered around the restructuring. As shown in Table 2a (2b), the median ROA (ROS) of restructuring firms declines in the periods leading to the restructuring year.

The median differences in ROA (ROS) relative to the prior year are statistically significant beginning in Year -3 using ROA and Year -2 using ROS. Under both performance measures, operating performance improves, relative to the prior year, in Years +1 to +5. However, tests (not reported) indicate that the levels of performance in Years +4 and +5 are statistically lower than the levels in Years -4 and -5, suggesting that post-restructuring recovery is only partial relative to pre-restructuring performance. The pattern of performance exhibited by restructuring firms reinforces both the need to control for mean reversion in earnings and the importance of a measurement window that is sufficiently long to capture the benefits of restructurings.

Market- and industry-adjusted median ROAs (ROs), also reported on Table 2a (2b), are positive until Year -1. After Year -1, they are statistically negative until Year +3 using ROA and Year +2 using ROS. While market- and industry-adjusted ROAs are no different from zero in Years +4 and +5, market- and industry-adjusted ROSs become statistically positive in Years +4 and +5. Given that restructuring firms are different from market and industry medians prior to the restructuring, it is difficult to predict what performance changes should be attributed to the restructuring if the post-restructuring performance of tests firms is also different from these medians.

In addressing some of these issues, the benchmarks for expected performance used in this study control for mean reversion in earnings as well as for market and industry effects, consistent with Barber and Lyon (1996). For each firm-year observation, the benchmarks are (1) the median performance of all Compustat firms that have similar operating performance prior to the restructuring but do not take a restructuring charge in that year (performance-only match), and (2) the median performance of all Compustat firms with similar operating performance in the same industry but do not take a restructuring charge that year (performance- and industry-match).

To construct the benchmarks, I first identify firms that did not take restructuring charges in the year that the test firm takes a charge. These potential benchmark firms are identified as all firms with non-negative “special items” (Compustat Data Item A17) in that year. Next, I attempt to match restructuring firms to benchmarks on pre-restructuring performance. The potential benchmark firms are assigned to operating performance quartiles for each of the three years preceding the restructuring event year, using the performance measures, ROA and ROS. Each potential benchmark firm, therefore, has a profile consisting of three quartile rankings. Each restructuring firm is also assigned to quartiles based on its operating performance in the same three year period. Then, the performance profile of each restructuring firm is matched with the “portfolio” of firms that have the same performance profile. For example, a restructuring firm that is in the 1st, 3rd, and 3rd operating performance quartiles in Years -3, -2, and -1, respectively, will be matched with all firms that also have operating performance in the 1st, 3rd, and 3rd quartiles in Years -3, -2, and -1.

The proxies for expected performance in the post-restructuring period are: (1) the median performance of all firms in the pre-restructuring performance-matched “portfolio” and (2) the median performance of all firms in the pre-restructuring performance-matched “portfolio” that are also in the same industry (two-digit SIC code) as the restructuring firms. The firms that comprise each portfolio do not change in the post-restructuring period. However, the number of firms in each portfolio will decrease to the extent that benchmark firms drop off of Compustat.

Quartiles, rather than quintiles or deciles, are used to create performance-matched portfolios because the number of firms available to match declines considerably as the breakdown of operating performance increases, particularly when the additional criterion of industry-matching is added. Years -3 to -1 are used to match performance because, in these periods, restructuring firms exhibit statistically significant declines in operating

performance. Firms are dropped from the analysis if they are missing performance data in any of the matching periods.

To address the question of whether firms that take restructuring charges have improvements in operating performance, the ROA (ROS) of restructuring firms are compared to each benchmark: (1) the performance-only match, computed as the median ROA (ROS) of all non-restructuring firms with similar pre-restructuring ROA (ROS) and (2) the performance- and industry-match, estimated as the median ROA (ROS) of all non-restructuring firms with similar pre-restructuring ROA (ROS) in the same industry. Wilcoxon signed rank tests are used to test whether there is a statistical difference in operating performance each year, from Year 0 to Year +5, to determine if and when any improvements occur.<sup>17</sup>

#### 4.3. Research Design - Stock Price Reaction

To test whether the stock market reaction to the announcement is related to any subsequent performance improvements, I estimate Spearman correlations of the announcement period cumulative abnormal returns (CAR) and subsequent performance. CARs are estimated as the market-model adjusted returns accumulated over the three day announcement window (Day -1 to Day +1), using daily stock return data from the Center for Research in Security Prices (CRSP) database. The four proxies for subsequent performance are all derived from the performance measures described in Section 4.2. The proxies are: (1) ROA adjusted using the performance-only matched benchmark, (2) ROA adjusted using the performance- and industry-matched benchmark, (3) ROS adjusted using the performance-only matched benchmark, and (4) ROS adjusted using the performance- and industry-matched benchmark. Subsequent performance is the average adjusted performance during the post-restructuring period. Average rather than cumulative adjusted

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<sup>17</sup> Results are similar using the sign test.



performance is used to alleviate the problems due to Year +5 data lacking for the 1992 sample firms.

## **5. Performance Improvements**

This section presents the results of tests of performance improvements. In Section 5.1, the results of tests of operating performance improvements and the timing of improvements are presented. In Sections 5.2, 5.3 and 5.4, additional analyses address the robustness of the results of Section 5.1.

### **5.1. Firm Performance After Restructuring**

To test whether and when restructurings generate improvements in operating performance, restructuring firms are matched against firms with similar patterns of performance in the pre-restructuring period, but that do not restructure in the same year as the test firm. The median performance of these benchmark firms is then used as proxies for the expected performance of restructuring firms. As shown in Tables 3a and 3b, the matching process is imperfect, reflecting some of the trade-offs made in selecting performance matching criteria. Using ROA (Table 3a), the performance of restructurings firms is not statistically different from either proxy for expected performance absent a restructuring in Years -3 to -1. Using ROS (Table 3b), the difference in performance between the restructuring firms and the performance-only matched benchmark is statistically significant at -0.2% and -0.4%, in Years -2 and -1. When firms are performance- and industry-matched, the difference in operating performance is statistically significant in Years -2 and -1, at -0.1% and -0.4%, respectively. The results of tests for performance improvements will be evaluated in light of these differences.

To test for ROA and ROS improvements, restructuring firm performance is compared to the median performance of the benchmark firms using non-parametric tests. The results

of these tests are also presented in Tables 3a and 3b. Using ROA (Table 3a), restructuring firms experience negative performance relative to the performance-only matched benchmark in the restructuring year through Year +2. Beginning in Year +4, the test firms show superior performance that continues through Year +5. By the fifth post-restructuring year, restructuring firms' ROA is 1.0% higher than non-restructuring firms. When controlling for industry as well as performance, restructuring firms also have negative adjusted performance through Year +2. Adjusted performance in Years +3 to +5 are not statistically different from zero.

Using ROS (Table 3b) and controlling only for performance, restructuring firms have negative adjusted performance in Years 0 through +3. In Years +4 to +5, adjusted performance is not different from zero. After controlling for performance and industry, restructuring firms have negative adjusted performance in Years 0 to +2. In Years +3 to +5, performance is not different from zero.

Taken together, these results suggest that restructuring firms may experience improvements in operating performance after restructuring. Further, these improvements do not appear until four years after the restructuring. Using ROA, restructuring firms appear to have operating performance improvements resulting from either operating changes or asset write-downs. Using ROS, restructuring firms have performance that is no different from non-restructuring firms. The ROS tests suggest that changes in operating performance result from improved asset turnover and not improved profitability. The source of the improvement, either asset write-downs or improved asset productivity, will be addressed in Section 5.2.

Figure 2 (3) graphically depicts the ROA (ROS) of restructuring firms and the two benchmarks over the event period. The patterns that emerge are consistent with the expectations of operating performance suggested in Section 2. Restructuring firms experience declines in performance as managers evaluate the decision to restructure. In the

post-restructuring period, performance begins to improve. However, it may be several years before the benefits of restructuring appear in operating performance.

There are several open questions about the results of the analysis that remain. In Section 5.2, I address the question of whether the changes documented when ROA is used as the performance measure are due to asset write-downs. In Section 5.3, I consider the possible effects of survivor bias on the results. In Section 5.4, I discuss the possible impacts that clustering of the data may have on the results. Finally, in Section 5.5, I discuss possible systematic differences between the benchmark and test firms.

## 5.2. Asset Write-Downs Affecting ROA Changes

One claim asserted by analysts is that firms write down assets to improve operating performance when measured as ROA; writing down assets (the denominator) can induce improvement in ROA when returns (the numerator) are unchanged. A money manager, speaking on restructurings said that companies want to “shift the denominator as low as possible, because the numerators just aren’t going to be there.”<sup>18</sup>

To test the effect that asset write-downs may be having on the results, I adjust the results for the maximum possible asset write-down and then test for performance differences. Because I do not have the breakdown of the restructuring charge into its future cash outflow and asset write-down components, I conservatively assume that the entire charge is for an asset write-down. For each restructuring firm, I add the restructuring charge (assumed write-down) back into the denominator in each period. Because I do not know the period over which the written-down asset would have been depreciated, I estimate an average useful life for all assets for each firm as the inverse of the depreciation expense in Year 0 divided by the average assets in Year 0. Using the estimated average

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<sup>18</sup> John Thackery, “Playing the Write Off Game”, *CFO: The Magazine for Senior Financial Executives*, March 1994, p.38 - 44.

useful life, I “depreciate” the asset that is written-back, adjusting the numerator for the depreciation expense and the denominator for the accumulated depreciation effect. The results, presented in Table 4, suggest that operating performance changes documented when ROA is used as the performance measure may be slightly improved as a result of possible asset write-downs. However, by Year +5 there is no difference in performance between the restructuring firms and the benchmarks. Given that the adjustment made to the restructuring firms overestimates the amount of asset write-downs, it suggests that the performance changes in ROA cannot be entirely attributed to asset write-downs.

### 5.3. Survivor Bias

One concern of the findings of Section 5.1 is that the improvements in operating performance that appear in the later years may result poorly performing restructuring firms the eventually drop out of the sample. Survivor bias could have two effects on the results. First, the improvements in operating performance in the later years, relative to the earlier years, could be caused by an upward shift in the median due to poorly performing firm dropping out the sample. The second effect that survivor bias could have is to give the appearance of delays in the manifestation of performance improvements because of the inclusion of poorly performing firms in the early years that ultimately drop out of the sample in the later years. To first test whether firms that drop out have worse performance than firms that remain, differences in adjusted performance are tested between firms that drop out of the sample and firms that survive the entire post-restructuring period. The results (not reported) indicate that firms that drop out experience lower adjusted performance.

To examine how the poorly performing, non-surviving firms affect the results, two tests are done. First, I proxy for the operating performance of non-surviving firms in the years lacking performance measures using the last available measure of adjusted

performance as an estimate of future performance had the non-surviving firm remained. This estimation of performance in periods where performance data is missing is done for both the sample restructuring firms and the benchmark firms. As shown in Table 5a, the results indicate performance adjusted for the ROA performance- and industry- matched benchmark in Years +3 to +5 does not differ from zero. Using the ROA performance-only matched benchmark, adjusted performance is no different from zero in Years +2 to +4, but is 1.0% (statistically significant at the 1% level) in Year +5. The results using ROS as the performance measure (Table 5b) indicate that adjusted performance in Years +4 and +5 do not differ from zero using either ROS benchmark. Thus, the inferences made in Section 5.1 about the operating performance of restructuring firms are qualitatively unchanged when an adjustment is made for survivor bias. This suggests that the effects of survivor bias are the same on both the test firms and the benchmark firms.

One concern with this method of adjusting for non-surviving firms is that the last available performance measure is a poor proxy for what subsequent performance would be if the firm survived. Because tests are done using medians, the magnitude of operating performance is not necessarily of concern, but rather where in the distribution the operating performance places the firm. A possible alternative to the method used above, is to assume that all firms that drop out of the sample are at the bottom of the distribution of operating performance. However, this method fails to make use of additional information. As shown in Figure 4 (5), the ROA (ROS) of non-surviving restructuring firms differs when they are partitioned on the reason for dropping out of the sample. Of the initial sample, approximately 83% remain for the entire post-restructuring period. For the 17% that drop out, 11% drop out because of a merger/acquisition and 6% drop out because the firm was delisted or liquidated. Tests for statistically significant differences, not reported, suggest that firms that drop out because they were merged or acquired have higher adjusted operating performance than firms that drop out because they were liquidated or delisted by

the exchange. Therefore, to assume that all firms that drop out of the analysis are at the bottom of the operating performance distribution would fail to take into account the relative placement of firms prior to dropping out.

The second test to examine the effects of non-surviving firms is to rerun the tests of Section 5.1 using only firms that do not drop out of the sample to determine if improvements appear sooner in firms that survive. Results (not reported) indicate this subsample demonstrates the same pattern of performance: worse performance in the early years and performance that is better or no different from the benchmarks in the later years. This suggests that even for firms that survive the post-restructuring period, improvements do not appear immediately in operating performance.

#### 5.4. Other Robustness Checks

Two further tests of the robustness of the results are performed. Since there is clustering of 1991 and 1992 firms (57% of the sample), Mann-Whitney tests are done to determine if performance differences between 1991/1992 and non-1991/1992 firms drive the observed pattern of performance. While I control for market effects, there is concern that earlier restructurings may be different from later restructurings, for example, because of herd behavior. The results (not reported) indicate the clustering of 1991/1992 firms does not determine the observed pattern of performance.

Given that there is a lag between the restructuring year and when improvements are observed, it is also possible that the delay is caused by firms that take multiple restructurings. Specifically, in the period when performance improvements after a restructuring should be observed, there is deterioration in performance that leads to another restructuring. When performance differences between single and multiple restructurings are tested, the results (not reported) suggest that multiple restructurings do not have worse performance than single restructurings.

## 5.5. Possible Systematic Differences between Benchmark and Test Firms

Recall that in this analysis, test firms are matched with non-restructuring firms having similar pre-restructuring operating performance. If the benchmark firms are systematically different from the test firms, the interpretation of the results is unclear. It is therefore important to understand why the benchmark firms do not restructure. I examine four potential explanations. First, the benchmark firms do indeed restructure, but the restructuring charge is included in cost of goods sold or selling, general and administrative expense and therefore not coded by Compustat. If this is the case, test firm performance in Years +1 to +5 should be no different from that of the benchmark firms; this result is not supported by the data.

Second, the benchmark firms misinterpreted a permanent downturn in performance as temporary and decided a restructuring was not currently necessary. If this is the case, we would expect that benchmark firms would exhibit worse performance relative to restructuring firms in the post-restructuring period and might even show a higher mortality rate than sample firms. While there is some evidence that restructuring firms have higher levels of performance than benchmark firms, the mortality rates for the two groups are similar. Between Years 0 and +5, restructuring firms had a drop-out rate of 20-21%, depending on the performance measure, as compared to a rate of 17-19% for benchmark firms.

A third possibility is that the performance downturn was only temporary for benchmark firms but not for restructurers. Figures 2 and 3 suggest that this may be true, as the operating performance of non-restructurers is higher in the early years. If this is true, then I am biasing against finding improvement, as non-restructuring firms will have relatively higher performance than restructuring firms.

Finally, the benchmark firms may have restructured in an earlier or later year. There appears to be support for this possibility. Approximately 77% of the benchmark firms restructure either before or after the event year. The last restructuring in the pre-restructuring period occurs, on average, 2.25 years prior to the event year. The first restructuring in the post-restructuring period occurs, on average, 2.5 years after the event year.

## **6. Stock Price Reaction and Performance Improvements**

Tests of the stock price response to the restructuring announcement indicate that the announcement appears to convey new information to the market. As shown in Table 6, there is a significant negative reaction in the announcement period. The average cumulative abnormal returns (CAR) in the three-day announcement window (Days -1, 0, and +1) for the 965 firms with stock return data is -1.2%. The majority of the restructuring announcements occurred during an earnings announcement. In addition, several announcements included other potentially value-relevant information such as dividend omissions or initiation of proxy fights. Even after eliminating the 773 observations with these potentially confounding events, the CAR is -1.3% and statistically significant.

To test whether the announcement period CARs are related to subsequent performance improvements, the correlations between the CARs and operating performance over Years +3 to +5 are estimated. Performance in Years +3 to +5 is used because tests in the previous section show this to be the period when improvements are reflected in operating performance. Table 7 presents the results of this test. Whether the sample contains all firms or only firms for which the restructuring announcement was the only information released, average adjusted performance changes over Years +3 to +5 are not related to the CAR, regardless of the benchmark measure used.



While the results are consistent with investors' finding it difficult to evaluate the implications of the restructuring, there are several other explanations for the lack of correlation between long-term performance improvements and announcement reactions. First, the announcement may be informative about near- and long-term performance. As previous tests show near-term performance to be worse, it may be that because of discounting, the near-term performance dominates the stock price reaction. Second, if the outcome of the event has been anticipated, announcement period stock price reactions will not reflect benefits that have been anticipated. Third, the operating performance measures used in this study might not be related to measures that investors use to assess firm value. Finally, three-day stock returns at the announcement of restructurings (or other corporate events) may reflect little information about long-term performance when future performance is dominated by future, unpredictable events. Kothari and Sloan (1992) find that earnings changes beyond three years are not significantly anticipated by current period returns. The announcement may also provide little information if there is uncertainty about that future performance. Bartov et al. (1997) suggest the stock price reaction to the restructuring announcement may not fully reflect the effects of the restructuring on future operating performance. Investors continue to learn about the implications as the restructuring is implemented and as more details about the restructuring and its possible outcome are revealed.

To test the first possibility that the announcement is correlated with near-term performance, I estimate the Spearman correlation between announcement period CARs and cumulative adjusted performance in Years +1 and +2. As shown in Table 8, when all observations are used, CAR and near-term performance (using all measures) are correlated at the 5% or less significance level. The correlation coefficients range from 0.074 (using ROA adjusted for the performance and industry matched benchmark) to 0.101 (using ROS adjusted for the performance-only matched benchmark). Using only those observations

that do not have confounding announcements, the correlation between CAR and near-term performance is significant (at the 5% level) only when ROA adjusted for the performance and industry matched benchmark is the performance measure. These results are consistent with the combined announcements (restructuring and other) being informative about operating performance in the following two years. However, the results suggest that restructuring announcements alone are not related to near-term performance changes.

To jointly test whether anticipation, value-relevance, or uncertainty is causing the lack of significant correlation between announcement period CARs and subsequent performance, I estimate a regression of ranked market-adjusted stock returns in Year +1 on ranked average adjusted performance over Years +3 to +5 and ranked market-adjusted stock returns over Years +3 to +5. Subsequent stock returns (Years +3 to +5) are included to address an errors-in-variable problem with subsequent operating performance.<sup>19</sup> Subsequent operating performance is comprised of both expected and unexpected operating income. Since I am interested in testing whether the expected component is correlated with stock returns in the prior period, the presence of the unexpected component in the measure of subsequent operating performance introduces measurement error.

Positive correlation between stock returns in Year +1 and subsequent operating performance improvements in Years +3 to +5 would suggest that the operating performance measures are value-relevant and that the market continues to revise the expectations of performance improvements in the year following the restructuring. If the operating performance measures are not value-relevant, if investors anticipate the announcement, or if the stock price reaction to the announcement fully reflects the implications of the restructuring and there is no further revisions of expectations, then I would expect no correlation between stock returns and subsequent operating performance. A limitation of this research design is that a possible interpretation of positive correlation

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<sup>19</sup> This approach is explained in Collins et al. (1994).

may be nothing more than documenting that stock prices lead non-restructuring related earnings changes.

As shown in Table 9, market-adjusted returns in Year +1 are correlated with performance changes in Years +3 to +5. The coefficients for subsequent performance from the regression range from 0.209 using ROA adjusted for the performance- and industry-matched benchmark, to 0.153 using ROS adjusted for the performance- only matched benchmark. The coefficients on concurrent stock returns are not different from zero. These results suggest that the performance measures used are value-relevant and that it is not the anticipation of the event that is causing the lack of correlation. The results are consistent with uncertainty about the outcome existing at the restructuring announcement and investors continuing to revise their expectations of the long-term operating performance implications of the restructuring in the following year.

## **7. Conclusion**

This study investigates whether firms that announce restructuring charges experience improvements in operating performance related to the restructuring and when any improvements appear in operating income. There is weak evidence that restructuring firms have improved operating performance relative to non-restructuring firms that have similar pre-restructuring performance using ROA as a performance measure. These improvements do not appear until four years after the restructuring. Using ROS as the performance measure, the operating performance of restructuring firms is no different from that of non-restructuring firms in Years +3 to +5. That performance improvements appear when ROA is used suggests that asset turnover, resulting from asset write-downs or improved asset productivity, is an essential component of improved operating performance. Tests to control for the accounting effects of asset write-downs suggest that the results are at least in part due to productivity improvements. After controlling for the possible effects of

survivor bias, restructuring firms still have performance that is generally no different from the expectation of performance absent a restructuring in the later years.

This study also investigates whether the stock price reaction to the restructuring announcement is related to future operating performance changes. Subsequent performance changes in the sample firms are not correlated with the stock price reaction at the restructuring announcement, but are correlated with stock returns in the year following the restructuring. These results are consistent with investors finding it difficult to evaluate the implications of the restructuring at the initial announcement and therefore continuing to revise their expectations of future performance in the following year.

The results of this study suggest that firms that take restructuring charges appear to have subsequent improvements in operating performance. However, investors may have difficulty fully incorporating the long-term effects of restructurings at the announcement but revise their expectations in the next year, possibly as more information is revealed. These results raise an interesting questions: are cross-sectional differences in subsequent performance changes related to the level or content of disclosures of restructurings in the financial statements?

In the companion study, I address the issue of sources of operating improvements. I obtain detailed disclosures of the restructuring actions, including the actions taken by management, the stated reason for the restructuring, and the breakout of the restructuring charge between asset write-downs and accruals for future cash expenditures. I then investigate how the actions and the motivation for the restructuring are related to subsequent operating performance changes.

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**Table 1**

Descriptive Statistics for 1,050 firm-year observations of restructuring charge announcements in fiscal years ending 1987-1992.

Panel A: Firm-year observations by industries with > 5% concentration of observations.

Industry	Two Digit SIC	No. of Obs.	Percent of Total
Chemicals and Allied Products	28	65	6.2
Industrial, Commercial Machinery, Computer Equipment	35	163	15.5
Electronics and Other Electrical Equipment	36	117	11.1
Measurement Instruments, Photographic Goods	38	65	6.2
Business Services	73	76	7.2
	all others	318	53.8
<b>Total</b>	<b>52</b>	<b>1,050</b>	<b>100.0</b>

Panel B: Firm-year observations by fiscal year of restructurings.

Restructuring Announcement Year	No. of Obs.
1987	75
1988	79
1989	118
1990	176
1991	266
1992	336
<b>Total</b>	<b>1,050</b>

**Table 1 (continued)**

Descriptive Statistics for 1,050 firm-year observations of restructuring charge announcements in fiscal years ending 1987-1992.

Panel C: Firm-year observations by the number of restructurings.

Number of Restructurings	Number of Firms
One	601
Two	147
Three	36
Four	8
Five	3
Total	795

Panel D: Median Percentage Change in Various Economic Indicators in the Post-Restructuring Period (average of Years -3 to -1) Relative to the Pre-Restructuring Period (average of Years +1 to +3).

Change in:	%
Number of Employees	-9.57
Ratio of Employees per \$1,000 Assets	-16.14
Asset Sales	-8.22
Capital Expenditures	-5.88
Cash Outflow for Acquisitions	-86.77



**Table 2a**

Pre- and post-restructuring year levels and changes, market- and industry-adjusted ROAs for 1,050 firm-year observations from fiscal years ending 1987 to 1992.

	Median Level ROA (%)	Median difference from prior year (%)	Market- Adjusted Median ROA (%)	Industry- Adjusted Median ROA (%)	No. of Obs.
Year -5	9.9	---	1.2**	1.0**	862
Year -4	10.6	0.0	2.1**	1.5**	913
Year -3	9.9	-0.3*	1.6**	1.3**	956
Year -2	8.7	-0.6**	1.0**	0.6*	989
Year -1	7.3	-1.0**	-0.4**	-0.5**	1,015
Year 0	4.9	-2.2**	-3.0**	-3.5**	1,008
Year +1	6.5	0.8**	-1.6**	-1.6**	957
Year +2	7.3	0.7**	-0.9**	-1.1**	909
Year +3	8.1	0.7**	-0.0	-0.3**	871
Year +4	9.0	0.6**	0.6	0.0	847
Year +5	9.2	0.4**	0.7	0.1	581

This table reports the median level of ROA (operating income including depreciation and amortization expense divided by average total assets), the median change in the ROA from the prior year, the median level of ROA adjusted for the median ROA of all firms on COMPUSTAT (market), the median level of ROA adjusted for the median ROA all firms on COMPUSTAT in the same two-digit SIC code (industry), and the number of observations with data available in that year, for eleven years centered on the restructuring year. ROA excludes restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. Of the 1,050 firms, 290 are from 1992 and therefore lack Year +5 data.

\* Significantly different from zero at the 5% level using Wilcoxon signed-rank test

\*\* Significantly different from zero at the 1% level using Wilcoxon signed-rank test

**Table 2b**

Pre- and post-restructuring year levels and changes, market- and industry-adjusted ROSs for 1,050 firm-year observations from fiscal years ending 1987 to 1992.

	Median Level ROS (%)	Median difference from prior year (%)	Market- Adjusted Median ROS (%)	Industry- Adjusted Median ROS (%)	No. of Obs.
Year -5	7.8	---	1.1**	1.0**	910
Year -4	8.0	0.2**	1.3**	1.2**	951
Year -3	7.9	-0.1	1.4**	1.1**	990
Year -2	7.2	-0.2**	0.9**	0.7**	1,017
Year -1	6.2	-0.7**	-0.1	-0.2*	1,026
Year 0	3.8	-1.4**	-2.6**	-2.5**	1,010
Year +1	5.2	0.6 **	-1.1**	-1.1**	957
Year +2	5.8	0.5**	-0.5*	-0.6**	910
Year +3	6.6	0.6**	0.3	0.1	873
Year +4	7.1	0.5**	0.7**	0.5	848
Year +5	7.3	0.5**	0.8**	0.5*	581

This table reports the median level of ROS (operating income including depreciation and amortization expense divided by total sales), the median change in the ROS from the prior year, the median level of ROS adjusted for the median ROS of all firms on COMPUSTAT (market), the median level of ROS adjusted for the median ROS all firms on COMPUSTAT in the same two-digit SIC code (industry), and the number of observations with data available in that year, for eleven years centered on the restructuring year. ROS excludes restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. Of the 1,050 firms, 290 are from 1992 and therefore lack Year +5 data.

\* Significantly different from zero at the 5% level using Wilcoxon signed-rank test

\*\* Significantly different from zero at the 1% level using Wilcoxon signed-rank test

**Table 3a**

Pre- and post-restructuring year ROAs adjusted for expected performance absent a restructuring, for 933 firm-year observations from fiscal years ending 1987-1992.

	Performance-Only Matched		Performance-Industry Matched	
	Adjusted Median ROA (%)	Number of Obs.	Adjusted Median ROA (%)	Number of Obs.
Year -3	0.1	933	0.0	809
Year -2	0.0	933	0.1	809
Year -1	-0.2	933	-0.2	809
Year 0	-2.2**	933	-2.2**	809
Year +1	-0.8**	884	-0.9**	765
Year +2	-0.1*	844	-0.5**	731
Year +3	0.4	807	0.2	701
Year +4	1.0**	784	0.3	674
Year +5	1.0**	541	0.6	453

Restructuring firms are matched with non-restructuring firms having similar ROA (operating income including depreciation and amortization expense divided by average total assets ) in Years -3 to -1. ROA excludes restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. Expected performance absent a restructuring is proxied by the median ROA of all firms with similar pre-restructuring performance (performance-only matched) and similar pre-restructuring performance in the same two-digit SIC code (performance-industry matched). The sample size drops from 1,050 to 933 because 117 firm-year observations are missing at least one year of ROA data during the matching period. Of the 933 firms, 254 are from 1992 and therefore lack Year +5 data.

\* Significantly different from zero at the 5% level using Wilcoxon signed-rank test

\*\* Significantly different from zero at the 1% level using Wilcoxon signed-rank test

**Table 3b**

Pre- and post-restructuring year ROSs adjusted for expected performance absent a restructuring, for 966 firm-year observations from fiscal years ending 1987-1992.

	Performance-Only Matched		Performance-Industry Matched	
	Adjusted Median ROS (%)	Number of Obs.	Adjusted Median ROS (%)	Number of Obs.
Year -3	0.0	966	0.0	846
Year -2	-0.2**	966	-0.1**	846
Year -1	-0.4**	966	-0.4**	846
Year 0	-2.3**	966	-2.2**	846
Year +1	-1.1**	912	-1.3**	801
Year +2	-0.7**	864	-0.7**	755
Year +3	-0.1**	828	-0.3	720
Year +4	0.0	804	0.0	693
Year +5	0.0	551	-0.4	470

Restructuring firms are matched with non-restructuring firms having similar ROS (operating income including depreciation and amortization expense divided by total sales) in Years -3 to -1. ROS excludes restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. Expected performance absent a restructuring is proxied by the median ROS of all firms with similar pre-restructuring performance (performance-only matched) and similar pre-restructuring performance in the same two-digit SIC code (performance-industry matched). The sample size drops from 1,050 to 966 because 84 firm-year observations are missing at least one year of ROS data during the matching period. Of the 966 firms, 266 are from 1992 and therefore lack Year +5 data.

\* Significantly different from zero at the 5% level using Wilcoxon signed-rank test

\*\* Significantly different from zero at the 1% level using Wilcoxon signed-rank test

**Table 4**

Post-restructuring year ROA adjusted for asset write-downs and for expected performance absent a restructuring, for 933 firm-year observations from fiscal years ending 1987-1992.

	Performance-Only Matched		Performance-Industry Matched	
	Adjusted Median ROA (%)	Number of Obs.	Adjusted Median ROA (%)	Number of Obs.
Year 0	-2.7**	933	-2.6**	809
Year +1	-1.3**	884	-1.5**	765
Year +2	-0.7**	844	-1.0**	731
Year +3	-0.1*	807	-0.2**	701
Year +4	0.2	784	-0.2*	674
Year +5	0.6	541	0.0	453

The actual ROA of restructuring firms is adjusted in Years 0 to +5 for possible asset write-downs taken in Year 0, by first assuming the entire restructuring charge is related to an asset write-down and then adjusting ROA for the accounting effects. Restructuring firms are matched with non-restructuring firms having similar ROA (operating income including depreciation and amortization expense divided by average total assets ) in Years -3 to -1. ROA excludes restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. Expected performance absent a restructuring is proxied by the median ROA of all firms with similar pre-restructuring performance (performance-only matched) and similar pre-restructuring performance in the same two-digit SIC code (performance-industry matched). The sample size drops from 1,050 to 933 because 117 firm-year observations are missing at least one year of ROA data during the matching period. Of the 933 firms, 254 are from 1992 and therefore lack Year +5 data.

\* Significantly different from zero at the 5% level using Wilcoxon signed-rank test

\*\* Significantly different from zero at the 1% level using Wilcoxon signed-rank test

**Table 5a**

Post-restructuring year ROA substituting the last available performance measure for firms that drop-out, adjusted for expected performance absent a restructuring, for 933 firm-year observations from fiscal years ending 1987-1992.

	Performance-Only Matched		Performance-Industry Matched	
	Adjusted Median ROA (%)	Number of Obs.	Adjusted Median ROA (%)	Number of Obs.
Year 0	-2.2**	933	-2.2**	809
Year +1	-0.9**	933	-1.1**	809
Year +2	-0.3**	933	-0.6**	809
Year +3	0.2	933	0.0	809
Year +4	0.8	933	0.4	809
Year +5	1.0**	679	0.5	583

Restructuring firms are matched with non-restructuring firms having similar ROA (operating income including depreciation and amortization expense divided by average total assets ) in Years -3 to -1. ROA excludes restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. Expected performance absent a restructuring is proxied by the median ROA of all firms with similar pre-restructuring performance (performance-only matched) and similar pre-restructuring performance in the same two-digit SIC code (performance-industry matched). The sample size drops from 1,050 to 933 because 117 firm-year observations are missing at least one year of ROA data during the matching period. Of the 933 firms, 254 are from 1992 and therefore lack Year +5 data.

\* Significantly different from zero at the 5% level using Wilcoxon signed-rank test

\*\* Significantly different from zero at the 1% level using Wilcoxon signed-rank test

**Table 5b**

Post-restructuring year ROS substituting the last available performance measure for firms that drop-out, adjusted for expected performance absent a restructuring, for 966 firm-year observations from fiscal years ending 1987-1992.

	Performance-Only Matched		Performance-Industry Matched	
	Adjusted Median ROS (%)	Number of Obs.	Adjusted Median ROS (%)	Number of Obs.
Year 0	-2.3**	966	-2.2**	846
Year +1	-1.1**	966	-1.3**	846
Year +2	-0.7**	966	-0.6**	846
Year +3	-0.2*	966	-0.4	846
Year +4	0.0	966	0.1	846
Year +5	0.0	700	-0.4	612

Restructuring firms are matched with non-restructuring firms having similar ROS (operating income including depreciation and amortization expense divided by total sales) in Years -3 to -1. ROS excludes restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. Expected performance absent a restructuring is proxied by the median ROS of all firms with similar pre-restructuring performance (performance-only matched) and similar pre-restructuring performance in the same two-digit SIC code (performance-industry matched). The sample size drops from 1,050 to 966 because 84 firm-year observations are missing at least one year of ROS data during the matching period. Of the 966 firms, 266 are from 1992 and therefore lack Year +5 data.

\* Significantly different from zero at the 5% level using Wilcoxon signed-rank test

\*\* Significantly different from zero at the 1% level using Wilcoxon signed-rank test

**Table 6**

Cumulative abnormal returns around restructuring charge announcements for 965 firm-year observations from fiscal years ending 1987-1992 and for 192 of those announcements during which the restructuring charge was the only information released.

	CAR (p-value)	No. of Obs.
All Observations	-1.2% (0.00)	965
Restructuring Announcements Only	-1.3% (0.05)	192

Cumulative abnormal returns are measured as the abnormal returns in Day -1, 0 and +1 relative to the restructuring announcement (Day 0). Abnormal returns are market-model adjusted returns with the parameters of the model estimated using the 200 days prior to Day -10 relative to the restructuring announcement. The sample size drops from 1,050 to 965 because 85 firms did not have CRSP data available to estimate cumulative abnormal returns.



**Table 7**

Correlation between cumulative abnormal returns around restructuring charge announcements and long-term subsequent performance changes for 965 firm-year observations from fiscal years ending 1987-1992 and for 192 of those announcements during which the restructuring charge was the only information released.

Average Adjusted Performance Measure (Years +3 to +5)	All Firms	No. of Obs.	Restructuring Announcement Only Firms	No. of Obs.
ROA-Performance Only matched	0.036 (0.32)	765	-0.013 (0.87)	155
ROA - Performance and Industry matched	0.012 (0.76)	665	-0.040 (0.65)	136
ROS - Performance Only matched	0.049 (0.17)	787	-0.065 (0.42)	158
ROS- Performance and Industry matched	-0.005 (0.90)	685	-0.046 (0.59)	140

This table presents the Spearman correlation (p-value) of announcement period cumulative abnormal returns (Days -1 to +1) and subsequent performance for all firms and for firms that announced only the restructuring on the event day. Four measures of adjusted subsequent performance are averaged over the period Year +3 to +5: ROA and ROS adjusted for the median ROA/ROS of all firms with similar pre-restructuring performance (performance-only matched) and similar pre-restructuring performance in the same two-digit SIC code (performance-industry matched). The sample size drops from 1,050 to 965 because 85 firms did not have CRSP data available to estimate cumulative abnormal returns. The sample sizes further drops from 965 and 192 because of missing operating performance data.

#### Performance Measures

ROA: Operating income including depreciation and amortization expense divided by average total assets.

ROS: Operating income including depreciation and amortization expense divided by total sales.

These measures exclude the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense.

**Table 8**

Correlation between cumulative abnormal returns around restructuring charge announcements and near-term subsequent performance changes for 965 firm-year observations of restructuring charge announcements during fiscal years ending 1987-1992 and for 192 of those announcements during which the restructuring charge was the only information released.

Cumulative Adjusted Performance Measure (Years +1 to +2)	All Firms	No. of Obs.	Restructuring Announcement Only Firms	No. of Obs.
ROA-Performance Only matched	0.092 (0.01)	801	0.036 (0.65)	162
ROA - Performance and Industry matched	0.084 (0.03)	695	0.153 (0.07)	142
ROS - Performance Only matched	0.102 (0.00)	756	0.064 (0.41)	166
ROS- Performance and Industry matched	0.106 (0.00)	716	0.119 (0.15)	150

This table presents the Spearman correlation (p-value) of announcement period cumulative abnormal returns (Days -1 to +1) and subsequent performance for all firms and for firms that announced only the restructuring on the event day. Four measures of adjusted subsequent performance are accumulated over the period Years +1 to +2: ROA and ROS adjusted for the median ROA/ROS of all firms with similar pre-restructuring performance (performance-only matched) and similar pre-restructuring performance in the same two-digit SIC code (performance-industry matched). The sample size drops from 1,050 to 965 because 85 firms did not have CRSP data available to estimate cumulative abnormal returns. The sample sizes further drops from 965 and 192 because of missing operating performance data.

#### Performance Measures

ROA: Operating income including depreciation and amortization expense divided by average total assets.

ROS: Operating income including depreciation and amortization expense divided by total sales.

These measures exclude the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense.

**Table 9**

Regression of ranked average market-adjusted returns (Year +1) on ranked long-term average adjusted performance changes (Years +3 to +5) and ranked concurrent average market-adjusted returns (Years +3 to +5) for 950 firm-year observations during fiscal years ending 1987-1992.

$$\text{Ranked AVRET}_i = \alpha + \beta_1 * \text{Ranked AVPERF345}_i + \beta_2 * \text{Ranked AVRET345}_i + \varepsilon_i$$

Performance Measure For AVPERF345	$\beta_1$ (p-value)	$\beta_2$ (p-value)	No. of Obs.
ROA-Performance Only matched	0.162 (0.00)	-0.032 (0.44)	751
ROA - Performance and Industry matched	0.208 (0.00)	-0.042 (0.37)	659
ROS - Performance Only matched	0.145 (0.00)	-0.014 (0.72)	767
ROS- Performance and Industry matched	0.147 (0.00)	-0.032 (0.50)	680

AVRET1: Cumulative market-adjusted stock returns over Year +1

AVPERF345: Average subsequent operating performance over Years +3 to +5

AVRET345: Average market-adjusted returns over Years +3 to +5

Four measures of adjusted subsequent performance are averaged over the period Year +3 to +5: ROA and ROS adjusted for the median ROA/ROS of all firms with similar pre-restructuring performance (performance-only matched) and similar pre-restructuring performance in the same two-digit SIC code (performance-industry matched). The sample size drops from 1,050 to 950 because 100 firms were lacking stock return data in Year +1. The sample size further drops because of missing operating performance data.

#### Performance Measures

ROA: Operating income including depreciation and amortization expense divided by average total assets.

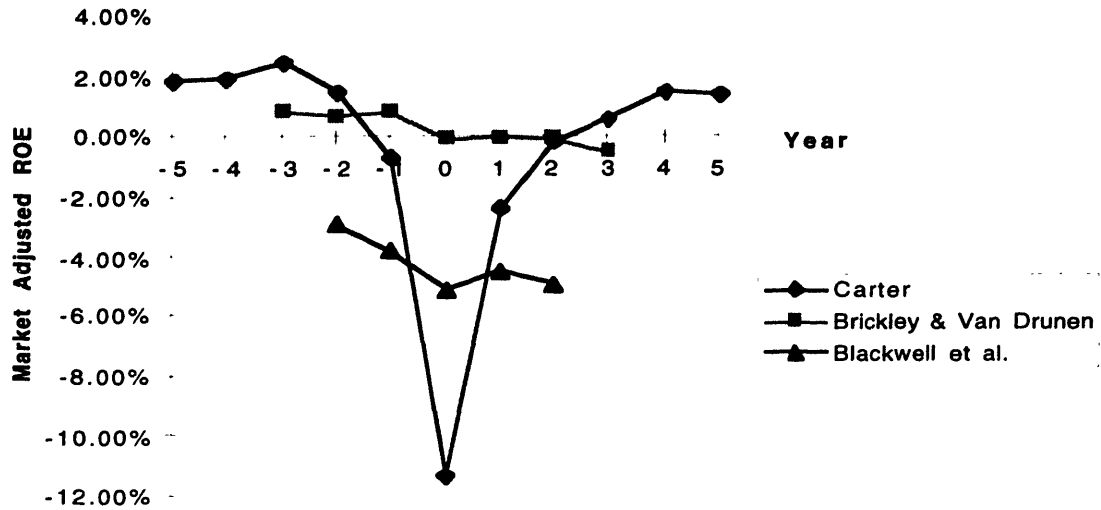
ROS: Operating income including depreciation and amortization expense divided by total sales.

These measures exclude the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense.

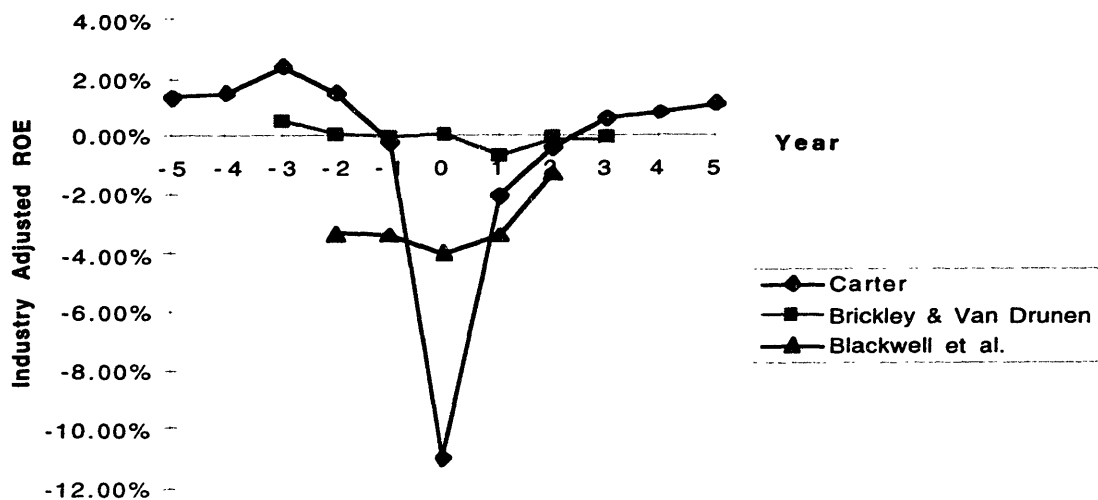
**Figure 1**

**Comparison of Current Study with Prior Studies**

**Panel A: Median ROE of Restructuring Firms Adjusted for the Market ROE**



**Panel B: Median ROE of Restructuring Firms Adjusted for the Industry ROE**

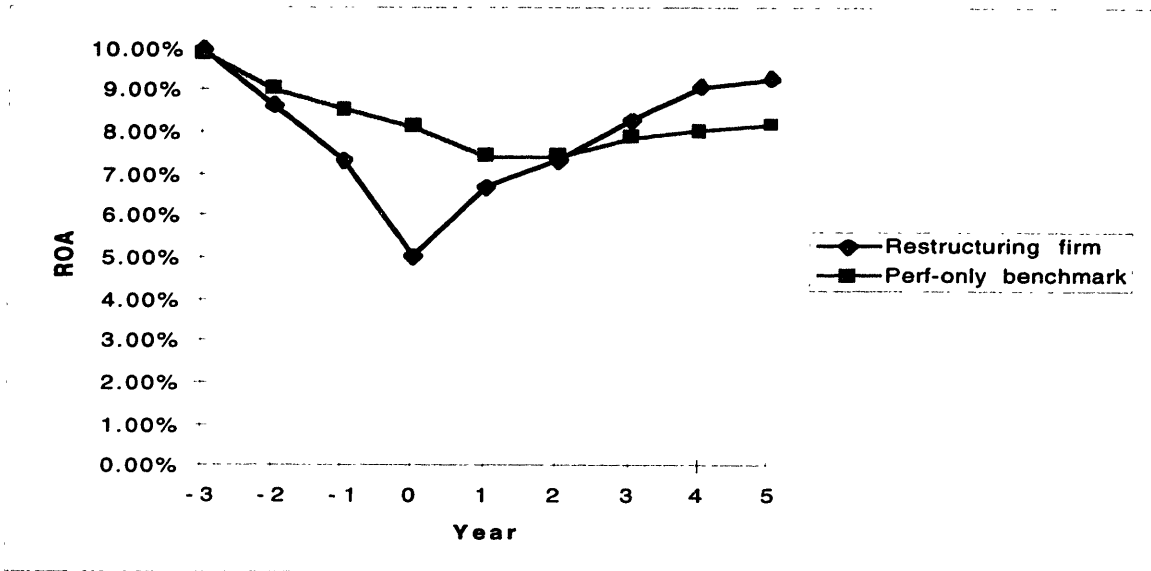


ROE is calculated as after-tax net income scaled by the book value of shareholders' equity. This measure includes any restructuring charges.

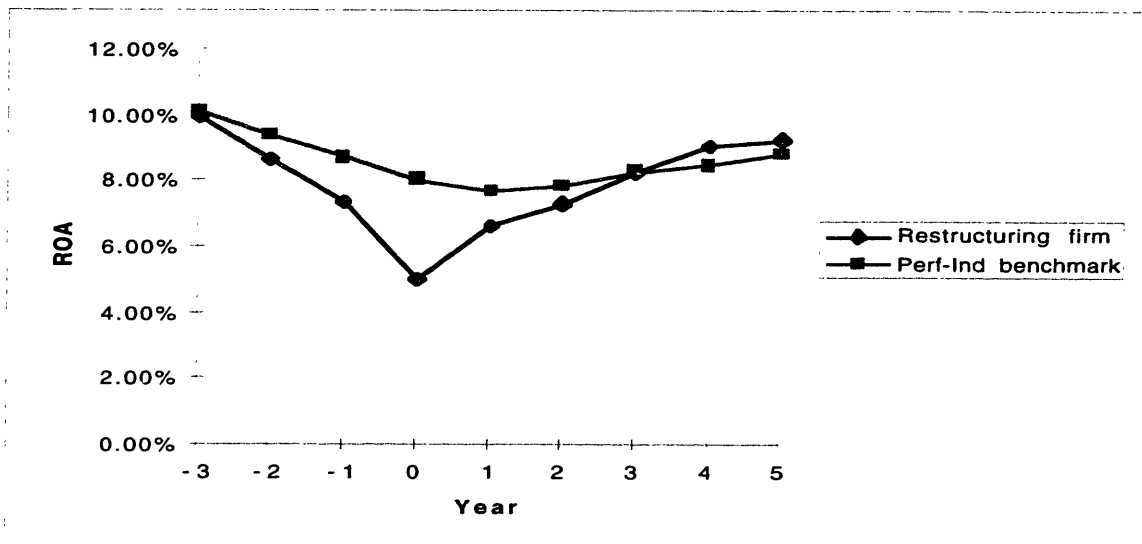
**Figure 2**

**Median ROA in the Nine Year Restructuring Event Window**

**Panel A: Median ROA of Restructuring Firms vs. Median ROA of Performance-only Matched Benchmark Firms**



**Panel B: Median ROA of Restructuring Firms vs. Median ROA of Performance-Industry Matched Benchmark Firms**

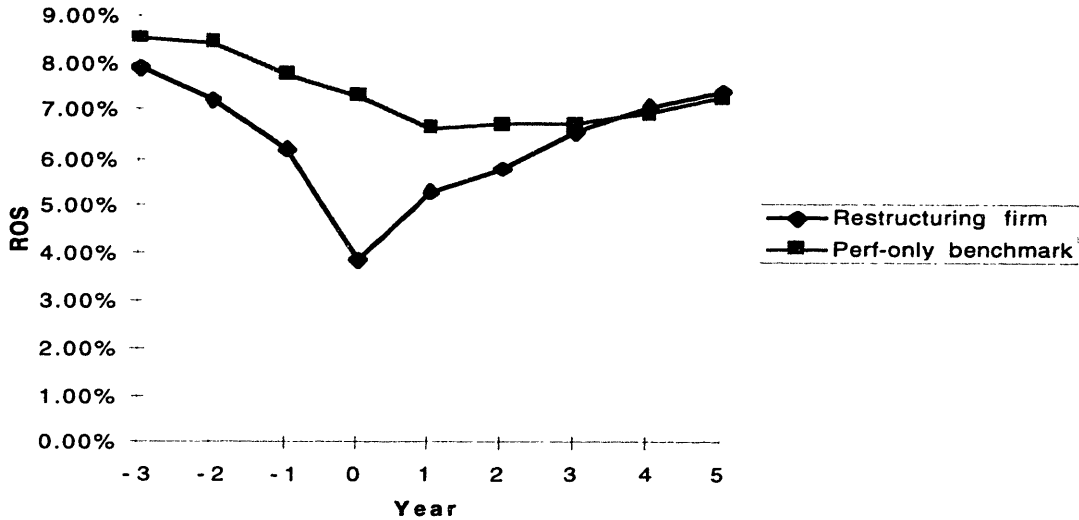


ROA is calculated as operating income including depreciation and amortization expense divided by average total assets. This measure excludes the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense.

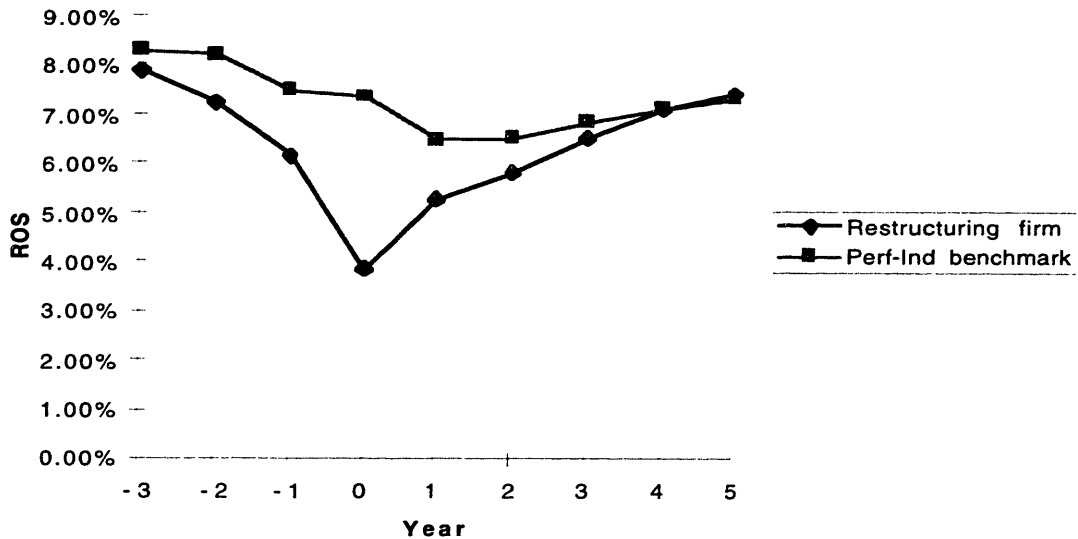
**Figure 3**

**Median ROS in the Nine Year Restructuring Event Window**

**Panel A: Median ROS of Restructuring Firms vs. Median ROS of Performance-only Matched Benchmark Firms**



**Panel B: Median ROS of Restructuring Firms vs. Median ROS of Performance-Industry Matched Benchmark Firms**

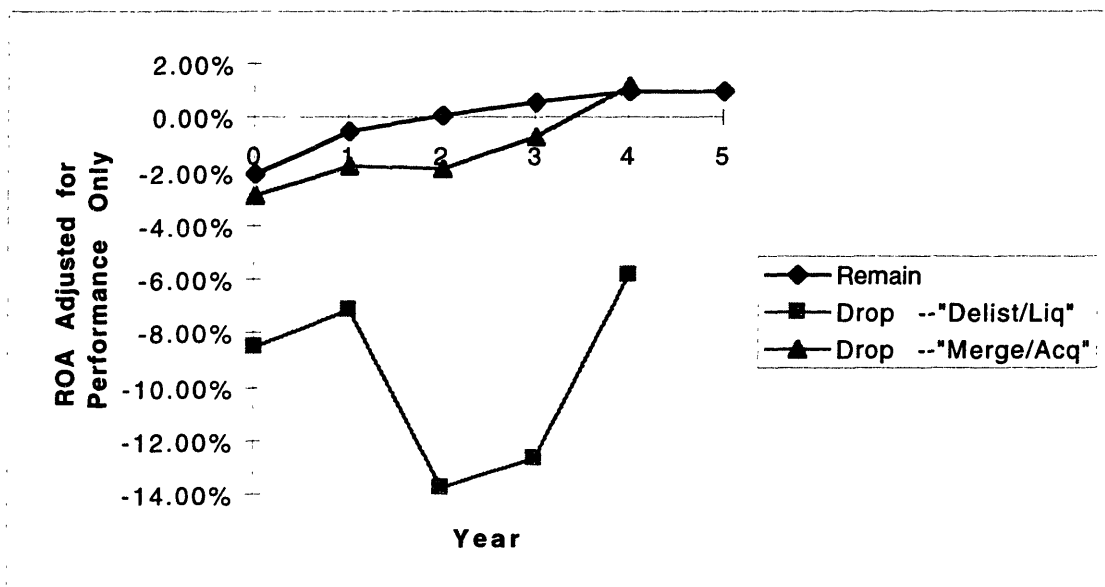


ROS is calculated as operating income including depreciation and amortization expense divided by total sales. This measure excludes the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense.

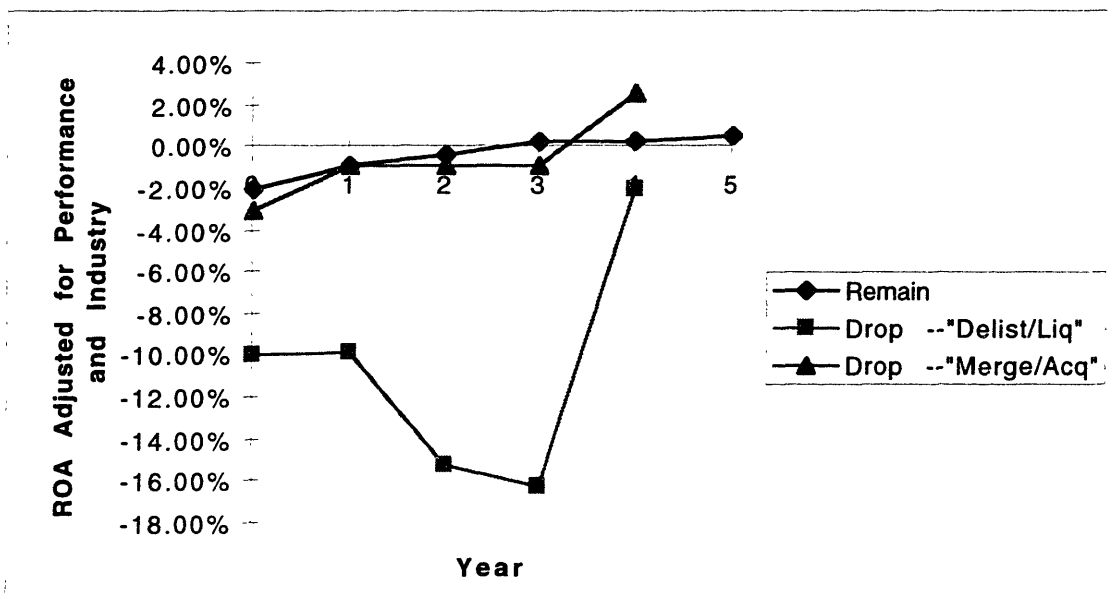
**Figure 4**

**Median ROA in the Six Year Post-Restructuring Event Window  
Partitioned on Reason for Delisting**

**Panel A: Median ROA of Restructuring Firms Adjusted Using the Performance-  
only Matched Benchmark, Partitioned on the Reason Firms Delist.**



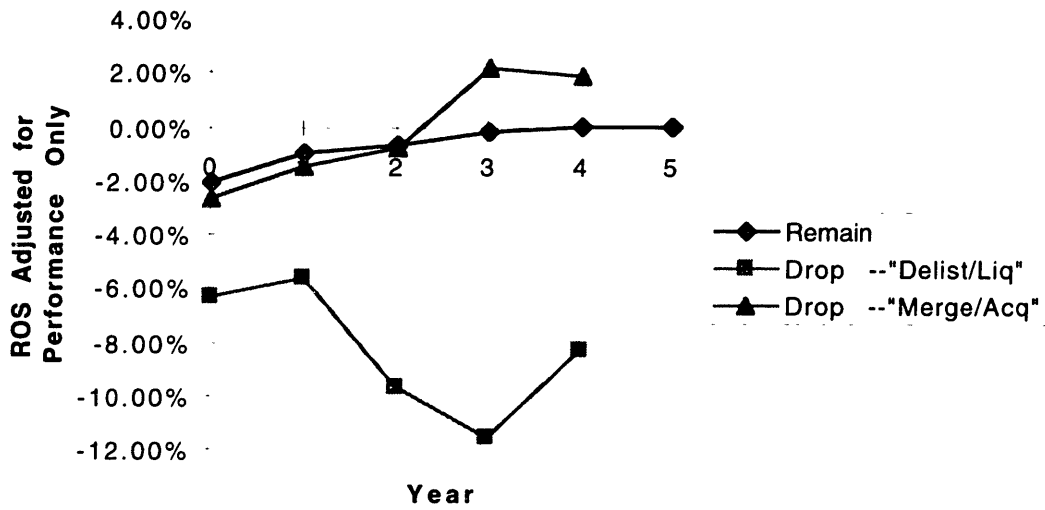
**Panel B: Median ROA of Restructuring Firms Adjusted Using the Performance-  
Industry Matched Benchmark, Partitioned on the Reason Firms Delist.**



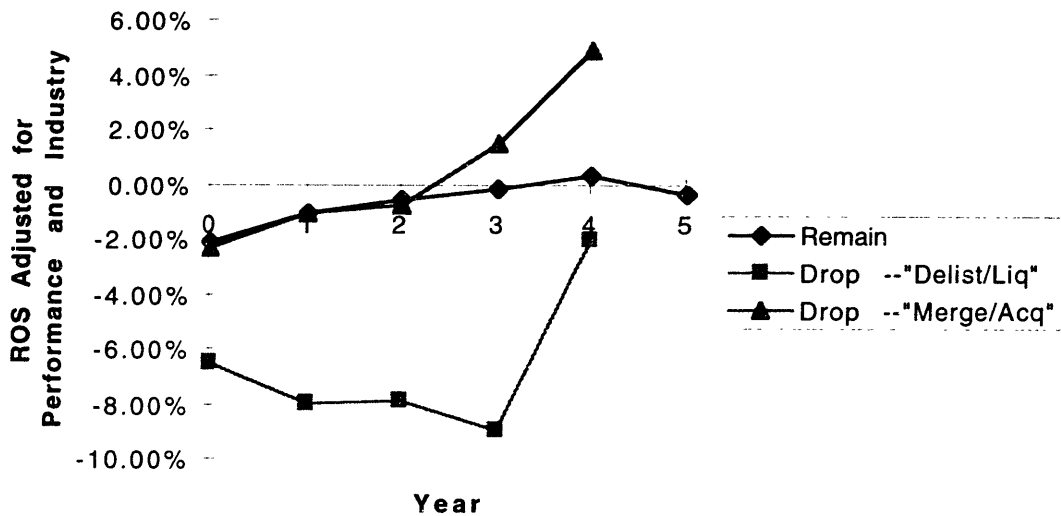
**Figure 5**

**Median ROS in the Six Year Post-Restructuring Event Window  
Partitioned on Reason for Delisting**

**Panel A: Median ROS of Restructuring Firms Adjusted Using the Performance-only Matched Benchmark, Partitioned on the Reason Firms Delist.**



**Panel B: Median ROS of Restructuring Firms Adjusted Using the Performance-Industry Matched Benchmark, Partitioned on the Reason Firms Delist.**





## **Chapter Two**

### **The Relationship Between Restructuring Disclosures and Subsequent Performance**

## **1. Introduction**

In 1994, the Financial Accounting Standards Board (FASB) addressed the issue of the guidance that should be provided to companies that are reporting restructuring charges in their financial statements. Given the diversity that was in existence in the early 1990's in the practice of accounting for and disclosure of restructurings, regulators were concerned that companies were either confused over the required reporting or abusive in the use of restructuring charges. In the guidelines provided in the Emerging Issues Task Force [EITF] Issue 94-3, the FASB addressed, among other accounting issues, what additional disclosures should be made when restructuring charges are recorded on the financial statements.<sup>20</sup> The FASB was interested in making the restructurings more transparent to investors. A consensus was reached in January 1995 that firms should disclose in the financial statements a description of the major actions to be taken, as well as the type and magnitude of costs recognized as liabilities.

In the first chapter, I provide evidence on whether firms that report restructuring charges experience, in general, improvements in operating performance, relative to the expectation of performance absent a restructuring. In that chapter, I develop measures of operating performance changes attributable to the restructuring by adjusting the operating performance of restructuring firms for the performance of non-restructuring firms that have similar operating performance in the pre-restructuring period.

I use the performance measures developed in Chapter One to address the question: Are disclosures made about the actions taken in the restructuring and the circumstances behind the restructuring associated with subsequent restructuring-related performance changes? If the disclosures of the actions and the motivations are related to subsequent performance changes, then it may be possible for the required disclosures to make the effects of the restructuring more transparent to investors.

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<sup>20</sup> FASB Emerging Issues Task Force Issue 94-3, Minutes of the March 24, 1994 meeting.

A second question addressed in this chapter is: Are firms that provide more detailed disclosure about the actions taken in the restructuring rewarded by investors, with higher market-adjusted stock returns? Prior to the issuance of EITF 94-3, firms did not have clear guidance on what details were required to be disclosed in connection with a restructuring. As a result of the lack of guidance, there is significant cross-sectional variation in the level of disclosure because details were, in effect, voluntary. While better performing firms could self-select into providing more detailed disclosure, firms that provide more details may be more certain about the actions to be taken and more confident about the effects of those actions. Further, we might expect these firms to have better subsequent operating performance. For these reasons, the increased disclosure may be rewarded with higher stock returns.

While there has been prior research on the relationship of restructuring-related disclosures and stock returns, there are no studies that have considered the relationship of disclosures and operating performance. This study contributes to the literature by providing evidence on the relationship between restructuring-related disclosures and subsequent restructuring-related operating performance. A second contribution of this study is evidence on whether firms that provide higher disclosure are rewarded by the market.

Using disclosure data from 231 firms that announced 307 restructuring charges during 1987 - 1992, I find no correlation between the disclosures of the actions taken in the restructuring and subsequent operating performance. The degree of change in the scope of operations (both low degree and high degree) is not associated with subsequent restructuring-related performance changes in Years +3 to +5 (with Year 0 as the restructuring year). In addition, other characteristics of the restructuring, including the size of the restructuring charge and whether the company revalued assets as part of the restructuring, do not explain cross-sectional variation in the subsequent restructuring-

related performance changes. Restructurings that are motivated by business conditions (competition, macroeconomic factors, etc.) are associated with lower subsequent performance; however, restructurings motivated by prior mergers have little explanatory power. One interpretation of these results is that actions taken by firms in restructuring are idiosyncratic to the firm, and there is no single set of actions that are universally associated with subsequent performance changes.

Results of test of the level of detail of disclosure suggest that firms providing more detailed disclosures of the restructuring actions do not have better subsequent performance relative to the expectation of performance absent a restructuring. High disclosure firms do have lower percentage changes in subsequent restructuring-related performance between Year +1 and Year +5. However, this is due to high disclosure firms having higher levels of restructuring-related operating performance in Year +1.

High disclosure firms do experience higher market-adjusted stock returns in the year after the restructuring is announced, when the detailed disclosures are released in the annual report or Form 10-K. One possible explanation is that better performing firms self-select into providing more detailed disclosure. However, even after controlling for the current level and percentage change in operating performance, high disclosure firms still have higher returns. The puzzle remains as to why firms that provide detailed disclosure of restructuring actions do not have better subsequent restructuring-related operating performance, but do have higher market-adjusted stock returns in the year following the restructuring announcement.

The remainder of the paper is organized as follows. Section 2 provides background information and a discussion of the issues associated with restructurings. Section 3 reviews the prior literature. Section 4 describes the research design. Section 5 discusses the results and Section 6 concludes.

## 2. Background Information

The increase in the frequency and size of restructuring charges gained the attention of the Securities and Exchange Commission (SEC) in 1986 and then again the early 1990's. In 1986, the SEC issued a bulletin (SAB 67) "Income Statement Presentation of Restructuring Charges" to clarify ambiguities as to how a charge may be disclosed. This bulletin required companies to include the charge in income from continuing operations but allowed them to disclose it as a separate component. In addition, companies were encouraged to discuss the charge in the Management Discussion and Analysis section of the annual report or Form 10-K.

In the early 1990's, the issue of accounting for and disclosing restructurings resurfaced. In 1993, the SEC reviewed a \$282 million restructuring charge taken by Borden Inc. and required them to restate 1992 earnings, moving \$146 million out of the charge and into cost of goods sold and operating expenses, as well as an additional \$17 million into an extraordinary item. Of the remaining amount, \$60 million was moved into 1993 and \$59 million was canceled [Sack, et al. (1995)]. In 1994, the SEC asked the Financial Accounting Standards Board (FASB) to address the issue of restructurings to reduce the diversity and size of write-downs.<sup>21</sup> The FASB was aware the companies were unclear about what to report because of the vagueness of authoritative pronouncements but also suspected that companies were abusing the use of restructuring charges as a way to manage earnings.

The increased scrutiny became transparent in early 1994 when, in February and April, the SEC sent form letters to 180 companies that had either taken or announced intentions to take restructuring charges in 1993.<sup>22</sup> The letter reminded companies to

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<sup>21</sup> Ian Springsteel, "Write-off Game, Set, Match", *CFO: The Magazine for Senior Financial Executives*, January 1995, p. 15.

<sup>22</sup> Randy Myers, "Much Ado about Write-Offs", *CFO: The Magazine for Senior Financial Executives*, March 1995, p. 64.

disclose a discussion of the circumstances leading to the charge, quantifications of material elements, and separate disclosure of the cash and non-cash components.<sup>23</sup> The FASB formed an Emerging Issues Task Force to address the issue (94-3): Accounting for Restructuring Charges. This task force identified two accounting issues relating to restructurings: (1) when a firm should recognize the expenses associated with restructuring and (2) what additional disclosures should be made in the financial statements related to the restructuring charge.

After a series of meetings, the task force reached a consensus as to when costs to restructure should be recognized and which disclosures should be included in the financial statements. Costs to restructure should be recognized as a liability when management has made a commitment to the restructuring (i.e., when a formal plan of restructuring has been approved by those with the authority to do so). The costs to be included are only those costs that do not benefit future operating activities. Specific attention was given to employee termination benefits as they are often a significant portion of the charge. These charges should be accrued after a formal plan, with specific details as to the number of employees (locations, job descriptions, etc.), has been approved and the employees have been notified about the arrangements.

The task force also addressed the financial reporting and disclosure requirements related to a restructuring plan. The task force reached the following consensus:

“If the activities that will not be continued are significant to the enterprise’s revenue or operating results, or the exit costs recognized at the commitment date are material, the following disclosures should be made in the financial statements in all periods until the exit plan is completed:

- i. A description of the major actions composing (sic) the exit plan, activities that will not be continued, including the method of disposition, and the anticipated date of completion
- ii. A description of the type and amount of exit costs recognized as liabilities and the classification of those costs in the income statement

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<sup>23</sup> Emily S. Plishner, “SEC Reminder: Full Disclosure”, *Chemical Week*, March 9, 1994, p. 16.

- iii. A description of the type and amount of exit costs paid and charged against the liability
- iv. The amount of any adjustment(s) to the liability
- v. For all periods presented, the revenue and net operating income or losses from activities that will not be continued if those activities have separately identifiable operations.”<sup>24</sup>

One concern of the regulators that directed their attention to the accounting issues of restructuring charges was the diversity in practice among firms that disclosed restructurings. Mark Sweeney, a FASB practice fellow, stated that there was concern that companies were unclear on how they should be reporting the restructurings. “Before now, the guidance in this area was pretty poor. There were some companies that deliberately abused restructuring charges, but I think most were just confused and unclear on what to report.”<sup>25</sup> Another concern of the regulators is that companies were managing earnings through the use of restructurings. Though not made explicit by the FASB, it is likely that one benefit of increased disclosure was to allow investors to make independent assessments of the adequacy (or overstatement) of the restructuring charge, given the details of the actions to be taken. For example, investors could make an independent assessment of the costs accrued for severance given the number of employees to be laid-off.

Companies may be reluctant to provide specific details about the restructuring in the financial statements. When companies in competitive product markets change their business operations, strategy or structure, they may not want to release detailed information about the changes they are making, as this information could be valuable to competitors. For example, in their quarterly conference call to analysts on January 27, 1997, the CEO of

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<sup>24</sup> FASB Emerging Issues Task Force minutes of the January 19, 1995 meeting.

<sup>25</sup> Ian Springsteel, “Write-off Game, Set, Match”, *CFO: The Magazine for Senior Financial Executives*, January 1995, p. 15.

Standard Products, a manufacturer of automotive parts, refused to put a range on the costs to close two plants, because any estimates made by management would become factors in the negotiation with employees. Thus, in the absence of clearly defined reporting requirements, firms may not choose to make these disclosures because of the perceived costs of disclosing proprietary information. Indeed the American Institute of Certified Public Accountants (AICPA) acknowledges the cost/benefit trade-off of increased disclosure. "It is impossible to measure with precision many of the costs and benefits of improved disclosure, such as the cost of disclosing competitively harmful information or the benefits to the economy of another piece of useful information."<sup>26</sup>

Alternatively, firms may chose to provide information because it is not costly to do so. That is, if the information that is disclosed is already known by market participants, then there is no cost to revealing the information in the financial statements. There will, however, also be no benefit to disclosing previously known information.

In this paper, I address two questions related to the financial statement disclosures of restructuring charges. First, are the disclosures made about the actions taken (or to be taken) in the restructurings related to subsequent operating performance? The intention of the FASB in EITF 94-3 was to make the restructuring more transparent to investors. Given the possible cost/benefit trade-off and the difficulty of measuring the costs of increased disclosure, evidence on this question provides some indication of the benefits of the increased disclosure. In particular, it provides evidence as to whether the increased disclosure of the restructuring actions allows investors to predict the operating performance effects of the restructuring. This is a test of a possible means for making the restructuring more transparent, not a test of whether they are more transparent as a result of increases in disclosure.

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<sup>26</sup> *Improving Business Reporting - A Customer Focus, Comprehensive Report of the Special Committee on Financial Reporting*, American Institute of Certified Public Accountants, p. 5.



The sample period in this study is chosen to allow for five years of operating performance subsequent to the initiation of the restructuring. Because EITF 94-3 was not in effect during the sample period, the disclosures made by firms were voluntary in that, as the FASB acknowledged, clear guidance on the reporting and disclosure of restructuring charges was not available. This allows me to test the second question of whether firms that make voluntary disclosures, possibly because they are more confident in their actions, have higher market-adjusted stock returns or higher subsequent restructuring-related operating performance.

### **3. Prior Literature**

There are no prior studies that directly test whether restructuring-related disclosures in the financial statements are correlated with subsequent restructuring-related operating performance changes. However, there are studies that have tested whether some restructuring-related disclosures are correlated with stock returns. In particular, these studies have tested the information content of the disaggregation of the restructuring charge into its cash and non-cash components. Francis et al. (1996) and Lindahl and Ricks (1991) find a positive stock price response to the announcement of write-offs related to operating changes (cash component) and a negative response to charges related to asset write-downs (non-cash component). Francis et al. (1996) also tests whether the market reaction to the announcement is related to management's characterization of the write-off. They do not find support that management's tone is correlated with the announcement period returns. Hogan and Jeter (1997) find a positive response to both the asset write-down and the cash components of restructuring charges. However, they find that the cash portion has a negative response in the presence of reported losses and that the write-downs are less positive when there are management changes.

Prior studies have considered issues of disclosure and why firms would or would not voluntarily disclose information. Trueman (1986) suggests that managers will voluntarily release earnings forecasts because the forecast release gives investors a more favorable assessment of a manager's ability to adjust production to changing economic conditions. Healy and Palepu (1993) describe the three conditions that make financial reporting an imperfect mechanism to communicate with outside investors: the superiority of management's information over the information of investors, the imperfect alignment of manager's incentives with investors, and imperfect accounting and auditing rules. They suggest that one mechanism for managers to make their financial reports more credible is to expand the financial disclosure. However, a constraint on expanded disclosure is the possible negative economic consequences of disclosing proprietary information.

Verrecchia (1983) suggests that the existence of disclosure-related costs (i.e. costs of disclosing proprietary information) allows for the possibility that managers will not necessarily disclose all private information. While the absence of disclosure could be interpreted as bad news and thus cause investors to bid down the price of the firm, the existence of disclosure-related costs allows for the possibility that managers may indeed have "good news", but given the costs of disclosing the news, managers rationally chose to withhold information.

Several empirical papers have studied the benefits of expanded disclosure. Healy et al. (1995) provide some evidence that benefits of increased disclosure include reducing undervaluation and creating consensus about the firm's future prospects, possibly increasing the liquidity of the firm's stock. Botosan (1997) provides evidence from 122 firms in the machine industry in 1990, that firms with low analyst following experience a lower cost of capital with greater disclosure in the annual reports. However, firms with high analyst following do not have an association between disclosure level and cost of capital. Lang and Lundholm (1996) study 2,272 firm year observations of disclosure

practices measured by the *Reports of the Financial Analysts Federation Corporate Information Committee* (FAF Report 1985-89). They find that firms with more informative disclosure policies have larger analyst followings and more accurate analyst earnings forecasts.

My paper contributes to the literature in two ways. First, I provide evidence on the test of the joint hypothesis that actions and the disclosures of the actions are correlated with subsequent operating performance. This provides evidence on the question of whether additional disclosures could make the effects of the restructuring more transparent to investors. If restructuring-related disclosures are correlated with subsequent operating performance changes, then investors can use the disclosed information to predict future restructuring-related performance. The disclosures tested for their explanatory power of the cross-sectional differences in performance include the nature of the actions that managers take in the restructuring, the motivation for the restructuring, and the level of disclosure provided by the firm.

The second contribution of this paper is to provide evidence as to whether, on average, firms that provide more detailed disclosures of restructuring actions have higher stock returns and/or higher subsequent restructuring-related operating performance. Higher stock returns suggest that firms are rewarded for providing increased disclosure, as the disclosure may be viewed as credible signals of management's ability to operate the firm. However, better performing firms may self-select into providing more disclosure. Lang and Lundholm (1993) find that FAF disclosure ratings are increasing in firm performance using both unexpected earnings and market-adjusted stock returns. To address the causality issue, the association of the disclosure level and subsequent operating performance is also estimated. Higher subsequent restructuring-related operating performance suggests that either better performing firms self-select into providing higher

levels of disclosure or that the market correctly assessed the disclosure as a signal of credible, competent management.

#### **4. Research Design**

This section discusses the research design used in this paper. Section 4.1 discusses the sample selection. Section 4.2 discusses the performance measures used and the disclosure data collected. Section 4.3 presents the method of analysis.

##### **4.1. Sample Selection**

The study uses a sample of 250 firms randomly chosen from the sample used in Chapter One. That sample consists of 795 firms announcing restructuring charges on the Reuters Financial Wire on Lexis/Nexis® during fiscal years ending in 1987-1992. Because firms can announce more than one restructuring during the time period studied, the sample of 250 firms consists of 329 firm-year observations. For 22 of these observations (representing 19 unique companies), the annual reports or Form 10-K could not be obtained, resulting in a final sample of 307 firm-year observations.

##### **4.2. Data**

###### **Performance Measures**

The measures of restructuring-related operating performance used are the performance measures developed in Chapter One. For each restructuring firm, four performance measures are used: (1) return on assets (ROA) adjusted for the median ROA of all non-restructuring firms with similar ROA in the three years prior to the year of the restructuring, (2) return on sales (ROS) adjusted for the median ROS of all non-restructuring firms with similar ROS in the three years prior to the year of the restructuring, (3) return on assets (ROA) adjusted for the median ROA of all non-restructuring firms with

similar ROA in the three years prior to the year of the restructuring and in the same industry (2-digit SIC code) as the restructuring firm, and (4) return on sales (ROS) adjusted for the median ROS of all non-restructuring firms with similar ROS in the three years prior to the year of the restructuring and in the same industry (2-digit SIC code) as the restructuring firm.

As proxies for restructuring-related performance, I use the average of the performance measures in Years +3 to +5 (recall, Year 0 is the restructuring year). In Chapter One, I show that the performance of restructuring firms is generally no different or slightly better than the expectation of performance absent a restructuring in this period, suggesting that the benefits of restructuring do not appear until at least three years after the restructuring is initiated. Therefore, I use the performance over Years +3 to +5 to capture restructuring-related improvements.

A second proxy used is the percentage change in restructuring-related operating performance from Year +1 to Year +5. The first proxy captures the level of restructuring firm performance relative to the expectation of performance in the absence of restructuring. The second proxy captures the change in post-restructuring performance. Therefore, improvements are measured relative to restructuring-related performance immediately after initiating the restructuring.<sup>27</sup>

### Disclosure Data

To obtain the disclosures related to the restructuring, I collected sections of the annual report or Form 10-K for each observation for the year of the restructuring. Specifically, I collect the Management Discussion and Analysis, the income statement, the statement of

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<sup>27</sup> Year +1, rather than Year 0, is used as the base year because some or all of the reported restructuring charges could be included in operating income if not separately reported by the firm. In these cases, improvements will appear larger than economic reality because of the inclusion of charges in the base year.

cash flows, and any footnotes discussing the restructuring. Because the EITF was formed after the sample period, the disclosures specified by EITF 94-3 were not in effect. As a result, the levels and types of disclosures made about the restructurings vary across observations. Where available, I collect the amount of the restructuring charge, the portion of the charge related to asset write-downs, and the portion related to accrual for future cash outflows.

In addition to the restructuring charge itself, I determine the restructuring actions taken by the firm. Because of the firm-specific nature of the disclosures (the level of detailed information varies considerably across firms), these actions are coded into two broad categories: low degree of change in the scale of operations and high degree of change in scale of operations. Actions that would be coded as low degree of change include realignments, relocations, and reconfigurations. These are actions that redeploy the existing infrastructure rather than significantly alter the size of the infrastructure. Actions that would be coded as high degree of change include downsizing, layoffs and plant closings. Appendix A provides excerpts from annual reports or Form 10-Ks to illustrate the disclosures that would be coded as low and high degrees of changes in the scale of operations. Additional data coded are whether the restructuring involves the planned divestiture of assets (0/1 dummy variable), and whether the restructuring involves the revaluation of assets (0/1 dummy variable).

In addition to coding the actions of the restructuring, a score of 1 to 4 (1 being the lowest, 4 being the highest) is given to each firm for the level of detail disclosed. Disclosures are coded 1 if there is no information beyond the acknowledgment of a restructuring given. Disclosures are coded as 2 if there is a brief description of the actions taken. Disclosures are coded 3 if there is a description of the actions taken as well as additional specific details. These specific details would include detailed information about the actions taken (number of employees to be laid-off, locations of facilities to be closed,

etc.) or detailed breakdown of the charges as it relates to the actions (the amount of charge related to severance, asset write-downs, facility consolidation, etc.). Disclosures are coded 4 if there is a description of the actions taken, specific details related to the actions, and a breakdown of the charge as it relates to the actions. Appendix B provides excerpts from annual reports and Form 10-Ks to illustrate the four levels of disclosure. Because the level of detail varies greatly among firms, too many observations would have to have been dropped because of lack of detail of the actions taken. To get around this, the actions are coded into broad categories of actions and then the additional variable captures the level of detail.

Finally, I code an additional piece of information not required by the EITF, but that may explain some of the cross-sectional variation in subsequent performance. Where possible, I determined the reason for the restructuring, in one of four broad categories: business conditions (either macroeconomic factors, competitive or idiosyncratic factors), prior merger or acquisition, planned divestiture of assets, or strategic refocusing of the firm.

### 4.3. Methodology

To jointly test whether the actions and the disclosures of the actions are correlated with subsequent performance, I estimate the following regression:

$$\text{SUBPERF} = a_1 + a_2 \cdot \text{PERCHG} + a_3 \cdot \text{LOSCL} + a_4 \cdot \text{HISCL} + a_5 \cdot \text{HIDISC} + a_6 \cdot \text{REVAL} + a_7 \cdot \text{BUSCND} + a_8 \cdot \text{MERCER} \quad (1)$$

where: SUBPERF = proxies for restructuring-related performance changes;  
 PERCHG = amount of restructuring charge scaled by sales or prior year total assets;  
 LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;

- HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;
- HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;
- REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;
- BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;
- MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

This methodology is similar to Kaplan and Weisbach (1992) in which they regress the change in market value from acquisitions on dummy variables representing successful and unsuccessful divestitures, and dummy variables capturing various characteristics of the acquisition.

Because the effects of the restructuring actions on subsequent performance are not ex-ante predictable, I have no expectation as to whether the coefficients on the actions taken by management (LOSCL, HISCL, REVAL) should be positive or negative. If better performing firms or firms with managers that are more confident in the effects of their actions self-select into providing higher levels of disclosure, then the coefficient on HIDISC should be positive. I include PERCHG, BUSCND, and MERGER to control for other possible determinants of subsequent operating performance. In particular, the size of the charge may represent the magnitude of changes taken by the firm which can affect subsequent performance. Also, the motivation for the restructuring may explain some cross-sectional variation in subsequent performance. I have no clear prediction on the sign of the coefficients of these variables.

To test whether the actions and the disclosures of the actions are correlated with stock returns in the year after the restructuring is first announced (the period during which the annual report and Form 10-K filed), I estimate the following regression:

$$\text{STKRET} = a_1 + a_2 \cdot \text{OPINC1} + a_3 \cdot \text{PERCHG} + a_4 \cdot \text{LOSCL} + a_5 \cdot \text{HISCL} + a_6 \cdot \text{HIDISC} + a_7 \cdot \text{REVAL} + a_8 \cdot \text{BUSCND} + a_9 \cdot \text{MERGER} \quad (2)$$

where: STKRET = cumulative market-adjusted stock returns in Year +1;  
 OPINC1 = restructuring-related operating performance in Year +1;  
 PERCHG = amount of restructuring charge scaled by sales or prior year total assets;



LOSCL	= 1 if actions are low degree of change in scale of operations, 0 otherwise;
HISCL	= 1 if actions are high degree of change in scale of operations, 0 otherwise;
HIDISC	= 1 if disclosure detail is coded as 3 or 4, 0 otherwise;
REVAL	= 1 if firm wrote down assets as part of restructuring, 0 otherwise;
BUSCND	= 1 if restructuring was motivated by business conditions, 0 otherwise;
MERGER	= 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

The independent variables from Equation (1) are included in Equation (2) because they represent restructuring-related information that is released in the annual report or Form 10-K. An additional variable, OPINC1, is added to control for the effects of concurrent operating performance on stock returns. As in Equation (1), I have no ex-ante prediction for the coefficients on LOSCL, HISCL, REVAL, PERCHG, BUSCND, and MERGER. However, if the market rewards managers that provide more detailed disclosure or if better performing firms self-select into providing more disclosure, I expect a positive coefficient on HIDISC.

## 5. Results

In Section 5.1, I discuss the results of tests of disclosures and restructuring-related operating performance. In Section 5.2, I present the results of tests of disclosures and stock market returns.

### 5.1. Disclosures and Subsequent Restructuring-Related Operating Performance

Table 1 presents the results of the estimates of Equation (1), a regression of restructuring-related subsequent performance on the disclosures of actions taken in the restructuring, and the motivation for the restructuring. Because the performance measures are skewed, the ranks of the dependent variable and non-dichotomous independent variables are used. As shown in Table 1, the results suggest that, in general, the actions and the disclosures related to the actions are not correlated with restructuring-related

performance changes. However, the coefficient on BUSCND is negative (statistically significant at the 10% level or less) in three of the four estimations. This suggests that firms that restructure because of business conditions have lower performance than firms that restructure as part of a strategic refocusing or as part of a planned asset divestiture (both being captured by the intercept).

There are several explanations for why the coefficients may not be significant. First, there may be measurement error in the independent variables biasing the estimated coefficients. Second, there may be correlations among the independent variables. Finally, the restructurings may be idiosyncratic to each firm, such that no one action or motivation is related to improved performance for all firms.

To test for correlation among the independent variables, pairwise correlations coefficients are calculated. As shown in Table 2, several variables have significant correlations. Firms that have high levels of disclosure tend to have larger restructuring charges and a higher degree of change in the scale of operations. Firms that restructure because of business conditions make larger changes in the scale of operations. Firms that restructure as a result of a merger have larger cash portion of the restructuring charges.

Two additional tests are done to determine the effects of the actions or the motivation for the restructurings on subsequent performance. For the first test, I place observations into quintiles according to subsequent operating performance. Then, I test for differences in the characteristics of the restructurings between the 1st and 5th quintiles.<sup>28</sup> The results, not reported, indicate that there is no difference in the size of the restructuring charge, or the incidence of low degree of operating scale changes, high degree of operating scale changes, high levels of disclosure, business condition-motivated or merger-motivated restructurings between firms in the 1st and 5th quintiles.

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<sup>28</sup> This test was also redone using terciles. Tests of difference in characteristics between the first and third terciles are generally the same.

The second test is a test for differences in subsequent operating performance between the characteristics of the restructurings. Wilcoxon-Mann-Whitney tests are performed to determine if there is a difference in operating performance between firms whose actions have low degree of change in scale of operations or not, firms whose actions have high degree of change in scale of operations or not, firms that revalue assets as part of the restructuring or not, firms that provide high levels of disclosure or not, firms that restructure because of business conditions vs. restructuring for other reasons, and firms that restructure because of a prior merger vs. restructuring for other reasons. Results, not reported, suggest that regardless of the performance measure used, subsequent operating performance is no different between actions or motivations for restructurings.

The tests of the correlation between restructuring disclosures and subsequent operating performance have, up to this point, used a proxy that considers only whether the firm has performance different from the expectation of performance absent a restructuring. An alternative way to test whether the disclosures and actions taken in the restructuring are related to subsequent performance is to test using changes in performance over the post-restructuring period. To test whether restructuring disclosures are correlated with changes in performance in the post-restructuring period, Equation (1) is re-estimated using the percentage change in operating performance from Year +1 to Year +5. The results, shown in Table 3, suggest that, in general, actions taken in the restructuring are not correlated with subsequent performance changes. However, firms that provide high levels of disclosure have lower percentage changes in operating performance in the post-restructuring period. As with the previous proxy for restructuring-related operating performance changes, I test for differences in performance between dichotomous restructuring characteristics (Wilcoxon-Mann-Whitney tests) and differences in characteristics between the highest and lowest terciles of operating performance. These tests (not reported) are consistent with the

results of the regression; the change in performance of high disclosure firms is lower than firms that provide little disclosure.

To verify that the lower change in performance is due to a higher base level of performance (operating performance in Year +1), Equation (1) is re-estimated using operating performance in each Year +1 to +4 as the dependent variables.<sup>29</sup> The results are presented in Tables 4a - 4d. The coefficient on HIDISC in Year +1 is positive for all four measures of operating performance, but significant only for market-adjusted ROA and market-adjusted ROS. In addition, the results of the analysis further support that firms restructuring for business condition reasons have lower operating performance, suggesting that the economic problems are not easily overcome by restructuring.

Taken as a whole, these results suggest that the actions and/or disclosures of the actions taken in the restructuring are not related to subsequent restructuring-related operating performance changes. One interpretation of these results is that the disclosures required by the EITF may not make the effects of the restructuring more transparent to investors, because they are not correlated with subsequent performance. However, it is likely that, in the cross-section, there are no actions that are universally appropriate (i.e. lead to higher operating performance) for restructuring firms, particularly across industries.

Several additional observations can be made. First, relative to the expectation of performance absent a restructuring, firms that restructure because of business conditions have lower performance than firms whose restructurings are motivated by mergers or other reasons. This is consistent with these firms experiencing economic problems that are harder to overcome with restructuring, than other firms. Second, firms that provide high levels of disclosure do not perform any better than other firms when compared to the expectation of performance absent a restructuring. However, high disclosure firms do

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<sup>29</sup> Year +5 data is missing for firm-year observations from fiscal 1992, therefore tests are not done for that year.

have a lower percentage change in subsequent performance in the post-restructuring period, due to higher performance in Year +1. Thus, there appears to be some self-selection of better performing firms providing higher levels of disclosure, but that these are not necessarily firms that expect to perform better in the future.

## 5.2. Restructuring-Related Disclosures and Stock Market Performance

In Chapter One, I provide evidence that stock returns at the announcement of restructurings are not correlated with subsequent operating performance. However, stock returns in the first year after the restructuring are correlated with subsequent restructuring-related performance changes, suggesting that the market revises its expectation of subsequent operating performance as more information about the restructuring and its effects are revealed.

To test whether firms providing more detailed disclosure of the actions to be taken in the restructuring are rewarded with higher stock returns, I estimate Equation (2), a regression of market-adjusted stock returns in the fiscal year following the restructuring announcement on the disclosure of actions taken in the restructuring, and the motivation for the restructuring. This period is used because the disclosure information is obtained from either the annual report or Form 10-K that is filed subsequent to the fiscal year-end of the year the restructuring charge is announced. This is also the period in which stock returns are correlated with subsequent performance changes.

The results, presented in Table 5a, indicate that, while there is some evidence that the size of the restructuring charge is positively correlated with stock returns, the actions and other disclosures of the restructuring are, in general, not related to stock returns in the year following the announcement. Equation (2) is re-estimated using the percentage change in operating income, rather than the level of operating income, to control for concurrent performance. As shown in Table 5b, when controlling for the change in operating

performance, firms that make low degree of changes in the scale of operations have lower ranked market-adjusted stock returns.

The lack of association between stock returns and some restructuring characteristics is not entirely unexpected. It is possible that the motivation for the restructuring is anticipated prior to the filing of the annual report/Form 10-K. While firms may announce the reason for the restructuring at the announcement, it is also likely that business conditions are observable prior to the filing of the annual report/Form 10-K and because prior mergers (publicly observable) will have taken place for merger-related restructurings. In addition, the size of the restructuring charge is typically made public at the announcement of the restructuring so the disclosure of the amount of the charge in the annual report/Form 10-K is not new information. For comparative purposes, Equation (2) is rerun using announcement period stock returns as the dependent variable. The variable used to control for concurrent performance (OPINC1) is dropped as it is not necessary to control for operating performance in Year +1. As shown in Table 6, only the size of the restructuring charge is weakly significant.

The coefficient on the level of disclosure (HIDISC) is significantly positively correlated with stock returns in Year +1, using both levels of or changes in operating performance. Firms that provide high levels of disclosures have higher market-adjusted stock returns. There are at least two possible explanations for this result. First, since the disclosures required by EITF 94-3 were not in effect, detailed disclosures of restructurings were, in essence, voluntary on the part of management. Thus, it could be that better performing firms self-select into providing higher levels of disclosure. A second explanation is that the market rewards firms that provide higher levels of disclosure. Related to this, the levels of disclosure could be a signal of management's intentions to undertake value-increasing actions. If managers can provide specific details about the

restructuring actions (i.e. the number of employees laid-off, the location of the facilities to be closed, etc.) the market may view the intention of these managers as more credible.

If higher performance is proxied by operating performance, there does not appear to be support for the self-selection explanation. As shown in Table 5a, even after controlling for the level of operating performance, firms that provide higher levels of disclosure still have higher market-adjusted stock returns. These results, combined with the results from Section 5.1, are consistent with those of Lang and Lundholm (1993). Firms that provide more disclosure have higher earnings and returns performance.

## **6. Conclusions**

This paper tests whether financial statement disclosures of restructuring actions are associated with subsequent restructuring-related operating performance. It also tests whether firms that provide more detailed disclosures about actions taken in the restructuring are rewarded with higher returns. I find no correlation between the disclosures of the actions taken in the restructuring and subsequent operating performance. In addition, other characteristics of the restructuring including the size of the restructuring charge and whether the company revalued assets as part of the restructuring do not appear to explain cross-sectional variation in the subsequent restructuring-related performance changes. Restructurings that are motivated by business conditions (competition, macroeconomic factors, etc.) are associated with lower subsequent performance; however, restructurings motivated by prior mergers have little explanatory power. These results suggest that actions taken by firms in restructuring are idiosyncratic to the firm, and there is no single set of actions that are universally associated with subsequent performance changes.

Results testing the level of detail of disclosure suggest that firms providing more detailed disclosures of the restructuring actions do not have better subsequent performance relative to the expectation of performance absent a restructuring. However, high disclosure

firms do have lower percentage changes in subsequent restructuring-related performance between Year +1 to Year +5. This is due to high disclosure firms having higher operating performance in Year +1.

High disclosure firms do experience higher market-adjusted stock returns in the year after the restructuring is announced, when the detailed disclosures are released in the annual report or Form 10-K. One possible explanation is that better performing firms self-select into providing more detailed disclosure. However, even after controlling for the current level of operating performance and the percentage change in operating performance, high disclosure firms still have higher returns.

The results of this study suggest that the disclosures required by the FASB for firms recording restructuring charges in the financial statements may not make the effects of restructurings more transparent to investors. However, there appears to be a benefit in the form of higher stock returns for firms that make more detailed disclosures. Future work will address the puzzle of why firms that provide detailed disclosure of restructuring actions do not have better restructuring-related subsequent operating performance, but do have higher market-adjusted stock returns in the year following the restructuring announcement, when the details are released.

While the results of this study suggests that firms that disclose more detailed information have higher stock returns, it is also possible that increased disclosure may reduce uncertainty about the effects of restructuring. If the expectation of the effects does not change, a reduction in uncertainty could be measured by the volatility of the firm's subsequent stock returns. Therefore, an additional direction for this research includes studying the impacts that accounting disclosures have on the volatility of stock returns for firms recording restructuring charges. Finally, it would be interesting to consider the effects of CEO tenure or turnover on both the disclosure decisions, as well as the operating performance outcomes of these restructuring firms.



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**Table 1**

Regression of ranked average adjusted performance changes (Years +3 to +5) on characteristics of the restructurings for 307 firm-year observations during fiscal years ending 1987-1992.

	Dependent Variables (SUBPERF)			
	Market-Adjusted ROA	Industry-Adjusted ROA	Market-Adjusted ROS	Industry-Adjusted ROS
PERCHG	-0.12	-0.14	-0.16*	-0.17
LOSCL	-11.20	-9.09	-3.58	-19.92
HISCL	9.34	16.18	18.19	11.68
HIDISC	-0.87	4.09	3.12	2.79
REVAL	3.18	8.44	17.47	12.78
BUSCND	-36.18 **	-29.01*	-29.63*	-5.12
MERGER	-33.88	-24.63	-8.73	3.05
No. of Obs.	126	109	129	105

\* significant at the 10% level (two-tailed)

\*\* significant at the 5% level (two-tailed)

SUBPERF = rank of the restructuring-related performance changes averaged over Years +3 to +5;

PERCHG = rank of the amount of restructuring charge scaled by sales or prior year total assets;

LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;

HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;

HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;

REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;

BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;

MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

Four measures of adjusted subsequent performance are averaged over the period Year +3 to +5: ROA and ROS adjusted for the median ROA/ROS of all firms with similar pre-restructuring performance (market-adjusted) and similar pre-restructuring performance in the same two-digit SIC code (industry-adjusted). The sample size drops from 307 to 277 because 40 firms were lacking operating performance data. The sample size is further reduced by observations that lack required information in the financial statement disclosures.

#### Performance Measures

ROA: Operating income including depreciation and amortization expense divided by average total assets.

ROS: Operating income including depreciation and amortization expense divided by total sales.

These measures exclude the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense.

**Table 2**

Pearson correlation coefficients (number of observations) for characteristics of restructurings for 307 firm-year observations during fiscal years ending 1987-1992.

	PERCHG	PERCSH	PERNON	LOSCL	HISCL	HIDISC	REVAL	BUSCND
PERCHG	1 (256)							
PERCSH	0.832 *** (120)	1 (120)						
PERNON	0.926 *** (127)	0.375 *** (127)	1 (120)					
LOSCL	-0.034 (249)	-0.020 (120)	0.021 (120)	1 (254)				
HISCL	0.422 (249)	0.118 (120)	-0.077 ** (120)	-0.658 (254)	1 (254)			
HIDISC	0.224 *** (256)	0.237 (120)	0.144 (120)	-0.109 * (254)	0.246 *** (254)	1 (277)		
REVAL	0.205 *** (256)	0.049 (120)	0.292 (120)	-0.089 (254)	-0.051 (254)	-0.046 (277)	1 (277)	
BUSCND	-0.121 (167)	-0.214 ** (85)	-0.211 * (85)	-0.155 ** (165)	0.241 ** (165)	0.138 * (167)	-0.032 (167)	1 (167)
MERGER	0.229 ** (167)	0.472 *** (85)	0.171 (85)	0.095 (165)	-0.125 (165)	-0.028 (167)	-0.103 (167)	-0.590 *** (167)

\* significant at the 10% level

\*\* significant at the 5% level

\*\*\* significant at the 1% level

PERCHG = amount of restructuring charge scaled by sales;  
 PERCSH = cash portion of restructuring charge scaled by sales;  
 PERNON = non-cash portion of restructuring charge scaled by sales;  
 LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;  
 HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;  
 HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;  
 REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;  
 BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;  
 MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

**Table 3**

Regression of ranked percentage change in adjusted performance (Years +1 to +5) on characteristics of the restructurings for 307 firm-year observations during fiscal years ending 1987-1992.

	Dependent Variables (CHPERF)			
	Market-Adjusted ROA	Industry-Adjusted ROA	Market-Adjusted ROS	Industry-Adjusted ROS
PERCHG	-0.05	0.01	-0.01	-0.22
LOSCL	0.99	10.57	22.45	3.83
HISCL	31.84	46.68 **	32.14	25.77
HIDISC	-33.02 **	-31.59 ***	-28.62 **	-29.41 **
REVAL	-6.37	-6.33	-2.68	3.48
BUSCND	-10.48	6.03	-14.25	0.94
MERGER	-29.46	2.43	-10.69	-5.66
No. of Obs.	126	109	129	106

\* significant at the 10% level (two-tailed)

\*\* significant at the 5% level (two-tailed)

CHPERF = rank of the percentage change in restructuring-related performance over Years +1 to +5;

PERCHG = rank of the amount of restructuring charge scaled by sales or prior year total assets;

LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;

HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;

HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;

REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;

BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;

MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

Four measures of adjusted subsequent performance are averaged over the period Year +3 to +5: ROA and ROS adjusted for the median ROA/ROS of all firms with similar pre-restructuring performance (market-adjusted) and similar pre-restructuring performance in the same two-digit SIC code (industry-adjusted). The sample size drops from 307 to 277 because 40 firms were lacking operating performance data. The sample size is further reduced by observations that lack required information in the financial statement disclosures.

#### Performance Measures

ROA: Operating income including depreciation and amortization expense divided by average total assets.

ROS: Operating income including depreciation and amortization expense divided by total sales.

These measures exclude the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense.

**Table 4a**

Regression of ranked annual adjusted performance using market-adjusted ROA for each year, Year +1 to Year +4, on characteristics of the restructurings for 307 firm-year observations during fiscal years ending 1987-1992.

	Dependent Variables			
	SUBPERF Year +1	SUBPERF Year +2	SUBPERF Year +3	SUBPERF Year +4
PERCHG	-0.18 **	-0.21 **	-0.09	-0.10
LOSCL	-15.01	-19.52	-39.42	-4.52
HISCL	-3.76	-10.92	-11.47	18.77
HIDISC	28.94 **	29.09 **	7.26	-7.04
REVAL	12.79	7.63	5.72	2.97
BUSCND	-56.49 *	-38.04 **	-27.43	-39.34 **
MERGER	-16.67	-22.50	21.97	-31.44
No. of Obs.	150	143	134	126

\* significant at the 10% level (two-tailed)

\*\* significant at the 5% level (two-tailed)

SUBPERF = the rank of restructuring-related performance in each year, Years +1 to +4;  
 PERCHG = the rank of amount of restructuring charge scaled by prior year total assets;  
 LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;  
 HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;  
 HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;  
 REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;  
 BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;  
 MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

The sample size drops from 307 to 257 because 50 firms were lacking operating performance data. The sample size is further reduced by observations that lack required information in the financial statement disclosures.

ROA is measured as operating income including depreciation and amortization expense divided by average total assets. This measure excludes the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. ROA is adjusted for the median ROA of all firms with similar pre-restructuring performance.

**Table 4b**

Regression of ranked annual adjusted performance using industry-adjusted ROA for each year, Year +1 to Year +4, on characteristics of the restructurings for 307 firm-year observations during fiscal years ending 1987-1992.

	Dependent Variables			
	SUBPERF Year +1	SUBPERF Year +2	SUBPERF Year +3	SUBPERF Year +4
PERCHG	-0.19 **	-0.21 **	-0.14	-0.15
LOSCL	-9.03	-11.62	-34.87	-7.60
HISCL	15.25	-6.02	-12.64	14.10
HIDISC	15.27	20.57	5.05	7.63
REVAL	11.62	4.78	10.79	2.76
BUSCND	-31.35 **	-33.13 **	-30.39 *	-31.06 **
MERGER	-16.48	-38.23	-36.30	-33.30
No. of Obs.	133	127	118	109

\* significant at the 10% level (two-tailed)

\*\* significant at the 5% level (two-tailed)

SUBPERF = the rank of restructuring-related performance in each year, Years +1 to +4;  
 PERCHG = the rank of amount of restructuring charge scaled by prior year total assets;  
 LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;  
 HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;  
 HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;  
 REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;  
 BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;  
 MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

The sample size drops from 307 to 230 because 77 firms were lacking operating performance data. The sample size is further reduced by observations that lack required information in the financial statement disclosures.

ROA is measured as operating income including depreciation and amortization expense divided by average total assets. This measure excludes the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. ROA is adjusted for the median ROA of all firms with similar pre-restructuring performance in the same two-digit SIC code.

**Table 4c**

Regression of ranked annual adjusted performance using market-adjusted ROS for each year, Year +1 to Year +4, on characteristics of the restructurings for 307 firm-year observations during fiscal years ending 1987-1992.

	Dependent Variables			
	SUBPERF Year +1	SUBPERF Year +2	SUBPERF Year +3	SUBPERF Year +4
PERCHG	-0.13	-0.21 **	-0.14	-0.15 *
LOSCL	-38.45	-13.07	-1.37	7.44
HISCL	-11.45	-11.91	8.86	27.09
HIDISC	27.62 **	37.87 ***	12.75	-0.93
REVAL	12.71	11.33	17.50	14.46
BUSCND	-58.50 ***	-41.61 ***	-23.63 *	-31.70 **
MERGER	-3.11	-12.58	-3.26	-1.71
No. of Obs.	157	146	137	129

\* significant at the 10% level (two-tailed)

\*\* significant at the 5% level (two-tailed)

SUBPERF = the rank of restructuring-related performance in each year, Years +1 to +4;  
 PERCHG = the rank of amount of restructuring charge scaled by sales;  
 LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;  
 HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;  
 HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;  
 REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;  
 BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;  
 MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

The sample size drops from 307 to 252 because 55 firms were lacking operating performance data. The sample size is further reduced by observations that lack required information in the financial statement disclosures.

ROS is measured as operating income including depreciation and amortization expense divided by total sales. This measure excludes the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. ROS is adjusted for the median ROS of all firms with similar pre-restructuring performance.

**Table 4d**

Regression of ranked annual adjusted performance using industry-adjusted ROS for each year, Year +1 to Year +4, on characteristics of the restructurings for 307 firm-year observations during fiscal years ending 1987-1992.

	Dependent Variables			
	SUBPERF Year +1	SUBPERF Year +2	SUBPERF Year +3	SUBPERF Year +4
PERCHG	-0.18 *	-0.22 **	-0.19 **	-0.12
LOSCL	-37.98	-7.96	-14.80	6.27
HISCL	-7.57	-20.07	3.76	21.05
HIDISC	18.82	34.33 ***	7.66	3.23
REVAL	8.26	9.75	21.79	8.76
BUSCND	-22.09	0.19	-9.42	5.60
MERGER	18.74	19.12	-1.55	25.18
No. of Obs.	134	124	113	106

\* significant at the 10% level (two-tailed)

\*\* significant at the 5% level (two-tailed)

SUBPERF = the rank of restructuring-related performance in each year, Years +1 to +4;  
 PERCHG = the rank of amount of restructuring charge scaled by sales;  
 LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;  
 HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;  
 HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;  
 REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;  
 BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;  
 MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

The sample size drops from 307 to 212 because 95 firms were lacking operating performance data. The sample size is further reduced by observations that lack required information in the financial statement disclosures.

ROS is measured as operating income including depreciation and amortization expense divided by total sales. This measure excludes the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense. ROS is adjusted for the median ROS of all firms with similar pre-restructuring performance in the same two-digit SIC code.



**Table 5a**

Regression of ranked market adjusted stock returns in Year +1 on characteristics of the restructurings for 307 firm-year observations during fiscal years ending 1987-1992.

	Measure of Operating Performance in Year +1 (OPINC1)			
	Market-Adjusted ROA	Industry-Adjusted ROA	Market-Adjusted ROS	Industry-Adjusted ROS
OPINC1	0.30***	0.25**	0.21*	0.12
PERCHG	0.21**	0.21**	0.16**	-0.13
LOSCL	-43.46	-47.06	-33.59	-72.76 **
HISCL	-27.25	-34.28	-22.48	-39.60
HIDISC	19.15	33.22**	24.18 *	37.35 **
REVAL	6.81	13.85	11.94	6.66
BUSCND	-8.00	-15.96	-11.59	-17.77
MERGER	-7.64	8.71	-8.10	-11.47
No. of Obs.	143	127	149	126

\* significant at the 10% level (two-tailed)

\*\* significant at the 5% level (two-tailed)

\*\*\* significant at the 1% level (two-tailed)

- OPINC1 = rank of the restructuring-related operating performance in Year +1;  
 PERCHG = rank of the amount of restructuring charge scaled by sales or prior year total assets;  
 LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;  
 HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;  
 HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;  
 REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;  
 BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;  
 MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

Four measures of restructuring related operating performance in Year +1 are used: ROA and ROS adjusted for the median ROA/ROS of all firms with similar pre-restructuring performance (market-adjusted) and similar pre-restructuring performance in the same two-digit SIC code (industry-adjusted). The sample size drops from 307 because of observations that lack required information in the financial statement disclosures.

#### Performance Measures

ROA: Operating income including depreciation and amortization expense divided by average total assets.

ROS: Operating income including depreciation and amortization expense divided by total sales.

These measures exclude the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense.

**Table 5b**

Regression of ranked market adjusted stock returns in Year +1 on characteristics of the restructurings for 307 firm-year observations during fiscal years ending 1987-1992.

	Measure of Percentage Change in Operating Performance from Year +1 to Year +2 (COPINC1)			
	Market-Adjusted ROA	Industry-Adjusted ROA	Market-Adjusted ROS	Industry-Adjusted ROS
COPINC1	- 0.05	0.10	-0.08	-0.21*
PERCHG	0.16	0.14	0.16	0.11
LOSCL	-56.88*	-72.16**	-52.62*	-77.55 **
HISCL	-35.34	-37.63	-35.84	-39.84
HIDISC	30.60**	35.88**	33.96**	45.72 ***
REVAL	8.91	13.23	8.75	11.88
BUSCND	-24.84	-16.30	-23.92	- 22.87
MERGER	-14.40	12.83	-14.32	2.89
No. of Obs.	137	122	140	118

\* significant at the 10% level (two-tailed)

\*\* significant at the 5% level (two-tailed)

\*\*\* significant at the 1% level (two-tailed)

- COPINC1 = rank of the percentage change in restructuring-related operating performance from Year +1 to Year +2;
- PERCHG = rank of the amount of restructuring charge scaled by sales or prior year total assets;
- LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;
- HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;
- HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;
- REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;
- BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;
- MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

The percentage change in the operating performance of restructuring firms is measured as operating performance in Year +2 less operating performance in Years +1 scaled by operating performance in Year +1. Four measures of changes in restructuring-related operating performance are used: ROA and ROS adjusted for the median ROA/ROS of all firms with similar pre-restructuring performance (market-adjusted) and similar pre-restructuring performance in the same two-digit SIC code (industry-adjusted). The sample size drops from 307 because of observations that lack required information in the financial statement disclosures.

#### Performance Measures

ROA: Operating income including depreciation and amortization expense divided by average total assets.

ROS: Operating income including depreciation and amortization expense divided by total sales.

These measures exclude the restructuring charges to the extent firms do not include them as part of cost of goods sold or selling, general and administrative expense.

**Table 6**

Regression of cumulative abnormal returns around the restructuring charge announcement on characteristics of the restructurings for 307 firm-year observations during fiscal years ending 1987-1992.

	Dependent Variables	
	Cumulative Abnormal Returns for firms with ROA	Cumulative Abnormal Returns for firms with ROS
PERCHG	-0.165	-0.184 *
LOSCL	-0.034	-0.015
HISCL	-0.003	0.013
HIDISC	0.027	0.024
REVAL	0.006	0.005
BUSCND	0.012	0.012
MERGER	0.035	0.043
No. of Obs.	144	151

Cumulative abnormal returns are measured as the abnormal returns in Day -1, 0 and +1 relative to the restructuring announcement (Day 0). Abnormal returns are market-model adjusted returns with the parameters of the model estimated using the 200 days prior to Day -10 relative to the restructuring announcement. The sample size drops from 307 because of observations that lack required information in the financial statement disclosures.

\* significant at the 10% level (two-tailed)

PERCHG = amount of restructuring charge scaled by sales or prior year total assets;  
 LOSCL = 1 if actions are low degree of change in scale of operations, 0 otherwise;  
 HISCL = 1 if actions are high degree of change in scale of operations, 0 otherwise;  
 HIDISC = 1 if disclosure detail is coded as 3 or 4, 0 otherwise;  
 REVAL = 1 if firm wrote down assets as part of restructuring, 0 otherwise;  
 BUSCND = 1 if restructuring was motivated by business conditions, 0 otherwise;  
 MERGER = 1 if restructuring was motivated by a prior merger or acquisition, 0 otherwise.

## **Appendix A**

**Excerpts of restructuring disclosures  
from annual reports and Form 10-Ks:**

**Examples to Illustrate Coding of  
Change in Scale of Operations**

## **Examples of Disclosures Coded as Low Changes in the Scale of Operations**

### Nycor (1988)

“In 1988, the Company recorded a one-time restructuring charge of \$1,100,000 for costs associated with the transfer of FEDCO’s radiator production to Mexico.”

### Homedco Group (1992)

“The evaluation resulted in a plan to realign the Company’s branch operations with the acquired Glasrock locations, decentralize certain regional billing functions and establish a regional office to support the new Southeast service area.”

### Armco (1989)

“ ... This charge includes provisions for implementation and other costs related to reorganizing corporate services to become independent of the information and other support systems now provided by ASC. Also included are provisions to realign certain corporate functions.”

## **Examples of Disclosures Coded as High Changes in the Scale of Operations**

### Lifetime (1992)

“The \$5.6 million restructuring elements of this charge represents [sic] the costs associated with the severance or relocation of administrative sales and management personnel, the shutdown of unprofitable branches locations, consolidation of other branch locations and certain divisional and headquarters level locations, the disposal of inventory, equipment and supplies for certain underperforming product lines and the consolidation of certain staffing division business.”

### Encore Computer (1990)

“The charges relate to (i) severance and outplacement costs associated with a 5.8% reduction in workforce, (ii) excess facility costs recognized in connection with the consolidation of sales, customer service and manufacturing operations, and (iii) asset writedowns related to the transitioning of the Company’s UNIX-based product lines.”

### Cummins Engine (1990)

“The unusual charges included provisions for the disposal of certain loss operations, discontinuation of the company’s A Series engine line and further downsizing and consolidation of manufacturing activities at Cummins’ facilities in the United States and the United Kingdom.”

## **Appendix B**

**Excerpts of restructuring disclosures  
from annual reports and Form 10-Ks:**

**Examples to Illustrate Coding of  
Level of Disclosures**

## Examples of Disclosures Coded as One

### Esco Electronics (1991)

“Other costs and expenses (net) in 1991 included a restructuring charge of \$12.8 million regarding further anticipated operational consolidations ...”.

### L. B. Foster (1991)

“During 1991, the Company incurred expenses of approximately \$0.3 million to reorganize its sales offices.”

### Perry Drug (1991)

“Corporate administrative expenses decreased in 1991 due to a major administrative cost reduction and operational restructuring program implemented early in 1991.”

### Pfizer Inc. (1992)

“Included in 1992 net income are a credit for divestitures, restructuring and unusual items ...”.

### Phelps Dodge (1987)

“In late 1987, management concluded that, with the Corporation’s improved financial condition, the sale of these assets was no longer in the best long-term interest of the Corporation, and they are no longer being offered for sale. The effect of this decision, together with a number of other year-end, one-time items (both positive and negative), was a charge of approximately \$15 million against fourth quarter earnings.”



## Examples of Disclosures Coded as Two

### Intersolv, Inc. (1992)

“In connection with the acquisition of Index and the resulting reorganization, the Company incurred in fiscal 1992 and 1992 certain non-recurring charges totaling \$0.8 million and \$26.5 million, respectively. The non-recurring charges consisted of items such as the elimination of non-strategic products, severance payments, the buyout of certain international distributors, the renegotiation of other contracts and professional fees associated with the Index Merger.”

### Lifeline Systems, Inc. (1992)

“A restructuring charge of \$2.3 million was recorded for the year ended December 31, 1992, reflecting a plan designed to reduce costs, improve operating efficiencies and increase overall future profitability as the Company refocuses its sales and marketing efforts on its traditional healthcare channel and elderly subscriber market. This charge covers employee severance and inventory reserves and other expenses related to the above mentioned discontinued VoiceLine product.”

### Archive Corporation (1991)

“In conjunction with the restructuring in Fiscal 1991, the Company initiated a number of actions to reduce its overall cost structure. These actions included reducing the number of employees, consolidating Singapore production into one facility and reducing overall spending. “

“The restructuring charges, aggregating approximately \$45 million, were primarily composed of a \$30.5 million write-down of goodwill related to the Cipher acquisition and also included write-downs of excess assets, costs to close down or consolidate facilities and severance for terminated employees.”

### Andrew Corporation (1987)

“To achieve improved long-term productivity, lower overall manufacturing costs and better address its changing markets, the Company, among other things, has initiated plans to close certain facilities, consolidate the manufacturing activities of these facilities at other locations and reorganize worldwide sales and marketing efforts.”

“In March 1987 the Company announced the closing of three US manufacturing facilities. A \$19,900,000 provision (\$11,400,000 after tax of \$1.13 a share) was recorded to reflect the estimated costs of closing the facilities, disposing of certain properties and inventories, future losses projected for these facilities and other expenses associated with the consolidation of manufacturing assets and workforce reductions.”

## Examples of Disclosures Coded as Three

### Masstor (1990)

“In October 1990, the Company took a number of steps to restructure its operations and reorganize its product offerings, and recorded a charge for restructuring of \$6.4 million, which included non-cash expenses of \$5.6 million. The restructuring involved a reduction in worldwide head-count by approximately 15%, a consolidation of sales and administrative functions, and the elimination of certain facilities requirements in Santa Clara and New York. The company streamlined its product offerings and eliminated non-standard hardware and software products, which were costly to maintain and support.”

### Aritech Corp. (1990)

“As part of Aritech’s worldwide restructuring of operations, which includes the move of corporate headquarters to Hickory, North Carolina and the discontinuance of certain product lines, the Company recorded a fourth quarter 1990 charge of \$30.9 million. This charge primarily reflects the write-off of \$19.3 million of goodwill associated with the Company’s United States operations, a write-down of \$2.2 million of other assets, a reserve of \$5.3 million for certain inventory and a provision for severance and other costs related to the restructuring of \$4.1 million.”

### Mosinee Paper Corporation (1989)

“In the fourth quarter of 1989, the Company recorded a provision of \$16,700,000 for restructuring its Sorg Paper Company subsidiary and relocating its Bay West Division. The Sorg Paper Company subsidiary will be restructured to become a three-machine specialty paper mill that will focus its marketing efforts on highly technical, specialty papers. The restructuring provision includes \$14,500,000 for inventory and equipment writedowns, severance and other costs associated with terminated employees, and the accrual of costs to be incurred in future years to reconfigure the operations of the Sorg Paper Company.”

“The balance of the provision, or \$2,200,000 was recorded as a part of the Company’s continuing plan to relocate its Bay West Division to a location more central to its sources of raw materials and customers. The provision includes incurred and estimated future costs for severance of terminated employees as well as employees and equipment relocation expenses.”

## Examples of Disclosures Coded as Four

### U.S. West, Inc. (1991)

“The Company’s 1991 operating results reflect a restructuring charge of \$915 (in millions) due to work force reductions, projected losses associated with exiting the real estate business and the write-off of certain intangible assets. The work force reductions will occur during the next several years and are expected to affect about 6,000 management and non-management employees of U S WEST Communications. The portion of the charge related to work force reductions is \$240. The portion of the charge related to real estate operations is \$500 and is intended to cover both carrying costs and losses on disposal of the properties.”

### System Center (1992)

“Management implemented a restructuring plan that reduced expense levels, refocused resources on strategic products, and brought the Company back to profitability in the third and fourth quarters of the year. Under the restructuring plan, the Company reduced its workforce by more than 10%, closed and consolidated certain office locations and sold the Company’s UNIX and AS/400 utility products. The Company recorded restructuring charges totalling \$11.5 million in the second quarter of 1992, representing the estimated expenses associated with implementing these plans (see “Restructuring Charges below). “

“In the second quarter of 1992, the Company recorded restructuring charges totalling \$11.5 million. These charges included approximately \$3.5 million associated with severance and other costs related to the Company’s reductions in workforce, \$2.8 million associated with the planned closing and consolidation of certain office locations and certain other costs, \$3.6 million in connection with the sale of the AS/400 utility products (see Note 9) and \$1.6 million in connection with the sale of the UNIX utility products (see Note 6). The charges related to the sales of the AS/400 and UNIX utility products comprise previously-capitalized costs (including internal computer software development costs, purchased software and copyright) and other costs of completing these transactions.”

### America West (1992)

“ ...the Company took steps to improve its operating performance and commence its reorganization efforts which included the following:

Reduced the fleet from 123 to 101 aircraft.

Reduced employee and salary levels, eliminated or reduced services to sixteen cities and instituted certain other cost savings measure which in total were estimated to result in annual savings exceeding \$80 million.

Restructuring charges totalling \$31.3 million were recorded in the third quarter of 1992 due to the reduction in aircraft fleet and the other operational changes discussed above. The charges included \$2.3 million in employee separation costs, \$6.8 million in losses arising from the return of aircraft to their lessors, \$12.7 million in loss provisions for spare parts expected to be sold which are associated with the Boeing 747 and Dash 8 aircraft types and \$9.5 million in write-offs for fixed assets and projects in progress related to closed stations and other route changes arising from the restructuring.”