

LIMITED ASSURANCE ENGAGEMENTS: ENCOUNTERS
OF A DIFFERENT KIND

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PREFACE

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CHAPTER ONE

INTRODUCTION

The past decade has seen a proliferation of new forms of financial information which users have presumably relied upon to make investment decisions.¹ To enhance the credibility of this new information, auditors were encouraged by management, the Securities and Exchange Commission, the accounting profession and others to render assurance on it. This presented the accounting profession with a perplexing problem. It was either impossible or impractical for the new information to be audited in the conventional sense of the word. Hence, of necessity, the assurance given on these types of information would have to be of a limited nature. The profession was faced with a choice. It could continue adherence to the traditional role of the attest function and refuse engagements that did not allow an opinion audit based on Generally Accepted Auditing Standards (GAAS). This choice would involve the possibility of a substantial loss of revenue. Alternatively, the profession could expand the parameters of the attest function to include provisions for different levels of assurance based on different types of financial information. This choice would increase the potential liability for accounting firms. The profession embarked on the latter course of action. The continued expenditure of scarce resources on limited assurance engagements is direct evidence of its usefulness.

Limited assurance engagements (LAEs) have contributed to the growth of auditing practice in two significant ways. First, accounting firms have been better able to meet the demands of existing clients through the availability of expanded services. Second, LAEs have allowed public accounting firms the flexibility to offer alternative services to companies that, for one reason or another, were not in the market for a standard opinion audit. The revenues generated by LAEs represent a steadily increasing portion of the fee structure of public accounting firms. It is anticipated that LAEs will continue to constitute an important area of growth for the profession.

The significance of LAEs is also reflected by professional standards, which currently recognize and provide guidance for twenty different limited assurance engagements. (See Appendix A for a comprehensive list of these engagements.)

The nature of limited assurance engagements is such that no uniform level of assurance can be imputed to all LAEs. Presumably, the intended level of assurance will be some function of the scope of auditor involvement, nature of the subject matter, materiality level, risk, etc. But analysis of existing standards reveals no guidelines as to how auditors and users are expected to infer what level of assurance is being rendered.

This raises the concern that users may not understand what can reasonably be accomplished by a process less extensive than an audit. Consequently, users may be harboring unrealistic views of the various levels of assurance being given. Representatives of the American Institute of Certified Public Accountants (AICPA) have expressed concern that users do not differentiate among LAEs in the intended fashion.

Other members of the profession have expressed concern that users place unwarranted reliance on the information and this may result in CPA exposure to criticism and loss of credibility (Hicks, 1976; Milburn, 1980). In the words of Carmichael (1974)

Doubts about the ability of users to distinguish among different forms of assurance have slowed acceptance by auditors of the concept of levels of assurance. Many fear that users might not recognize the distinctions and would assume that the auditor was accepting the same degree of responsibility as he does for audited annual financial statements (p. 69).

Similar concerns have been voiced by members of user groups, as exemplified by McGarraugh (1978), senior vice-president of a major U.S. bank and chairman of the Robert Morris Associates Accounting Policy Committee.

If users do, in fact, misperceive the assurance intended by auditors, decision makers may be making sub-optimal decisions. A potential consequence of this misperception has been succinctly expressed by Bailey (1978, p. 30), "Misunderstanding of the extent of the professional responsibility assumed by the auditor will undoubtedly lead to the courtroom for resolution of the problem." Numerous discussions with audit partners have indicated this is of real concern to their firms.

The purpose of this study is to introduce empirical evidence useful in assessing whether users misperceive the assurance intended by the auditor when issuing different limited assurance reports. An experiment was conducted using auditors and bankers as subjects. Bankers were selected to represent the user group because they have been identified in the literature as important users of limited assurance reports. The subjects were asked to rate the similarity of the assurance intended by

the auditor when issuing eight different limited assurance reports. Multidimensional scaling (MDS) was used to generate perceptual models depicting how the auditors and bankers distinguish among LAEs. The MDS algorithm used in this study, Common Space Analysis (COSPA) represents an improvement over MDS algorithms used in previous accounting research in two ways. First, it generates a statistical test of whether the data fit the model. Second, COSPA facilitates an analysis to measure any differences in perception between and within two groups.

The research reported in this paper provides information which will be useful to auditing policy makers who appear to be operating under the assumptions that (1) increased auditor association results in increased financial information reliability; and (2) this increased reliability is being adequately communicated to users.

The remainder of the paper is organized as follows. Chapter two discusses limited assurance engagements and reviews prior research. The research questions, description of the experiment, and details of the methodology are contained in chapter three. Chapter four presents the results of the experiment and includes a discussion of the findings. A summary and recommendations are found in chapter five, along with limitations of the study.

ENDNOTES

1. Examples include interim financial statements, internal control reports, financial forecasts, supplementary information and unaudited financial statements.

CHAPTER TWO

LIMITED ASSURANCE ENGAGEMENTS AND PRIOR RESEARCH

Limited Assurance Engagements

The services provided in limited assurance engagements are more limited in scope than those that are conducted for an opinion audit based on Generally Accepted Auditing Standards. LAEs encompass a disparate group of engagements. In some instances, assurance is given on financial representations other than basic annual financial statements, i.e. forecasts. While in other cases, assurance is given on basic financial statements; however, the assurance is less than that provided by a GAAS-based opinion audit, i.e. reviews.

LAEs can also be characterized as those engagements where it is either impossible or impractical to perform a traditional audit. The former is illustrated by engagements to report on a system of internal control. Typically, these engagements include a study of the design of the internal control system and an assessment of the system's ability to achieve its objectives. It is difficult to conceive of "verifying the balance" of an internal control system. Interim financial statements are an example where it would be impractical to conduct a standard GAAS-based opinion audit. Time and cost considerations would necessitate some form of assurance less than that afforded by a standard opinion audit.

Although LAEs are quite diverse, there are some implicit underlying

concepts. In a study commissioned by the Canadian Institute of Chartered Accountants, Milburn (1980) discusses the concept of levels of assurance:

Audit assurance may be defined in terms of the degree to which an audit effort increases the credibility of specified representations of others--or, alternatively, the extent to which it reduces the risk of material errors in the representations (p. 123).

The implication is that distinct levels of assurance exist, each of which lends an incremental degree of reliability to a particular representation.

The Cohen Commission (see AICPA 1979) has also recognized that differing levels of assurance exist:

The assurance provided by different forms of association is difficult for users to understand and for auditors to describe because it is not now possible to quantify or evaluate the difference in assurance provided by audits, reviews, or other forms of association. However, a simple ranking can be made. This is, an audit provides more assurance than a review, and a review more than other forms of association with unaudited information (p. 65).

One may consider levels of assurance in terms of a continuum:

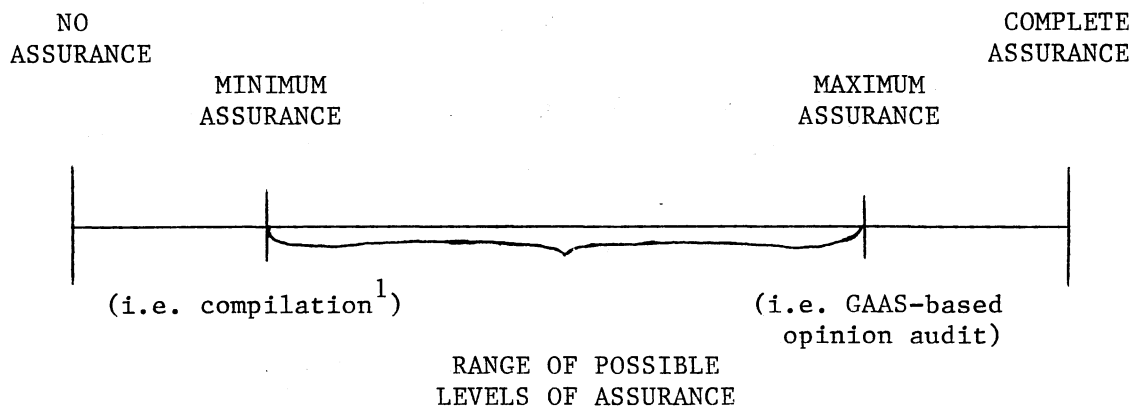


Figure 1. Continuum of Levels of Assurance (not necessarily to scale)

Intuitively, the level of assurance should be related to the scope of auditor involvement. However, analysis of professional standards indicates similar scopes of audit effort can result in different types of reports. Likewise, different scopes of audit effort can result in similar reports. Consistency, a quality usually important to accountants, is not readily apparent. In fact, even a cursory review of the existing pronouncements reveals that the standards have been set on an ad-hoc basis. This lack of foresight has resulted in standards that are characterized by internal inconsistencies, contradictory requirements, and ambiguities. In a position paper on limited assurance engagements prepared for the AICPA, Winters (1982) states:

The standards as a whole do not appear to be based on a carefully thought through, clearly developed conceptual framework. The diversity of approaches is, at least initially, overwhelming and results in inconsistencies and lack of clearly defined underlying concepts...it seems clear that continuation of a piecemeal approach is inappropriate...Without a general conceptual framework consistently applied in evaluating limited assurance engagements, inconsistencies and ambiguities are likely to continue (pp. 1, 23).

Endorsement of a conceptual framework for limited assurance engagements is a very appealing panacea. In fact, the AICPA has appointed a task force to study LAEs and consider such a framework. Unfortunately, the more familiar one becomes with LAEs, the more one realizes that the conceptual issues (i.e. auditability) related to LAEs are complex.

Considering the importance of LAEs, as indicated by the emphasis in the authoritative literature and the formation of an AICPA task force, there is surprising paucity of related research. To date, there has been limited empirical research presented regarding how LAEs are viewed by auditors and/or users.

Prior Research

The limited research that has been reported has resulted in somewhat ambiguous results. Reckers and Pany (1979) used a repeated measures design and found financial analysts perceived an increase in the reliability of quarterly information as auditor association increased from no association to limited review to quarterly audits. Pany and Smith (1982) again tested financial analysts' perception of the reliability of quarterly information with varying forms of auditor association. They used a design in which the respondents did not explicitly compare the different forms of association. Differences in the perceived reliability were found primarily in cases where firms had previously released inaccurate quarterly information.

In a later study, Johnson, Pany and White (1983) studied loan officers' perceptions of varying forms of auditor association with annual financial statements of nonpublic companies. Using multivariate and univariate statistical analysis, they found that audits were perceived to be of a higher quality than other forms of auditor assurance such as reviews and compilations. Interestingly, they found that compilation and review services may be undervalued in terms of how much assurance is provided.

The research thus far has yielded conflicting conclusions. A perceived difference in reliability was found when subjects directly compared different forms (or levels) of auditor association. However, when the subjects compared the different forms of association indirectly, differences were perceived only in certain circumstances.

ENDNOTES

1. According to the Statement on Standards for Accounting and Review Services 1, a compilation technically provides no assurance. However, it has been proposed that some assurance is assumed by users from the accountant's association with the financial statements. Also, the person or firm performing the compilation should be referred to as an accountant not an auditor. For ease of exposition, this distinction has not been made throughout the paper.

CHAPTER THREE

RESEARCH DESIGN

The Research Questions

This study addresses the following research questions:

- 1) Is there consistency among auditors regarding their perception of the assurance intended by the different reports?
- 2) Is there consistency among bankers regarding their perception of the assurance intended by the different reports?
- 3) What underlying dimensions influence auditors' and bankers' perceptions of assurance?
- 4) When the auditor issues different limited assurance reports, is the assurance intended by the auditor consistent with the banker's perception of assurance?

Methodology

Schiffman, Reynolds and Young (1981, p. 3) describe multidimensional scaling as a method which can "systemize data in areas where organizing concepts and underlying dimensions are not well developed". Since the organizing concepts and underlying dimensions of limited assurance engagements are still in the developing stage, MDS is an appropriate methodology to use in addressing the above research questions.

In the past, multidimensional scaling has been used as a research tool in disciplines such as marketing, psychology and geography. More recently, multidimensional scaling has been used to study accounting

and auditing issues (Rockness and Nikolai, 1977; Libby, 1979; Brown, 1981). In-depth discussions of the MDS model and related methods are provided by Kruskal and Wish (1978) and Carroll and Arabie (1980).

Multidimensional scaling is a powerful technique by which similarities or dissimilarities between objects can be used to generate multidimensional spatial models which depict the perceived relationships between objects. MDS is predicated upon the assumption that the distance between any two objects in space is a function of the degree of the similarity of the objects. As the degree of similarity between objects increases, the distance between the objects decreases. Conversely, as the degree of similarity between objects decreases, the distance between the objects increases. The virtue of MDS lies not in its ability to explain perception but rather in its ability to represent (or model) perception.

An example will assist in gaining an intuitive understanding of MDS. Prior to the 1968 Presidential election, Johnson (1969) asked subjects to compare the similarity of the political candidates. Subjects rated each possible pair of candidates in terms of the candidate similarity on a scale from one to nine (where 1=very similar, 9=not similar). The similarity ratings were the input for the MDS computer algorithm. The MDS algorithm plotted the candidates on two dimensions based on the subjects' similarity ratings. The multidimensional representation obtained is called a perceptual model. The perceptual model represents the subjects' perceptions of the candidate similarity and is shown in Figure 2.

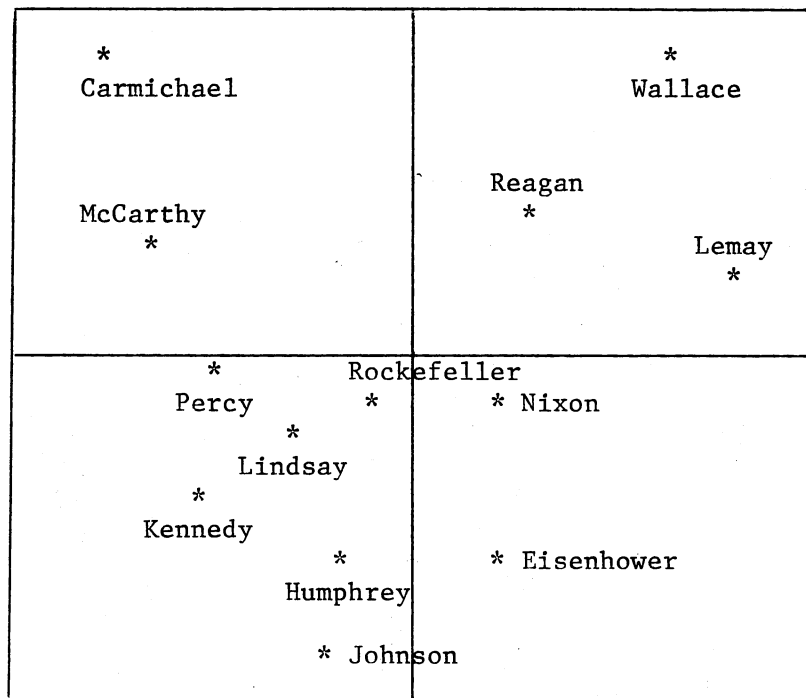


Figure 2. Multidimensional Scaling Solution for Candidate Similarity

Analysis of the perceptual model indicated the subjects appeared to have based their judgment on two aspects of the candidates. The horizontal axis was interpreted as a liberal vs. conservative dimension. The vertical axis was interpreted as reflecting perceived favorability of attitude toward government involvement in domestic and international matters.

Libby (1979) used MDS in an accounting context. He applied MDS to study auditors' and bankers' perception of the message communicated by the audit report. The subjects were asked to compare the similarity of ten standard audit reports containing scope limitations and uncertainty qualifications. The similarity rating of each possible pair of reports was made on a ten-point scale (where 0=least similar, 9=most similar).

The similarity ratings were the input to the MDS algorithm, Individual Differences Scaling (INDSCAL). INDSCAL generated perceptual models of the perceived differences in the messages intended by the audit reports. Three separate models were constructed, one for the auditors, one for the bankers, and one for all subjects. Visual analysis and application of property-fitting techniques resulted in an interpretable two-dimensional solution. Libby found

The first (horizontal) dimension seems to split the reports into three groups, depending on whether the report is unqualified, qualified, or a disclaimer...This suggests that dimension 1 is primarily related to the need for additional information...The second (vertical) dimension separates the reports into three groups on the basis of the type of limitation on the audit: (1) no limitation, (2) circumstance-imposed limitation, and (3) client-imposed limitation...one could infer that the dimension relates to the source of the limitation on the auditor's ability to make a judgment (p. 116).

Libby concluded that subjects did not differentiate between circumstances resulting in an uncertainty report (asset realization versus litigation), but they did distinguish between circumstance-imposed versus client-imposed scope limitations. The reliability of the financial statement information was viewed as impaired when the scope limitation was client-imposed. Libby also found that no significant differences existed in the auditors' and bankers' perceptions of the reports.

Horan's Model

The particular MDS model assumed in this study and the computer algorithm used are discussed next. Horan (1969) introduced a particularly strong individual difference model for multidimensional scaling. This model made an important contribution to MDS because it allowed isolation of information common to all individuals from

information unique to each individual. Horan's model proposed that the common information is captured in an m-dimensional common Euclidean space while the unique information is reflected by differential weights associated with each dimension. Accordingly, accurate perceptual models can be generated for objects even when individuals weigh the underlying dimensions differently. Horan's model postulates that the observed distances between objects can be depicted as:

$$B_k = A D^2 A' \quad k = 1 \dots N$$

where

B = the matrix of squared observed differences between objects,

A = the p X m coordinate matrix of the p objects in m-space,

D = the subject specific, diagonal weight matrix, and

N = the number of subjects.

Schonemann (1972) presented an exact algebraic solution for Horan's model which revealed a set of necessary and sufficient conditions. The two conditions which must be met by the data for the model to hold are common space and diagonality.

The common space condition addresses the question of intersubject consistency. Specifically, it asks whether there is sufficient agreement among subjects, regarding the object interrelationships, to obtain a meaningful model of perception. An example will assist in understanding the common space condition. Suppose you were to ask subjects to rate the similarity of different size circles. Subjects would differ in their perceptions of the radius and area (probable dimensions) of the circles. But the subjects would have enough common agreement about the concept of a circle to allow meaningful comparisons to be made. The common space condition would be met and the MDS model

generated would be a meaningful representation of the subjects' perception of the circles.

In contrast, suppose you asked subjects to rate the similarity of fifteen esoteric words. Little agreement would be present among the subjects regarding the meaning of the words. Hence, the common space assumption would not be met. Any similarity ratings made of the word pairs would represent random noise. Although an MDS model could be generated from the similarity ratings, the model is meaningless. When the common space condition is not met, the model generated is not a valid representation of the underlying data. It is simply an amalgamation of highly individual judgments.

The diagonality condition addresses the question of the orientational invariance of the axes (dimensions). Meeting the diagonality condition ensures two things. First, the model guarantees the unique orientation of the axes. This obviates the need for rotation of the axes. Second, the axes are orthogonal. Thus, the dimensions capture independent information and may be interpreted independently of each other. Meeting the diagonality condition does not guarantee the dimensions will always be interpretable. However, it does mean the dimensions have been identified by the data as psychologically relevant. When the diagonality condition is not met the dimensions usually require rotation. The dimensions obtained are not independent and, if interpretable, may contain redundant information.

Horan's model has been the prototype for many of the scaling methods which have been developed. Unfortunately, there has been a tendency to assume the conditions of the model hold. For example, the authors of INDSCAL, Carroll and Chang (1970), claim that Horan was the

first author to propose the model they assumed. However, as was later shown by Takane, Young and DeLeeuw (1975), the INDSCAL model has weaker uniqueness properties than Horan's model. The problem lies in that Horan's model is a strong model which cannot be expected to fit any and all data. To ascertain whether a particular set of data fit the model, it is necessary to test both the common space and diagonality conditions. INDSCAL uses stress, an overall measure of fit, to assess how well the data fits the model. The problem with using an overall measure of fit is two-fold. First, an overall measure of fit captures violations of the common space condition, but not violations of the diagonality condition. As shown in an empirical study by MacCallum (1976), basing an assessment of fit on this measure alone can be misleading.

COSPA

COSPA is an MDS computer algorithm developed to overcome the problems associated with an overall measure of fit (see Schonemann, Carter and James (1976)). COSPA generates two test indices for each subject which can be used to test violations of the common space and diagonality conditions. The common space condition is addressed by calculation of a v-statistic. This statistic measures the proportion of variance in each individual's coordinate system (model) which can be accounted for by the groups' coordinate system (model). A higher v-statistic would be preferred to a lower one as this indicates more agreement between the individual subject and the group. The diagonality condition is addressed by calculation of a delta-statistic for each subject. The delta-statistic measures the directional invariance of

the axes. A lower delta-statistic is preferable to a higher one as this indicates the magnitude of the off-diagonal elements of the diagonal matrix (D).

Empirical norms are needed to use these indices to test the fit of Horan's model with some stingency.¹ These norms allow meaningful empirical results to be distinguished from results which could be expected with random data. A Monte Carlo study was conducted to obtain approximate norms from random data (see Schonemann et al., 1976). The norms for the v-statistic and the delta-statistic were generated under the null hypothesis that the data are random. For the v-statistic, the upper decile ($v_{.9}$) was tabulated. For the delta-statistic, the lower decile ($d_{.1}$) was tabulated. These empirical norms can be compared to the test indices generated by COSPA.

To test for common space, the v-statistic for each individual (v_k) is compared to the empirical norm ($v_{.9}$). If the v_k is not appreciably larger than can be expected for purely random data, then there is no justification for claiming the common space condition for the data at hand. The probability that any v_k will be greater than the randomly generated $v_{.9}$ is .1. Hence, if $v_k < v_{.9}$ then the randomness hypothesis cannot be rejected at the .1 level for this subject. That is, the subject's data do not meet the common space condition. If, however, $v_k > v_{.9}$ then the randomness hypothesis can be rejected at the .1 level for this subject. That is, the data for this subject are more consistent with the common space condition than random data. A test of common space for the complete group is based on the total number of individual .1 level rejections of the randomness hypothesis. Standard binomial

tables can be used to determine the critical number of rejections necessary to achieve the overall desired level of significance.

If the common space condition is met, the diagonality condition can be tested in an analogous manner. The individual delta-statistic (d_k) is compared to the empirical norm ($d_{.1}$). If the d_k is not appreciably smaller than that for random data (that is, $d_k < d_{.1}$) then there is no justification for claiming the diagonality condition. The test of diagonality for the complete group is based on the total number of individuals rejecting the randomness hypothesis. Standard binomial tables can be used to determine the number of individual rejections at the .1 level necessary to achieve the overall desired level of significance.

If both the common space and the diagonality conditions are met by the data, then Horan's model is a valid representation of the underlying data. If only the common space assumption is met, then a weaker MDS model must be used. If neither condition is met, then multidimensional scaling is not an appropriate method to use in representing the data.

The Experiment

The experiment conducted for this study is discussed next. The experiment is similar to Libby's, but it considers the similarity of different limited assurance reports.

Subjects

The subjects participating in the study were twenty-five audit partners and twenty-five commercial loan officers. The audit partners were from the Chicago offices of five "Big Eight" accounting firms. The bankers were from five of the largest commercial lending institutions

in Chicago. All of the bankers had received formal training in accounting. In addition, most of the bankers had participated in a credit training program and other accounting-related seminars sponsored by their banks. On average, the bankers had over seven years of experience.

Reports

The objects to be compared in this study consisted of the reports issued for different limited assurance engagements. With multi-dimensional scaling, the required number of pairs of objects which must be compared is $n(n-1)/2$, where n = number of objects. Hence, for each additional report, the required number of comparisons increases substantially.

Five audit partners were interviewed to determine which limited assurance reports, based on frequency of occurrence in practice, would be reasonably familiar to the subjects. Ten reports, requiring forty-five comparisons, were selected for inclusion in a pilot study. The subjects for the pilot study, five accounting faculty members, indicated it took nearly two hours to complete the comparisons and five associated questions (discussed later). The subjects considered this an unreasonable time requirement and indicated they lost interest in the task because of the length.

A subsequent pilot study, using twelve auditors and educators as subjects, included eight reports. The subjects indicated that it took approximately one hour to complete the twenty-eight required comparisons and five related questions. Accordingly, because of task manageability considerations, only eight reports were included in the study.

The latter pilot study included an Interim Review-Public Entity report and a report for Interim Review-Nonpublic Entity. The results showed no difference in the subjects' perception of the two reports. Since subjects suggested a Standard Opinion would facilitate comparisons of the reports, a Standard Opinion was substituted for the Interim Review-Nonpublic Entity report. Figure 3 presents the abbreviated titles used to identify the eight reports selected as a result of the pilot studies:

- | |
|--|
| Report 1: Interim Review-Public Entity |
| Report 2: Compilation-Nonpublic Entity |
| Report 3: Contractual Compliance |
| Report 4: Supplementary Information |
| Report 5: Standard Opinion |
| Report 6: Condensed Financial Statements |
| Report 7: Agreed Upon Procedures |
| Report 8: Financial Forecasts |

Figure 3. Abbreviated Report Titles

The reports were taken directly from the applicable authoritative literature and are illustrated in Appendix B².

Experimental Task

The experiment was conducted by the researcher in the subjects'

office. Each subject received a folder which contained the eight limited assurance reports. The subjects were asked to familiarize themselves with the reports and to be able to identify the reports by the abbreviated titles. Each folder also contained rating sheets which listed all twenty-eight possible pairings of the reports. Two different random orderings of the pairs were used to reduce any possible order effect.

Part A of the experiment asked the subjects to rate, on a nine-point scale, the similarity of the assurance implied by each pair of reports. The instructions emphasized that: 1) ties were allowed; 2) answers could be changed; 3) reports could be referred back to; and 4) the need to judge conscientiously all twenty-eight pairs. The similarity ratings obtained were the input to the MDS algorithm. The MDS algorithm generated models of the auditors' and bankers' perceptions of assurance.

Part B of the experiment asked the participants to evaluate each of the eight reports on the basis of the following five questions:

- 1) For each of the following reports, to what extent did the auditor test the accounting records?
- 2) For each of the following reports, to what extent does the report represent that the accompanying financial information does not contain misleading information?
- 3) For each of the following reports, to what extent should a third party expect to recover a financial loss from the auditor if he could prove reliance on the report?
- 4) For each of the following reports, to what extent should a third party rely upon the report in making a financial lending decision?
- 5) For each of the following reports, to what extent is the underlying information of the report susceptible to unintentional misstatement?

The results from this part of the experiment were used to assist the researcher in identifying the dimensions used by subjects in making their similarity judgments. The experimental instrument, including a detailed description of the scale endpoints used for the five questions, is included in Appendix B.

After the subjects completed the experimental task, an interview was conducted to ascertain the subject's experience level, formal training and familiarity with the reports. The subjects were also encouraged to discuss how they made their similarity ratings. Finally, each subject was asked to rank the eight reports (from first to last) in order of how much assurance they felt the report was intended to convey. Approximately one hour was spent with each subject.

ENDNOTES

1. The discussion of empirical norms relies heavily on Schonemann et al. (1976).
2. Report 7 was developed to be the type of agreed-upon procedures report with which bankers would be familiar.

CHAPTER FOUR

RESULTS

Presentation of the Results

As previously mentioned, the similarity ratings were used as input to the MDS computer algorithm, COSPA. The auditors' and bankers' data were analyzed separately. COSPA generated the following output for each of the two groups of subjects:

- 1) v-statistics for each subject,
- 2) delta-statistics for each subject,
- 3) two-dimensional and three-dimensional perceptual models, and
- 4) graphs of the subjects showing how much weight they attached to each dimension of the perceptual model.

The results of the statistical analysis are presented in a manner to facilitate consideration of the four research questions identified earlier.

Stage one of the analysis addresses the first two research questions:

- 1) Is there consistency among auditors regarding their perception of the assurance intended by the different reports?
- 2) Is there consistency among bankers regarding their perception of the assurance intended by the different reports.

The common space condition was tested to ascertain whether consistency existed among auditors and among bankers regarding their perceptions of the intended assurance. Recall that the v-statistics generated by

COSPA represent the proportion of variance in an individual's coordinate system which can be accounted for by the groups' model. Each individual's v -statistic (v_k) is compared to the v -statistic generated by the empirical norm ($v_{.9}$). When $v_k > v_{.9}$, the null hypothesis that the data are random is rejected at the .1 significance level. This indicates that the data relating to the individual at hand are more consistent with the common space condition than random data. Table I presents the number and percent of the subjects for which the randomness hypothesis is, and is not, rejected.

TABLE I
NUMBER AND PERCENT OF SUBJECTS FOR WHICH THE RANDOMNESS
HYPOTHESIS IS, AND IS NOT, REJECTED FOR THE
COMMON SPACE CONDITION

	AUDITORS		BANKERS	
	<u>Number</u>	<u>%</u>	<u>Number</u>	<u>%</u>
Rejection of the null hypothesis that the data are random	14	56	14	56
Failure to reject the null hypothesis	11	44	11	44

The randomness hypothesis was rejected for 56% of both the auditors' and the bankers' sample. The common space test for the complete group is based upon the total number of individual rejections. Standard binomial tables show the probability level associated with 14 out of 25 rejections

to be much less than .001 ($p < .001$). That is, there is less than one chance in a thousand that the data for the auditors or the bankers could have met the common space condition by chance.

Two conclusions can be made on the basis of meeting the common space condition. First, the perceptual models generated from the similarity ratings are not simply amalgams of highly individual judgments. Second, the subjects' perceptions can be meaningfully represented by multidimensional scaling. The common space test result indicates there is consistency regarding perception of assurance by both auditors and bankers (within their respective groups). Although it might have been expected that the auditors would have a more homogenous understanding of assurance concepts, the statistical results did not show this. In fact, the significance of the test implies both auditors and bankers have very well-defined ideas about the assurance implied by the different reports.

Stage two of the analysis considers the third research question:

What underlying dimensions influence auditors' and bankers' perceptions of assurance?

This question was addressed by testing the diagonality condition and analyzing the perceptual models. Recall that the delta-statistic measures the directional invariance of the axes (dimensions). Each individual's delta-statistic (d_k) is compared to the delta-statistic generated by the empirical norm ($d_{.1}$). When $d_k < d_{.1}$, the null hypothesis that the data are random is rejected at the .1 significance level. This indicates that the data of the individual for which the randomness hypothesis is rejected are more consistent with the diagonality condition than random data. Table II presents the number and percent of the subjects for which the randomness hypothesis is, and is not, rejected.

TABLE II
 NUMBER AND PERCENT OF SUBJECTS FOR WHICH THE RANDOMNESS
 HYPOTHESIS IS, AND IS NOT, REJECTED FOR
 THE DIAGONALITY CONDITION

	AUDITORS		BANKERS	
	<u>Number</u>	<u>%</u>	<u>Number</u>	<u>%</u>
Rejection of the null hypothesis that the data are random	6	24	7	28
Failure to reject the null hypothesis	19	76	18	72

The randomness hypothesis was rejected for 24% of the auditors' sample and 28% of the bankers' sample, thereby meeting the diagonality condition at the individual level. The diagonality test for the complete group is based on the total number of individual rejections. Standard binomial tables show the probability level associated with 6 out of 25 rejections to be less than .05 ($p < .05$). That is, there is a less than 5 out of 100 chance that the auditors' data could have met the diagonality condition by chance. Standard binomial tables show the probability level associated with 7 out of 25 rejections to be less than .01 ($p < .01$). That is, there is less than 1 chance out of 100 that the bankers' data could have met the diagonality condition by chance. The diagonality test result indicates there is a unique orientation of the axes so no rotation is necessary. Also, the dimensions capture independent information so they may be interpreted independently of each other.

Separate perceptual models, representing the groups' perception of the assurance implied by the different reports, were generated for the auditors and the bankers. Two-dimensional and three-dimensional solutions were considered. However, the three-dimensional model was discarded for two reasons. First, it did not meet the diagonality condition for bankers. Second, with COSPA the previous dimensions are retained when a higher dimensional solution is generated. In this case, visual analysis of the three-dimensional model indicated that the additional dimension did not seem to add extra information. Figure 4 presents the auditors' perceptual model while the bankers' perceptual model is presented in Figure 5.

<p>Contractual Compliance * * Agreed Upon Procedures</p>	<p>* Interim Review * Supplementary Information</p>
<p>* Standard Opinion * Condensed Financial Statements</p>	<p>Financial * * Forecasts Compila- tion</p>

Figure 4. Auditors' Perceptual Model

Condensed * Financial Statements	Financial * Forecasts Compilation *
* Standard Opinion Interim* Review	* Contractual Compliance * Agreed Upon Procedures * Supplementary Information

Figure 5. Bankers' Perceptual Model

The horizontal dimension can be interpreted by comparing how the reports are ranked by the model (on this dimension) with the subjects' mean rankings of the reports' assurance level. The model ranking represents the order (from left to right) in which the reports were positioned on the horizontal dimension of the perceptual model. The mean ranking was obtained when the subjects were asked to rank the eight reports (from first to last) in order of how much assurance they felt the report was intended to convey. Table III presents a comparison of the two rankings.

TABLE III
COMPARISON OF THE MODEL RANKING AND THE MEAN
RANKING OF THE EIGHT REPORTS

REPORT	AUDITORS		BANKERS	
	<u>Model Ranking</u>	<u>Mean Ranking</u>	<u>Model Ranking</u>	<u>Mean Ranking</u>
Standard Opinion	1	1	1	1
Condensed Financial Statements	2	2	2	2
Contractual Compliance	3	4	5	5
Agreed Upon Procedures	4	3	6	6
Interim Review	5	6	3	3
Supplementary Information	6	5	4	4
Financial Forecasts	7	7	8	8
Compilation	8	8	7	7

The mean ranking of the reports seems very closely aligned with the positioning of the reports on the horizontal dimension. A Spearman rank correlation coefficient was calculated to measure the relationship between the two rankings. The rank correlation can range from +1 (complete concordance) to -1 (complete discordance). The rank correlation coefficient for the auditors' sample was .952 and was significant at the .01 level (the bankers $r_s = 1$). Because of the near perfect correlation of the rankings, the horizontal dimension can be interpreted as reflecting the level of assurance implied by the various reports.

The identity of the vertical dimension is less clear. Two reasons for this are apparent. First, the dimension is not necessarily the same for both auditors and bankers. Second, considerable disagreement existed among the subjects regarding the importance of the vertical dimension. This was determined by examining a graph indicating how much weight the subjects assigned to each dimension when making comparisons of the reports. The abscissa of the graph was the weight assigned to the horizontal dimension of the perceptual model. The ordinate of the graph was the weight assigned to the vertical dimension of the perceptual model. The subjects were plotted on the graph. The plotting showed the subjects attached reasonably uniform weight to the horizontal dimension. In contrast, the weight attached to the vertical dimension ranged from very low to very high. This indicated a lack of agreement among the subjects regarding the importance of the vertical dimension when making comparisons of the different reports.

To assist in identifying the vertical dimension, the researcher interviewed three auditors and three bankers who weighted the dimension heavily when making their similarity ratings. The auditors suggested they distinguished among the reports on the basis of the clarity of responsibility they were assuming. This explanation seemed to be consistent with the positioning of the reports in the auditors' model. The vertical dimension appears to divide the reports in two groups (see Figure 4). If a difference exists between the two groups, we would expect the Euclidean distance between the centroids to be greater than the Euclidean distance between any pair of reports within a group. This was found to be true indicating that two distinct groups exist.

Group one contains a standard opinion, condensed financial statements, financial forecasts and a compilation report. These reports reflect a relatively clear-cut indication of the responsibility the auditor is assuming. In the case of a standard opinion and condensed financial statements, a high level of assurance is implied and the auditor is assuming a great deal of responsibility. With a compilation report, a low level of assurance is implied and the auditor is assuming very little responsibility. The case of a financial forecasts is interesting. There is a high degree of implied assurance that the forecast has been reviewed in accordance with the guidelines established by the AICPA. However, it is generally recognized that no amount of testing can create certainty where inherent uncertainty exists. Accordingly, the overall level of responsibility the auditor is assuming is relatively low.

The second group consists of an interim review, agreed upon procedures, contractual compliance and a supplementary information report. This group includes reports where the assurance being implied and the responsibility being assumed by the auditor is less well-defined. With the contractual compliance and agreed upon procedures reports, the assurance implied and the responsibility assumed varies among engagements, depending on how much work was actually performed. In the case of the interim review and supplementary information reports, discussions with subjects indicated they had varying assessments of the level of assurance being implied and the responsibility being assumed for these engagements.

Discussions with bankers did not lead to a definitive interpretation of the bankers' vertical dimension.

The last stage of the analysis considers the fourth research question:

When the auditor issues different limited assurance reports, is the assurance intended by the auditor consistent with the bankers' perception of assurance?

The v-statistics discussed earlier can also be used to assess any difference between the two groups' perceptions.

Recall that COSPA generated a set of coordinate points for both the auditors and the bankers. The set of coordinate points reflects the groups' positioning of the reports on the axes.

The auditors' similarity ratings were reanalyzed using the coordinate points of the bankers, resulting in a new set of v-statistics. These new v's measure the proportion of the variance in the auditors' coordinate system that can be accounted for by the bankers' model. An average new v was calculated. This v was compared to the average v obtained when scaling the auditors' data with the auditors' coordinate points. A t-test for related differences was used to test the null hypothesis that no difference existed between the average v's. A similar process was then followed using the bankers' similarity ratings with the auditors' coordinate points. Again, the average v's were calculated and tested. Appendix C contains the detailed test calculations for the auditors. The bankers' detailed test calculations are presented in Appendix D. Table IV (on the following page) summarizes the average v-statistics and the t-test calculations.

The test for a difference in the perception of the two groups was significant for auditors and bankers, respectively, $p < .001$, and $p < .01$. This evidence indicates there is a definite difference in the auditors' and bankers' perception of the assurance intended by the LAEs.

TABLE IV
AVERAGE V-STATISTICS AND T-TEST CALCULATIONS

	AUDITORS		BANKERS	
	Auditors' data using auditors' coordinates	Auditors' data using bankers' coordinates	Bankers' data using bankers' coordinates	Bankers' data using auditors' coordinates
Average v-statistic	.5304	.4292	.488	.416
t-calculated		4.44		2.95
Significance level		p .001		p .01

Discussion of Findings

Differences in Subjects' Perceptions

The statistical tests indicate a significant difference exists between the auditors' and bankers' perception of assurance. The perceptual models of the two groups were compared to investigate where the differences lie. Three sources of difference in the groups' perceptions are noticeable.

First, the auditors seemed to ascribe an appreciably higher level of assurance to a financial forecast than did the bankers. This may be due to the fact that many of the bankers interviewed were not familiar with the auditor's financial forecast report and the associated guidelines. Although their clients frequently provide financial

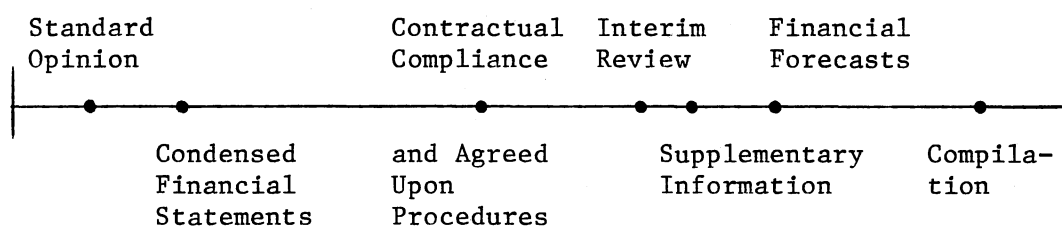
forecasts, these forecasts are rarely accompanied by an auditor's review of the forecast. The sentiment that these management-prepared, unreviewed forecasts are unreliable was often expressed. Virtually none of the bankers were familiar with the guidelines for a review of a forecast established by the AICPA. These guidelines, of which most auditors were aware, require rather extensive auditor involvement. However, a reference to such stringent guidelines is the bankers only clue of the scope of the work performed. Accordingly, it is not too surprising that the bankers perceived forecasts to provide a much lower level of assurance than intended by the auditors.

A second source of difference was that bankers perceived interim reviews to provide an appreciably higher level of assurance than did the auditors. One explanation for this difference may be that bankers tend to see interim review reports more frequently than some of the other reports in the study. Because of their greater familiarity with the report, the bankers may attribute more assurance to an interim review than intended by the auditors. Another explanation for the difference may be that bankers are not attuned to the procedures followed during an interim review. Bankers generally indicated they thought many of the same year-end audit procedures were performed for an interim review. Bankers' beliefs are in contrast to professional standards which require little substantive testing for interim reviews.

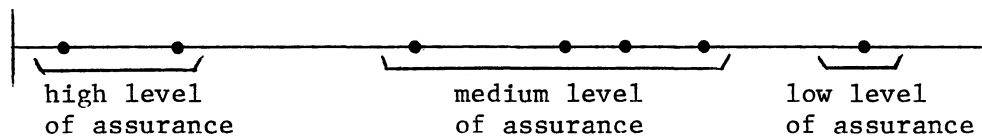
One further source of difference between the auditors and bankers is their perceptions of the vertical dimension. The auditors' vertical dimension was related to the clarity of the responsibility assumed by the auditor. In contrast, no interpretable solution was identified for the bankers' vertical dimension.

Implications for Levels of Assurance

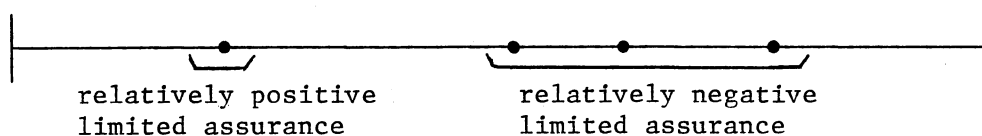
Several comments can be made based on the auditors' positioning of the reports on the horizontal dimension. However, because of the limited number of reports considered in the study, the comments should be carefully interpreted. The auditors' horizontal dimension is shown below:



Three levels of assurance are apparent:



The medium level of assurance is of most interest. The wording of the reports in this level implies assurance ranging from relatively positive limited assurance (for agreed upon procedures and contractual compliance) to relatively negative limited assurance (for interim reviews and financial forecasts).



Positive limited assurance is expressed for those engagements where limited substantive testing of detail was performed.¹ In contrast, negative limited assurance is expressed for those engagements where review procedures were performed. It seems limited substantive testing is perceived to provide more assurance than review procedures.

Audit assurance was defined earlier as the extent to which an audit effort reduces the risk of material errors in a representation. One implication from this study is that limited substantive testing is perceived to be more effective than review procedures in reducing the risk of material errors. Research needs to be conducted to evaluate the efficiency of different audit procedures in uncovering material errors.² Such evidence would be helpful in making a meaningful ranking of assurance levels.

Assurance and the Report Type

Standardized reports are intended to assist in communicating information to readers. For limited assurance reports to be effective, the reader must understand what assurance is intended to be conveyed. Presumably the type of report issued should give some indication of the level of assurance intended. Table V summarizes the type of reports issued for the limited assurance engagements considered in this study.

TABLE V
 TYPE OF REPORTS ISSUED FOR THE LIMITED ASSURANCE
 ENGAGEMENTS CONSIDERED IN THIS STUDY

ENGAGEMENT	TYPE OF REPORT ISSUED
Standard Opinion	Positive opinion
Condensed Financial Statements	
Financial Forecasts	
Interim Review	Disclaimer with negative assurance
Agreed Upon Procedures	
Supplementary Information	Exception report with implicit negative assurance
Compilation	Disclaimer with implicit negative assurance

Comparison of the report types with the level of assurance (as indicated by the horizontal dimension of the perceptual model) suggests no discernable relationship. Analysis of the vertical dimension also showed neither auditors nor bankers distinguished among the engagements based on the type of report issued. This lack of differentiation calls to question the meaningfulness of the various report types.

Firm Comparisons

One last result worthy of note pertains to the behavior of the

individual accounting firms and financial institutions. The graphs plotting the individual subject's responses were examined to ascertain if any pattern among or within firms emerged. No particular similarity in the responses was observed among or within the accounting firms or the financial institutions.

ENDNOTES

1. This particular report indicated the work performed was of a substantive nature. However, this would not necessarily have to be true.
2. See "Audit Detection of Financial Statement Errors" published by Hylas and Ashton (1982) in the Accounting Review.

CHAPTER FIVE

SUMMARY, LIMITATIONS AND RECOMMENDATIONS

Summary

Limited assurance engagements have become prevalent in response to market demands and cost/benefit considerations. Because they are expected to play an increasing role in auditing, related research may be useful for policy-setting.

This study investigated auditors' and bankers' perceptions of the assurance intended by different LAEs. The results indicated that both auditors and bankers (within their respective groups) have a common understanding of assurance concepts. Both groups seem to have well-defined ideas about levels of assurance. The results also indicated that a significant difference exists between the auditors' and the bankers' perceptions of assurance. Attitudes toward the assurance provided by financial forecasts and interim reviews constituted a major source of that difference.

The auditors seemed to perceive limited substantive testing to provide more assurance than review procedures. The type of report issued (i.e. positive opinion, negative assurance) was not found to be a significant factor in the subjects' perceptions. Also, no similarity in perception was noted within or among firms.

Limitations of the Study

Two caveats are usually associated with multidimensional scaling. First, MDS will always generate a perceptual model. The problem is that sometimes the model is meaningless. This concern is allayed in this study because the common space assumption (pertaining to the scaleability of the data) was directly tested and found significant. Second, it is sometimes difficult to interpret the dimensions. This was true with the bankers' vertical dimension, which did not appear to have a clear interpretation.

One further limitation of the study results because of the judgmental selection of the subjects. A regional bias may exist because all subjects were from the Chicago area. Also, it should be noted that bankers represent only one group of users of limited assurance reports. Accordingly, the results of this study should not be generalized to other groups of users without further study.

The nature of the subjects raises an interesting thought. The Chicago bankers represent a highly sophisticated and educated group of users. They evaluate financial information and audit reports on a regular basis. This high level of training is not customary for all users of limited assurance reports. If even these bankers misperceive the auditor's intended assurance, one has to wonder about the less sophisticated user's understanding of assurance.

One last limitation of the study results because it was exploratory in nature. No a priori theory existed to generate testable hypotheses. However, several interesting implications for future research emerge.

The results of the study show a perception gap exists for interim review and financial forecast engagements. The question of why arises?

Is it because the nature and extent of the review procedures performed are not well understood? Or is it because the wording and warnings of the reports are misperceived? Or, perhaps it is due to the soft nature of the underlying information (financial forecasts contain forward-looking information and interim reviews contain many estimates)? Further research is needed to address these questions.

Another implication of the study relates to the ranking of assurance levels. The results suggest that the level of assurance may be related to the audit procedures performed. For the small number of LAEs considered, limited substantive testing was perceived to be more effective than review procedures. However, many questions remain unanswered. How effective are limited substantive testing/review procedures (LST/RP)? What type of errors will LST/RP detect? Within the category of LST/RP, which particular techniques are most effective? Answers to these questions would be helpful in determining the extent to which an audit effort reduces the risk of material errors. This knowledge is necessary for an eventual construction of a descriptive theory about limited assurance engagements.

Recommendations

The recommendations made from this study are contingent upon whether the auditors or the bankers point of view is assumed. If the bankers are "right", then the problem relates to the auditors inability to communicate effectively. Conversely, if the auditors are "right", then the focal point of the problem lies with the bankers lack of knowledge about what the auditors are saying. The choice of viewpoint necessarily involves a value judgment. The following recommendations are made from the auditors perspective.

A facile recommendation would be to suggest user education regarding the meaning of financial forecasts and interim review reports. However, this would simply be fighting a brushfire. A more comprehensive approach is needed. A suggested synopsis is:

1. Establish overall objectives and concepts that can be used to provide future direction for limited assurance engagements.
2. Establish general standards regarding minimum requirements for engagement acceptance, auditor competency and information auditability.
3. Establish levels of assurance which can be easily communicated.
4. Establish a reporting system which adequately conveys the intended level of assurance.
5. Examine and revise existing pronouncements in light of the above criteria.
6. Embark upon a program to educate CPA's and users.

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APPENDICES

APPENDIX A

TYPES OF LIMITED ASSURANCE ENGAGEMENTS CURRENTLY ESTABLISHED IN PROFESSIONAL STANDARDS

1. Letters for underwriters (comfort letters) -- SAS 38
2. Application of agreed-upon procedures to specific accounts, elements, or items of a financial statement -- SAS 35
3. Application of agreed-upon procedures to financial statements taken as a whole -- SAS 26/sec. 504.20
4. Review of interim financial information of a public entity presented alone -- SAS 36
5. Review of interim financial information that accompanies or is included in a note to audited financial statements of public or nonpublic companies -- SAS 36
6. Reviews of interim or annual financial statements of a public company that does not have its annual financial statements audited -- SAS 26/sec. 504.05 n4
7. Review of annual or interim financial statements of nonpublic entities -- SSARS 1
8. Reports on compliance with aspects of contractual agreements or regulatory requirements related to audited financial statements -- SAS 14/sec. 621
9. Involvement with supplementary information required by the FASB -- SAS 27/sec. 553
10. Involvement with other information in documents containing audited financial statements -- SAS 8/sec. 550
11. Involvement with explanations of information disclosed in accordance with SFAS No. 33 -- SAS 28/sec. 554.04
12. Involvement with information accompanying basic financial statements in auditors-submitted documents -- SAS 29/sec. 551
13. Association with unaudited financial statements of public entities -- SAS 26/sec. 504

14. Compilation of financial statements of nonpublic entities -- SSARS 1
15. Report on internal accounting control based solely on a study and evaluation made as part of an audit of the financial statements -- SAS 30/sec. 642
16. Report on internal accounting control based on criteria established by regulatory agencies -- SAS 30/sec. 642
17. Reports on certain aspects of administrative control or on compliance with certain provisions in contracts or regulations -- SAS 30/sec. 642
18. Other special purpose reports on internal accounting control -- SAS 30/sec. 642
19. Reviews of financial forecasts -- Guide for a Review of a Financial Forecast*
20. Reports on condensed financial statements and selected financial data -- SAS 42

Note: Interestingly, 11 of the 43 Statements on Auditing Standards pertain, at least partially, to limited assurance engagements. In addition, five Statements on Standards for Accounting and Review Services (SSARS) have been issued.

*The current guide is being revised and will address reporting on financial forecasts and projections in both review and compilation engagements.

Source: Winters, Alan J., "An Analysis of Professional Standards for Limited Assurance Engagements," Unpublished Paper, AICPA.

APPENDIX B

EXPERIMENTAL INSTRUMENT

The audit report is the focal point of the communication process between the auditor and the loan officer. However, we know little about what auditors intend to communicate when they issue different types of limited assurance reports and even less about the message loan officers receive. The objective of this study is to provide a detailed description and comparison of auditors' intentions and loan officers' perceptions of the message contained in different limited assurance reports.

Other auditors and commercial loan officers will receive these same questions concerning the meaning of different reports. For each group of participants, statistical techniques will be used to measure perceptions of the meaning of the reports. Then, the auditors' and loan officers' perceptions will be compared for consistency.

The results of this research should aid in improving communication between auditors and loan officers in a number of ways. A detailed description of the meaning of different reports will provide a basis for both groups to jointly evaluate the present reporting system. The finding of any differences in perceptions will provide part of the foundation necessary for the development of more detailed reporting criteria or educational programs for users which may reduce the differences. The detailed specification of the meaning of different reports will also serve as a useful training aid for novice auditors and loan officers.

The responses of all participants will remain anonymous and no individual participant or firm will be identified with any specific result. The validity of this research and its contribution to the accounting and banking professions depends upon your cooperation.

The task you will be requested to perform should take approximately one hour. Thank you for your participation.

Part A

On the following page are examples of eight standard reports issued in connection with different limited assurance engagements. Please familiarize yourself with these reports until it is easy for you to associate the type of report with its abbreviated title. You will be asked to rate the similarity of assurance intended by each of 28 pairs of reports. You may refer back to these reports whenever necessary.

REPORT 1: INTERIM REVIEW-PUBLIC ENTITY

We have made a review of the financial statements of ABC Company and consolidated subsidiaries as of September 30, 1981, and for the three-month and nine-month periods then ended, in accordance with standards established by the American Institute of Certified Public Accountants.

A review of interim financial information consists principally of obtaining an understanding of the system for the preparation of interim financial information, applying analytical review procedures to financial data, and making inquiries of persons responsible for financial and accounting matters. It is substantially less in scope than an examination in accordance with generally accepted auditing standards, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

Based on our review, we are not aware of any material modifications that should be made to the accompanying financial statements for them to be in conformity with generally accepted accounting principles.

REPORT 2: COMPILATION-NONPUBLIC ENTITY

We have compiled the accompanying balance sheet of XYZ Company as of December 31, 1981, and the related statements of income, retained earnings, and changes in financial position for the year ended, in accordance with standards established by the American Institute of Certified Public Accountants.

A compilation is limited to presenting in the form of financial statements information that is the representation of management. We have not audited or reviewed the accompanying financial statements and, accordingly, do not express an opinion or any other form of assurance on them.

REPORT 3: CONTRACTUAL COMPLIANCE

In connection with our examination, nothing came to our attention that caused us to believe that the Company was not in compliance with any of the terms, covenants, provisions, or conditions of sections 2 to 4, inclusive, of the Indenture dated July 21, 1980, with ABC Bank. However, it should be noted that our examination was not directed primarily toward obtaining knowledge of such noncompliance.

REPORT 4: SUPPLEMENTARY INFORMATION

The supplementary information on page 23 is not a required part of the basic financial statements but is supplementary information required by the Financial Accounting Standards Board. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of the supplementary information. However, we did not audit the information and express no opinion on it.

*If the supplementary information is included with the basic financial statements, a separate report would not normally be issued. The reporting would be on an exception basis; that is, the information would only be mentioned if there were a problem.

REPORT 5: STANDARD OPINION

We have examined the balance sheet of X Company as of December 31, 1981, and the related statements of income, retained earnings and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the financial statements referred to above present fairly the financial position of X Company as of December 31, 1981, and the results of its operations and the changes in its financial position for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

REPORT 6: CONDENSED FINANCIAL STATEMENTS

We have examined, in accordance with generally accepted auditing standards, the consolidated balance sheet of X Company and subsidiaries as of December 31, 1980, and the related consolidated statements of income, retained earnings, and changes in financial position for the year then ended (not presented herein); and in our report dated February 15, 1981, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying condensed consolidated financial statements is fairly stated in all material respects in relation to the consolidated financial statements from which it has been derived.

REPORT 7: AGREED UPON PROCEDURES

We have applied certain agreed-upon procedures, as discussed below, to the accounting records of ABC Company as of June 30, 1982, to assist you in connection with your proposed loan agreement with the Second National Bank. It is to be understood that this report is solely for the information of the ABC Company and the Second National Bank, and our report is not to be used for any other purpose. Our procedures and findings are as follows:

- (a) We obtained an aged trial balance of the accounts receivable subsidiary records as of June 30, 1982, traced the age and amounts of approximately 10 percent of the accounts to the accounts receivable ledger, and added the trial balance and compared the total with the balance in the general ledger control account.
- (b) We mailed requests for positive confirmation of balances to 150 customers. The differences disclosed in confirmation replies were minor in amount and nature, and we reconciled them to our satisfaction.

Because the above procedures do not constitute an examination made in accordance with generally accepted auditing standards, we do not express an opinion on any of the accounts or items referred to above. In connection with the procedures referred to above, no matters came to our attention that caused us to believe that the specified accounts or items should be adjusted. Had we performed additional procedures or had we made an examination of the financial statements in accordance with generally accepted auditing standards, matters might have come to our attention that would have been reported to you. This report relates only to the accounts and items specified above and does not extend to any financial statements of ABC Company, taken as a whole.

REPORT 8: FINANCIAL FORECASTS

The accompanying forecasted Balance Sheet, Statements of Income, Retained Earnings and Changes in Financial Position and Summary of significant forecast assumptions of XYZ Company as of December 31, 1981, and for the year ending, is management's estimate of the most probable financial position, results of operation, and changes in financial position for the forecast period. Accordingly, the forecast reflects management's judgment, based on present circumstances, of the most likely set of conditions and its most likely course of action.

We have made a review of the the financial forecast in accordance with applicable guidelines for a review of a financial forecast established by the American Institute of Certified Public Accountants (AICPA). Our review included procedures to evaluate both the assumptions used by management and the preparation and presentation of the forecast. We have no responsibility to update this report for events and circumstances occurring after the date of this report.

Based on our review, we believe that the accompanying financial forecast is presented in conformity with applicable guidelines for presentation of a financial forecast established by the AICPA. We believe that the underlying assumptions provide a reasonable basis for management's forecast. However, some assumptions inevitably will not materialize and unanticipated events and circumstances may occur; therefore, the actual results achieved during the forecast period will vary from the forecast, and the variation may be material.

PART B

Instructions: For each of the following five questions, please indicate the degree to which you feel it is applicable for each report. You may indicate your answer by circling the number you feel is most appropriate on a ten-point scale. It is important to note the endpoints printed above each scale because they indicate the direction of the scale. As before, ties are allowed and you may change previous answers. Try to avoid developing a pattern of responses. Be sure to respond to all scales.

1. For each of the following reports, to what extent did the auditor test the accounting records?

	Extensive tests					No tests				
Interim Review-Public Entity	1	2	3	4	5	6	7	8	9	10
Compilation-Nonpublic Entity	1	2	3	4	5	6	7	8	9	10
Condensed Financial Statements	1	2	3	4	5	6	7	8	9	10
Supplementary Information	1	2	3	4	5	6	7	8	9	10
Financial Forecasts	1	2	3	4	5	6	7	8	9	10
Contractual Compliance	1	2	3	4	5	6	7	8	9	10
Agreed Upon Procedures	1	2	3	4	5	6	7	8	9	10
Standard Opinion	1	2	3	4	5	6	7	8	9	10

2. For each of the following reports, to what extent does the report represent that the accompanying financial information does not contain misleading information?

	Full representation					No representation				
Interim Review-Public Entity	1	2	3	4	5	6	7	8	9	10
Compilation-Nonpublic Entity	1	2	3	4	5	6	7	8	9	10
Condensed Financial Statements	1	2	3	4	5	6	7	8	9	10
Supplementary Information	1	2	3	4	5	6	7	8	9	10
Financial Forecasts	1	2	3	4	5	6	7	8	9	10
Contractual Compliance	1	2	3	4	5	6	7	8	9	10
Agreed Upon Procedures	1	2	3	4	5	6	7	8	9	10
Standard Opinion	1	2	3	4	5	6	7	8	9	10

3. For each of the following reports, to what extent should a third party expect to recover a financial loss from the auditor if he could prove reliance on the report?

	High expectation of recovery					Low expectation of recovery				
Interim Review-Public Entity	1	2	3	4	5	6	7	8	9	10
Compilation-Nonpublic Entity	1	2	3	4	5	6	7	8	9	10
Condensed Financial Statements	1	2	3	4	5	6	7	8	9	10
Supplementary Information	1	2	3	4	5	6	7	8	9	10
Financial Forecasts	1	2	3	4	5	6	7	8	9	10
Contractual Compliance	1	2	3	4	5	6	7	8	9	10
Agreed Upon Procedures	1	2	3	4	5	6	7	8	9	10
Standard Opinion	1	2	3	4	5	6	7	8	9	10

4. For each of the following reports, to what extent should a third party rely upon the report in making a financial lending decision?

	Much additional information needed					Little additional information needed				
Interim Review-Public Entity	1	2	3	4	5	6	7	8	9	10
Compilation-Nonpublic Entity	1	2	3	4	5	6	7	8	9	10
Condensed Financial Statements	1	2	3	4	5	6	7	8	9	10
Supplementary Information	1	2	3	4	5	6	7	8	9	10
Financial Forecasts	1	2	3	4	5	6	7	8	9	10
Contractual Compliance	1	2	3	4	5	6	7	8	9	10
Agreed Upon Procedures	1	2	3	4	5	6	7	8	9	10
Standard Opinion	1	2	3	4	5	6	7	8	9	10

5. For each of the following reports, to what extent is the underlying information of the report susceptible to unintentional misstatement?

	Very susceptible					Not susceptible				
Interim Review-Public Entity	1	2	3	4	5	6	7	8	9	10
Compilation-Nonpublic Entity	1	2	3	4	5	6	7	8	9	10
Condensed Financial Statements	1	2	3	4	5	6	7	8	9	10
Supplementary Information	1	2	3	4	5	6	7	8	9	10
Financial Forecasts	1	2	3	4	5	6	7	8	9	10
Contractual Compliance	1	2	3	4	5	6	7	8	9	10
Standard Opinion	1	2	3	4	5	6	7	8	9	10
Agreed Upon Procedures	1	2	3	4	5	6	7	8	9	10

APPENDIX C

AUDITORS' DATA

Pair	Auditors' Data using the Auditors' Coordinates	Auditors' Data using the Bankers' Coordinates	Difference	Deviation	Squared Deviation
	<u>X1</u>	<u>X2</u>	<u>D=X1-X2</u>	<u>d=D-\bar{D}</u>	<u>d²</u>
1	.48	.51	-.03	-.1312	.0172134
2	.54	.38	.16	.0588	.0034574
3	.29	.44	-.15	-.2512	.0631014
4	.76	.52	.24	.1388	.0192654
5	.66	.62	.04	-.0612	.0037454
6	.43	.34	.09	-.0112	.0001254
7	.81	.58	.23	.1288	.0165894
8	.45	.45	-	-.1012	.0102414
9	.77	.46	.31	.2088	.0435974
10	.42	.28	.14	.0388	.0015054
11	.59	.31	.28	.1788	.0319694
12	.55	.33	.22	.1188	.0141134
13	.57	.40	.17	.0688	.0047334
14	.64	.65	-.01	-.1112	.0123654
15	.55	.59	-.04	-.1412	.0199374
16	.47	.49	-.02	-.1212	.0146894
17	.39	.25	.14	.0388	.0015054
18	.30	.14	.16	.0588	.0034574
19	.56	.57	-.01	-.1112	.0123654
20	.46	.44	.02	-.0812	.0065934
21	.55	.45	.10	-.0012	.0000014
22	.56	.46	.10	-.0012	.0000014
23	.37	.23	.14	.0388	.0015054
24	.44	.38	.06	-.0412	.0016974
25	.65	.46	.19	.0888	.0078854

13.26 10.73 2.53 0 .311664

$\bar{X}_1 = .5304$ $\bar{X}_2 = .4292$ $\bar{D} = .1012$

$$S_D = \frac{2 \cdot .311664}{24} = .012986 \qquad S_{\bar{D}} = \frac{2 \cdot .012986}{25} = .0005194$$

$$S_{\bar{D}} = .0227912$$

$$t = D/S_{\bar{D}} = .1012/.0227912 = 4.4403052$$

$$H_0: u_1 = u_2$$

$$T_{\text{calc}} = 4.4403052$$

$$T_{.001, 24} = 3.745$$

$T_c > T_t$ so we reject the null hypothesis

APPENDIX D

BANKERS' DATA

Pair	Bankers' Data using the Bankers' Coordinates	Bankers' Data using the Auditors' Coordinates	Difference	Deviation	Squared Deviation
	<u>X1</u>	<u>X2</u>	<u>D=X1-X2</u>	<u>d=D-\bar{D}</u>	<u>d²</u>
1	.56	.39	.17	.098	.009604
2	.51	.44	.07	-.002	.000004
3	.30	.43	-.13	-.202	.040804
4	.31	.24	.07	-.002	.000004
5	.68	.47	.21	.138	.019044
6	.33	.31	.02	-.052	.002704
7	.55	.38	.17	.098	.009604
8	.70	.72	-.02	-.092	.008464
9	.45	.53	-.08	-.152	.023104
10	.74	.44	.30	.228	.051984
11	.50	.43	.07	-.002	.000004
12	.56	.50	.06	-.012	.000144
13	.25	.13	.12	.048	.002304
14	.32	.40	-.08	-.152	.023104
15	.64	.44	.20	.128	.016384
16	.22	.37	-.15	-.222	.049284
17	.39	.38	.01	-.062	.003844
18	.53	.30	.23	.158	.024964
19	.43	.39	.04	-.032	.001024
20	.53	.43	.10	.028	.000784
21	.52	.27	.25	.178	.031684
22	.53	.34	.19	.118	.013924
23	.49	.56	-.07	-.142	.020164
24	.79	.78	.01	-.062	.003844
25	.37	.33	.04	-.032	.001024

$\bar{X}_1 = 12.20$ $\bar{X}_2 = 10.4$ $\bar{D} = 1.8$ $\bar{d} = 0$ $\sum d^2 = .3578$
 $\bar{X}_1 = .488$ $\bar{X}_2 = .416$ $\bar{D} = .072$

$$S_D = \frac{2 \cdot .3578}{24} = .0149083 \qquad S_{\bar{D}} = \frac{2 \cdot .0149083}{25} = .0005963$$

$$S_{\bar{D}} = .0244199$$

$$t = D/S_{\bar{D}} = .072 / .0244199 = 2.9484105$$

$$H_0: u_1 = u_2$$

$$T_{\text{calc}} = 2.9484105$$

$$T_{.05, 24} = 2.064$$

$T_c > T_t$ so we reject the null hypothesis

VITA²

Ceil Marie Moran

Candidate for the Degree of

Doctor of Philosophy

Thesis: LIMITED ASSURANCE ENGAGEMENTS: ENCOUNTERS OF A DIFFERENT KIND

Major Field: Accountancy

Biographical:

Personal Data: Born in Chicago, Illinois, January 19, 1957, the daughter of Mr. and Mrs. John S. Moran.

Education: Received Bachelor of Science Degree in Business Administration from University of Missouri-Columbia in May, 1978; received Master of Science Degree in Accountancy from Illinois State University in August, 1980 completed requirements for Doctor of Philosophy degree at Oklahoma State University in May, 1984.

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