The effect of profitability and liquidity on audit opinions: An empirical analysis

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ABSTRACT

Many previous studies have examined the issue of why a company receives a going-concern opinion (GCO) from its auditor. These studies found that auditors are more likely to issue a GCO when their clients are less profitable, less liquid and smaller in size, have higher leverage, previously defaulted debt and received a GCO in the previous year, among other reasons. However, no research has analyzed the question of how a company is able to receive an unqualified, clean opinion only a year after it received a GCO. This is probably due to the fact that it is extremely hard to find those sample companies: according to a report by Audit Analytics (2014), only 1,473 or 1.37% of total companies (107,827) survived the GCO stigma, and most companies received the GCO year after year or disappeared for good. From the LexisNexis Academic database, we found 28 companies that filed a GCO between 2009 and 2015, and then filed a clean opinion a year after. In this study, the financial characteristics of those companies were examined and compared with 33 randomly selected companies that received a qualified, GCO two years in a row. The current research results show that 28 GCO survivors, when compared to the 33 companies, have made a significant improvement in profitability and liquidity within a year.

Keywords: Audit opinion, going-concern, profitability, liquidity.

INTRODUCTION

The auditing standards (SAS NO. 59, AICPA 1988, IAS 570, International Auditing Practices Committee 1999) and federal securities laws (Sarbanes-Oxley Act, 2002) require an auditor to evaluate an entity's ability to continue as a going concern. As part of every engagement, the auditor must consider whether there is substantial doubt about the entity's ability to continue operations for a reasonable period of time not to exceed one year from the date of the financial statements. For all significant problems, the auditor must identify and evaluate any mitigating factors such as management plan to overcome the problems. If, after considering the mitigating factors, the auditor still has substantial doubt about the entity's ability to continue as a going concern, the auditor must include an explanatory paragraph in the standard audit report, i.e., a GCO.

In 2014, Audit Analytics issued a report in which it performed a 15-year study of GCOs filed with the Securities Exchange Commission. As indicated in Table 1, this analysis found that the 2008 fiscal year end experienced 3,355 GCOs (21.11% of all opinions), the highest number during the last 15 years, and the year 2007 came in second with 3,311. Approximately 20% of all filers have received a GCO in each year from 2007 to 2013, and 74.41% of these companies have repeatedly done so. Also, this study shows that the most common reason (52.31%) for apprehension regarding a company's continued existence is the operating losses (including recurring losses). The second reason is attributable to inadequate working capital or current ratio deficits (28.91%). Table 2 lists the top five issues undermining the going-concern assumption for fiscal year 2014.

Many previous studies have examined the issue of why a company receives a going concern opinion from its auditor. The following variables have been found to be highly correlated to the auditors' GCO judgement:

- CACL = One-year change in the current ratio (current assets/current liabilities)
- RLSS = Recurring loss from operations (1 if net income was negative in both the current year and prior year, 0 otherwise)
- CURR = Current ratio = current assets/current liabilities
- CFTL = Ratio of cash flows from operations to total liabilities
- LDTA = Ratio of long-term debt to total assets
- NITA = Ratio of net income to total assets
- SIZE = Log (total sales)
- ALAG = Number of days from the date of the financial statements to the date of the audit report
- DFLT = 1 if a firm was in default or in the process of restructuring debt, 0 otherwise
- PERS = Persistence in going concern opinions
- SWCH = Auditor switch

Financial variables such as CACL, RLSS, CURR, CFTL, LDTA, NITA, and SIZE have been used in many previous studies (e.g., Carcello and Neal 2000; Carcello et al. 1995, Chen and Church 1992, Dopuch et al. 1987, Geiger and Rama 2006, Mutchler 1985; Mutchler et al. 1997, Raghunandan and Rama 1995). The variable DFLT was initially developed by Chen and Church (1992) and then was included as a control variable in the opinion decision models of Carcello

and Neal (2000), Mutchler et al. (1997), and Carcello et al. (1995, 1997). As a measure of audit effort, ALAG was found to be a highly significant variable by Geiger and Rama (2006), Mutchler et al. (1997), Carcello et al. (1995, 1997), and McKeown et al. (1991), suggesting that greater audit efforts result in a higher probability of detecting going-concern problems. Auditors are expected to spend more time auditing problem companies because they may need to meet with management several times when a GCO is probable. Prior research also documented strong evidence of PERS in GCOs, suggesting that the issuance of a going-concern report in the previous year significantly increased the auditor's tendency to issue another GCO in the current year (Mutchler 1985; Carcello and Neal 2000). Auditor switching is considered another important factor determining the issuance of a GCO. Carey et al. (2008), Carcello and Neal (2003), Carcello and Palmrose (1994) and Citron and Taffler (1992) found that clients that received GCOs were more likely to switch auditors within a year than clients that received clean opinions.

However, no research has analyzed the question of how a company is able to receive an unqualified, clean opinion only a year after it received a GCO. This is probably due to the fact that it is extremely hard to find those sample companies. As can be seen on Table 3 below, only 1,473 companies out of a total of 107,827 companies received a clean opinion after they received a GCO a year ago. That is, only 1.37% of total companies survived the GCO stigma, and most companies received the GCO year after year or disappeared for good.

In this study, we searched those GCO survivors and investigated how those companies were able to receive a clean opinion after receiving a GCO in the previous year. The "one-year" time horizon is consistent with the SAS No. 59 requiring the auditor to consider the going-concern status of a company for "one year beyond the data of the financial statements being audited" (AICPA, 1988).

SAMPLE SELECTION

We searched the 10-K reports for more than 800 companies that received a GCO from 2012 to 2014 from the LexisNexis Academic data base. Then, we read their following year's audit reports to check if they received a clean opinion. We found 28 companies (Table 4) that received an unqualified, clean opinion only one year after they received a qualified, GCO from their auditor.

Among 28 companies, 8 companies are in the pharmaceutical/healthcare, 4 in the computer/technology and 3 in the manufacturing industry. The remaining 13 companies are in a few different industries such as energy, retail, amusement and business service industries, among others. Also, for the purpose of comparison, we randomly selected 33 companies that received a GCO two years in a row in 2012 through 2014.

RESEARCH METHODOLOGY AND MODEL SPECIFICATION

We looked into 10 financial variables to examine if any significant improvement was made in those areas in one year. Also, based on the previous research results, the effect of auditor switching is investigated. These variables have been rigorously studied in the auditing literature, and are listed below:

NI = Net Income
ROA = Return on Asset = Net Income/Total Asset

WC = Working Capital = Current Asset – Current Liability
EQTY = Average Stockholders' Equity
CF = Cash Flows from Operating Activities/Total Asset
CR = Current Ratio = Current Asset/Current Liability
EPS = Basic Earnings per Share
DA = Debt Ratio = Total Liability/Total Asset
ASST = Total Asset
SALE = Gross Sales
SWCH = Auditor Switch, 1 if auditor is switched, 0 otherwise.
The specific form of the logistic regression model is as follows:

$$Y_i = \beta_0 + \beta_1 NI_i + \beta_2 ROA_i + \beta_3 WC_i + \beta_4 EQTY_i + \beta_5 CF_i + \beta_6 CR_i + \beta_7 EPS_i + \beta_8 DA_i + \beta_9 ASST_i + \beta_{10} SALE_i + \beta_{11} SWCH_i + \varepsilon_i,$$

where
Y = 1 for 28 companies that received a clean opinion after receiving a GCO a year ago (GC--->CL), and = 0 for 33 companies that received a GCO 2 years in a row (GC--->GC).

RESULTS

Table 5 provides the financial characteristics from year t-1 to year t (year of a clean opinion for 28 GC--->CL companies and year of a second GCO for 33 GC--->GC companies). Most financial variables/ratios for the 28 survivors were significantly improved in one year, but the variables for 33 GC--->GC companies, excluding earnings per share and gross sales, deteriorated. The 28 GC-->CL companies were much bigger in size, 20 to 30 times bigger, than the 33 GC-->GC companies. So, the large companies seem to avoid the GCO 2 years in a row more easily than small companies.

The single most significant improvement was made in profitability. The 28 GC--->CL companies' net income and return on asset (net income/total asset) increased 547% and 424%, respectively, while the 33 GC--->GC companies' net income and return on asset decreased 39% and 56%, respectively. The difference in the % change is more than 586% and 480% for net income and return on asset, respectively. The second most significant improvement was in liquidity. The 28 GC--->CL companies' working capital increased 386% while the 33 GC--->GC companies' working capital decreased 75%. Also, the improvement in stockholders' equity (264%), cash flows (80%) and earnings per share (92%) was impressive in those 28 survivors.

Descriptive statistics for the variables of interest are presented in Table 6. These variables are a percentage change in each variable from year t-1 to year t, except SWCH (auditor switch). Six extreme outliers, financial ratios that increased or decreased more than 1,000 percent, are excluded in this analysis. The difference in means between the two groups is statistically significant for most variables, except for SALE (gross sales) and SWCH (auditor switch). SWCH is not significant because only 6 of 28 GC-->CL companies switched their auditors and 5 of 33 GC-->GC companies did so.

Table 7 reports Pearson correlations among explanatory variables. Significant correlations exist between several pairs of explanatory variables. Especially, CF (Cash Flows from Operating Activities/Total Asset) and CR (Current Ratio) have high correlations with other variables, implying that these two variables may represent other than cash flows or liquidity. These significant correlations suggest that a multivariate analysis is necessary to examine the simultaneous effect of the variables.

A multivariate logit result is presented in Table 8. The chi-square statistics indicates that the model is significant at the .01 level. The percent correctly classified is high at 88.5% and pseudo R^2 is 57%.

Unlike the univariate test results where most variables are significant, only 4 variables are statistically significant; NI (net income), ROA (return on asset), SALE (gross sales) and CR (current ratio). Out of 4 variables, NI, ROA and SALE represent profitability and CR measures liquidity. This logistic regression result is fairly consistent with the univariate test, indicating that companies that made a significant improvement in profitability and liquidity were more likely to receive an unqualified, clean opinion after receiving a GCO a year ago. Contrary to the previous research results, however, SWCH (auditor switch) was not significant, and this result suggests that companies did not change their auditors for an "opinion shopping."

SUMMARY, CONCLUSION AND LIMITATION

According to a report issued by Audit Analytics in 2014, the GCOs (GCO) peaked at 3,355 (21.1% of all opinions) in 2008 and dropped to 2,403 (16.7%) in 2013, the lowest level over a 15-year period (2014). Approximately 20% of all filers have received a GCO in each year from 2007 to 2013, and 74.41% of these companies have repeatedly done so. Also, this report shows that the most common reason (52.31%) for apprehension regarding a company's continued existence is the operating losses (including recurring losses). The second reason is attributable to inadequate working capital or current ratio deficits (28.91%).

Many previous studies have examined the issue of why a company receives a GCO from its auditor. These studies found that auditors are more likely to issue a GCO when their clients are less profitable, less liquid and smaller in size, have higher leverage, previously defaulted debt and received a GCO in the previous year, among other reasons.

However, no research has analyzed the question of how a company is able to receive an unqualified, clean opinion only a year after it received a GCO. This is probably due to the fact that it is extremely hard to find those sample companies: only 1,473 or 1.37% of total companies (107,827) survived the GCO stigma, and most companies received the GCO year after year or disappeared for good.

From the LexisNexis Academic database, we found 28 companies that received a GCO between 2009 and 2015, and then received a clean opinion a year later. In this study, the financial characteristics of those companies were examined and compared with 33 randomly selected companies that received a qualified, GCO two years in a row.

The current research results show that the 28 GCO survivors, when compared to the other 33 companies, made significant improvements in profitability, liquidity, capital structure and cash flows in one fiscal year. The single most significant improvement was made in profitability. The 28 companies' net income and return on asset (net income/total asset) increased 547% and 424%, respectively, while the 33 GCO--->GCO companies' net income and return on asset decreased 39% and 56%, respectively. The second most significant improvement was in liquidity (current ratio). We have obtained similar results from a multivariate logit analysis, suggesting companies that made a significant improvement in profitability and liquidity were more likely to receive an unqualified, clean opinion after receiving a GCO in the previous year.

This study provides important contributions to the extant audit opinion research by investigating the financial characteristics of companies that received an unqualified, clean

opinion after receiving a GCO in the previous year. Our findings, however, are subject to a limitation and hence caution may need to be taken in drawing general conclusions. Due to the labor-intensive manual collection of data, the sample size is rather small, only 28 GCO survivors and 33 GCO--->GCO companies. Also, although the 33 GCO--->GCO companies were randomly selected, their average asset size was very small and profitability was extremely low compared to the 28 GCO survivors.

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APPENDIX

TABLE 1
Going Concern (GC) Opinions
(2007-2013)

Year	Total Opinions	Total GC Opinions	New GC gGCGConceOOPO	Repeated GC
2007	16,634	3,311 (19.91%)	1,168 (35.28%)	2,143 (64.72%)
2008	15,893	3,355 (21.11%)	1,041 (31.03%)	2,314 (68.97%)
2009	15,590	3,102 (19.90%)	707 (22.79%)	2,395 (77.21%)
2010	15,685	2,988 (19.05%)	709 (23.73%)	2,279 (76.27%)
2011	15,014	2,670 (17.78%)	516 (19.33%)	2,154 (80.67%)
2012	14,654	2,565 (17.50%)	569 (22.18%)	1,996 (77.82%)
2013	14,357	2,403 (16.74%)	508 (21.14%)	1,895 (78.86%)
Total	107,827	20,394 (18.91%)	5,218 (25.59%)	15,176 (74.41%)

(Source: *Audit Analytics*)

TABLE 2
Top Five Going-Concern Issues

Going Concern Issue Type	Total Companies
Net/Operating Loss (including recurring losses)	1,265 (52.31%)
Working Capital / Current Ration Deficit/Inadequacy	631 (28.91%)
Negative Cash Flow from Operations	599 (28.00%)
Net Losses since Inception	492 (26.40%)
Absence of Significant Revenues	461 (24.76%)

(Source: *Audit Analytics*)

TABLE 3
Going Concern (GC) Opinions Statistics
(2007-2013)

Year	Total Opinions	GC Opinions	No GC After
2007	16,634	3,311 (19.91%)	200 (1.20%)
2008	15,893	3,355 (21.11%)	265 (1.67%)
2009	15,590	3,102 (19.90%)	276 (1.77%)
2010	15,685	2,988 (19.05%)	208 (1.33%)
2011	15,014	2,670 (17.78%)	144 (0.96%)
2012	14,654	2,565 (17.50%)	180 (1.23%)
2013	14,357	2,403 (16.74%)	200 (1.39%)
Total	107,827	20,394 (18.91%)	1,473 (1.37%)

TABLE 4
Year of GCO and Clean Opinion for 28 GCO--->CL Companies

Year of GCO	Year of Clean Opinion	# of Companies
2009	2010	2
2010	2011	9
2011	2012	6
2012	2013	1
2013	2014	2
2014	2015	8
Total		28

TABLE 5
Financial Characteristics

Ratio	GC → GC (n = 33)			GC→ CL (n = 28)			*Diff in %Δ (3) = |(1)|-|(2)|
	t-1	t	%Δ (1)	t-1	t	%Δ (2)	
NI	-3,214	-4,464	-38.91%	-2,218	9,921	547.31%	586.22%
ROA	-1.20	-1.88	-56.22%	-.04	.14	424.49%	480.71%
WC	-1,613	-2,820	-74.77%	59,297	288,449	386.45%	461.22%
EQTY	-3,746	-5,565	-48.57%	-3,858	6,324	263.90%	312.47%
CF	-.41	-.68	-67.95%	.14	.25	79.79%	147.74%
CR	.48	.32	-32.80%	1.15	1.64	43.15%	75.95%
EPS	-.18	-.15	16.51%	-.43	-.04	91.55%	75.04%
DA	2.40	3.35	39.18%	1.07	.91	-14.78%	53.96%
ASST	2,669	2,373	-11.08%	53,299	73,474	37.85%	48.93%
SALE	3,777	3,860	2.20%	20,500	24,634	20.17%	17.97%

*Difference in % change. All amounts are in thousands.

TABLE 6
Descriptive Statistics and Univariate Test

	GC → GC (n = 33)		GC→ CL (n = 28)		
Variable[a]	Mean	Std. Deviation	Mean	Std Deviation	t-stat.[b].
NI	-65.12	104.87	17.12	84.81	-3.39***
ROA	-54.58	132.03	57.26	94.78	-3.84***
WC	-71.97	223.20	138.35	107.55	-4.80***
EQTY	-103.14	204.68	113.41	121.68	-5.11***
CF	-44.74	127.89	25.22	74.30	-2.55**
CR	-38.46	48.27	88.20	121.41	-5.18***
EPS	-1.61	51.94	24.84	55.66	-1.92*
DA	33.60	102.14	-36.61	36.46	3.68***
ASST	22.72	93.96	84.00	107.94	-2.34**
SALE	33.94	108.08	53.94	76.23	-.84
SWCH	.15	.36	.25	.44	-.94

a.
NI = Net Income
ROA = Return on Asset = Net Income/Total Asset
WC = Working Capital = Current Asset – Current Liability
EQTY = Average Stockholders' Equity
CF = Cash Flows from Operating Activities/Total Asset
CR = Current Ratio = Current Asset/Current Liability
EPS = Basic Earnings per Share
DA = Debt Ratio = Total Liability/Total Asset
ASST = Total Asset
SALE = Gross Sales
SWCH = Auditor Switch

***, **, * designate significant at the .01, .05, .10 levels, respectively.

TABLE 7
Pearson Correlation Coefficient

Variable[a]	NI	ROA	WC	EQTY	CF	CR	EPS	DA	ASST	SALE	SWCH
NI	1.00										
ROA	.46***	1.00									
WC	.22*	.42***	1.00								
EQTY	.124	.33***	.66***	1.00							
CF	.26**	.41***	.40***	.34***	1.00						
CR	.33**	.56***	.56***	.54***	.44***	1.00					
EPS	.63***	.33***	.33***	-.12	.03	.32**	1.00				
DA	.03	-.55***	-.55***	-.56***	-.37***	-.43***	.04	1.00			
ASST	.07	.23	.23*	.27**	.21	.31**	-.03	-.37***	1.00		
SALE	-.04	.14	.14	-.04	-.15	.03	-.04	-.15	.18	1.00	
SWCH	.23*	.17	.10	.12	-.03	-.06	.08	-.12	.05	.08	1.00

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b. ***, **, * designate significant at the .01, .05, .10 levels, respectively.

TABLE 8
Estimation Results of Logistic Regression

Variable[a]	Expected Sign	Coefficient	Wald
Constant	?	-1.807	1.561
NI	+	.054	4.542**
ROA	+	.027	3.345*
WC	+	.003	.400
EQTY	+	.007	1.523
CF	+	-.004	.618
CR	+	.038	3.150*
EPS	+	-.023	1.237
DA	-	-.030	2.538
ASST	+	.000	.004
SALE	+	.017	3.173*
SWCH	+	1.03	.665
Pseudo R^2		.571	
Chi-square		51.638***	
% corrected		88.5	

The model is:

$Y_i = \beta_0 + \beta_1 NI_i + \beta_2 ROA_i + \beta_3 WC_i + \beta_4 EQTY_i + \beta_5 CF_i + \beta_6 CR_i + \beta_7 EPS_i + \beta_8 DA_i + \beta_9 ASST_i + \beta_{10} SALE_i + \beta_{11} SWCH_i + \varepsilon_i,$

where Y = 1 for companies that received a clean opinion after receiving a GCO a year ago, and = 0 for companies that received a GCO 2 years in a row.

a.
NI = Net Income
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