Manipulating Receivables: A Comparison Using the SEC's Accounting and Auditing Enforcement Releases

Cecilia Wagner Ricci
Montclair State University

This study compares and contrasts the receivables and receivables-related accounts of companies who have received the Securities and Exchange Commission's Accounting and Auditing Enforcement Releases for inflating their receivables, and a control group that has not. The research provides background on receivables-related accounts and their interactions, a review of previous research on receivables manipulation, motives for manipulating receivables, and the prevalence of such manipulations. It presents the results of a series of tests which find that there are statistically significant differences between manipulating companies and non-manipulating companies, as well as methods of manipulation that vary by industry.

INTRODUCTION

In the third quarter of 2010, total receivables for non-financial corporate businesses in the United States stood at $2.3 trillion (Federal Reserve, 2010). While the extent of the manipulation of receivables is unknown, even if it is a small portion of this amount, it is sizeable, and consequently, requires examination. The purpose of this paper is to add to the literature on receivables manipulation by comparing a set of companies that have manipulated receivables with a set of companies that have not. Specifically, this study looks at the two groups' receivables and receivables-related accounts to determine if there are any statistically significant differences between them.

The remainder of the paper is arranged as follows: the next section contains background information on receivables related accounts and their interactions. This is followed by a review of the literature. Then there is a segment on reasons for receivables manipulation, followed by a section on its prevalence. The next part presents the sample and methodology. Then there is a section addressing the results of the statistical tests. The final part of the paper contains conclusions, limitations, and suggestions for future research.

BACKGROUND

The allowance for doubtful accounts is an estimate of the amount of receivables that will remain uncollected. It appears on the balance sheet as:

Net accounts receivable = Gross accounts receivable – Allowance for doubtful accounts

It is added to as firms reserve funds for bad debt, and subtracted from as bad debt write-offs occur:

Allowance for doubtful accounts = Beginning Balance + Additions – Deductions

Additions are treated as expenses in the period in which they are added, and thus decrease earnings. Deductions, on the other hand, are recorded as decreases in the allowance, and do not affect earnings.

LITERATURE REVIEW

The potential for manipulation in receivables and receivables-related accounts is well established. For example, Beasley et al. (2000) find that receivables and inventory are the most misstated asset accounts on the balance sheet. The Securities and Exchange Commission (SEC) Report Pursuant to Section 704 of the Sarbanes-Oxley Act of 2002 (2003) identifies receivables as an area of financial reporting that is susceptible to fraud. And Dooley (2002) identifies the understatement of expenses as a common area of financial deception.

Receivables may also be used to detect earnings manipulation. For example, Kaminski et al. (2004) report that two ratios, accounts receivable to total assets and sales to accounts receivable, are useful in exposing earnings manipulation. Beneish (1999) finds what he terms the Days Sales in Receivables Index ($Receivables_t/Sales_t \div Receivables_{(t-1)}/Sales_{(t-1)}$) useful in detecting earnings management. Lev (2003) states that earnings manipulation may be exposed via receivables by comparing expected accruals to actual accruals. DeAngelo (1988) uses the allowance for doubtful accounts to test for earnings management. Rosner (2003) reports that firms headed for bankruptcy that do not appear stressed prior to bankruptcy have greater material increases in receivables than non-bankrupt firms do. Fanning and Cogger (1998) conclude that accounts receivable ratios can be utilized to predict fraud. Teoh et al. (1998) find that IPO firms have income increasing bad debt allowances for the IPO year and subsequently. Persons (1995) compares companies that have committed fraud to companies that have not and finds that the fraud companies have higher receivables as a percentage of total assets than the non-fraud firms do.

REASONS FOR RECEIVABLES MANIPULATION

The reasons companies manipulate receivables tend to fall into one or more of five categories. First, companies may alter receivables in order to lower their Days Sales Outstanding (DSO), a common measure of the age of receivables. For example, Symbol Technologies transformed some of its accounts receivables into notes receivable because notes receivable are not included in the DSO calculation (U. S Securities and Exchange Commission, 2005).

Second, companies may manipulate receivables to increase sales or earnings (Caylor, 2010). A case in point is American Italian Pasta, which inflated its receivables to support overstated sales (U. S. SEC, 2008). Other companies, like Gateway for instance, have understated the allowance for doubtful accounts to decrease expenses and increase earnings (U.S. SEC, 2003).

Third, DeChow et al. (1996) find that firms that want to obtain external financing at a low cost tend to manipulate earnings, but this may also be a reason to manipulate receivables if a firm has receivables-based financing. Allou Healthcare provides an illustrative example. The SEC reports that the company "regularly overstated Allou's accounts receivable and inventory to borrow more funds" (U.S. SEC, 2004).

Fourth, companies may manipulate receivables to avoid bad debt write-offs. This is often accomplished by changing the ages of some receivables. For example, Xerox changed invoice dates to make overdue receivables appear current (U.S. SEC, 2002).

Finally, companies may employ receivables to increase cash flow. One example is Delphi, which sold $325 million of its receivables to boost cash and then hid the sale (U.S. SEC, 2006).

PREVALENCE OF RECEIVABLES MANIPULATION

Of particular interest to this study is the prevalence of receivables manipulation. One measure of this is the Accounting and Auditing Enforcement Releases (AAER) issued by the SEC. These documents describe the ways in which a firm has violated securities laws. Ibrahim (2009) finds that just over 42% of firms censured by the SEC between 2000 and 2004 had manipulated accounts receivable. Huron

Consulting (2004) reports that errors related to reserves and contingencies were the leading cause of AAERs in 2003. And Feroz et al. (1991) determine that the overstatement of receivables and inventory accounted for almost 75% of the AAERs issued from April 1982 to April 1989.

SAMPLE AND METHODOLOGY

This study compares the receivables-related accounts of companies that have manipulated receivables and companies that have not. The former group is drawn from AAERs issued between 2000 and 2010. Firms that were not the subjects of receivables-related AAERs were extracted from this group. Next, as discussed previously, firms may inflate or deflate their receivables, their allowances for doubtful accounts, and their bad debt write-offs. Since analyzing all of these actions would lead to confounding results, the sample was narrowed to the largest group of firms, those that inflated their receivables (a result also found by Icerman and Hillison, 2000). In addition, firms that did not have data available for the years under study were removed. This resulted in eighteen firms that received AAERs between 2000 and 2010 concerning their inflation of receivables.

TABLE 1
COMPANIES AND MATCHES

AAER COMPANY	MATCHING COMPANY
Allou Healthcare	Schiff Nutrition Int'l.
American Bank Note Holographics	UFP Technologies
American Italian Pasta	Reddy Ice Holdings
Anicom	CommScope
Collins and Aikman	Interface, Inc.
Conagra	Sara Lee
Craig Consumer Electronics	Loud Technologies
Delphi	Honeywell Int'l.
Endocare	Natus Medical
Friedmans	Lazare Kaplan
Gateway	Unisys
Hayes Lemmerz	Metaldyne Corp.
McAfee	Valassis Communications
Newpark Resources	Lufkin Industries, Inc.
Sensormatic Electronics	Federal Signal
Teltran	Star Telecom
Tenet	HCA, Inc.
Xerox	Electronic Data Systems

Each firm in the manipulation group was then matched with a control firm that had not manipulated its receivables. The matching was based on GIC economic sector and sales in the first year of the receivables manipulation. If no appropriate match was found, the company was removed from the sample. The final sample contains thirty-six companies, eighteen AAER firms and their matches. These may be seen in Table 1.

Table 2 contains information on the distribution of the sample by GIC sector and the number of years in which the manipulation occurred. As indicated, the sample companies were in six of ten GIC sectors with most of the sample falling into the Consumer Discretionary (GIC 25) and Information Technology

(GIC 45) sectors. The concentration in the Information Technology sector is not unexpected (see Beasley et al., 2000). The second panel of Table 2 shows the number of years in which receivables were manipulated, which ranged from one year to more than five years, with the most common being three years.

TABLE 2
SAMPLE DISTRIBUTIONS

GIC Economic Sector			
GIC	Description	Frequency	Percentage
10	Energy	1	5.6%
15	Materials	1	5.6%
25	Consumer Discretionary	7	38.9%
30	Consumer Staples	2	11.1%
35	Health Care	3	16.7%
45	Information Technology	4	22.2%
Years of Manipulation			
Number of Years	Number of Companies		Percentage
1	2		11.1%
2	3		16.7%
3	7		38.9%
4	2		11.1%
5	3		16.7%
Great than 5	1		5.6%

Given the GIC distribution of the sample companies, tests were run on the entire sample, the Consumer Discretionary sector and the Information Technology sector. Data for the companies were gathered from their 10-Ks for the relevant years. The sample was then coded so that the first year of the manipulation was year 0, the second year was 1, and so on.

The research question to be tested is: are there statistically significant differences between the receivables-related accounts of the AAER firms and the control firms? Given that the AAER firms have inflated receivables, one would expect that the gross receivables and net receivables would be higher for the AAER firms than for the control firms. This results in the first two hypotheses:

H_1: *Gross receivables$_{Control}$ < Gross receivables$_{AAER}$*
H_2: *Net receivables$_{Control}$ firms < Net receivables$_{AAER}$*

Next, recall that bad debt write-offs decrease the allowance for doubtful accounts, which is subtracted from gross receivables. Thus, if a company wants to inflate its net receivables, it may increase its bad debt write-offs. This leads to the third hypothesis:

H_3: *Bad debt write-offs$_{Control}$ < Bad debt write-offs$_{AAER}$*

The situation with additions to bad debt allowances is somewhat murky because two opposing actions may be undertaken. Intuitively, if a firm wants to decrease its allowance, it can decrease its additions to the allowance. However, a firm inflating its receivables may also increase its allowance, albeit by a smaller amount than the increase in receivables. Consequently, the additions to bad debt allowances for the AAER companies may be higher or lower than those for the control group. This leads to the last hypothesis, in which direction of the difference cannot be predicted:

H_4: *Additions to the bad debt allowance$_{Control}$ ≠ Additions to the bad debt allowance$_{AAER}$*

The next section provides the results for the tests of these hypotheses. Given the small sample size, a nonparametric test was indicated. The Wilcoxon Signed Ranks Test is considered the most powerful of the nonparametric tests for samples consisting of matched pairs (Siegel and Castellan, 1988), hence it was used to analyze the data.

RESULTS

Tables 3, 4, 5 and 6 contain the results for the Wilcoxon Signed Ranks Test for gross receivables, net receivables, bad debt write-offs, and additions to the bad debt allowance, respectively. The first and second columns show the number of positive and negative outcomes, while the third column shows the z score, and the fourth the level of significance. The tests for gross receivables, net receivables, and bad debt write-offs were one-tailed, while the test for additions to the bad debt allowance was two-tailed since no direction could be predicted. The number of positive and negative outcomes varies because the number of years of manipulations varies. For example, if a firm manipulated its receivables for two years, then the number of positive and negative outcomes would be different in years 0 and 1 than it would be in year 2. In the subsets (the Consumer Discretionary and Information Technology sectors 25), there were not enough data points to analyze year 3, so the results cover years 0, 1 and 2.

Gross Receivables

The test results for gross receivables may be seen in Table 3. If H_1 is true, one would expect more negative outcomes than positive ones because gross receivables would be higher for the AAER companies than for the control companies. The results for the entire sample exhibit the expected pattern with the exception of year 3, but none are statistically significant. The second panel of Table 3 shows the results for the Consumer Discretionary sector (GIC 25). The expected pattern is evident in all three years

TABLE 3
WILCOXON SIGNED RANKS TEST RESULTS, GROSS RECEIVABLES

	-	+	z-score	significance
Entire Sample				
$Control_0 - AAER_0$	12	6	-0.370	0.3556
$Control_1 - AAER_1$	10	5	-0.454	0.3248
$Control_2 - AAER_2$	7	4	-0.800	0.2118
$Control_3 - AAER_3$	2	3	-0.674	0.2501
Consumer Discretionary				
$Control_0 - AAER_0$	6	1	-1.859	0.0315**
$Control_1 - AAER_1$	4	1	-1.753	0.0398**
$Control_2 - AAER_2$	3	0	-1.604	0.0544*
Information Technology				
$Control_0 - AAER_0$	2	2	-0.730	0.2326
$Control_1 - AAER_1$	2	1	0.000	0.5000
$Control_2 - AAER_2$	2	1	0.000	0.5000
**Significant at $\alpha = 0.05$ *Significant at $\alpha = 0.10$				

Net Receivables

Table 4 shows the test results for net receivables. If H_2 is correct, the net receivables for the AAER companies would be higher than those of the control group, and thus, one would expect a high number of negative outcomes. As indicated in the first panel, the expected pattern is seen for years 0, 1 and 2, and the results are statistically significant in year 0 at the 0.10 level, and at the 0.05 level in year 1. In the Consumer Discretionary sector, all three years exhibit more negative outcomes than positive one, and the results are statistically significant – at the 0.05 level in year 0 and at the 0.10 level in years 1 and 2. Thus, H_2 is supported in the overall sample as well as the Consumer Discretionary sector. There are no significant results in the Information Technology sector, suggesting that in this sector, the inflation in net receivables is not large enough to be significant.

TABLE 4
WILCOXON SIGNED RANKS TEST RESULTS, NET RECEIVABLES

	-	+	z-score	significance
Entire Sample				
$Control_0$ - $AAER_0$	13	5	-1.459	0.0723*
$Control_1$ - $AAER_1$	11	4	-1.704	0.0442**
$Control_2$ - $AAER_2$	7	4	-1.156	0.1239
$Control_3$ - $AAER_3$	2	3	-0.405	0.3429
Consumer Discretionary				
$Control_0$ - $AAER_0$	6	1	-1.859	0.0315**
$Control_1$ - $AAER_1$	4	1	-1.753	0.0398**
$Control_2$ - $AAER_2$	3	0	-1.604	0.0544*
Information Technology				
$Control_0$ - $AAER_0$	2	2	-0.730	0.2326
$Control_1$ - $AAER_1$	2	1	0.000	0.5000
$Control_2$ - $AAER_2$	2	1	0.000	0.5000
**Significant at $\alpha = 0.05$ *Significant at $\alpha = 0.10$				

Bad Debt Write-Offs

The test results for bad debt write-offs may be seen in Table 5. Based on H_3, one would predict the AAER group to have higher write-offs than the control group, and thus the negative outcomes should be higher than the positive outcomes. This is the case for the entire sample in years 1, 2 and 3. Year 1 is statistically significant at the 0.05 level, while year 2 is statistically significant at the 0.10 level. In the Consumer Discretionary sector, the expected pattern is seen in only one year, and none of the results are significant. In the Information Technology sector, the expected pattern is evident in all three years, and all of the results are significant at the 0.10 level. These results suggest that bad debt write-offs are not being manipulated in the Consumer Discretionary sector, but they are in the Information Technology sector as well as the overall sample.

Additions to the Allowance for Doubtful Accounts

Moving on to Table 6, the additions to the bad debt allowances, the relationship between the positive outcomes and negative outcomes has not been predicted. The first panel contains the results for the entire sample. In every year, the number of negative outcomes is greater than the positive outcomes and years 0

TABLE 5
WILCOXON SIGNED RANKS TEST RESULTS, BAD DEBT WRITE-OFFS

	-	+	z-score	significance
Entire Sample				
$Control_0 - AAER_0$	9	8	-0.781	0.2174
$Control_1 - AAER_1$	12	3	-1.647	0.0498**
$Control_2 - AAER_2$	9	2	-1.511	0.0653*
$Control_3 - AAER_3$	3	2	-0.135	0.4464
Consumer Discretionary				
$Control_0 - AAER_0$	2	4	-0.105	0.4583
$Control_1 - AAER_1$	3	2	-0.405	0.3429
$Control_2 - AAER_2$	2	1	-1.069	0.1425
Information Technology				
$Control_0 - AAER_0$	3	1	-1.461	0.0721*
$Control_1 - AAER_1$	3	0	-1.604	0.0544*
$Control_2 - AAER_2$	3	0	-1.604	0.0544*
**Significant at $\alpha = 0.05$ *Significant at $\alpha = 0.10$				

TABLE 6
WILCOXON SIGNED RANKS TEST RESULTS, ADDITIONS TO ALLOWANCE FOR DOUBTFUL ACCOUNTS

	-	+	z-score	significance
Entire Sample				
$Control_0 - AAER_0$	14	4	-2.853	0.0043**
$Control_1 - AAER_1$	11	4	-2.272	0.0231**
$Control_2 - AAER_2$	8	3	-1.956	0.0505*
$Control_3 - AAER_3$	3	1	-1.461	0.1441
Consumer Discretionary				
$Control_0 - AAER_0$	4	2	-1.363	0.1730
$Control_1 - AAER_1$	2	3	-0.405	0.6858
$Control_2 - AAER_2$	1	2	0.000	1.0000
Information Technology				
$Control_0 - AAER_0$	5	0	-2.023	0.0431**
$Control_1 - AAER_1$	3	0	-1.604	0.1088
$Control_2 - AAER_2$	3	0	-1.604	0.1088
**Significant at $\alpha = 0.05$ *Significant at $\alpha = 0.10$				

and 1 are statistically significant at the 0.05 level, while year 2 is significant at the 0.10 level. In the Consumer Discretionary sector, one year exhibits the expected pattern, but none of the results are statistically significant. In the Information Technology sector, all three years have a higher number of negative outcomes than positive ones, and year 0 is statistically significant at the 0.05 level.

These outcomes suggest that of the two scenarios discussed previously the one that has a firm inflating its receivables also increasing its allowance by a smaller amount, may be what is occurring overall and in the Information Technology sector, but not in the Consumer Discretionary sector.

CONCLUSIONS

This study has several outcomes that contribute to the literature on receivables manipulation. First, the results of the study indicate that the impact of receivables manipulation tends to be visible in the initial year of manipulation and the following year.

Second, the outcomes of the study indicate that receivables manipulation varies by industry, confirming Beasley et al. (2000). In the Consumer Discretionary sector, the two groups are statistically significantly different in the gross and net receivables, and no differences are seen in the sector's bad debt write-offs or additions to the allowance for doubtful accounts. This suggests that in this sector, overall receivables may be being inflated but not via the bad debt write-offs or the additions to the allowance for doubtful accounts.

In the Information Technology sector, statistically significant results in the bad debt write-offs and to a lesser extent, the allowance for doubtful accounts, and the lack of statistically significant results in gross and net receivables indicates that receivables are being inflated via bad debt write-offs and the allowance for doubtful accounts.

There are several limitations to this study. First, the sample size is small. Second, the study is limited to companies whose receivables manipulations have been discovered, so there is no way to know how many companies have been able to manipulate their receivables and get away with it. Third, the sample is concentrated in six of ten GIC sectors and thus, cannot be extended to the general population.

The potential for future research in this area is great. One area of concentration is receivables manipulation in various industries. This research (as well as Beasley et al., 2000) indicates that there are variations by sector. Thus, there are opportunities for studying how receivables manipulation differs by industry and why. Future research could also examine the prevalence of manipulation among industries, and reasons for the disparities.

Potential research could also focus on receivables manipulation globally in terms of where it exists, how it is accomplished, and the reasons behind it. Of necessity, this would also include the impacts of international accounting standards on the ability to engage receivables manipulation, and impacts on its prevalence.

Finally, future studies could attempt to link receivables manipulation with behavioral finance. Researchers could investigate whether such factors as the trying-to-break-even effect, mental accounting, or herding can be linked to the likelihood of receivables manipulation.

REFERENCES

Beasley, M., Carcello, J., Hermanson, D. & Lapides, P. (2000). Fraudulent Financial Reporting. *Accounting Horizons*, 14, (4), 441-455.

Beneish, M. (1999). The Detection of Earnings Manipulation. *Financial Analysts Journal*, 55, (5), 24-36.

Caylor, M. (2010, January). Strategic Revenue Recognition to Achieve Earnings Benchmarks. *Journal of Accounting & Public Policy*, 29, (1), 82-95.

DeAngelo, L. (1988). Discussion of Evidence of Earnings Manipulation from the Provision for Bad

Debts. *Journal of Accounting Research*, 26 Supplement, 32-40.

DeChow, P., Sloan, R., & Sweeney, A. (1996, Spring). Causes and Consequences of Earnings Manipulation: an Analysis of Firms Subject to Enforcement Actions by the SEC. *Contemporary Accounting Research*, 13, (1), 1-36.

Dooley, D. (2002). Financial Fraud: Accounting Theory and Practice. *Fordham Journal of Corporate & Financial Law*, 2002 Symposium, 8, S53-S89.

Fanning, K. & Cogger, K. (1998). Neural Network Detection of Management Fraud Using Published Financial Data. *International Journal of Intelligent Systems Accounting, Finance and Management*, 7, (1), 21-41.

Federal Reserve. (2010, 2 December). *Statistical Release: Flow of Funds Accounts of the United States*. Z.1 L.102, 66.

Feroz, E.; Park, K. & Pastina, V. (1991). The Financial and Market Effects of the SEC's Accounting and Auditing Enforcement Releases. *Journal of Accounting Research*, 29 Supplement, 107-148.

Huron Consulting Group (2005). *An Analysis of Restatement Matters: Rules, Errors, Ethics, for the Five Years Ended December 31, 2004*. Available: http://www.huronconsultinggroup.com/library/Huron_2004_Restatement_Report_Summary.pdf.

Ibrahim, S. (2009), November/December). The Usefulness of Measures of Consistency of Discretionary Components of Accruals in the Detection of Earnings Management. *Journal of Business Finance & Accounting*, 36, (9) & (10), 1087–1116.

Icerman, R. C., & Hillison, W. A. (1990). Distribution of Audit-Detected Errors Partitioned by Internal Control. *Journal of Accounting, Auditing & Finance*, 5, (4), 527-43.

Kaminski, K., Wetzel, T. & Guan, L. (2004). Can Financial Ratios Detect Fraudulent Financial Reporting? *Managerial Auditing Journal*, 19, (1), 15-28.

Lev, B. (2003). Corporate Earnings: Fact and Fiction. *Journal of Economic Perspectives*, 17, (2) Spring, 27-50.

Persons, O. (1995). Using Financial Statement Data to Identify Factors Associated with Fraudulent Financial Reporting. *Journal of Applied Business Research*, 11, (3), 38-46.

Rosner, R. (2003, Summer). Earnings Manipulation in Failing Firms. *Contemporary Accounting Research*, 20, (2), 361-408.

Securities and Exchange Commission, *Report Pursuant to Section 704 of the Sarbanes-Oxley Act of 2002*, 2003.

Siegel, S. & Castellan, J. N. (1988). *Nonparametric Statisticsfor the Behavioral Sciences*(2nd ed.). Boston: McGraw-Hill.

Teoh, S. H., Welsh, I., & Wong, T. J. (1998, December). "Earnings Management and the Long Run Under Performance of Initial Public Offerings." *Journal of Finance,* 53, (6), 1935-1974,

U.S. Securities and Exchange Commission. (2008, 15 September). *Accounting and Auditing Enforcement Release* No. 2877, *SEC v. American Italian Pasta Company.*

U.S. Securities and Exchange Commission. (2006, 30 October). *Accounting and Auditing Enforcement Release* No. 2504, *SEC v. Delphi Corporation.*

U.S. Securities and Exchange Commission. (2006, 2 March). *Accounting and Auditing Enforcement Release* No. 2391, *SEC v. Symbol Technologies, Inc.*

U.S. Securities and Exchange Commission. (2004, 17 June). *Accounting and Auditing Enforcement Release* No. 2037, *SEC v. Victor Jacobowitz, et al.*

U.S. Securities and Exchange Commission. (2003, 13 November). *Accounting and Auditing Enforcement Release* No. 1911, *SEC v. Gateway.*

U.S. Securities and Exchange Commission. (2002, 11 April). *Accounting and Auditing Enforcement Release* No. 1542, *SEC v. Xerox Corporation.*