

BEYOND A REASONABLE DOUBT: AUDITOR CONFIDENCE VERSUS AUDIT EFFECTIVENESS

Richard A. Bernardi*

Abstract

This research examines auditor confidence in a fraud detection task to establish whether or not there is a relationship between auditors' confidence and audit effectiveness. The research used a sample of 342 seniors from 40 offices of five international accounting firms. These participants were assigned to different client types: high integrity clients, low integrity clients and a control group. Given the average detection rate for fraud of 42.1 percent and an expressed rate of decision confidence of 78.8 percent, the research finds that auditors overestimate their effectiveness (i.e., actual fraud detection rate) when compared to their estimated decision confidence.

Introduction

Public concern with the usefulness of an audit stems from the perceived lack of value added by the audit. This concern is only magnified when auditors do not detect material errors that result from fraud, which is especially true when the same error persists over a period of years and remains undetected over the course of several audits. The standards indicate that auditors should not provide an opinion until substantial doubt is removed (SAS No. 31, Sect. 326.23, 1980). The profession maintains that it is providing "reasonable assurance" to the investing public. .

This research examines auditor confidence in a fraud detection task to establish whether or not there is a relationship between confidence and accuracy. The literature review section draws on research in auditing, marketing, and decision science to establish the basis for the research questions. The research used a sample of 342 seniors from five international accounting firms. These participants were assigned to different client types: high integrity clients, low integrity clients and a control group. The research finds that auditor confidence did not increase with the level of information reviewed by the audit seniors. The research also finds that the participants dramatically overestimated their effectiveness when compared to their estimated confidence.

* Gabelli School of Business, Roger Williams University.

Prior Research

The Commission on Fraudulent Financial Reporting

Due to a growing concern in the mid 1980s about fraudulent financial reporting, the American Accounting Association (AAA), American Institute of Certified Public Accountants (AICPA), the Financial Executives Institute (FEI), the Institute of Internal Auditors (IIA), and the National Association of Accountants (NAA) sponsored a study on fraudulent financial reporting (Commission on Sponsoring Organizations, 1992). The goal of the Commission was to (1) identify factors that might cause/lead to fraudulent reporting and (2) recommend actions to reduce the possibility of fraud.

The group of six individuals who undertook this study became known as the Commission on Fraudulent Financial Reporting. The chairman of the Commission was a past commissioner of the Securities and Exchange Commission (i.e., James Treadway). By the time their report was published, the Commission became known as the Commission on Sponsoring Organizations [COSO] of the Treadway Commission. In their recommendations for public companies, the commission concluded that (COSO, 1992, p. 11):

These recommendations, taken together, will improve a company's overall financial reporting process and increase the likelihood of preventing fraudulent financial reporting and detecting it earlier when it occurs. For some companies, implementing these recommendations will require little or even no change from current practices; for other companies, it will mean adding or improving a recommended practice. Whether it means adding or improving a practice, the benefits justify the costs. The Commission's recommendations for the public company deal with (1) the tone set by top management, (2) the internal accounting and audit functions, (3) the audit committee, (4) management and audit committee reports, (5) the practice of seeking second opinions from independent public accountants, and (6) quarterly reporting.

This research examines the Commission's recommendation concerning "the tone set by top management." It also examines how this tone relates to the Commission's belief that accounting students "should be exposed to the knowledge, the skills, and the ethical values that potentially may help them prevent, detect, and deter fraudulent financial reporting." (COSO, 1992, p. 79).

Client Integrity

This research includes a manipulation of client integrity because this is essential to the acceptance of a new client and the continuance of past clients.

There has been an increasing level of the exposure on auditor sensitivity to client integrity including the "expectation-gap" auditing standards, the draft of the COSO (1992) Report, the Savings and Loan scandal, and SAS 82 (1997). Albrecht *et al.* (1986) provide a rationale and listing of the red flags that signal an increased likelihood that fraud; many of these indicators deal with integrity of management. The continuing importance of the competence, integrity, and ethical values of a client's management as a fundamental component of internal control was emphasized by the Commission on Sponsoring Organizations (COSO 1992). Albrecht *et al.* and COSO enumerate factors such as management, industry, and engagement characteristics, which became part of SAS No. 82, Sect. 316.17.

Prior research used client integrity in a variety of tasks that indicate auditor sensitivity to this data. Anderson and Marchant (1989) found that low client integrity drew more auditor attention than high client integrity. Friedberg *et al.* (1989) found that client integrity was specifically mentioned in two firms' audit manuals on materiality. Ponemon and Gabhart (1993) note that client integrity was related to auditors' assessments of risk. Bernardi and Arnold (1994) found that auditors reduced their materiality estimates for low-integrity clients; however, materiality estimates for high integrity clients did not vary from those of auditors not provided with explicit integrity data. Bernardi (1997) found that auditors' estimates of the probability of fraud existing were influenced by client integrity ratings. The expectation of the first hypothesis is that the high integrity and no information groups should be more confident of their decisions than the low integrity group. If this is the case, then Hypothesis One can be stated (all hypotheses in the null form):

H1: *The level of auditor confidence will be similar for the three groups.*

Risk and Uncertainty

Wilson and Crouch (1987) maintain that a close relationship exists between risk and notion of uncertainty. Kahneman *et al.* (1982) report that risks are often misjudged, uncertainty is purposely denied, and judgments concerning the facts are made with unwarranted certainty. When uncertainty concerning an attribute of a product (account) is present, a rational person will increase their search (Locander and Hermann, 1979). SAS No. 47, Sect. 312.32 reinforces the relationship among risk, uncertainty, and the need for additional data stating:

[I]f the auditor believes that such risk is unacceptably high, he should perform additional auditing procedures . . . to reduce the risk [and uncertainty] . . . to an acceptable level [of certainty].
(Data in brackets added)

Lanzetta and Kanareff (1962) hold that the greater the consequences or risk associated with a decision, the more extensive the search. When audit procedures are based on an evaluation of the client's ethics, Mautz and Sharaf (1961) maintain that auditors should "*apply more rigorous procedures*" when indications exist that some data could be questionable. However, reducing the normal level of audit procedures is not appropriate even when risk is low (SAS No. 47, Section 312.02), which suggests that there is a minimum level of work required before rendering an audit opinion even when auditing a high-integrity client.

The confidence an auditor has in his or her decision is affected by the perceived risk associated with the audit with higher (lower) risk reducing (increasing) confidence. An auditor's decision confidence can be likened to the decision confidence of a consumer when risk is present. In many consumer-oriented models, risk is treated as a separate variable (Engel and Blackwell 1982; Lehmann 1974). Engel and Blackwood (1982, p 327) point out that:

One could certainly argue, theoretically at least, that greater information leads to increased consumer efficiency in terms of consumers forming preferences and making purchases which correspond with objective ratings of product [client] quality [integrity] ratings. If this is true, the more information the better! Unfortunately, this overlooks the very real costs [such as time-budget constraints] which must be incurred both to collect and process information.

(Data in brackets added)

This argument is found in the third standard of fieldwork that requires that auditors exercise professional judgment in determining the extent of "sufficient competent evidential matter to provide him with a reasonable basis for forming an opinion" (AU 326.20). Pincus (1991) notes that auditors continue to process additional information until a level of confidence in the outcome of an audit task is achieved prior to reaching their decision. Given this, one would anticipate that auditors, who are exposed to high integrity ratings, would look at similar levels of information to auditors with no additional information about client integrity. Similarly, auditors exposed to low integrity ratings would look at more information than auditors provided with high integrity ratings or with no additional information about client integrity.

One would anticipate that those in the low integrity group would examine more data to achieve similar levels of confidence (Mautz and Sharaf, 1961). The expectation of the second hypothesis is that the no information group and the high integrity group will examine similar levels of information. One would also anticipate that, if the levels of confidence are equal, the low integrity client group

would have to examine more evidence to achieve an acceptable level of confidence (Pincus, 1991).

H2: *The level of confidence will not increase as more information is examined.*

Overconfidence

In their book *Decision Traps*, Russo and Schoemaker (1989, p. 68) maintain that overconfidence leads to “*failing to collect key factual information because you are too sure of your assumptions and opinions*”. They also believe that acknowledging one’s degree of uncertainty is equally as important as one’s knowledge in making informed decisions. These authors cite research examining overconfidence (Lichtenstein et al., 1982) and the correlation between accuracy and confidence (Wells and Murray, 1984; Bothwell et al., 1987). In their discussion, they provide classic examples of statements caused by overconfidence (Cerf and Navasky, 1984) and the use of easily available data to make decisions (Combs and Slovic, 1979).

For example, studies of managers in the chemical industry and a computer company demonstrate the degree of overestimation involved in responding to specific questions concerning their industry, company and business specific facts (Lichtenstein et al., 1982). Chemical industry managers were asked to make estimates so that their answers would provide them with a 90 percent degree of confidence. The answers of these managers produced errors that were in the order of 50 percent off the actual answers. The same results were noted with managers of a computer company whose responses were actually 58 percent in error on company-specific facts; again, their goal was to provide answers with a 95 percent degree of confidence.

These results are supported by research that notes a low level of correlation between accuracy and confidence in eyewitness testimonies (Wells and Murray, 1984; Bothwell et al., 1987). Wells and Murray find an insignificant correlation of .07 ($r^2 = .05$) between eyewitness testimony and accuracy in a survey of 31 studies. Bothwell et al. find similar results in research documenting the results of staged events where the correlation between accuracy and confidence was .25 ($r^2 = .06$) – still of limited explanatory power.

Cerf and Navasky (1984) provide a wealth of statements caused by overconfidence. For instance, the odds maker Jimmy “The Greek” Snyder (the odds maker) responded “*Impossible*” when asked whether he thought Cassius Clay could last six rounds against World Heavyweight Champion Sonny Liston in 1964. Combs and Slovic (1979) note that information that is readily available may bias our estimates. They asked individuals to decide whether stomach cancer or motor vehicle accidents caused more deaths in the United States per year. Fourteen (86) percent of the individuals asked chose stomach cancer

(motor vehicle accidents). In reality, the actual death rate per 1,000 in the United States is 95 (46) for stomach cancer (motor vehicle accidents). Combs and Slovic attribute this phenomenon to the newspaper coverage of these events each year (i.e., one for stomach cancer versus 137 for motor vehicle accidents). The expectation of the third hypothesis is that the level of confidence expressed by auditors will not associate with the accuracy of their decisions (Bothwell et al., 1987; Wells and Murray, 1984; Lichtenstein et al., 1982; Combs and Slovic, 1979).

H3: *The confidence estimates expressed by auditors will not relate to the accuracy of their decisions.*

Methodology

Sample

The audit task for these seniors was to determine whether or not the client's inventory account was "fairly stated" (i.e., the correct decision was "not fairly presented"). The data set consists of 342 seniors from 40 offices of five large accounting firms. This research compares the amount of data examined and the reported confidence levels with the decision accuracy of the three groups (i.e., the high and low integrity groups and a control group).

The research questions examined auditor's confidence in their decision as to whether or not the inventory account was fairly stated. This question was asked immediately after the auditors had reached their audit decision for the case study; participants responded to the question:

On a scale of 0 to 100, how confident are you in your decision?

Case Study Materials

The case study used in the research was a restaurant client that had materially overstated their ending inventory. Participants were provided with general information on their client (Appendix A) and a list of 70 additional pieces of information from the workpapers they could examine (Appendix B). Each subject in both samples had a file that contained the additional 70 pieces of identical information. The seniors were told to do a senior's review of a junior's workpapers. They were instructed to continue to select additional pieces of information until they felt they could reach an audit decision on the fairness of presentation of the inventory account. The research instrument gathered data on the amount of information examined and the level of confidence for each participant.

The client integrity manipulation was accomplished by randomly dividing the seniors into three groups. The control group was not given any information regarding the client's perceived integrity. The second and third groups were told

that their firm considered that the entire population of potential clients could be rated on a scale from 1 to 20 (Appendix C). They were also told that clients had to have a rating between 1 and 10 to be acceptable. Subjects in the "low" group were informed that their client's score was "8" (lower end of the acceptable range). Those in the "high" group were informed that the specific client in question had been assigned a score of "2" (high integrity and competence).

Analysis

The Dunn multiple-comparison test was used to test Hypothesis One (Hollander and Wolfe, 1973). As shown in Table 1, the fraud detection rates were similar for all three groups. Given this, the data were collapsed by integrity group for the remainder of the study. Hypothesis One, which tested whether the expressed confidence varied with client type, was not supported by the data. The average confidence level for the seniors in the low-integrity (75.4) was significantly lower ($p > .03$) than the average confidence for both the high-integrity group (80.3) and the no information group (80.2). However, there was no difference between average confidence expressed by the no-information group and that of the high-integrity group (80.2 versus 80.3).

The Jonckheere Test for Ordered Alternatives was used to examine Hypothesis Two (Hollander and Wolfe, 1973). The data supports Hypothesis Two; Table 2 shows that the level of confidence did not increase as additional pieces of information were examined. For example, the confidence levels for the 21-25 and 25-30 card groups for both the high integrity client (H) and the no information client (control group - C) were actually lower than for the 16-20 card groups. For the low integrity client, the level of confidence expressed declined between the 11-15 card group and both the 16-20 and 21-25 card groups. This indicates that examining additional information did not lead to increased levels of confidence for at least 41.8 percent (143/342) of the sample.

TABLE 1
AUDITOR CONFIDENCE AND DETECTION RATES BY GROUP

Groups	<u>Auditor Confidence</u>		Detection Rate
	Did Not Detect	Detected Fraud	
High Integrity	80.4	80.2	42.2
No Information (Control)	80.3	80.1	43.6
Low Integrity	74.4	76.8	40.5

Did not detect reflects the individuals opinions who believed the inventory account was fairly stated.
All data expressed as a percent.

TABLE 2
AUDITOR CONFIDENCE VS. ACCURACY

	<u>Number of Items examined During the Exercise</u>								Avg.
	5-10	11-15	16-20	21-25	26-30	31-35	36-40	40+	
<u>High</u>									
Confidence	85.0	80.7	81.2	78.8	79.0	80.0	N/C	N/C	80.3
Accuracy (n)	14.3 (7)	35.3 (17)	51.7 (29)	37.5 (32)	60.0 (15)	40.0 (11)	N/C (2)	N/C (3)	42.2 (116)
<u>Control</u>									
Confidence	80.2	80.4	80.9	79.8	75.8	86.0	84.0	N/C	80.2
Accuracy (n)	40.0 (5)	61.5 (26)	40.6 (32)	30.4 (23)	58.3 (12)	0.0 (5)	40.0 (5)	N/C (2)	43.6 (110)
<u>Low</u>									
Confidence	78.5	83.0	75.1	71.5	77.0	76.1	N/C	N/C	75.4
Accuracy (n)	25.0 (4)	31.8 (22)	30.0 (30)	51.6 (31)	46.7 (15)	54.5 (11)	N/C (1)	N/C (2)	40.5 (116)
<u>Average</u>									
Confidence	81.9	81.4	79.1	76.4	77.4	79.8	78.1	80.0	78.8
Accuracy (n)	25.0 (16)	44.6 (65)	40.7 (91)	40.7 (86)	54.8 (42)	37.0 (27)	37.5 (8)	42.9 (7)	42.1 (342)

All data except sample sizes (n) are expressed as a percent.

N/C Not Computed – averages were not computed for sample sizes of less than four.

Accuracy The percent of auditors indicating the account was NOT fairly stated.

A Wilcoxon Signed-Rank test was used to evaluate Hypothesis Three (Hollander and Wolfe, 1973). The data support Hypothesis Three, which examined the relationship between auditors' expressed confidence and the accuracy of their decisions about whether the inventory account is fairly stated.² The relationship between the average level of confidence and decision accuracy in a fraud detection task was similar for all three groups. Of the 19 comparisons computed, auditor confidence was greater than audit effectiveness (accuracy) in

every case ($p < .0000$). On average, the difference between auditors' confidence and decision accuracy was 36.7 percent.

Conclusions

The research indicates that the seniors participating in this research dramatically overestimated their confidence. The average difference (36.7 percent) between the expressed level of confidence in their decisions (78.8 percent) and the accuracy of these decisions (42.1 percent) closely follow the findings of Bothwell et al. (1987), Wells and Murray (1984), Lichtenstein et al. (1982), and Combs and Slovic (1979).

Contrary to Chow *et al.*'s data (1987), the current data indicate that auditors' are sensitive to client integrity data in the final phases of the audit. Both the high integrity and no information (control) groups estimated confidence higher than the low-integrity group, which indicates that knowing one was auditing a low integrity client reduced auditor confidence. Because the groups examined similar amounts of information, one might anticipate that the level of confidence would have been lower for the subjects auditing a low integrity client. Still, one must reflect on the average difference (34.9 percent) between the expressed level of decision confidence (75.4 percent) and the accuracy of these decisions (40.5 percent) for the low integrity client group.

The data displayed in Table 2 supports Pincus's (1991) theory that individuals who reviewed more information did so to achieve a confidence level of 75 percent prior to reaching their decision. Again, this finding must be tempered by the 39 percent difference between auditor confidence and audit accuracy for even those auditors who examined 36 or more pieces of information. The current sample and the Pincus data both indicate a high level of overconfidence. The current (Pincus) sample estimated confidence at 78.8 (82.9) percent and audit accuracy at 42.1 (43.7) percent for a difference of 36.7 (39.2) percent. Given this, the data suggest a benchmark for the "term reasonable assurance" of approximately 80 percent and an overconfidence rate of about 39 percent. The current research indicates that there is a need to follow the suggestions of Russo and Schoemaker (1989) with respect to overconfidence. That is, auditors acknowledge their degree of uncertainty in order to put their knowledge in making informed decisions into perspective.

One of the implications of this research is that audit firms must examine the level of assurance they are providing with the audit. While fraud is a rare event, the level of overconfidence exhibited by the participants should serve as a warning to these firms. As an example, Dalton et al. (1994) find that:

Approximately 29% of the respondents reported that the threat of legal liability played a role in their decision to leave their firms . . . Just over 40% agreed that depressed profits because of litigation costs affected their decisions. Over 46% said the effect of ongoing litigation costs on future profits had an effect. About 35% reported that possible personal liability for claims against their firms influence their decisions.

These percentages indicate the magnitude of the attrition problem. Yet auditors attribute the reasons for departures on litigation when the real cause of the problem is a pervading level of overconfidence in their audit decisions.

The current research has at least two limitations. First, the sample came from only large international firms and may not represent the public accounting profession. Second, the case study used in the research dealt with a restaurant client; additional research needs to examine this for other industries.

REFERENCES

- Albrecht W. S., and Romney, M. B. 1986. Red Flagging Management Fraud--A Validation. *Advances in Accounting* 3: 323-333.
- American Institute of Certified Public Accountants, Auditing Standards Board. 1988. The auditor's responsibility to detect and report errors and irregularities. *Statement of Auditing Standard No. 53*. New York: American Institute of Certified Public Accountants.
- American Institute of Certified Public Accountants, Auditing Standards Board. 1984. Audit Risk and Materiality in conducting an Audit. *Statement of Auditing Standard No. 47*, New York: American Institute of Certified Public Accountants.
- American Institute of Certified Public Accountants, Auditing Standards Board. 1980. Evidential Matter. *Statement of Auditing Standard No. 31*, New York: American Institute of Certified Public Accountants.
- American Institute of Certified Public Accountants, Auditing Standards Board. 1975. Communications Between Predecessor and Successor Auditors. *Statement of Auditing Standard No. 7*. New York: American Institute of Certified Public Accountants.
- Anderson, U., and Marchant, G. 1989. Auditor's Assessment of the Competence and Integrity of Auditee Personnel. *Auditing: A Journal of Practice & Theory* (Supplement): 1-16.
- Bernardi, R. A. 1997. Probability of Fraud Estimates: The Impact of Client Integrity and Competence, *Research on Accounting Ethics*, 3 (1): 119-139.
- Bernardi, R. A. 1994. Fraud detection: The Effect of Client Integrity and Competence and Auditor Cognitive Style. *Auditing: A Journal of Practice & Theory*, 13 (Supplement): 68-84.

- Bernardi, R. A., and Arnold, D.F., Sr. 1994. The Influence of Client Integrity and Competence and Auditor Characteristics on Materiality Estimates, *Irish Accounting Review* (1), 1-23.
- Bothwell, R. K., Deffenbacher, K. A., and Brigham, J. C. 1987. Correlation of Eyewitness Accuracy and Confidence: Optimality Hypothesis Revisited, *Journal of Applied Psychology*, 72 (4): 691-695.
- Cerf, C., and Navasky, V. 1984. *The Experts Speak*, Pantheon Books.
- Chow, C. W., McNamee, A. H., and Plumlee, R. D. 1987. Practitioners' Perceptions of Audit Step Difficulty and Criticalness: Implications for Audit Research. *Auditing: A Journal of Practice & Theory* (Spring): 123-133.
- Combs, B., and Slovic, P. 1979. Newspaper Coverage of Causes of Death, *Journalism Quarterly*, 56: 837-849.
- Commission on Sponsoring Organizations of the Treadway Commission. 1997. Fraudulent Financial Reporting: 1987-1997 - An Analysis of U.S. Public Companies, website: <http://www.coso.org/>.
- Commission on Sponsoring Organizations of the Treadway Commission. 1992. Internal control: Integrated framework. Harborside, NJ: AICPA.
- Dalton, D. R., Hill, J. W., and Ramsey, R. J. 1994. The Big Chill. *Journal of Accountancy* (November): 53-56.
- Engel, J. F. and Blackwell, R. D. 1982. *Consumer Behavior*. Chicago: The Dryden Press.
- Kahneman, D., P. Slovic, and A. Tversky. 1982. *Judgment Under Uncertainty: Heuristics and Biases*. New York: Cambridge University Press.
- Friedberg, A. H., Strawser, J. S., and Cassidy, J. H. 1989. Factors Affecting Materiality Judgments: A Comparison of "Big Eight" Firms' Materiality Views with the Results of Empirical Research. *Advances in Accounting* 7: 187-201.
- Hollander, M., and Wolfe, D. A. 1973. *Nonparametric Statistical Methods*, John Wiley: New York.
- Lanzetta, J. T. and Kanareff, V. 1962. Information Cost, Amount of Payoff and Level of Aspiration as Determinants of Information Seeking in Decision Making. *Behavioral Science* 7: 459-473.
- Lehmann, D. R. 1974. Some Empirical Contributions to Buyer Behavior Theory. *Journal of Consumer Research* 1.
- Lichtenstein, S., Fischhoff, B., and Phillips, L. 1982. Calibration Probabilities: The State of the Art to 1980, in *Judgment Under Uncertainty: Heuristics and Biases*, edited by D. Kahneman, P. Slovic, and A. Tversky. Cambridge University Press.
- Locander, W. B. and Hermann, P. H. 1979. The Effect of Self-Confidence and Anxiety on Information-Seeking in Consumer Risk Reduction. *Journal of Marketing Research* 17: 268-274.

- Pincus, K. V., 1991. Audit Judgment Confidence. *Behavioral Research in Accounting*, 39-65.
- Ponemon, L. A., and Gabhart, D. L. 1993. Ethical Reasoning in Accounting and Auditing. *Research Monograph Number 21* CGA-Canada Research Foundation (Vancouver, BC): 89-103.
- Wells, G. L., and Murray, D. M. 1984. Eyewitness Confidence, in *Eyewitness Testimony: Psychological Perspectives*, edited by G. L. Wells and E. F. Loftus, Cambridge University Press.
- Wilson, R. and Crouch, E. A. C. 1987. Risk Assessment and Comparisons: An Introduction. *Science* 236: 267-270.

ENDNOTES

1. No data points are shown for sample sizes of less than four. There were 116 participants in the high-integrity group, 116 in the low-integrity group, 110 in the control group. The decision to collapse of the data set by the audit decision (i.e., fairly stated versus not fairly stated) did not affect the results of Hypothesis Three.

APPENDIX A

THE CLIENT: EL TIOVIVO, INC.

El Tiovivo, Inc., operates a chain of full-service Mexican restaurants. The company, organized in 19A1, began actual operations in 19A2 and by the end of 19A7 had grown to 41 units, located primarily in the Midwestern states. El Tiovivo uses a 52-53 week fiscal accounting year (October year-end). This does not have a material effect on the comparability of the 19A2-A7 financial statements.

RESTAURANTS

The atmosphere of the restaurants is, of course, Mexican -- with stucco walls, tile floors, and Mexican crafts (pottery, weavings, etc.) as decor. All of the restaurants have several dining areas and some also serve lunch on Monday through Friday. All serve alcoholic beverages, featuring Sangria, Margaritas, and Tecate (a full-flavored Mexican beer served with lime and salt, the way it is traditionally drunk in Mexico). The waiters/ waitresses wear Mexican embroidered shirts/dresses and the food is served on crockery dishes.

The dinner menu includes a variety of entrees: tacos (beef or chicken), enchiladas (cheese, beef, or chicken), and burritos at the lower end of the price range; and carne asada (an unadorned broiled beefsteak popular with those diners who prefer non-spicy foods), jalapeno-biftec ranchero (steak in a fiery tomato, onion, and chili pepper sauce), and the Tiovivo platter at the higher end of the price range. All the entrees are served with Mexican rice and refried beans. Each meal begins with complementary bowls of tortilla chips, pickled jalapeno peppers, and hot chili sauce. Available separately are appetizers (guacamole and nachos) and desserts.

Since 19A6, operational control has been maintained through a computerized information system. Each restaurant is equipped with a specially designed computerized cash register that uses optical character recognition sales checks. This system is used to compute on a daily, weekly, and monthly basis, separately for each of the restaurant units, profit and loss, sales and cost breakdown by product, labor productivity, payroll, and deviations from budget.

THE COMMISSARY

The company operates its commissary and warehouse facility from which all the restaurants are supplied with portion-controlled units of meat, poultry, and other food items, as well as tableware and other supplies. These items are delivered by the company's trucks to each El Tiovivo restaurant on a weekly basis.

The commissary includes meat cutting rooms, refrigeration and freezer storage space. The commissary processes much of the meat required by the restaurants and makes all the sauces, fillings, tortillas, and burritos used in the operation. The company purchases other items, except for alcoholic beverages, in large quantities in anticipation of seasonal price fluctuations. This enables the company to offer its restaurants a more uniform product at a lower price than the restaurants could achieve independently. Due to the variation in liquor laws, alcoholic beverages are purchased locally.

The effort to control meat costs is the most important area of cost control at El Tiovivo. Meat represents 80% of food costs, or almost 33% of sales, and management feels that one of the keys to El Tiovivo's success is the commissary and warehousing facilities which make it possible for El Tiovivo to cope with changes in the price of meat.

THE ACCOUNT: INVENTORY AT FISCAL YEAR END 10/26/A7

<u>Type of Inventory</u>	<u>Dollars</u>	<u>Percent of Total</u>
Meat	\$4,929,101	75.0%
Other (nonmeat) food & bever.	<u>632,239</u>	<u>10.0%</u>
Total food & beverages	\$5,561,340	85.0%
Supplies	503,174	7.5%
China/silver/glass	<u>507,621</u>	<u>7.5%</u>
Total All Inventory	\$6,572,135	100.0%

APPENDIX B

ADDITIONAL INFORMATION AVAILABLE

Information about El Tiovivo Directors, Management, & Employees

- 1-Number of employees, 19A3-A7; types of training & compensation
- 2-Key management personnel
- 3-Top management salaries, 19A3-A7
- 4-Top management vacations due and taken
- 5-Members of the Board of Directors
- 6-Compensation of Directors
- 7-Board structure and number of meetings

- 8-Officer/Director Indemnification Agreement/Liability Insurance
- 9-Comments of Board members regarding CEO and CFO
- 10-Stock options held by Directors and key employees

Other Information about El Tiovivo

- 11-Menu prices for entrees, 19A3-A7; average sales check/customer
- 12-Entree sales by type (percentages)
- 13-Number of restaurants in operation, 19A2-A7
- 14-Expansion costs and plans
- 15-History of stock offerings and debt financing
- 16-Management forecasts of 19A7 sales/earnings
- 17-History of auditor relationship with firm; prior opinions
- 18-Restaurant industry conditions, 19A6 and 19A7
- 19-Mexican restaurant segment conditions, 19A7
- 20-El Tiovivo sales cycle (quarterly pattern)

Inventory and Inventory-related Financial Statement Data/Ratios

- 21-Weighted average annual sales per restaurant, 19A3-A7
- 22-Cost of sales as a percentage of sales, 19A3-A7
- 23-Cost of sales breakdown (food/beverages vs. labor) 19A3-A7
- 24-Total purchases of food and beverages, 19A3-A7
- 25-Total inventories, 19A3-A7
- 26-Inventory turnover & number of days sales in ending inventory, 19A3-A7
- 27-Inventory location (Restaurant vs. Commissary), 19A7 vs. 19A6
- 28-Percentage breakdown of inventory by type, 19A3-A7
- 29-Percentage breakdown of meat inventory by type, 19A7
- 30-Purchase commitments for meat at fiscal year end, 19A3-A7

Other Financial Statement Information

- 31-Current assets, by type, as a % of total assets, 19A3-A7
- 32-Long-term assets, by type, as a % of total assets, 19A3-A7
- 33-Net working capital, 19A3-A7
- 34-Total assets, 19A3-A7
- 35-Current liabilities, by type, as a % of total L+SE, 19A3-A7
- 36-Long-term liabilities, by type, as a % of total L+SE, 19A3-A7
- 37-Gross sales, 19A3-A7
- 38-Operating expense/G&A expense, Interest as a % of sales, 19A3-A7
- 39-Provision for Income Tax, as a % of Income before taxes and Sales, 19A3-A7
- 40-Net income as a percentage of sales, 19A3-A7

Financial Ratios (other than inventory-related)

- 41-Current ratio and Quick ratio, 19A3-A7

- 42-Receivables turnover/Number of days sales in ending AR, 19A3-A7
- 43-Return on total assets, 19A3-A7
- 44-Debt ratio and Debt-Equity ratio, 19A3-A7
- 45-Return on stockholders equity, 19A3-A7
- 46-Earnings per share, 19A3-A7
- 47-Dividend payout ratio, 19A3-A7
- 48-Price-earnings ratio, 19A3-A7
- 49-Times interest earned, 19A3-A7
- 50-Times rent earned, 19A3-A7

Results of 19A7 Audit Procedures

- 51-Results of physical inventory observation at restaurant units
- 52-How units were chosen for inventory observation
- 53-Results of analytical comparisons/reviews for unobserved units
- 54-Results of physical inventory observation at Commissary
- 55-Results of inventory pricing tests
- 56-Results of inventory cutoff tests
- 57-Audit procedures related to purchase commitments
- 58-19A7 Management Letter comments re internal control weaknesses
- 59-Evaluation of Internal Audit function effectiveness
- 60-19A7 Attorney's Letter

Inventory Policies/Background and Selected Client Records

- 61-Commissary history (size expansions), 19A3-A7
- 62-Beef processing and purchasing policies
- 63-Accounting records/controls for Commissary inventory
- 64-Vendors for food, beverage, and supply purchases
- 65-Client records: Receiving Log for Week 52, FYA7
- 66-Client records: Receiving Log for Week 1, FYA8
- 67-Client records: Weekly Inventory Summary, Week 51, FYA7
- 68-Client records: Weekly Inventory Summary, Week 52, FYA7
- 69-Client records: Weekly Inventory Summary, Week 1, FYA8
- 70-Client records: Physical Inventory Count 3 largest items, FYA6

