An Investigation of Investor Reaction to the Information Content of a Going Concern Audit Report While Controlling for Concurrent Financial Statement Disclosures

Steven J. Carlson
University of North Dakota

G. William Glezen
University of Arkansas

Michael E. Benefield
Arkansas Tech University

Prior event studies of the information content of going concern audit reports (GCAR) have not attempted to control for concurrent financial information disclosures. The analysis of covariance (ANCOVA) model used in this study permits more control, relative to previous studies, for concurrent financial information disclosures.

Eighty-eight firms that received GCARs are pair-matched with an equal number of control firms matched by fiscal year, industry, and a measure of financial distress. The dependent variable is the individual security return, and the independent variable of interest is a dummy variable representing the presence or absence of a GCAR. Covariates consist of variables representing unexpected earnings, market returns, size, and five financial ratios representing financial statement information.

During the event period the difference in adjusted means for the GCAR and non-GCAR groups is significant. These results suggest that financial statement readers find a GCAR useful for firm valuation purposes

Introduction

Prior research on the information content of going concern audit reports (GCAR) has not controlled for the concurrent release of information embodied in the accompanying financial statements. Market reaction to this information is likely to confound the measurement of the GCAR information content and may contribute

0747-5535/98/1400-0025 $2.50

to the mixed results of prior research. To control for the confounding effect of financial statement information, our research design includes a set of financial ratios commonly used by investors to evaluate an entity's financial condition. We use an analysis of covariance (ANCOVA) model that also controls for market return, size, and unexpected earnings.

In addition to the unique covariates used in the research design, a control group of financially distressed firms is used as a benchmark to compare with the GCAR firms (rather than using abnormal returns from the market model). A matched-pair design avoids the problem of a potential unstable relationship between the market return and individual security returns(i.e., the stationarity of beta is not a concern).

Samples of 88 experimental and 88 control firms are pairmatched on fiscal year, industry, and a measure of financial distress. Using an event period of –2 days through +2 days around the release dates of the annual reports we find a significant difference in the adjusted mean returns for the GCAR and non-GCAR firms. We conclude that financial statement readers find a GCAR useful for firm valuation purposes.

The next section summarizes relevant prior research and is followed by a statement of the hypothesis and a description of the research design. The final sections contain the statistical analysis and results and a summary and conclusion.

Prior Research

Although several studies address the information content of uncertainty opinions, in this paper we limit our review to the subset that specifically addresses GCARS. Firth (1978), Elliott (1982), Dodd *et al.* (1984), Fields and Wilkins (1991), and Chen and Church (1996) have investigated the effect of a GCAR on a firm's value. These studies do not control for the simultaneous release of information in the financial statements, however. Bailey (1982) contends that when examining the information content of the audit report the key research design issue is to control for the simultaneous release of financial statement information. Dodd *et al.* (1984) suggest that future research investigating the information content of a GCAR should use a methodology that controls for concurrent information releases (e.g., financial statement information).[1]

Prior GCAR research addressing information content has investigated the effect of a GCAR on firm value by examining the pattern of abnormal returns (specified by either the market model or capital asset pricing model) around the event dates. The relationship between the market return and a security's return may change as a

[1] The results of Purdy *et al.* (1969), Libby (1979), and Banks and Kinney (1982) suggest that the method of disclosure of a warning (i.e., foonote disclosure versus audit report disclosure) does not affect whether readers notice the warning. Hence, the fact that a GCAR typically references a footnote should not confound measuring the information effect of a GCAR.

firm's fundamental characteristics change (Levy 1971, Blume 1975, Elton and Urich 1978, and Bey 1983). The deteriorating financial condition of a financially distressed firm is likely to affect the stability of the relationship between the market return and an individual security's return. The stability of this relationship is tested for the firms included in this study by comparing the absolute differences in pre-event and post-event betas. The results ($t = 13.296$, $p = .0001$) indicate that the betas are significantly different for the two periods. Therefore, specification of abnormal returns by either the market model or capital asset pricing model may not be appropriate.

Firth (1978) finds significant abnormal returns around the GCAR release date for a sample of United Kingdom firms and concludes that investors use a GCAR "to alter their opinions of these securities." Elliott (1982) investigates the pattern of abnormal returns for GCAR firms around the announcement date of earnings in the *Wall Street Journal*. Significant negative abnormal returns are found before the event date, no significant abnormal returns are found during the event week, and significant positive abnormal returns are found for the three-week period after the event week. Elliott (1982) speculates that the negative abnormal returns before the event date may have been caused by the method used to identify the GCAR public release date (i.e., the release date of annual earnings in the *Wall Street Journal*).

Dodd *et al.* (1984) observe that the earnings announcement date does not accurately represent the GCAR disclosure date and define their event day as the earlier of the 10-K or annual report SEC filing dates. They find no significant abnormal returns one week before the GCAR release date or during the week of the GCAR release date and significant negative abnormal returns during the week after the GCAR release date. Dodd *et al.* (1984) conclude that a GCAR has a minimal impact on security prices.

Fields and Wilkins (1991) examine price reaction to public announcements of withdrawn GCARs between 1978 and 1987. Their results indicate an increase in returns attributable to the announcements.

Chen and Church (1996) investigate the association between GCARs and the market's reaction to bankruptcy filings and find that firms receiving GCARs experience less negative excess returns in the period surrounding bankruptcy filings than those receiving unmodified reports. These results are consistent with GCARs having information value.

Additional research concerning the GCAR is needed for two reasons. First, the results of prior research have been inconclusive. Both negative and positive abnormal returns have been observed during the weeks before and after the release of the GCAR, and significant and insignificant abnormal returns have been observed during the week of the release. Second, the research designs employed in previous studies have not attempted to control for the concurrent release of financial statement information.

Hypothesis and Research Design

A GCAR may convey information that shifts investors' perceptions of a firm's risk and, therefore, decreases investors' expectations concerning the present value of the firm's cash flows and security price. By conveying incremental information to financial statement readers concerning the increase in risk associated with a firm, the issuance of a GCAR is likely to have a negative effect on that firm's security price.

We test the following security returns hypothesis (null form) to investigate whether there is evidence that financial statement readers use a GCAR when assessing a firm's value:

HO1: The information conveyed to financial statement readers by a GCAR does not have a negative effect on security returns.

To identify firms receiving a GCAR the National Automated Accounting Research System (NAARS) database was searched from July 1, 1981 to June 30, 1988.[2] To be included in the sample as an experimental firm the following criteria were established:

- The company received a GCAR;
- The company's previous year's audit report was unqualified;
- Security prices were available on the Center for Research in Security Prices (CRSP) tapes for the appropriate event periods;
- Prior to the public release of the financial statements there was no media disclosure in the *Wall Street Journal Index* concerning the auditor's decision to issue a GCAR;
- The filing date of the SEC 10-K report was available; also, the public release date of the annual report was identifiable;
- Expected earnings were identifiable; and

[2] The time period covered by this study coincides with the period in which SAS No. 34 was effective. SAS No. 59 became effective for audits of financial statements for periods beginning on or after January 1, 1989, with early application permitted. SAS No. 59 contains substantially the same suggested procedures for evaluating an entity's going concern status as SAS No. 34, although specific consideration of going concern status is required (as opposed to only if information came to the auditor's attention under SAS No. 34) and the reporting format changed from a "subject to" opinion to the inclusion of an additional paragraph. Carcello *et al.* (1995) and Raghunandan and Rama (1995) investigate whether the issuance of SAS No. 59 subsequently affected auditors' going concern opinions and find inconsistent results. Carcello *et al.* (1997) subsequently show that SAS No. 59 has no effect unless 1988 is included in the pre-SAS No. 59 period.

- The company had not filed bankruptcy proceedings between the beginning of the prior fiscal year and the public release date of the current year's financial statements.

Control Sample

The objective in selecting the control sample is to identify firms that are equivalent to the GCAR firms with respect to dimensions that are likely to convey information to financial statement users concerning a firm's going concern status (i.e., financial distress). The control firms meet the same data requirements as the experimental firms except for the receipt of a GCAR.

A control sample of equal size as the experimental sample is selected.[3] The control sample is pair-matched with the experimental firms on the following dimensions: (1) the fiscal year the experimental firm received a GCAR; (2) the standard industrial classification (SIC) code of the experimental firm; and (3) a measure of financial distress.[4]

Financially distressed firms to which an auditor may have considered issuing, but did not issue, a GCAR should represent a population of firms that are similar to the GCAR firms; however, these firms are not directly observable. Hence, a bankruptcy prediction model is used to select financially distressed firms. Zavgren (1983) and Jones (1987) summarize the literature concerning bankruptcy prediction models and note that the bankruptcy model with the lowest misclassification error rate for non-bankrupt firms is Altman's (1968) z-score model. This model, developed in 1968, uses a five-ratio discriminant function that predicts bankruptcy with 95 percent accuracy one year prior to bankruptcy. Altman concludes that a z-score of 2.675 best discriminates between bankrupt and non-bankrupt firms. Thus, a z-score below 2.675 that most closely approximates the z-score of the matching experimental firm is used in selecting the control sample.[5]

---

[3] Between 45 and 54 percent of the companies sampled by Menon and Schwartz (1986) and Altman and McGough (1974) that filed for bankruptcy did not receive a GCAR on their previous financial statements. Thus, by selecting a control sample that is the same size as the experimental sample, the overall sample should be proportionally representative of the populations of financially distressed firms for which an auditor is likely to have considered issuing a GCAR.

[4] Loudder *et al.* (1992) have shown that market expectations are likely to affect market reaction to GCARs. To the extent market expectations are based on variables captured in the z-score, we would expect little or no market reaction for the experimental sample firms thus making rejection of the hypothesis more difficult.

[5] The z-scores of the control firms were higher (less financial stress) on average (1.2070 versus 0.3993) than the experimental firms, but all were well below Altman's cutoff point for discriminating between bankrupt and non-bankrupt firms (2.675). The z-scores of the control firms are unlikely to perfectly match the z-scores of the experimental firms because severity of financial distress is an important factor in determining whether to issue a modified audit report.

Event Date

There are two potential dates on which firms may publicly disclose their financial statements and audit report: the public release of the 10-K report and the public release of the annual report. Both of the dates are identified from the SEC receipt stamps, and the earlier of the two dates is used as the event date.

Variables Included as Covariates

We control for financial statement information, unexpected earnings, market return, and size. Financial statement users are simultaneously exposed to a number of different information disclosures. The concurrent release of financial statements with a GCAR may confound the measurement of the information content of a GCAR. Financial statements represent an aggregation of a company's individual business transactions. Financial analysts (e.g., *Standard & Poor's)* commonly present financial ratios for investors' use when evaluating a company's financial condition. Thus, financial statement ratios are included in the ANCOVA model to represent the type of information financial statement users analyze when evaluating a company's financial condition.

Horrigan (1965), Pinches *et al.* (1973), Pinches *et al.* (1975), Chen and Shimerda (1981), and Pohlman and Hollinger (1981) investigate information redundancy in financial statement ratios. These studies lead to three general conclusions.

- Virtually all financial ratio information can be captured by a relatively few categories;
- Only one ratio from each category is needed to represent the information available from the other ratios within that category; and
- Time-series changes in the individual ratios do not affect the stability of the ratio categories, i.e., if a company's quick ratio changes over a five-year period, that ratio would still represent liquidity.

The ratios used in this study are selected from the categories and rankings reported by Chen and Shimerda (1981), Pinches *et al.* (1975), and Pinches *et al.* (1973). Based on the size of factor loadings, stability of factor loadings across time, and consistency of factor loadings across studies, one ratio is selected from each of the categories of return on investment, leverage, liquidity, cash position, and activity level to represent the information available to financial statement users.[6]

Also, we control for financial ratios that are important in determining the financial stress of both experimental and control firms.

[6] An alternative method of selecting the financial ratios would be to perform a factor analysis on the companies selected for this study. This method would cause the results to be sample-specific and not generalizable to the population (Chen and Shimerda, 1981, p. 59).

Brown *et al.* (1987) and Bamber (1987) define unexpected earnings as the difference between actual and predicted earnings standardized by predicted earnings. Because analysts' forecasts of predicted earnings are not generally available for the firms in this study, a modified random walk model (Foster, 1986) is used where predicted earnings are defined as the prior year's fourth quarter earnings plus the earnings from the first three quarters of the current year. Previous research (Reinganum 1982 and Ataise 1985) indicates that firm size affects security returns. Size is measured as the market value of common stock.[7] The inclusion in the model of a market return converts the daily return on individual securities to a market-adjusted return. The New York Stock Exchange is considered representative of the market, and the return of that exchange is included as an explanatory variable.

The general ANCOVA model for the security returns hypothesis is:

$$(1)\ R_{i,t} = \mu_{\cdot} + \beta_1(x_{1,i,t} - \bar{x}_1) + \beta_2(x_{2,i} - \bar{x}_2) + \beta_3(x_{3,i} - \bar{x}_3) + \beta_4(x_{4,i} - \bar{x}_4) + \beta_5(x_{5,i} - \bar{x}_5) + \beta_6(x_{6,i} - \bar{x}_6) + \beta_7(x_{7,i} - \bar{x}_7) + \beta_8(x_{8,i} - \bar{x}_8) + \varepsilon_{i,k}$$

where:

$R_{i,t}$ = Daily return for the i^{th} firm at time t;
$\mu_{\cdot}$ = Overall mean return;
$x_{1,i,t}$ = Market return (daily return on the NYSE for the i_{th} firm at time t);
$x_{2,i}$ = Size (log of market value of common stock for firm i on the day before the event period);
$x_{3,i}$ = Return on investment (earnings before interest and taxes ÷ total assets for firm i);
$x_{4,i}$ = Leverage (current liabilities + long-term debt) ÷ total assets for firm i);
$x_{5,i}$ = Liquidity (current assets ÷ current liabilities for firm i);
$x_{6,i}$ = Cash position (cash ÷ total assets for firm i);
$x_{7,i}$ = Activity level (accounts receivable ÷ net sales for firm i);
$x_{8,i}$ = Unexpected earnings for firm i; and
$\varepsilon_{i,k}$ = Error term.

By using an ANCOVA approach to test our hypothesis we are able to reduce the variance of the error terms in our model and, hence, increase the precision of our test.[8] The variance of the error terms is reduced because the expected value of $R_{i,t}$ will depend not only on whether a firm receives a GCAR, but also on the values of the associated covariates. Therefore, the actual test performed is on the adjusted group means that are denoted by:

[7] Use of total assets as a surrogate for size did not change the results.

[8] The inclusion of the covariates in the model results in a 50.7 percent reduction of the mean square error from 0.02399 to 0.01183. This decrease in the mean square error supports the unique methodology used in the study.

$$(2)\ \mu_{0,k} = R_{i,t} - \sum_{j=1}^{p} \beta_j(x_j - \bar{x}_{1,j})$$

with $\mu_{0,k}$ equal to the adjusted mean return for each group (k = 1 if GCAR, 0 otherwise and p equal to the number of covariates). The ANCOVA approach is analogous to Masulis' (1980) mean-adjusted return model.

Statistical Analysis and Results

A search of the NAARS database identifies an initial sample of 357 firms receiving a first time GCAR from July 1, 1981 to June 30, 1988. Table 1 reconciles identified GCAR firms with the final sample of 88 experimental firms. A control group of an equivalent number of firms not receiving a GCAR and meeting the data requirements outlined earlier also is selected. Descriptive statistics of the experimental and control firms are shown in Table 2.

The distributional assumptions of ANCOVA include: (1) normality of the error terms, (2) linearity, (3) constant variance among groups, and (4) equal slopes of the covariates across groups. The normality and linearity assumptions are investigated by plotting and examining the residuals. Hartley's F-max test is used to test the constant variance assumption. For all time periods examined no serious violations of assumptions (1) through (3) are detected. The test for parallel slopes is equivalent to testing for the presence of interaction between the covariates and the two groups. For all time periods examined none of the interactions had an associated p-value of less than 0.390.

Table 1—Reconciliation of Number of Identified GCAR Firms With Number of Firms Used to Test Hypothesis

Total number of first-time GCARs identified by searching NAARS database from July 1, 1981 to June 30, 1988	357
LESS:	
Firms with missing returns	148
Firms with prior year's audit report qualified for other than going-concern issues	55
Firms that filed for bankruptcy before the release of the financial statements	27
Firms with no available match firm*	18
Firms with a media about the GCAR before the release of the financial statements	11
Financial institutions	7
Firms with no available SEC filing date	2
Firms with no available earnings forecast	1
Total number of experimental firms in final sample	88

* Match firms were unavailable because (1) no firm could be found with an appropriate z-score (below 2.675) for the same year as the experimental firm and with at least the same two-digit SIC code; (2) no firm could be found with an unqualified audit report for two consecutive years; or (3) an SEC filing date was not available for the match firm

Table 2—Descriptive Statistics of Independent Variables and Z-Score Matching Criteria for 88 Observations

	Experimental Firms		Control Firms	
	Mean	Standard Deviation	Mean	Standard Deviation
Independent variables-				
Market returns	0.0009	0.0047	0.0013	0.0054
Log of firm size	4.1423	0.5673	4.6943	0.7161
Return on investment	-0.4637	0.7783	-0.1188	0.2814
Leverage	0.8252	0.2662	0.6409	0.3878
Liquidity	0.9286	0.6549	1.7597	1.5180
Cash position	0.0313	0.0357	0.0536	0.1003
Activity level	0.1975	0.1208	0.1914	0.1030
Unexpected earnings	-0.5291	2.1456	-0.3344	1.9921
Z-Scores	0.3990	0.3236	1.2070	0.0984

Table 3—ANCOVA Model for the Time Period –2 to +2 Days Around the Event Date, Dependent Variable: Security Returns

Panel A: Variable	D.F.	Sum of Squares	F Statistic	P-Value
All Covariates	8	0.056	1.930	0.050
Market Return	1	0.027	7.307	0.007
Firm Size	1	0.003	0.728	0.394
Return on Investment	1	0.001	0.241	0.624
Leverage	1	0.001	0.352	0.553
Liquidity	1	0.003	0.823	0.365
Cash Position	1	0.001	0.342	0.559
Activity Level	1	0.019	5.068	0.025
Unexpected Earnings	1	0.002	0.499	0.480

Model F = 1.93,p= .05

Panel B: T Test for Difference in Adjusted Means Between GCAR and NON-GCAR Firms

GCAR Adjusted Mean	Non-GCAR Adjusted Mean	Difference
-0.0122	-0.0025	0.0097

t-Value = 1.656, P-Value = 0.0328

Test of the Hypothesis

The event period must be large enough to include the market reaction, but not so large as to include potentially confounding events. We choose -2 through +2 days around the event date. The ANCOVA results are presented in Table 3. For the -2 through +2 day event period the difference in adjusted means for the GCAR and non-GCAR groups is approximately 1.0 percent which is significant (p = 0.0328). These results suggest that financial statement readers find a GCAR useful for firm valuation purposes.[9]

[9] An analysis also was performed using OLS regression with similar results. We report the ANCOVA result because it allows a comparison of the adjusted group means.

Table 4—Correlation Matrix for Security Returns, Pearson Correlation Coefficients, and Associated P Values; N = 88

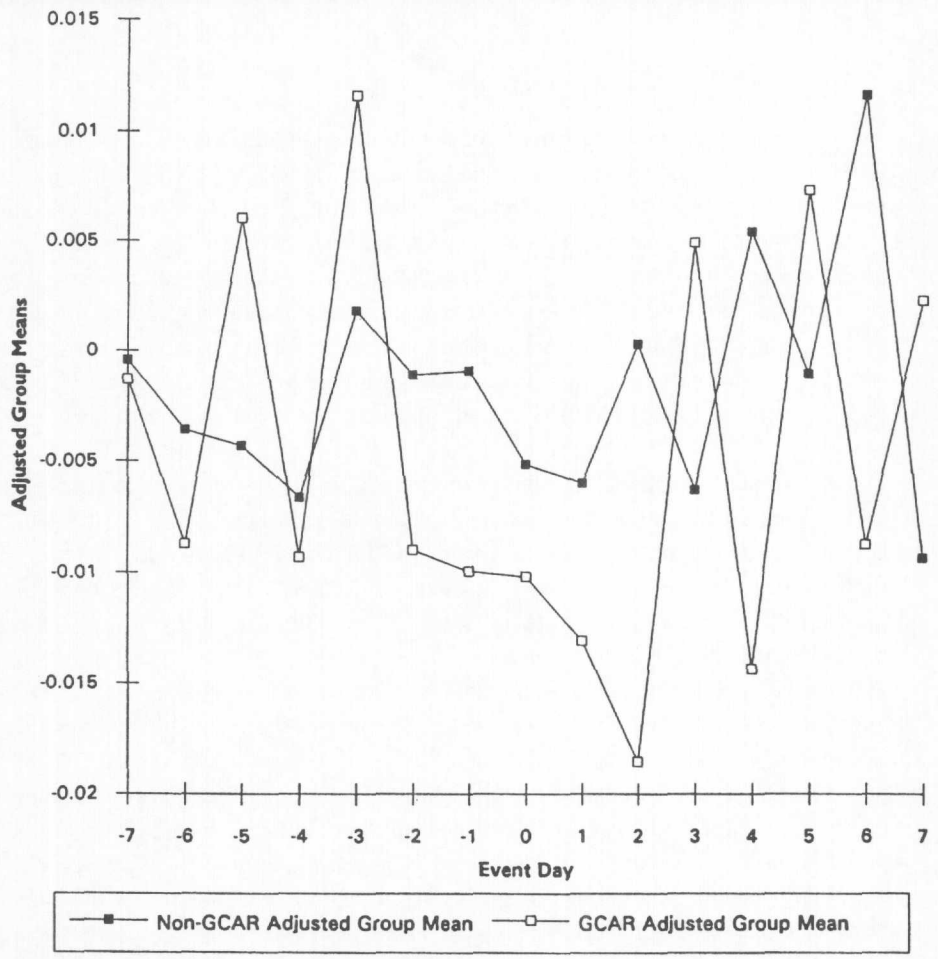
	Security Return	Market Return	Firm Size	Return on Investment	Leverage	Liquidity	Cash Position	Activity Level	Unexpected Earnings
Market Return	0.0899								
	0.0076								
Firm Size	-0.0023	0.0188							
	0.9438	0.5759							
Return on Invst	0.0419	0.0143	0.2443						
	0.2144	0.6704	0.0001						
Leverage	-0.0418	0.0314	-0.1573	-0.1533					
	0.2156	0.3510	0.0001	0.0001					
Liquidity	0.0451	-0.0056	0.1876	0.1280	-0.3105				
	0.1810	0.8676	0.0001	0.0001	0.0001				
Cash Position	-0.0016	-0.0454	0.1002	0.0563	-0.0545	0.6133			
	0.9609	0.1784	0.0029	0.0949	0.1057	0.0001			
Activity Level	0.0722	-0.0304	-0.0905	-0.1043	0.0366	-0.0654	-0.0496		
	0.0321	0.3673	0.0072	0.0019	0.2778	0.0524	0.1413		
Unexptd Earngs	-0.0340	-0.0260	0.1382	0.0672	-0.0046	0.0461	0.0954	-0.0879	
	0.3137	0.4395	0.0001	0.0461	0.8909	0.1710	0.0046	0.0090	
GCAR	-0.0733	-0.0186	-0.3948	-0.3419	0.2685	-0.3366	-0.1476	0.0272	-0.0472
	0.0298	0.5801	0.0001	0.0001	0.0001	0.0001	0.0001	0.4198	0.1615

The market return covariate is significant with a p-value of 0.007. The existence of multivariate bankruptcy models suggests that investors use financial statement ratios in combination when evaluating a firm's going concern status. Hence, it is not surprising that, on an individual basis, only one of the financial statement ratios (activity level) has an associated p-value of less than 0.05. Annual earnings for 57 percent (101 firms) of the firms were announced prior to the public release of the financial statements. This early release of earnings may explain why the unexpected earnings variable is not significant (p-value of 0.480). The p-value for all the covariates included in the model is 0.05.

Because prior research (e.g., Mutchler 1984 and 1985, Williams 1984, Clark and Newman 1986, and Menon and Schwartz 1986) suggests that financial statement ratios could be correlated with the issuance of a GCAR, the correlation matrix for the ANCOVA model is examined. The significant bivariate correlations presented in Table 4 (GCAR with return on investment, leverage, liquidity, and cash position) are consistent with the results of previous studies and suggest that at least partial control for concurrent information release was obtained.

A plot of the GCAR and non-GCAR adjusted group means around the release date of the financial statements provides further evidence that a GCAR is negatively

Figure 1-Plot of Adjusted Group Means for Event Period -7 Through +7 Days Surrounding Day Zero



associated with firm value. Figure 1 shows that during the week before and the week after the event period the adjusted group means for the GCAR and nonGCAR groups exhibit the tendency of security returns to follow a random pattern during a non-adjustment period. For the time period -2 to +2 days around the event date the adjusted group means of the GCAR group are significantly lower than the adjusted group means for the non-GCAR group.

The ANCOVA models for the 7 through 3 days and +3 through +7 days also are examined but do not yield significant results (p-values for differences between adjusted mean returns = 0.8614 and 0.5025). The lack of significance of these

models suggests that when a firm files its financial statements with the SEC, any corresponding market adjustment to the firm's value occurs in a relatively short period of time.

Sensitivity Analysis

First we investigate the sensitivity of the results to the differences in z scores of GCAR and non-GCAR firms. There are 21 matches where the GCAR has a higher z score than the non-GCAR firm. When only these firms are included in the model, the p-value of the GCAR variable is significant at 0.055. There are four matched pairs where one firm had a z score greater than 3.5 standard deviations from the mean z score. When these eight firms are deleted from the study the GCAR variable p-value is significant at 0.015. We also include the z scores of each firm in the model as a control variable. The results (GCAR variable p-value = 0.044 and z score variable p-value = 0.928) indicate that adequate control is achieved by matching z scores.

Prior studies have used the market model to test the information content of a GCAR. Using the market model to generate abnormal returns for the event period in this study results in none of the event days being significant. (The p-values range from 0.83 to 0.12.) When the ANCOVA model is used with abnormal returns as the dependent variable, the GCAR variable is significant with a p-value of 0.026. None of the covariates is close to significance.

It can be argued that the market reaction will be greater to changes in the level of a ratio than to the level of the ratio. When changes in the levels of the ratios are included in the model, the GCAR variable is significant with a p-value of 0.036. Again, the only financial statement ratio that is close to significance is the activity level ratio (p-value = 0.055). To investigate the possible influence of industry or year effects on the model, the analysis is repeated with indicator variables representing industry and year. SIC codes are used to group the firms into three general categories: (1) SIC codes less than 1000 (mining); (2) SIC codes between 2000 and 4000 (manufacturing); and (3) SIC codes greater than 4000 (service). For industry effects the indicator variable has an associated p-value of 0.233. For year effects the indicator variable has an associated p-value of 0.315. Hence, it does not appear that industry or year effects significantly influence the results.

Summary and Conclusions

Testing the security returns indicates that financial statement readers find the issuance, or non-issuance, of a GCAR useful for firm valuation. The adjustment process generally occurs within a relatively short (five days) time period. The sensitivity analysis indicates that the inferences made in this study are relatively robust to the research design used. The results of this study are similar to those of Firth (1978) who uses a market approach to examine the GCAR variable. Elliott

(1982) and Dodd *et al.* (1984) also use a market approach to examine the GCAR variable and neither study finds the GCAR to be significant (Elliott reports a p-value between 0.40 and 0.50 and Dodd *et al.* report a p-value between 0.10 and 0.15).

Several significant bivariate relationships are identified between a GCAR and the financial ratios (return on investment, leverage, liquidity, and cash position) included in the ANCOVA model. These relationships are consistent with prior research that investigates auditors' use of financial ratios when evaluating an entity's ability to continue in existence (e.g., Mutchler 1984 and 1985, Williams 1984, Clark and Newman 1986, and Menon and Schwartz 1986). Additionally, the significant bivariate correlations of individual financial ratios and GCARs that are identified provide limited support for the assertion that the information in a GCAR is reflected to some extent in financial statements. The significant difference in mean adjusted returns reported in Table 3, however suggests that a GCAR provides incremental information content to financial statement users.

By finding that financial statement users are likely to use the information in a GCAR, this study extends the results of Hopwood *et al.* (1989) who find that a GCAR can be useful for bankruptcy prediction. The implications of finding that financial statement users do find a GCAR useful provide support for the issuance of SAS No. 59 requiring a going concern evaluation in all audits.

References

1. Altman, E.I., "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy," *The Journal of Finance* (September 1968), pp. 589-609.

2. Altman, E.I, and T.P. McGough, "Evaluation of a Company as a Going Concern," *Journal of Accountancy* (December 1974), pp. 50-57.

3. American Institute of Certified Public Accountants, "The Auditor's Consideration of an Entity's Ability to Continue as a Going Concern," *Statement on Auditing Standards No. 59* (New York: AICPA, 1988).

4. Ataise, R., "Predisclosure Information, Firm Capitalization and Security Price Behavior Around Earnings Announcements," *Journal of Accounting Research* (Spring 1985), pp. 21-36.

5. Bailey, W.T., "An Appraisal of Research Designs Used to Investigate the Information Content of Audit Reports," *The Accounting Review* (January 1982), pp. 141-146.

6. Bamber, L., "Unexpected Earnings, Firm Size and Trading Volume Around Quarterly Earnings Announcements," *The Accounting Review* (July 1987), pp. 510-532.

7. Banks, D.W., and W.R. Kinney Jr, "Loss Contingency Reports and Stock Prices: An Empirical Study," *Journal of Accounting Research* (Spring 1982), pp. 240-254.

8. Bey, R.P., "Market Model Stationarity of Individual Public Utilities," *Journal of Financial and Quantitative Analysis* (March 1983), pp. 67-85.

9. Blume, M., "Betas and their Regression Tendencies," *The Journal of Finance* (June 1975), pp. 785-796.

10. Brown, L.D., R.L. Hagerman, P.A. Griffin, and M.E. Zmijewski, "Security Analyst Superiority Relative to Univariate Timeseries Models in Forecasting Quarterly Earnings," *Journal of Accounting and Economics* (April 1987), pp. 61-87.

11. Chen, K.C.W., and B.K. Church, "Going Concern Opinions and the Market's Reaction to Bankruptcy Filings," *The Accounting Review* (January 1996), pp. 117-128.

12. Chen, K.H., and T.A. Shimerda, "An Empirical Analysis of Useful Financial Ratios," *Financial Management* (Spring 1981), pp. 51-60.

13. Clark, R.C., and M.S. Newman, "Evaluating Continued Existence," *The CPA Journal* (August 1986), pp. 22-30.

14. Dodd, P., N. Dopuch, R. Holthausen, and R. Leftwich, "Qualified Audit Opinions and Stock Prices: Information Content, Announcement Dates, and Concurrent Disclosures," *Journal of Accounting and Economics* (April 1984), pp. 3-38.

15. Dopuch, N., R. Holthausen, and R. Leftwich, "Predicting Audit Qualifications with Financial and Market Variables," *The Accounting Review* (July 1987), pp. 431-454.

16. Elliott, J.A, "'Subject to' Audit Opinions and Abnormal Security Returns—Outcomes and Ambiguities," *Journal of Accounting Research* (Autumn 1982), pp. 617-638.

17. Elton, E.J., M.J. Gruber, and T.J. Urich, "Are Betas Best?" *The Journal of Finance* (December 1978), pp. 1375-1384.

18. Fields, L.P., and M.S. Wilkins, "The Information Content of Withdrawn Audit Qualifications: New Evidence on the Value of 'Subject to' Opinions," *Auditing:A Journal of Practice and Theory* (Fall 1991), pp. 62-69.

19. Firth, M., "Qualified Audit Reports: Their Impact on Investment Decisions," *The Accounting Review* (July 1978), pp. 642-650.

20. Foster, G., *Financial Statement Analysis*, 2nd ed. (Englewood Cliffs, New Jersey: Prentice-Hall, 1986).

21. Hopwood, W.J., J. McKeown, and J. Mutchler, "A Test of the Incremental Explanatory Power of Opinions Qualified for Consistency and Uncertainty," *The Accounting Review* (January 1989), pp. 28-59.

22. Horrigan, J.O., "Some Empirical Bases of Financial Ratio Analysis," *The Accounting Review* (July 1965), pp. 558-568.

23. Jones, F.L., "Current Techniques in Bankruptcy Prediction," *Journal of Accounting Literature* (1987), pp. 131-164.

24. Levy, R.R., "Stationarity of Beta Coefficients," *Financial Analysts Journal* (November/December 1971), pp. 55-62.

25. Libby, R., "The Impact of Uncertainty Reporting on the Loan Decision," *Journal of Accounting Research* (1979 Supplement), pp. 35-57.

26. Loudder, M.L., I.K. Khurana, R.B. Sawyers, C. Cordery, C. Johnson, J. Lowe, and R. Wunderle, "The Information Content of Audit Qualifications," *Auditing: A Journal of Practice & Theory* (Spring 1992), pp. 69-82.

27. Masulis, R.W., "The Effects of Capital Structure Change on Security Prices: A Study of Exchange Offers," *Journal of Financial Economics* (March 1980), pp. 107-126.

28. Menon, K., and K.B. Schwartz, "The Auditor's Report for Companies Facing Bankruptcy," *The Journal of Commercial Bank Lending* (January 1986), pp. 42-52.

29. Mutchler, J.F., "Auditor's Perceptions of the Going-Concern Decision," *Auditing: A Journal of Practice & Theory* (Spring 1984), pp. 17-30.

30. Mutchler, J.F., "A Multivariate Analysis of the Auditor's Going-Concern Opinion Decision," *Journal of Accounting Research* (Autumn 1985), pp. 668-682.

31. Pinches, G.E., K.A. Mingo, and J.K. Caruthers, "The Stability of Financial Patterns in Industrial Organizations," *The Journal of Finance* (May 1973), pp. 389-396.

32. Pinches, G.E., A.A. Eubank, K.A. Mingo, and K. Caruthers, "The Hierarchical Classification of Financial Ratios," *Journal of Business Research* (October 1973), pp. 295-310.

33. Pohlman, R.A., and R.D. Hollinger, "Information Redundancy in Sets of Financial Ratios," *Journal of Business Finance & Accounting* (Winter 1981), pp. 511-528.

34. Purdy, C.R., J.M. Smith, and J. Gray, "The Visibility of the Auditors' Disclosure of Deviance from APB Opinion: An Empirical Test," *Journal of Accounting Research* (1969 Supplement), pp. 1-18.

35. Reinganam, M.R., "A Direct Test of Roll's Conjecture on the Firm Size Effect," *Journal of Finance* (March 1982), pp. 27-35.

36. Williams, H.J., "Practitioners' Perspectives on Going Concern Issues," *The CPA Journal* (December 1984), pp. 12-19.

37. Zavgren, C.V., "The Prediction of Corporate Failure: The State of the Art," *Journal of Accounting Literature* (1983), pp. 1-38.