

Explaining Auditors' Going Concern Decisions: Assessing Management's Capability

Dr. Barbara Goodman, Management, Wayne State University
Daniel N. Braunstein, Management, Oakland University
Dr. Alan Reinstein, Accounting, Wayne State University
Dr. George W. Gregory, Attorney at Law, Lee, Gregory and Jones P.C., Birmingham, Michigan

Abstract

This study investigates the ability of nonfinancial variables to aid in the explanation of auditor going concern opinion decisions. The nonfinancial variables measure the quality of client management, defined in terms of its capability. A sample of twenty-nine financially troubled firms was investigated, using a lengthy questionnaire incorporating financial data, observations, and judgments about the client's management personnel. Auditors responded to the questionnaire referring to the audit work papers for each client as a data source. Using LOGIT analysis, particular combinations of specific nonfinancial data were found to accurately discriminate between those firms receiving and not receiving going concern modifications to the audit report. The results indicate that nonfinancial variables as a class aid in explaining auditors' going concern opinion decisions.

Introduction

The purpose of this research is to investigate whether nonfinancial variables which may measure management capability can help explain auditor going concern opinion decisions. The project was designed as exploratory empirical research, using data from actual audits of firms that all suffered from financial distress. Why did some of these firms receive a modified audit opinion, while others in the sample garnered a clean opinion? Before we can predict when this distinction would occur, we must better understand the nature of auditor decision making. This research was designed to help meet the latter objective.

An instructive answer to this audit decision question may be revealed as a function of specific client characteristics, and what Gibbins and Jamal (1993) refer to as the nature of auditors' knowledge of these characteristics. This knowledge can be specifically associated with the relationship between the auditor and client modeled by exchange theory (e.g., see Ponemon and Schick, 1991; Sutton, 1990; and D'Aveni, 1989). The key variables resulting from this relationship were conceived by the authors as measuring aspects of the auditor's perceptions of the capability of client management.

Exchange Theory and Management Capability

Both Statements of Accounting Standards (SAS) Nos. 34 (AICPA, 1981) and 59 (AICPA, 1989) require auditors to disclose in the audit report when they have "substantial doubt" regarding an entity's ability to continue as a going concern for a reasonable period of time, not to exceed one year. In determining the existence of substantial doubt, guidelines for both standards suggest that the auditor consider the extent of financial difficulty, i.e., aggravating data, as well as mitigating factors and the efficacy of management's plans. Essentially, the directions ask auditors to consider management's planning and implementation capabilities.

Sutton (1990) and D'Aveni (1989) point out that when managers signal to key exchange partners, including their bankers and auditors, that they have lost control of the firm, they provoke these partners to withdraw support. Thus, auditors need to satisfy themselves that the client management is capable of effective planning and implementation in order to issue a clean going concern opinion. One of the principals of a Michigan development banking firm that has had no defaults among its borrowers in over 20 years, said:

People run businesses, money doesn't. When we talk about risk, we mean 'What is the character and quality of the individuals seeking the loan? Are they capable of doing what they say they're going to do?' (Rohan, 1989).

Ponemon and Schick (1991, p.71) note that "perhaps no other exchange partner is more concerned about an organization's financial performance and position than its external auditor." This suggests that models which include indicators of management's capability and auditors' assessments of that capability will describe more accurately auditor going concern opinion decisions than models which include only financial indicators.

Previous Research Regarding Going Concern Opinion Decisions

Johnson et al. (1989) pointed out that no generally accepted theory exists of how auditors arrive at going concern opinion decisions. In their quest to develop such a theory, different researchers proposed, on an a priori basis, particular variables or classes of variables that can be justified based upon previous relevant research. For example, Mutchler (1985) selected explanatory variables based on the provisions of SAS No. 34 (AICPA, 1981), interview and questionnaire responses from 16 auditor subjects, and previous research results. The variables were categorized into four factors: relative degree of financial distress, the presence of good news and bad news items, auditor characteristics and company size.

Dopuch et al. (1987) used both financial variables and stock market variables as explanatory factors, choosing the former variables because of their successful prediction of financial distress. The stock market variables were included because they capture relevant information not reported in financial statements, or other researchers suggested using them to improve the predictability of models of financial distress or models of bond ratings. However, these models do not purport to consider all possible variables that contribute to the phenomena under investigation.

Variables for describing going concern opinion decisions should include indicators of the firm's financial condition. Present models for predicting financial failure (e.g., Abdel-Khalik and El-Sheshai, 1980; Altman, 1968; Beaver, 1966; Casey, 1980; Kennedy, 1975; Libby, 1975; Libby, Trotman and Zimmer, 1987; and Ohlson, 1980) are based solely on financial indicators. Moreover, as Dopuch et al. (1987, p.437) point out, auditors will more likely issue a qualified audit opinion when a firm's financial condition deteriorates for two reasons: "First, going concern qualifications actually raise questions about the firm's ability to finance its ongoing activities. Second,

auditors of firms that are performing poorly are likely to decide that contingencies of a given magnitude are material". Likely candidates for financial indicators of going concern decisions are the same financial variables that are used in the models for predicting financial failure.

Wright, Ho and Davis (1991) developed a three-stage model of the going concern judgment process: a) a search for predictive financial indicators, b) "mental integration of all pertinent financial and operating information" (p.8), and c) the choice of audit opinion. The second is of particular interest. It involves estimating management's ability to operate the firm successfully, i.e., management's capability. Wright et al. point out how difficult and error-prone this stage can be, especially since it requires auditors to judge ambiguous information that is subject to conflicting interpretation.

This study is based on proposed linkages between management's planning and implementation capability, and the auditors' assessments of this capability relative to the going concern opinion decision. Implementing this type of research requires collecting data on the auditors' integration of pertinent financial and management information. This methodology requires access to both hard data and subjective judgments. These data are found in audit work papers and in auditors' assessments based on reviewing the work papers and in retrieving the relevant information from their memories.

According to SAS No. 41 (AICPA, 1982), audit work papers should support the audit opinion. Moreover, the work papers should be able to support the auditors' judgments years later in a court room. For example, in assessing employee turnover, the auditors may rely on such data found in the work papers as unemployment expenses, legal fees, and additional recruiting and training expenses.

In decision making, perceptions influence judgments and judgments influence choice. In making the going concern opinion decision, auditors are asked to assess management's plans. This request implies that auditors must make judgments which are influenced by their perceptions. These judgments in turn will influence their choice of a particular going concern opinion. Thus, in understanding or explaining choice, it is important to have data relating to perceptions as well as to have hard data. No other going concern opinion decision study has been based on this type of data collection, which requires the use of confidential information. This research tests the hypothesis that models adding the proposed linkages of management capability and auditors' assessments of that capability along with the known linkage with financial distress to the going concern opinion decision will have more explanatory power than models based only on

financial variables. The key questions then become "What are appropriate variables that reflect management capability and auditors' assessment of management capability?" and "Are models incorporating these nonfinancial variables more accurate than models based only on financial variables?"

Aggravating and Mitigating Circumstances

Mutchler (1985) developed a financial ratio model to distinguish between a sample of manufacturing companies receiving going concern qualifications and a sample of similar companies that exhibited potential going concern difficulties but did not receive qualified opinions. Mutchler also developed models combining nonfinancial data and financial ratio data to predict going concern modifications for samples of "problem companies." However, predictions based on the latter models yielded disappointing results, since the expanded models actually decreased predictive accuracy.

Considered in the light of information processing theory (Einhorn and Hogarth, 1982), Mutchler's added data were not "diagnostic." That is, the decrease in predictive accuracy occurred because auditors either did not fully use the additional information, or the particular variables she defined and tested did not capture the relevant differences between firms given a qualification and those given a clean opinion.

Mutchler's variables drew upon the aggravating and mitigating circumstances suggested in SAS No.34. The data were obtained from public records, which are limited and do not include subjective data. Public records do not include, for example, auditors' assessments of their clients' capability. Gathering this type of data requires a more behavioral approach. However, this type of empirical research usually is time consuming and costly, but according to such methodologists as Kaplan (1986, p.429) it "can lead to a more informed basis for modeling, theory-building and hypothesis-formation." Perhaps the combination of variables drawing upon aggravating and mitigating circumstances together with variables assessing management capability would prove significant.

D'Aveni (1989) developed a bankruptcy prediction model using both financial and nonfinancial indicators. He showed that "debtors with unprestigious top managers, low liquidity and high leverage signal that they will be undependable exchange partners." Consequently, if both managerial and financial assets fall below a certain threshold, creditors will more likely withdraw support, and the firm will more likely go into bankruptcy. The D'Aveni study successfully used measures of management

dependability, in addition to financial data. However, D'Aveni did not investigate the effects of auditors' assessments of management capability.

To understand the nature of the auditor's going concern opinion decision, this study focused on variables that were based on auditors' intimate knowledge of their client. However, collecting subjective data from auditors about their clients required using an appropriate methodology. Using their first-hand knowledge of a client, auditors, aided by the information contained in their working papers, assessed different measures of their client's management capability.

In summary, variables reflecting management's capability, auditors' perceptions of management's capability, together with variables reflecting the extent of mitigating and aggravating circumstances, and financial ratios, should be examined when studying auditor going concern opinion decisions. This study was designed to begin to address this need.

Method

Data

The data on which this research is based come from a series of audits in which the going concern issue was raised early in the engagement process. Thus, all firms were financially distressed. Ultimately, a portion of the sample was given a clean opinion, while the other part was given a qualified opinion. The auditors completed a separate questionnaire for each audit. Completing each questionnaire required at least an hour, during which the respondents were asked to refer to the working papers documenting the engagements with these financially troubled clients. As a result, although this sample was limited by the time required of respondents and the obvious problems of confidentiality, the results provide an in-depth empirical data set on going concern opinion decisions, much of it nonfinancial and judgmental.

Participants

Nine of the country's largest 20 public accounting firms from a large, urban, metropolitan area took part in this study. Initially, an audit partner at each of the CPA firms was contacted to establish his or her willingness to participate. An orientation meeting was then held for cooperating audit partners and the audit staff who had worked on these cases to motivate and inform them about the general nature of the study. Specific instructions were then given on how to fill out the eleven-page questionnaire using the working papers as a guide.

Sample Description

Two kinds of cases were sought--- clients receiving modified audit reports and those garnering clean opinions, where the going concern question had been raised during the course of the audit for all the firms. Six of the nine accounting firms provided both types of cases, and three provided cases only with going concern modifications. Firms providing both types of cases were not required to match them on any financial criteria.

The questionnaire for each case was to be completed by an auditor who worked on that case. It was stressed that the auditors use the working papers in responding to our questions. Many questions asked for specific numerical data or dates and answering those questions validly required using the working papers. The audit partner in charge was also asked to answer specific questions about the client, including how the partner might have helped the client to obtain additional financing. Thus, the auditors who were asked to provide the data for this study had first hand knowledge of the client. The researchers specifically asked auditors not to identify any firms in order to maintain strict confidentiality of their clients' identity.

Since the authors did not have direct access to the working papers, they relied on the auditors to give as accurate an answer to each question as they could. A total of 29 cases was obtained, each case representing a separate client. Research based on working papers inherently has a self-selection bias and a small sample size. For example, Icerman and Hillison (1991) examined the materiality decision based upon the input of audit partners they knew at 13 offices of seven of the Big-Eight firms. Obtaining data on 49 manufacturing clients, they requested that the audit partners complete surveys referring to the appropriate working papers.

Eleven of the 29 firms in this study were given a clean opinion, while 18 firms received some type of exception. Total assets of the 29 companies ranged from \$960,000 to \$470,000,000. Eight of the firms are publicly held companies, while 21 firms are private. Data collection took place between October, 1987 and February, 1990. Information about each company is presented in Table 1 along with a code designating which of the nine CPA firms performed the audit.

The data are grouped into two parts. Firms which received clean opinions are designated NGCAR (Mutchler, 1985) at the top of the table. Firms which received an exception in the audit report, designated GCAR companies, are grouped at the bottom of the table.

Since the purpose of this research is to investigate whether nonfinancial variables about client capability add to the explanatory power of going concern opinion decisions, the specific nonfinancial variables tested are described below.

Nonfinancial Variables

In addition to examining the content of SAS Nos. 34 and 59, the variables chosen are based upon reviews of the financial distress research, the going concern opinion decision research, analysis of organizational morale and turnover (Steers and Porter, 1991) and appraisal of management performance (Cascio, 1991).

Eleven judgments are measured on a 5 point Likert-type scale. Either the scale value itself or its reverse (to keep the direction of intent consistent) was used as the variable. The first variable, CONFMGT, is the auditor's judgment of the confidence that he or she has in client's management. It was expected that a direct measurement of greater confidence would imply a greater likelihood that the auditor would not issue a going concern modification. COOPCLT measures the auditor's judgment about the resistance of the client to the audit process. More capable managers should be more cooperative with external auditors. TURNOVR is the judgment of employee turnover relative to the industry, and MORALE is an assessment of the client's accounting personnel morale. Firms with more capable management usually have lower turnover rates and higher employee morale (Steers and Porter, 1991). Moreover, employee morale and turnover are attributes found to be significantly related to organizational decline (Ponemon and Schick, 1991).

TRANEND reflects the auditor's judgment of the degree to which material transactions occur at the end of accounting periods. Firms with more capable managers should not wait until the end of accounting periods to record material transactions. COMPLINC reflects the auditor's judgment about the client's compliance with debt instrument restructuring. Capable management should adhere strictly to covenants relating to the restructuring of debt instruments and auditors should be knowledgeable about this. CONTOOP is a measure of the auditor's assessment of the client's control over operations. ALAGATN reflects the auditor's judgment about the extent of allegations brought against the client by third parties or regulatory bodies. COMPT and GAAP, respectively, measure the auditor's assessment of the general competence of the client's in-house accounting personnel and their awareness of and mastery of generally accepted accounting principles. More capable managers should have better control over operations, fewer legal problems, and should employ more competent in-house

Table 1
Descriptive Data On Firms

TYPE OF FIRM BUSINESS (If no., SIC code)	ASSETS	AGE IN YEARS	PUBLIC OR PRIVATE	YEAR OF OPINION	FIRM IN BUSINESS 1 YR.AFTER OPINION	CPA FIRM CODE NO.
Firms with NO Going Concern Modifications to Audit Report (NGCAR)						
Whole food item	13.4 M	40	pri	1987	yes	1
Mfg., 368	962 K	22	pub	1986	yes	1
Oil & Gas Explor/Dev	26 M	12	pri	1982	no	2
8911	9.9 M	6	pri	1988	yes	3
Not for Profit	1.4 M	30+	pri	1988	yes	3
Newspaper	1 M	?	pri	1988	yes	4
Restaurant	6.8 M	50	pri	1989	yes	7
Leasing/Sales	2.4 M	5	pri	1989	yes	9
Mfg., 3412	5.8 M	30+	pri	1989	yes	9
Service, 1798	19.8 M	2	pri	1989	yes	9
Health Care	106.8 M	40	pri	1989	yes	9
Firms with Going Concern Modifications to the Audit Report (GCAR)						
Computer/High Tech						
Equipment Rental	6.6 M	3	pub	1987	yes	1
?	975 K	2	pri	1987	yes	1
Mfg./High Tech	3 M	20	pub	1984	yes	2
Steel, Trucking	465 M	50	pub	1980	yes	3
Aircraft	14 M	2	pri	1986	yes	3
Steelmaking	170 M	3	pri	1985	yes	3
Health Care	13.4 M	20+	pri	1987	yes	3
Manufacturing	46.4 M	48	pub	1987	no	4
Engineering	12.6 M	10	pri	1987	yes	4
Manufacturing	2 M	22	pri	1988	yes	5
Eng. Design & Mfg.	14.8 M	32	pri	1988	yes	6
Construction	1.5 M	5	pri	1988	yes	7
Hotel/Casino	32.7 M	2.5	pub	1989	yes	7
Machine&Cutting Tools	29 M	20	pub	1989	no	8
Steel Service Center	15 M	60	pri	1987	no	8
Manufacturing, 33	16.5 M	8	pri	1988	yes	9
Manufacturing, 3490	8.1 M	?	pub	1989	yes	9
Retail, 8552	1.9 M	18	pri	1989	yes	9

accounting personnel. These measures should vary directly with a firm's likelihood of receiving a clean going concern opinion decision.

The variable RISKATD reflects the auditor's judgment of the client's attitude toward risk from very aggressive to very averse. Generalizing from Prospect Theory (Kahneman and Tversky, 1979), the authors expect that the greater the client's financial difficulties, the more risks the client would take and the more likely that the client would have received a going concern exception in the audit report. In particular, Prospect Theory predicts that decision makers when faced with sure losses exhibit risk-

seeking behavior and when faced with sure gains are risk averse.

The variable HELP represents the extent of auditor involvement in helping the client obtain additional financing. This variable ranges from zero to seven, where zero indicates the auditor did nothing to help the client obtain refinancing and seven indicates that the auditor did all of the activities listed in Table 2.

Under the provisions of both SAS Nos. 34 and 59 auditors should consider information that both increases and decreases the likelihood that the entity will continue as

Table 2
Ways Auditor Could Help Client Obtain Additional Financing

1. Set up an appointment for client for financing financing
2. Attend a meeting for financing
3. Make a presentation at a meeting for financing
4. Draft a loan request
5. Draft proforma financials
6. Not discourage other clients from investing in this firm
7. Tell other clients about potential investment in this firm

a going concern for a reasonable period of time. AGGRA represents the total number of contrary events that the auditor has identified as triggers for concern about the company's financial problems. The range of this variable is zero to nine, where zero indicates no contrary events and nine indicates that all the possible contrary events listed in Table 3 are present. MITIG is defined as the total number of mitigating events listed in Table 3 for this client. This variable ranges from 0 to 12, where 0 indicates no mitigating events and 12 indicates that all the possible mitigating events are present. The specific aggravating events listed were selected in part by the examples of contrary information detailed in SAS No. 34, or alternatively, listed as information indicating substantial doubt about the entity's ability to continue as a going concern for a reasonable period of time in SAS No. 59. The mitigating events were drawn in part from the list of auditor's considerations relating to management plans found in SAS Nos. 34 and 59. The other listed aggravating and mitigating events resulted from discussions with two audit partners and one audit manager from different firms held prior to the design of the questionnaire. Since a direct relationship between the likelihood of a firm continuing as a going concern and the likelihood of an auditor issuing a clean going concern opinion decision should exist, there should be an inverse relationship between the value of AGGRA and this decision and a direct relationship between the value of MITIG and this decision.

Financial Variables

Seven financial ratios were used in this study: Quick Assets/Current Liabilities (QACL) and Current Assets/Current Liabilities (CACL) measure liquidity; Total

Debt/Net Worth (TDNW) quantifies a lender's share of the risk; Net Income/Total Assets (NITA) describes profitability; Current Assets/Total Assets (CATA) captures the asset balance; Cash/Total Assets (CTA) reflects a firm's cash position; and Current Assets/Sales (CAS) measures activity. These ratios include the five financial ratios determined by Libby (1975) to be independent, along with TDNW and QACL. TDNW and QACL were included because (1) they have been found to be useful indicators of bankruptcy and differentially diagnostic with CACL as a function of industry type (Kennedy, 1975); (2) subjects in the Libby experiment mentioned the debt to equity ratio as the most desired additional ratio (Casey, 1980); and (3) QACL better measures liquidity than CACL (Zavgren, 1983). This set of variables includes all of Chen and Shimerda's (1981) factors for predicting financial failure but one, a Receivables Turnover ratio.

Table 3
Aggravating And Mitigating Event List

Aggra:

- Change in general economic conditions.
- General industry problems.
- Change in management.
- Cash losses.
- Loss of major client.
- Cash flow problem.
- Accounts receivable change for the worse.
- Accounts payable slowdown or buildup.
- Other (describe).

Mitig:

- Financial losses are deemed temporary.
- Satisfactory steps have been taken or are being taken to correct financial losses.
- Losses are small.
- New clients are on the horizon.
- There has been a successful downsizing of the business.
- New financing is obtained.
- Credit standards are raised.
- Aggressive campaign for new customers.
- Client has found a niche in his industry.
- Accounts receivable slowdown is temporary.
- Client has anticipated changes in technology and/or is presently adapting.
- Other (describe).

Table 4 consolidates the definitions of both the nonfinancial and financial variables considered.

Table 4
Variable Summary

Financial Variables

QACL: Quick Assets/Current Liabilities
 CACL: Current Assets/Current Liabilities
 TDNW: Total Debt/Net Worth
 NITA: Net Income/Total Assets
 CATA: Current Assets/Total Assets
 CTA: Cash/Total Assets
 CAS: Current Assets/Sales
 ASSETS: Assets at time of decision

Nonfinancial Variables

CONFMGT: Judgment-Confidence in quality of client management
 COOPCLT: Judgment-Extent of resistance of client to audit process
 TURNOVR: Judgment-Extent of employee turnover relative to industry
 MORALE: Judgment-Assessment of in-house accountants attitude and morale
 TRANEND: Judgment-Degree to which material transactions occur at end of accounting periods
 COMPLINC: Judgment-Extent of compliance with debt instrument restructuring
 CONTOOP: Judgment-Assessment of client's control over operations
 ALAGATN: Judgment-Extent of allegations or actions brought against client by third parties or regulatory bodies
 COMPT: Judgment-Assessment of competence of client's in-house accountants
 GAAP: Judgment of client's in-house accounting personnel's awareness of GAAP
 RISKATD: Judgment-Assessment of client's attitude toward risk
 HELP: Number of ways auditors helped client obtain refinancing
 AGGRA: Number of aggravating events present
 MITIG: Number of mitigating events present

Results

Financial Ratios

All of the financial ratios for both categories of firms, those receiving clean going concern opinions (NGCAR) and those receiving exceptions (GCAR), verify that all companies have serious financial difficulties. Table 5 presents summary statistics describing each financial ratio and each nonfinancial variable for each category of firm, along with the statistical test results.

Except for the Total Debt to Net Worth ratio, all of the mean differences between those firms issued clean opinions and those firms that received a modification are very small. No single financial ratio significantly discriminates between those firms receiving and not receiving exceptions. In the different Messier and Hansen (1988) decision rules for predicting financial failures, the current ratio is the most critical ratio. If that ratio is less than 1.533, the lowest threshold, either a loan default or bankruptcy is predicted. Using this rule with the current data predicts financial failure for all but two firms. However, 11 of the 29 firms in this sample received an unqualified opinion.

Logit Analyses

Using the LIMDEP (Greene, 1985) computer program, multivariate logit analyses (Maddala, 1983) were performed to determine possible multivariate combinations that would differentiate between those companies that did and did not receive any modifications to the audit report. Since some data that were requested were not reported, the number of possible cases (N) that could be tested ranged from 18 to 28 depending upon the variable set selected.

A total of 290 logit analyses was attempted over various combinations of 18 different variables, which generated 262,143 possible combinations of these variables for each value of N. The general selection strategy used was to test combinations that had theoretical justification. Then, if a particular set of variables was statistically significant at the $p < .05$ level, a search was made to find a minimal set of variables that had similar accuracy and yet was still significant. Examples of specific selection strategies included: the set of all financial ratios; subsets of these financial ratios that were deemed most important from previous research, some of these same sets along with the judgment of the change in liquidity from the prior period; various combinations of nonfinancial variables with each financial ratio separately, with the sets QA/CL or CA/CL and TD/NW, and with the sets QA/CL or CA/CL and TD/NW and CA/S; and, 10 different sets of solely nonfinancial variables of size 7 or more variables where 7

Table 5
Summary Statistics For All Variables

<u>Variable</u>	<u>Group</u>						
	<u>NGCAR</u>			<u>GCAR</u>			
	<u>Mean</u>	<u>STD</u>	<u>N</u>	<u>Mean</u>	<u>STD</u>	<u>N</u>	<u>t</u>
<u>Financial Ratios</u>							
QA/CL	.52	.24	10	.40	.24	17	1.167
CA/CL	.86	.51	10	.68	.61	18	.745
TD/NW	-49.85	142.54	9	62.91	220.16	18	-1.355
NI/TA	-.16	.26	9	-.20	.27	17	.329
CA/TA	.55	.26	11	.53	.27	18	.164
C/TA	.05	.04	10	.02	.03	15	1.540
CA/S	.32	.21	11	.47	.49	17	-.951
<u>Nonfinancial Variables</u>							
CONFMGT	2.90	1.04	10	2.67	.75	18	.660
HELP	.82	1.19	11	2.22	1.96	18	-2.071*
MITIG	2.82	1.53	11	1.83	1.46	18	1.670
CONTOOP	2.45	1.16	11	2.35	.84	17	.260
RISKATD	2.91	1.24	11	2.72	1.04	18	.420
TURNOVR	2.81	.83	11	3.18	.86	17	-1.053
COMPT	3.00	.95	11	3.17	1.12	18	-.397
GAAP	3.09	.90	11	3.39	1.06	18	-.749
MORALE	3.00	1.21	11	2.89	.99	18	.260
TRANEND	3.18	1.27	11	3.33	1.24	18	-.305
COMPLINC	3.60	1.36	10	4.12	1.02	17	-1.080
ALAGATN	2.09	1.16	11	1.94	1.22	18	.307

Note: * indicates significance at $p < .05$.

of the same variables appeared in at least 7 of these 10 sets.

Statistically significant combinations were tested at different values of N, always using complete data sets. Of the 290 tests, 242 (83.4 percent) were successfully completed. Nonconvergence occurred for 48 analyses. A total of 120 (49.6 percent) of the completed analyses was statistically significant ($p < .05$). No single combination of the 39 sets tested of only financial ratio variables was significant. Altogether 45 (68.2 percent) of the 66 combinations of only nonfinancial variables, and 75 (54.7

percent) of the 137 mixed combinations of financial ratio and nonfinancial variables were statistically significant. Table 6 presents the LOGIT analysis results from a sample of the analyses run, where the financial ratios in these analyses are in normalized form.

Table 6 includes information on the particular combination of variables tested, the number of cases used in each analysis, the predictions and accuracy for NGCAR, GCAR and the total set of firms, the Chi-Square values, the degrees of freedom and the significance level for the logit analyses performed.

TABLE 6
RESULTS OF LOGIT ANALYSES

SELECTED VARIABLES COMBINATIONS	ACTUAL-NGCAR PREDICTED NGCAR GCAR	ACTUAL-GCAR PREDICTED NGCAR GCAR	NUMBER OF CASES	TOTAL ACCURACY	CHI ²	D.F.	SIGNIFICANCE LEVEL	
Financial Ratios Only								
ALL FINANCIAL RATIOS	6	0	8	19	74%	0.928	6	.988
QACL, CACL, TDNW, NITA, CATA	5	2	9	23	61%	-----	4	-----
QACL, CACL, TDNW, CATA	6	3	10	25	64%	1.252	3	.740
CACL, TDNW	8	1	4	25	48%	.462	1	.496
Nonfinancial Variables Only								
HELP, TURNOVR, MORALE	6	5	14	28	71%	6.175	2	.046
HELP, TURNOVR, MORALE	7	2	13	25	80%	11.881	2	.003
HELP, TURNOVR, MORALE	5	1	11	18	89%	13.815	2	.001
HELP, TURNOVR, MORALE, AGGRA, CONTOOP, GAAP	7	2	14	25	84%	16.095	5	.007
HELP, TURNOVR, MORALE, CONTOOP, GAAP, RISKATD	7	2	14	25	84%	12.697	5	.020
HELP, MORALE, AGGRA, CONTOOP, GAAP, RISKATD	7	2	14	25	84%	14.895	5	.010
Financial Ratios with Nonfinancial Variables								
HELP, MORALE, AGGRA, CONTOOP, GAAP, RISKATD, CACL, TDNW	8	1	15	25	92%	17.618	7	.010
HELP, TURNOVR, MORALE, QACL	7	2	13	25	80%	11.925	3	.008
HELP, TURNOVR, MORALE, CACL	6	3	13	25	76%	12.228	3	.007

Nonfinancial Variables

The variables HELP, TURNOVR, and MORALE differentiated between those firms that received modifications to the audit report and those firms that did not at least at the .05 level of significance. Moreover, HELP taken singly significantly differentiated between the two sets of firms at the .05 level. However, adding TURNOVR and MORALE to the analyses increased the accuracy of the predictions made. A significance level as low as .001 with an accuracy of 89% was achieved for one combination of cases run. There was an inverse relationship between the size of the HELP variable and the likelihood of a clean opinion. In other words, the more things that the audit partner did to help the client obtain refinancing, the less likely the partner was to issue a clean opinion. The correlation coefficients between Asset Level and HELP, TURNOVR and MORALE were -.06, -.14, and -.15, respectively, for 28 of the 29 cases. This indicates that the size of the firm does not relate significantly with these variables. Adding particular financial ratios did not increase either the significance or the accuracy. However, other combinations of nonfinancial variables alone or nonfinancial variables combined with financial variables were found to be statistically significant. Thus, these nonfinancial variables helped discriminate between firms in this sample that did or did not receive going concern modifications to the audit report.

Discussion

This is the first study known to the authors where models incorporating both financial and judgmentally based variables significantly discriminated between firms which received and those that did not receive going concern modifications to their audit reports. Multivariate logit analyses demonstrated that combinations of either normalized (transformed) or untransformed financial ratios alone could not significantly differentiate between these two sets of financially distressed firms.

The assumptions of the logit model (Aldrich and Nelson, 1984) include requirements of statistical independence, binary dependent variables, independent variables that are not perfectly correlated, the number of observations greater than the number of variables, and the probability that the dependent variable equals one having an underlying logistic distribution. These data meet these assumptions. Moreover, Hopwood, McKeown, and Mutchler (1988) found that the logit model was more robust than multiple discriminant analysis or probit analysis in bankruptcy prediction models since the logit model does not assume data are normally distributed.

However, two potential concerns exist with using a LOGIT analysis on this data set. The first is that a large sample size is needed for an accurate and stable estimation of parameter values. Thus, using the parameter values resulting from any of these logit analyses for predicting the likelihood or probability that a particular firm would receive a modification to the audit report could be subject to much error. But, it was not the intent to use the results for this type of prediction. The purpose of performing these analyses was to suggest which variables might discriminate between the two types of firms.

The second potential concern is that these cases do not represent a random sample. The CPA firms selected the cases for inclusion. The most likely bias to occur is that auditors would not include cases issued clean opinions where the firm did go bankrupt within one year. If this bias did occur, if auditors selected the "better" financially distressed cases for the no modification set, then the likelihood of finding statistical significance would increase. This bias would also decrease the likelihood that in a small, random sample, these same variables would be statistically significant. However, it was not the intent of this study to finalize a definitive set of variables that would be universally generalizable. The purpose was to determine whether nonfinancial variables related to management's capability have some discriminatory power in the going concern decision. If particular variables do prove significant in this limited test, then the obvious next step is to test their significance with different populations.

Further tests of these variables with various client populations in order to clarify the nature of auditor-client relationships would provide an important step in auditing research. The results of this study confirm the appropriateness of an exchange model for conceptualizing these relationships. For example, D'Aveni's (1989) study points out that management's dependability influences creditors to forestall foreclosure in financially troubled firms. An important implication of D'Aveni's research is that the kind of exchange relationship between auditor and client is influenced by the auditor's estimation of management dependability. If the auditor (or his/her firm) considers that management is a "dependable" enough client to provide a future source of revenue, then the auditor would be motivated to provide additional services for such financially distressed clients. Furthermore, the relationship between management's capability and dependability could be tested empirically.

Our results suggest that variables measuring management capability, e.g., the combination of HELP, MORALE, and TURNOVR, are related to the decision

regarding issuance of a going concern opinion. HELP was included on the grounds that the more confidence that the auditor had in the client's capability, the more that the auditor would do for that client and the more likely that there would be no exception for going concern in the audit report

Two other interpretations of the relationship between HELP and the going concern opinion decision are possible. The greater the size of the client fee, the more the auditor might do to keep that client solvent. If this second interpretation were true, there should be a correlation between HELP and the size of a firm's assets. There was no correlation found in our data.

The third possibility is that the more the auditor does to help arrange refinancing the less confidence the auditor has in the quality of client management because of either the client's inability or unwillingness to arrange their own refinancing. This inverse relationship between the size of the HELP variable and the likelihood of a clean opinion was significant in the present study. In practice, financially distressed companies generally experience difficulty in obtaining external financing. All the sample companies were financially distressed. Those firms who received more assistance from their auditors in obtaining additional financing were more likely to receive a going concern modification to the audit report. Hambrick and D'Aveni's (1992) study of organizational decline posited many variables where the direction of the links between these variables and organizational decline were uncertain or disputable. The issues that emerge when auditors help clients are another example, and point out the need for further research in the auditor-client exchange process.

Other combinations of nonfinancial variables beside HELP, MORALE, and TURNOVR, were statistically significant. The class of nonfinancial variables addresses management capability. Cameron, Whetten and Kim (1987) provide evidence that auditors' judgments about dysfunctional characteristics of their financially distressed clients are highly correlated. Thus, for the purposes of predicting auditors' going concern decisions or improving auditing practice, it may not be necessary to isolate a single set of behavioral or nonfinancial variables. A critical need would be for the development of various sets of reliable and valid scales for auditing use which ensure timely judgments of management's capability. A general conclusion of Ponemon and Schick (1991) regarding auditing practice is confirmed: Specific qualitative variables might be combined with traditional financial indicators to improve the going concern opinion decision process.

Suggestions For Future Research

Recall the remark quoted earlier that "decisions are made by people not firms." Going concern opinion decisions are made at the highest level of an accounting firm by the partners, based upon their own and their staff's judgments. Hogarth (1991) recently points out that auditing is a "multifaceted task." Our understanding could be considerably advanced if we probed "the different kinds of judgments auditors are required to make," and the demands of "different tasks in terms of knowledge and processes required to make the judgments" (p. 283).

Experienced auditors undoubtedly become familiar with individual client managers during the course of an engagement. This is likely to affect significantly their judgments of management capability. Since the provisions of SAS No. 59, a relatively new auditing standard, require auditors to explicitly examine the going concern potential of all their audit clients, further investigation into the relationships between various measures of management capability and auditors' perceptions of management capability and the going concern decision process is recommended. ☐

*** References ***

1. Abdel-Khalik, A. R. and El-Sheshai, K. M., "Information Choice and Utilization in an Experiment on Default Prediction," *Journal of Accounting Research* (Autumn 1980), pp. 325-342.
2. Aldrich, J. H. and Nelson, F. D., *Linear Probability, Logit, and Probit Models* (Beverly Hills: Sage Publications, 1984).
3. Altman, E., "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy," *Journal of Finance* (September 1968), pp. 589-609.
4. American Institute of Certified Public Accountants, Auditing Standards Board, *Statement on Accounting Standard No. 34, The Auditor's Considerations When a Question Arises About an Entity's Continued existence* (New York: AICPA, 1981).
5. _____, *Statement on Accounting Standard No. 41, Working Papers* (New York: AICPA, 1982).
6. _____, *Statement on Accounting Standard No. 59, The Auditor's Consideration of an Entity's Ability to Continue as a Going Concern* (New York: AICPA, 1988).
7. Beaver, W. H., "Financial Ratios As Predictors of Failure," *Empirical Research in Accounting: Selected Studies*, Supplement to *Journal of Accounting Research* (Vol.4, 1966), pp. 71-110.

8. Cameron, K. S., Whetten, D. A., and Kim, M. U., "Organizational Dysfunctions of Decline," *Academy of Management Journal* (Vol. 30, 1987), pp. 126-138.
9. Casey, C. J., Jr., "The Usefulness of Accounting Ratios for Subjects' Predictions of Corporate Failure: Replication and Extensions," *Journal of Accounting Research* (Autumn 1980), pp. 603-613.
10. Cascio, W. F., *Applied Psychology in Personnel Management* (Englewood Cliffs: Prentice-Hall, 1991).
11. Chen, K. H. and Shimerda, T. A., "An Empirical Analysis of Useful Financial Ratios," *Financial Management* (1981), pp. 51-60.
12. D'Aveni, R. A., "Dependability and Organizational Bankruptcy: An Application of Agency and Prospect Theory," *Management Science* (Vol. 35, September 1989), pp. 1120-1138.
13. Dopuch, N., R. W. Holthausen, and R. W. Leftwich, "Predicting Audit Qualifications with Financial and Market Variables," *The Accounting Review* (Vol. 62, July 1987), pp. 431-454.
14. Einhorn, H. J. and R. M. Hogarth, "Prediction, Diagnosis and Causal Thinking in Forecasting," *Journal of Forecasting* (1982), pp. 23-36.
15. Gibbins, M., and K. Jamal, "Problem-Centered Research and Knowledge-Based Theory in the Professional Accounting Setting," *Accounting, Organizations and Society* (July 1993), pp. 451-466.
16. Greene, W. H., LIMDEP (1985).
17. Hambrick, D. C. and D'Aveni, R. A., "Top Team Deterioration as Part of the Downward Spiral of Large Corporate Bankruptcies," *Management Science* (1992), pp. 1445-1466.
18. Hogarth, R. M., "A Perspective on Cognitive Research in Accounting," *Accounting Review* (Vol. 66, No.2, 1991), pp. 277-290.
19. Hopwood, W., McKeown, J., and Mutchler, J., "The Sensitivity of Financial Distress Prediction Models to Departures From Normality," *Contemporary Accounting Research* (Vol. 5, Fall 1988), pp. 284-298.
20. Icerman, R. C. and Hillison, W. A., "Disposition of Audit-Detected Errors: Some Evidence on Evaluative Materiality," *Auditing: A Journal of Practice & Theory* (Vol. 10, 1991), pp. 22-34.
21. Johnson, P. E., Jamal, K., and Berryman, R. G., "Audit Judgment Research," *Accounting, Organizations, and Society* (Vol. 14, 1989), pp.83-99.
22. Kahneman, D. and A. Tversky, "Prospect Theory: An Analysis of Decision Under Risk," *Econometrica* (Vol.47, 1979), pp. 263-291.
23. Kaplan, R. S., "The Role for Empirical Research in Management Accounting," *Accounting, Organizations and Society* (Vol.11, 1986), pp. 429-452.
24. Kennedy, H. A., "A Behavioral Study of the Usefulness of Four Financial Ratios," *Journal of Accounting Research* (1975), pp. 97-116.
25. Libby, R., "Accounting Ratios and the Prediction of Failure: Some Behavioral Evidence," *Journal of Accounting Research* (1975), pp. 150-161.
26. Libby, R., K. T. Trotman, and I. Zimmer, "Member Variation, Recognition of Expertise, and Group Performance," *Journal of Applied Psychology* (1987), pp. 81-87.
27. Maddala, G. S., *Limited-Dependent and Qualitative Variables in Econometrics* (Cambridge: Cambridge University Press, 1983).
28. Messier, W. F., Jr. and J. V. Hansen, "Inducing Rules for Expert System Development: An Example Using Default and Bankruptcy Data," *Management Science* (1988), pp. 1403-1415.
29. Mutchler, J. F., "A Multivariate Analysis of the Auditor's Going Concern Opinion Decision," *Journal of Accounting Research* (Vol. 23, Autumn 1985), pp. 668-682.
30. Ohlson, J., "Financial Ratios and the Probabilistic Prediction of Bankruptcy," *Journal of Accounting Research* (1980), pp. 109-131.
31. Ponemon, L. A. and A. G. Schick, "Financially Distressed Companies and Auditor Perceptions of the Twelve Characteristics of Decline," *Auditing: A Journal of Practice & Theory* (Fall 1991), pp. 70-83.
32. Rohan, B., "Business Owners Act Like Bankers," *The Detroit Free Press* (October 2, 1989), p. 3D.
33. Steers, R. M. and Porter, L. W., *Motivation and Work Behavior*, 5th ed. (New York: McGraw-Hill, 1991).
34. Sutton, R. I., "Organizational Decline Processes: A Social Psychological Perspective," in *Research in Organizational Behavior* (Greenwich, Conn.: JAI Press Inc., 1990).
35. Wright, W. F., J. Ho, and E. B. Davis, "Limited Consensus of Going Concern Judgments," Paper presented at the Annual Meeting of the American Accounting Association, Nashville, TN, August 12, 1991.
36. Zavgren, C. V., "The Prediction of Corporate Failure: The State of the Art," *Journal of Accounting Literature* (1983), pp. 1-38.