THE RELATIONSHIP BETWEEN FINANCIAL DISTRESS AND RESTATEMENT OF FINANCIAL STATEMENTS

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ABSTRACT

The present study examines the empirical relationship between the restatement of financial statements involving revenue recognition and cost/expense accounting and the probability of financial distress. The underlying motivation of the study is based on the U.S. General Accounting Office's (GAO) report to the U.S. senate that revenue and cost/expense accounting issues are associated with more than 50% of its total reported restatement cases over the period from January 1997 to June 2002, which involved billions of dollars market capitalization loss for the restated firms. The present study demonstrates that, among other things, financial distress is a major economic factor that induced managers to engage in managing reported financial information by applying questionable revenue and expense accounting techniques over time. In subsequent periods, those companies restated their financial statements to revise the previously reported financial numbers when they appear to be back on the economic recovery track as revealed by their improving financial distress Z-scores.

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1. INTRODUCTION

In recent years, an increasing number of firms have restated their financial statements to comply with the GAAP (Generally Accepted Accounting Principles) regulations. The well publicized financial restatements announced by large corporations such as Xerox, Enron, WorldCom, Global Crossing have eliminated billions of dollars worth of previously reported earnings and raised serious questions about the credibility of reported financial statements and the effectiveness of corporate oversight in the financial reporting process. Increasing frequency of restatements in recent years has caused a great deal of regulatory concern over the quality of reported accounting numbers (e.g., Palmrose and Scholz, 2000; Levitt, 1998).

On October 4, 2002, the United States General Accounting Office (GAO) submitted a report entitled "Financial Statement Restatements: Trends, Market Impacts, Regulatory Responses and Remaining Challenges" to the Chairman of the Committee of Banking, Housing and Urban Affairs, United States Senate. The report listed 919 instances of publicly held companies' restatements of financial statements occurred between January 1, 1997 and June 30, 2002.[1] According to this report, the market capitalization losses of restating companies are approximately $100 billion.

More than half of such losses are attributed to restatements involving improper revenue recognition, which is the most frequently cited reason for restatements (39% of total restatements). The second most cited reason for restatements is improper accounting for cost or expenses (15% of total

[1]According to the GAO, the restatement of financial statements occurs when a company, either voluntarily or prompted by auditors or regulators, revises its previously reported financial information.

restatements). Therefore, among various reasons for which financial statements were subsequently restated by companies, the present study focuses on financial statement restatements associated with revenue recognition and cost/expense accounting issues as these types of accounting irregularities or misstatements constitute more than 50% of the financial restatement cases reported by the GAO.

Misstated financial statements are the result of genuine error/omission on the part of a company in applying GAAP for financial statement items, or the result of accounting irregularities that are purposely committed by firms that opportunistically apply GAAP in financial reporting to achieve self-serving interests or to counter the negative effects of adverse economic circumstances. In this case, a company's action amounts to purposeful intervention in the financial reporting process.[2]

Since the real motives underlying misstated financial information that prompted restatements at a later date is hard to decipher from the GAO's report or from the archival data used for an empirical research like the present one, we take the opportunistic perspective in our focus for this study. In the absence of firm-specific information to the contrary, we cannot rule out the possibility of the opportunistic application of GAAP to manage revenue and expense numbers. Therefore, the analysis is based on the assumption that financial statement restatements are at least partly caused by companies' willful act of managing accounting information in the area of revenue and cost/expense recognition in previous fiscal periods.

Over time, accounting research has documented that accelerating or delaying revenue or expense recognition is one of the several techniques that were effectively employed by managers

[2] State of Auditing Standards No. 53 defines accounting irregularities as "intentional misstatements or omissions of amounts or disclosures in financial statements. Irregularities include fraudulent financial reporting undertaken to render financial statements misleading...." Errors are defined as "unintentional misstatements or omissions of amounts or disclosures in financial statements."

to manage earnings in a specific period to achieve self-serving interests.[3] This occurs when companies encounter the probability of financial distress due to economic and firm-specific reasons, or, when companies attempt to achieve specific earnings targets to maintain or improve firm valuation in the market.

Companies also manipulate revenues and expenses in an attempt to reduce the contracting costs and/or other political/regulatory costs, or, to make the operating environment more flexible for managers to act. The basic focus of this study is on one such underlying factor, financial distress.

Financial distress indicates a company's inability to continue as a going concern. This is an unsuccessful business condition caused by economic problems. When it occurs, it has a substantial adverse effect on the company's credibility in the eyes of creditors and lenders as well as of the investment community, as a whole. As a result, companies facing financial distress run the risk of losing their market value. In order to counter such negative effects, companies, among other things, attempt to manipulate revenue and expense accounting to report earnings at a decent level, which forms the basis of firm valuation in the market. Therefore, the probability of financial distress has the potential to induce firms to manage financial statement information by opportunistically applying GAAP.

The present study is based on the conjecture that accounting irregularities relating to inaccurate revenue and cost recognition are at least partly caused by the probability of a firm's financial distress. Restatements of financial statements due to improper revenue recognition includes instances in which revenue is improperly recognized (i.e., by accelerating or delaying the recognition), questionable revenues are recognized, or, any other mistakes or improprieties are made that lead to misreported revenues. Restatements due to improper cost or expense accounting includes instances of improperly recognizing costs or

[3]See, Watts and Zimmerman (1986); McNichols and Wilson (1988); Dechow, Sloan and Sweeney (1996); Reynolds and Francis (2001).

expenses, improper capitalization of expenses, or any other mistakes or improprieties that led to misreported costs.

It is predicted that, ceteris paribus, the probability of financial distress has induced companies to engage in irregular revenue and expense accounting over a period of time; subsequently, on the insistence of the SEC, or on the detection by company auditors, or on their own, i.e., when the firms perceive that improving business conditions in subsequent periods allows them to reverse the effects of revenue or expense misstatements done in prior periods without much adverse consequence on the firm values, the companies restate their financial statement information to reflect the underlying real economic situation.

Therefore, the question addressed in the study is: Are companies that face greater probability of financial distress more likely to restate their financial statements that were previously managed through improper revenue and/or cost (and expense) accounting compared to companies that do not face such a situation? In order to address this question, the study investigates the relationship between the restatement of financial statements involving revenue and/or expense recognition and financial distress scores. A sample of companies that restated their financial statements during the period from January 2002 through June 2002 (as per the GAO's report) due to the irregularity occurred in the areas of revenue recognition and cost or expense accounting in previous years is considered for the study.

2. MEASUREMENT OF FINANCIAL DISTRESS

In order to compute the distress scores of the sample firms, we apply the following formula as develop by Altman (1993) for estimating financial distress scores (Z-score) for both manufacturing and non-manufacturing companies:

$$Z = 6.56*[\text{working capital/total assets}] + 3.26*[\text{retained earnings/total assets}] + 6.72*[\text{Earnings before interest and tax/total assets}] +$$

1.05*[book value of equity/total liabilities] ……..…… (1)

Firms having a Z-score of greater than 2.60 clearly fall into the non-bankrupt sector (i.e., no financial distress) while firms having Z-score less than 1.10 are all bankrupt (financially distressed). The area between 1.10 and 2.60 is considered a gray area because of the susceptibility to error classification.[4] The Z-score, by combining the effects of specific parameters relating to financial status and working results reflects a comprehensive assessment of a firm's financial condition in a particular accounting period.

3. SAMPLE SELECTION

The sample is taken from the GAO's list of companies that restated financial statements during the period between January 2002 and June 2002. Initially, we identified 41 restatement cases. Due to the data constraints, we finally select 30 firms that have sufficient data for variables that are used in the study's analyses.

To provide comparability, a matching sample of 30 companies that did not restate their financial statements during the same time period was used as a control group. Matching is done on the basis of company size, industry and auditor type. The company's size is measured by its total assets. Industry matching was based on four-digit Standard Industrial Classification (SIC) code. Each restatement firm was audited by the same auditor as its control counterpart.

We examine the financial statements of both the restatement companies and non-restatement companies during the fiscal period from 1998 through 2002. The study period, thus, includes four years before the restatement year as well as the year

[4] Note that this formula for computing the Z-score is developed by Altman (1993) especially for application in cases of both manufacturing and non-manufacturing firms.

of restatement.[5] This time-series study provides an indication of the pattern of financial distress for restatement and non-restatement firms and, thus, demonstrates the reason that induced the companies to manage their financial statement information through improper revenue and cost/expense accounting.

4. METHODOLOGY AND RESULTS

Table 1 shows the univariate statistics for the sample firms. It is observed that both the restatement and the non-restatement companies are similar in sizes as measured by total assets, have similar short-term liquidity as measured by both the average working capital and average current ratio, and the same degree of financial solvency as measured by average debt/total asset ratio. However, an average restatement company is found to be significantly less profitable than an average non-restatement company in terms of operating profitability measured by earnings before interest and income tax divided by total assets (EBIT/TA).

In fact, the average EBIT/TA is negative (-0.061) for the restatement firms, indicating that an average restatement firm incurred operating losses during the sample period while an average non-restatement firm is found to be profitable (with EBIT/TA of 0.028). This finding partly justifies the behavior of the restatement companies to manage their reported earnings by applying improper revenue recognition and/or cost or expense accounting procedures.

[5] From the reported case studies (in the GAO's report), it is evident that in most cases, restatement encompasses misreported financial numbers of several previous fiscal periods (e.g., Adelphia Communications, Critical Path, Inc., Microstrategy, Inc etc.)

Table 1
Descriptive data for restatement and non-restatement firms
Number of Observations: Restatement firms: 30; non-restatement firms: 30

A)	**Average total assets ($ mil)**	
	Restatement	Non-restatement
Mean	2625.21	2522.12
Standard Deviation	5922.39	5810.11
B)	**Average working capital (scaled by total assts)**	
	Restatement	Non-restatement
Mean	0.21454	0.20038
Standard Deviation	0.21529	0.28036
C)	**Average current ratio**	
	Restatement	Non-restatement
Mean	2.902	3.045
Standard Deviation	2.286	4.365
D)	**Average debt/total asset ratio**	
	Restatement	Non-restatement
Mean	0.529	0.538
Standard Deviation	0.247	0.295
E)	**Average operating profitability (EBIT/total assets)**	
	Restatement	Non-restatement
Mean	-0.061	0.028
Standard Deviation	0.237	0.159

Note: The univariate tests of mean difference between the firm-specific data for restatement and non-restatement firms show that only in terms of EBIT/TA, the non-restatement firms are significantly more profitable. All other firm specific statistics are statistically insignificant between the two categories of firms.

Next, we compute the Altman Z-score by using the equation (1) for both the restatement and non-restatement firms.

Comparison of the time-series scores between the two sets of firms provide an indication of differential financial status that, in terms of our prediction, underlies a company's effort to manage recognition of revenue and costs (or, expenses) in the financial reporting process. The results are shown in Table 2 below.

Table 2
Comparative statistics for Altman's financial distress Z-score

Panel A:		
Year	**Average distress score (Z)**	
	Restatement	non-restatement
1998	-2.278	4.729
1999	-0.379	4.278
2000	2.041	3.523
2001	0.806	2.606
2002	0.955	2.679
Panel B:		
Period	**Average distress score (Z)**	
	Restatement	non-restatement
1998-2000	-0.206	4.177
2001-2002	0.881	2.243

Panel A of Table 2 exhibits the Z-score trends over the sample period for the restatement and non-restatement firms. During the years 1998 and 1999, the average Z-score for the restatement firms was far below the threshold distress level of 1.10 (they were negative), which makes them clearly fall into the financial distress category. During the same time-period, the non-restatement firms' average Z-scores were much greater than the highest threshold level of 2.60, indicating that those firms were financially healthy during the same time period. For all the sample years, the average Z-score of the non-restatement firms indicate

that those firms remained financially healthy throughout the time period. Their average Z-score had a slightly declining trend over time before it backed up again in 2002. However, throughout the period the score was much higher than the upper threshold level of financial status.

For the restatement firms, the Z-score showed some signs of improvement in year 2000 (2.041) while the score again dropped substantially below 1.10 during 2001 and 2002 though they remain positive. The average Z-score of 2002 (0.955) shows an improvement over that of 2001 (0.806), which is also a vast improvement over the earlier years' scores (i.e., -2.278 in 1998 and -0.379 in 1999). Perhaps, this might be construed as one of the major reasons that those firms restated their financial statements in the first half of year 2002 anticipating that their overall financial status was on the recovery track.

Panel B shows the comparative scores after partitioning the entire sample period into two halves: one for the period from 1998 to 2000 and the other from 2001 to 2002. The result is consistent with the one shown in panel A. The average Z-scores for the non-restatement firms (though on declining trend in the second half) are significantly larger than the threshold level of 2.60 in the first half. The score has decreased in the second half and is closer to 2.60. For the restatement firms, the Z-score was negative indicating a financially distressed condition in the first half of the sample period. However, in the second half their average score has substantially improved.

Consistent with the numerical analysis as reported above, the following charts depict the time-series trend of Z-scores for the two categories of firms. The average distress score of restatement firms has improved over time, a trend consistent with their decision to restate financial statements in the subsequent period (i.e., in the first half of the year 2002).

CHART 1

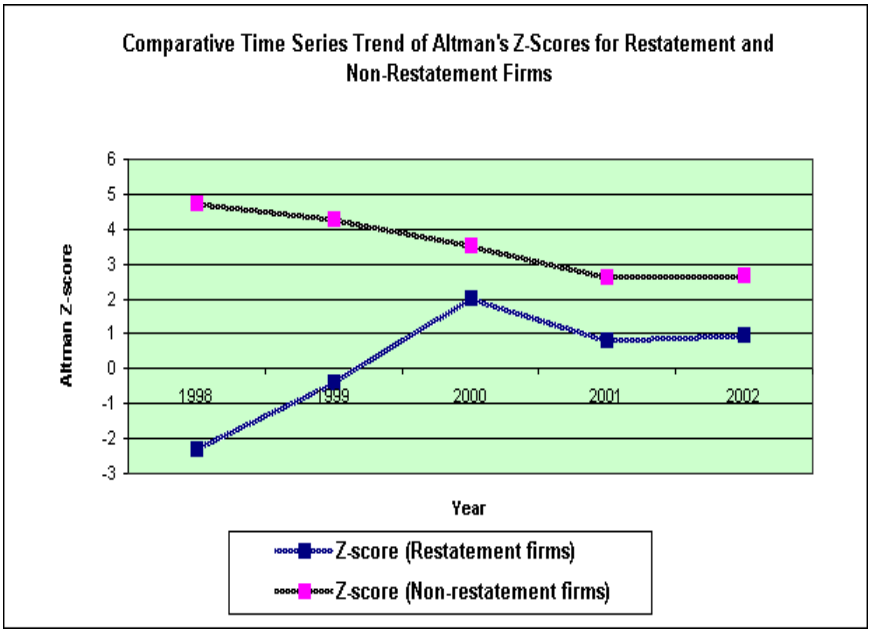
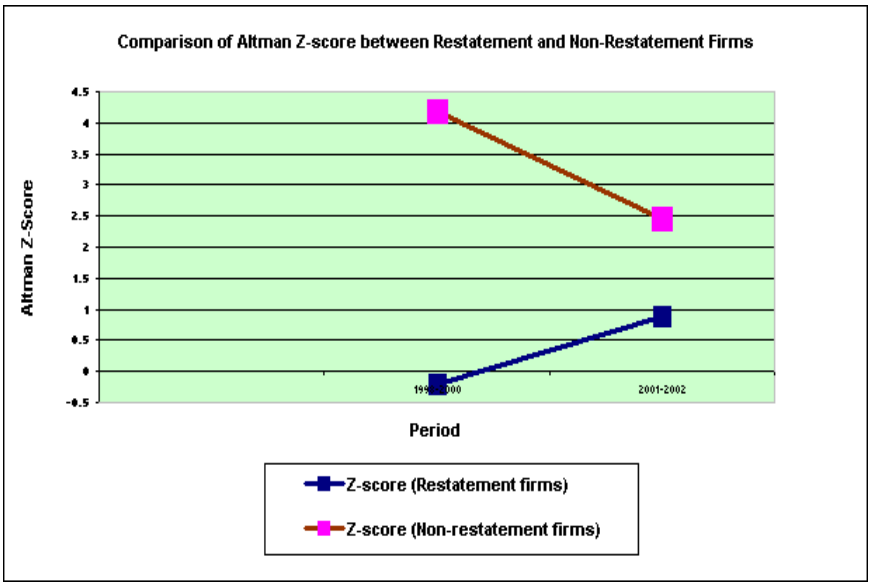


CHART 2



5. DISCUSSION

The present study documents that financial distress might influence a company's decision to manage revenue and expense accounting and present distorted financial numbers in an effort to achieve economic advantage. Subsequently, when prompted by the SEC or by the company's auditor, or, when financial parameters show signs of improvement, the company restates its financial statements.

For the sample restatement firms, it is also noteworthy that in almost 70% of cases, the companies on their own restated the financial statements. Only in a few cases, the restatement was prompted by external auditors, and the rest was prompted by the SEC. Furthermore, most of the restatement and non-restatement sample firms were audited by the Big-Five audit firms. In case the firms changed their auditors, they switched auditors within the Big-Five or within the non Big-Five categories. Only two firms in each category switched their auditors from the Big-Five to the non Big-Five firms. Hence, in general no significant difference in auditor size and perceived audit quality is observed for these two categories of sample firms.

However, auditor size and quality for both the restatement and non-restatement companies apparently have no differential impact on their accounting policy choice for recording revenues and cost or expense as we do not find any adverse going-concern opinion with regard to either category of firms throughout the sample period. Since external audit performed by Big-Five auditors are perceived to be of higher quality (e.g., Becker et al. 1998), it is expected that for restatement firms, audit opinions of the sample years should timely reflect the fact of any significant accounting irregularities such as those arising out of improper revenue and expense recognition committed by those firms.

The observation is consistent with the SEC's opinion that the restatement of financial statements should be construed as audit

failures. Therefore, the present restatement cases appear to possess the general characteristics of financial statement restatements as documented by Eilifsen and Messier (2000); first, material misstatement occurs as a result of some type of inherent risk (e.g., management's aggressive accounting practices); second, misstatement is neither prevented nor detected by a firm's internal control and third, the external auditor fails to detect the misstatement and financial statements are issued.

The study's finding justifies the SEC's final rules issued on June 05, 2003 to implement the mandated requirements of Section 404 of the Sarbanes-Oxley Act, 2002 for strengthening internal controls over the financial reporting process. The rules require that each public company's annual report must contain an internal control report stating management's responsibility for establishing and maintaining adequate internal control over financial reporting. The report must also include an assessment by management as of the end of the fiscal year of the effectiveness of such internal controls.[6] It is further required that the company's external auditor must report on such assessment made by management.

Since this is a small sample study, a useful extension is to use a larger sample of financial statement restatement cases involving revenue and cost recognition issues that spread over several years to provide external validity of the present study's results.

REFERENCES

Altman, E.I., 1993. Corporate financial distress and bankruptcy. Publisher: John Wiley and Sons, Hoboken: NJ.

[6] These rules apply to all reporting companies regardless of size. For accelerated filers, the first internal control report will appear on the annual report (form 10K) for the fiscal year ending on or after June 15, 2004; for all other filers, the first internal control report would appear in the annual report ending on or after April 15, 2005.

Becker, C.L., M.L. DeFond, J. Jiambalvo and K.R. Subramanium, 1998. The effect of audit quality on earnings management. Contemporary Accounting Research 15: 1-24.

Dechow, P.M., R.G. Sloan and A.P. Sweeney, 1996. Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by SEC. Contemporary Accounting Research 13: 1-36.

Eilifsen, A. and W.F. Messier, 2000. The incidence and detection of misstatements: A review and integration of archival research. Journal of Accounting Literature 19: 1-43.

Levitt, A., 1998. Corporate governance: Integrity in the information age. Speech presented at Tulane University on March 12.

McNichols, M. and G. P. Wilson, 1988. Evidence of earnings management from the provision for bad debts. Journal of Accounting Research 26: 1-31.

Palmrose, Z-V, and S. Scholz, 2000. Restated financial statements and auditor litigation. Working Paper, University of Kansas.

Reynolds, K., and J. Francis, 2001. Does size matter? The influence of large clients on office-level auditor reporting decisions. Journal of Accounting and Economics 30, 375-400.

Watts, R. and J. Zimmerman, 1986. Positive Accounting Theory. Prentice Hall, Englewood Cliff, NJ.

United States General Accounting Office's report to the Chairman, Committee on Banking, Housing and Urban Affairs, U.S. Senate (October 2002). Financial statement restatements: trends, market impacts, regulatory responses and remaining challenges.