Woman C.P.A.

Volume 52 | Issue 3 Article 4

Summer 1990

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Recommended Citation

Konrath, Larry (1990) "Audit Risk Assessment: A Discussion and Illustration of the Interrelated Nature of Statements on Auditing Standards," *Woman C.P.A.*: Vol. 52 : Iss. 3 , Article 4.
Available at: https://egrove.olemiss.edu/wcpa/vol52/iss3/4

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Audit Risk Assessment

A Discussion and Illustration of the Interrelated Nature of Statements on Auditing Standards

By Larry Konrath, Ph.D., CPA

Introduction

In 1988 the Auditing Standards Board issued Statements on Auditing Standards 53 through 61. These statements are collectively referred to as the "expectation gap" SASs because they attempt to narrow the difference in auditors' and users' perceptions concerning the level of assurance provided by an independent audit. In combination with SAS 47, "Audit Risk and Materiality in Conducting an Audit," released in 1983, these statements are intended to provide a framework within which the auditor can develop a risk analysis approach to auditing.

This paper explores the added guidance provided the auditor by the new SASs, as well as their relationship to SAS 47. An example is used at the end of the article to demonstrate the approach and the interrelationships. The SASs given particular consideration here, in addition to SAS 47, are numbers 53 (Auditor's Responsibility to Detect and Report Errors and Irregularities), 55 (Consideration of the Internal Control Structure in a financial Statement Audit), and 56 (Analytical Procedures).

Audit Risk Defined

SAS 47 states that the auditor should consider risk as part of the audit planning process. [ASB, Sec. 312.08] Audit risk is the risk that the auditor may unknowingly fail to appropriately modify his(her) opinion on financial statements that are materially misstated. [Sec. 312.02] The risk that account balances and classes of transactions are misstated is a function of *inherent risk and control risk.* Inherent risk is defined as ... "The susceptibility of an account balance or class of transactions to error that could be material ... controls." [Sec. 312.20a] Control risk is "the risk that errors that could occur in an account balance or class of transactions ... will not be prevented or detected on a timely basis by ... internal ... control." [Sec. 312.20b] An effective control structure helps to reduce control risk.

The risk that the misstatements will go undetected by the auditor is referred to as *detection risk.* [Sec. 312.20c] The auditor can manage detection risk by modifying the nature, timing, and extent of substantive audit testing.

To meet the planning requirements of SAS 47, the auditor needs to:

1. Study the business and industry, apply analytical procedures to specific balances and classes of transactions, and assess inherent risk;
2. Obtain an understanding of the existing control structure, and assess control risk; and
3. Set detection risk accordingly as a prerequisite to designing substantive audit programs.

Inherent Risk v. Control Risk

Inherent Risk

After defining inherent risk as above, SAS 47 explains that it can be related to

1. *Specific balances or classes of transactions.* Examples of inherent risk factors that affect specific balances or classes of transactions are:
   a. complex v. simple calculations;
   b. accounting estimates v. factual data; and
   c. liquid v. nonliquid assets.
2. *Several or all balances or classes of transactions.* Examples of inherent risk factors that affect several or all balances or classes of transactions are:
   a. lack of sufficient working capital to continue normal operations; and
   b.a declining industry characterized by a large number of business failures. [Sec. 312.20a]

Besides a declining industry, other *external factors* which influence inherent risk are:

... technological developments which might make a particular product obsolete, thereby causing inventory to be more susceptible to overstatement.

Relating to the auditor's assessment of risk, SAS 47 again emphasizes the diverse character of factors associated with inherent risk:

When the auditor assesses inherent risk for an account balance or class of transactions, ... he [she] considers not only factors peculiar to the related balance or class, but also other factors pervasive to the financial statements taken as a whole that may also influence inherent risk related to the balance or class. [Sec. 312.22]

Control Risk

This description and related examples of inherent risk factors lead directly into and complement SAS 55's description of certain aspects of an entity's *control environment.* The control environment is defined by SAS 55 as "the collective effect of various factors on establishing, enhancing, or mitigating the effectiveness of specific policies and procedures. [Sec. 319.09] These factors are further classified as follows:

1. Management's philosophy and operating style;
2. The entity's organizational structure;
3. The functioning of the board of directors and its committees, particularly the audit committee;
4. Methods of assigning authority and responsibility;
5. Management's control methods for monitoring and following up on performance, including internal auditing;
6. Personnel policies and practices; and
7. Various external influences that affect an entity's operations and practices (such as examination by bank regulatory agencies. [Sec. 319.09]

The seventh control environment factor, *external influences,* is closely related to certain aspects of inherent risk as described in SAS 47. In Appendix A to SAS 55, this factor is further clarified as follows:

These [external influences] are influences established and exercised by parties outside an entity that affect an entity's operations and practices. They include monitoring and compliance requirements imposed by legislative and regulatory bodies, such as examinations by bank regulatory agencies. They also include review and follow-up by parties outside the entity concerning entity actions. External influences are ordinarily outside an entity's authority. Such influences, however, may heighten management's consciousness of and *attitude* (emphasis added) towards the conduct and reporting of an entity's operations and may also prompt management to establish specific internal control structure policies or procedures. [Sec. 319.66(9)]

Outside parties which might impose compliance requirements on the firm include bank regulatory agencies, the Environmental Protection Agency (EPA), the Occupational Safety and Hazard Agency (OSHA), the Internal Revenue Service (IRS), the Securities and Exchange Commission (SEC), and the Federal Trade Commission (FTC).

As can be seen from the above discussion, some factors of inherent risk and control risk tend to overlap. The next section examines this mutuality more closely by considering the importance of management attitude as a "connecting link" between inherent risk and control risk.

The Interactive Nature of Inherent Risk and Control Risk

A risk analysis approach to auditing requires that the independent auditor carefully analyze and assess inherent risk and control risk as inputs into audit program design. As will be demonstrated, these analyses need not, and often should not, be undertaken as mutually exclusive risk sets.

Management attitude, classified as part of the control environment, is an important cause and effect factor both influencing and influenced by both inherent rick and control risk. *Management attitudes serve to enhance or mitigate the two risks.* A management that understands the importance of internal a control in achieving the entity's objectives is more likely to design and implement internal controls, including an effective internal audit staff, that enhance the reliability of the ac-

The independent auditor, under such conditions, might postulate that a positive management attitude toward internal control is more likely to produce procedures that increase the reliability of accounting estimates and complex calculations and result in controls that monitor compliance with laws and regulations affecting the entity.

An otherwise honest and conscientious management, in the face of such conditions, and under pressure by the financial community to demonstrate strong earnings performance, might intentionally distort accounting estimates,

counting records. The independent auditor, under such conditions, might postulate that a positive management attitude toward internal control is more likely to produce procedures that increase the reliability of accounting estimates and complex calculations and result in controls that monitor compliance with laws and regulations affecting the entity. Inherent risk factors, such as complex transactions, complex calculations, accounting estimates, and liquidity problems may all be enhanced or mitigated as a function of management attitude. Similarly, management attitudes influence the effectiveness of such control environment components as the organizational structure of the entity, the audit committee, the internal auditing staff, and the system of budgeting and performance reporting.

Just as management attitudes may influence risk, *risk may influence management attitudes.* This influence may be positive or negative. For example, a declining industry, coupled with a lack of sufficient working capital, should alert the auditor to a possible change in management attitude from positive and supportive to negative and conducive to possible control structure override. An otherwise honest and conscientious management, in the face of such conditions, and under pressure by the financial community to demonstrate strong earnings performance, might intentionally distort accounting estimates, reflect obsolete inventory at full cost, violate regulatory requirements, or inflate sales or receivables to mask an earnings decline or a liquidity crisis. An awareness of such conditions that

To maximize compliance with applicable tax laws, financial and other reporting requirements, and restraint of trade statutes enforced by IRS, SEC, and FTC respectively, management may hire tax specialists and lawyers, as well as utilize the services of its independent auditors and outside legal counsel.

can cause a deterioration in management attitude, should lead the auditor to exercise particular care in evaluating the controls over the reasonableness of management's estimates (i.e., control risk increase).

Risk may also serve to influence management attitudes in a positive manner. Various forms of regulation were cited above as external factors contributing to control risk. To ensure compliance with EPA and OSHA requirements, for example, management may invoke control measures for reducing pollution and monitoring the environment, and for improving safety in the work place. To maximize compliance with applicable tax laws, financial and other reporting requirements, and restraint of trade statutes enforced by IRS, SEC, and FTC respectively, management may hire tax specialists and lawyers, as well as utilize the services of its independent auditors and outside legal counsel.

Given the cause and effect relationship described above, inherent risk factors and control risk factors might be usefully categorized as follows:

1. Control structure factors that can be influenced by management:
   Organizational structure
   Existence of audit committee
   Performance reporting
   Internal auditing
2. Control risk factors that cannot be influenced by management, but that may influence management attitudes:
   Regulations imposed by EPA and OSHA
   Tax laws
   SEC reporting requirements
   Requirements of the FTC
3. Inherent risk factors that can be influenced by management:
   Complex transactions
   Complex calculations
   Accounting estimates
   Liquidity
4. Inherent risk factors that cannot be influenced by management, but that may influence management attitudes:
   Declining industry
   Technological developments
   Loss of key customer
   Economic factors
   Legal proceedings

The auditor needs to be particularly concerned with the impact of category 4 because of the increased likelihood of negative attitudes produced by these factors.

The portrayal of inherent risk and control risk as a cause and effect interrelated set emphasizes a need for the auditor to avoid treating the risk factors as mutually exclusive sets. Because of the interrelated nature of inherent risk and control risk and the cause and effect influence between risk and management attitudes, SAS 47 allows the auditor to consider these aspects as a single risk set, rather than two mutually exclusive risk sets [Sec. 313.24]

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Planning the Audit to Detect Material Errors and Irregularities

SAS 53 requires the auditor, based on risk assessment, to "design the audit to provide reasonable assurance of detecting errors and irregularities that are material to the financial statements [Sec. 316.05] SAS 53 also recommends that the auditor, in assessing the risk of material misstatement, consider risk factors *in combination.* [Sec. 316.10]

In meeting the requirements of these statements, auditors need to consider risk factors in combination, not in isolation.

This suggests that the auditor carefully evaluate those factors contributing to inherent and control risk concurrently and identify management's approach and effectiveness in dealing with the pertinent aspects of risk. A sales processing example is now presented to illustrate a suggested approach.

Conclusion

SAS 47 presents a model for audit risk analysis, and defines the three components of audit risk. SAS 55 analyzes the control structure in terms of the control environment, the accounting system, and control procedures in both the planning and review stages of the audit. Finally, SAS 53 requires the auditor to plan the examination to provide reasonable assurance of detecting material misstatements in the financial statements.

In meeting the requirements of these statements, auditors need to consider risk factors in combination, not in isolation. Moreover, auditors must recognize the cause and effect relationship between management attitudes and audit risk. Positive management attitudes toward control structure and proper financial reporting serve to mitigate audit risk. Alternatively, the existence of such external factors as declining industry profits and regulation may adversely affect otherwise positive management attitudes and further increase audit risk. Where management attitudes do not appear to be positive or where external factors are applying negative pressure, auditors must be prepared to apply analytical procedures more extensively during the planning stage and expand substantive testing in high risk areas as appropriate.

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Clayworth, Inc. - Sales Processing

The Client and the Audit Team

The following hypothetical example is used as a focal point for illustrating the interdependence of inherent risk and control risk and the cause and effect influence that management attitude plays in determining the level of audit risk. Analytical procedures are also introduced in the illustration as a means of identifying areas of high audit risk.

As defined in SAS 56, analytical procedures "consist of evaluations of financial information made by a study of plausible relationships among both financial and nonfinancial data." [Sec. 329.02] Comparisons of data between periods, with industry data, and with budgets and forecasts are examples of analytical procedures. The comparisons are facilitated by such analytical tools as percentage financial statements, financial ratios, and published industry data. As part of audit risk analysis, analytical procedures, by isolating abnormalities, are indicators of possible errors and irregularities caused by control weaknesses or management override.

Clayworth, Inc. manufactures and sells personal computers throughout the United States and Canada. As one of the first entrants into the personal computer industry, the company experienced increasing sales and profits from 1981 to 1985. Increasing competition from other computer manufacturers, however, placed considerable strain on Clayworth's revenues and earnings beginning in the third quarter of 1986 and continuing through 1988.

Able and Ready, CPAs, have audited the financial statements of Clayworth from the company's inception in 1980. Evelyn Curtain, a senior auditor for Able and Ready, and her audit team are preparing to conduct the examination of Clayworth's 1988 financial statements. As part of audit risk assessment, Curtain wishes to evaluate the degree to which inherent risk factors, along with the existing control environment, support the fairness of reported accounts receivable and sales revenue appearing in Clayworth's balance sheet and income statement respectively.

All sales of the company's products are on credit to approximately 120 wholesale and retail distributors of computer and related products. All computers carry a two-year warranty on parts and labor. Clayworth has established a reputation for manufacturing quality products and providing prompt and efficient service. Warranty cost is a significant operating expense, however, given the company's emphasis on customer support.

Prices charged each customer vary depending on order size. Credit terms also vary, depending on such factors as customer size, credit rating, order size, and how long the customer has been transacting business with Clayworth. The computer program used in processing sales orders will not produce a sales invoice-shipping order set unless the customer has been approved for credit. The program also verifies that the proposed sale does not increase the customer's balance beyond the established credit limit. The program also determines that the goods are in stock and calculates the appropriate transportation charges (Clayworth pays the transportation and adds the amount to the customer's invoice).

Curtain has been part of the Clayworth audit since her employment by Able and Ready in 1983. During this time, she has had no reason to question management's integrity. Indeed, Malcolm Clayworth, the Chief Executive Officer, and Arnold Rae, the Chief Financial Officer, have been most supportive of "sound financial reporting." To this end, they have installed many controls, including an internal audit staff, and have persuaded the board of directors to appoint an active audit committee. The company has consistently cooperated with the independent auditors, and has not hesitated to offer its staff to assist the auditors wherever needed.

Increasing competition in the computer industry, however, and the resulting strain on revenues and working capital, have caused increased concern for the audit team. Application of analytical procedures has magnified this concern. In comparing 1988 revenues and earnings with prior years and with the industry, Curtain has noted a 10% revenue increase and a 33% earnings increase over 1987. In contrast, based on the first three quarters of 1988, the industry has experienced a 20% decline in revenues and a 50% drop in earnings.

Analytical procedures have also disclosed a reduction in Clayworth's warranty provision from 2% of cost of sales in prior years to 1% for 1988. Lastly, in investigating the reason for significant sales increases to three of the company's largest customers, Curtain discovered that prices charged to these customers were low relative to prior years and other customers, and appear not to be justified on the basis of order size.

Impact on Audit Risk

This illustration demonstrates the cause and effect relationship between management attitude and audit risk. First, on the positive side, management's past record of support toward internal control may suggest that the audit team test selected sales processing controls further as a means for reducing the assessed level of control risk. The auditors may elect, for example, to perform tests of the computer program and related controls regarding determination of customer credit terms and calculation of transportation charges. Such further testing could lead to reduction of substantive audit testing of accounts receivable, sales revenue, and transportation-out.

Analytical procedures, however, suggest that a positive management attitude may have deteriorated in the face of increasing pressures on earnings and liquidity. The possible implications for management override of the control structure become critical under these conditions. This mix of inherent and control risk factors, along with the cause and effect relationship between attitude and risk, emphasizes the need to consider the various risk factors in combination if the auditor is to design effective substantive procedures for detecting material misstatements.

More specifically, in auditing the sales processing subset of the revenue cycle, Ms. Curtain and her audit team should recognize that management's past record of integrity and commitment to proper financial reporting may be adversely influenced during the current audit year in the face of declining revenues and earnings for the industry. The probability of otherwise effective internal control giving way to management override is increased under such conditions of heightened inherent risk. The results of analytical procedures should further increase the auditors' concerns for possible misstatement. Specifically, the revenue and earnings increase, in light of a general industry decline, should arouse the auditors' suspicions concerning possible revenue inflation. Increased attention to year-end cutoff might be advisable in the circumstances. Moreover, the decline in warranty expense should prompt the auditors to increase their efforts in recalculating the warranty charge, discussing the warranty percentage reduction with production and sales personnel, and evaluating the appropriateness of the reduction.

The diversity of credit terms and the complexity of calculating transportation charges pose valuation problems related to the allowance for doubtful accounts and transportation out respectively. These risk factors are mitigated, however, given the effectiveness of the computer program for verifying customer credit terms and calculating transportation charges; and given management's past record of integrity and support of proper financial reporting. Given current pressures on management to inflate earnings, however, the audit team should recognize that these accounts may be intentionally understated this year.

The auditors also need to determine whether the company was guilty of price discrimination, given the reduced prices charged to the three large customers. If significant price discrimination has occurred, and other customers learn of this, Clayworth may be charged by the Federal Trade Commission and/or the Department of Justice with violating the price discrimination provisions of the Robinson-Patman Act. Discussions with management and legal counsel, and examination of similar orders from other customers should be considered by the auditors as part of the audit program design for sales revenue.

To summarize, notwithstanding management's past record of integrity and their support of sound financial reporting and internal control, the results of analytical procedures should prompt the auditors to assess inherent risk at its maximum in the present instance. Exhibit 1 presents the rationale for the assessment.

Risk Assessment for Clayworth - Sales Processing

Risk Influenced by Management Attitude

Risk:

- Diversity of credit terms
- Complexity of calculating transportation out
- Increasing competition

Mitigated by Control Attitude:

- Properly designed EDP editing controls
- Computer program for calculating transportation out
- Company reputation for quality and service

Management Attitude Influenced by Risk

Risk as a Negative Influence:

- Earnings inflation
- Possible price discrimination

Evidence of Deteriorating Attitudes:

- Reported revenue increase*
- Product warranty decrease*
- Differential prices that do not appear justifiable*

*Possible management override of the control structure suggests that the auditor design expanded substantive procedures as follows:

Reported revenue increase: Increase sales cutoff tests; may need to confirm transactions with customers.

Product warranty decrease: Discuss with management. Test by analyzing past returns and recalculate provision.

Possible price discrimination: Discuss with management. Recalculate differential costs. Consult with legal counsel.