ANALYTICAL REVIEW

Blocher/Willingham

Analytical Review

A Guide To Evaluating Financial Statements

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The material quoted in Appendixes One, Two, and Three reflects the unfortunate absence of personal pronouns in the English language which mean "he or she" and other such inflections. Traditionally, "he," "his," etc., have been used generically in such instances. This is the case in these appendixes, and such usage should be assumed to refer both to women and to men.

Analytical Review

preface

This book will help auditors to use analytical review most effectively. It can be used by both external and internal auditors as a guide and a reference for selecting, performing, and interpreting the results of analytical review. There are a number of audit uses for analytical review—the audit engagement, the review engagement, the internal audit assignment, the preacquisition review, and many others.

Analytical review is the name for a variety of techniques the auditor can use to assess the risk of undetected error in financial records. Analytical review provides substantive audit evidence of the fairness of the reported amount, based on the auditor's analysis of the relationships between financial and operating data for the auditee. It differs from detail audit tests in that it typically requires very little auditor time or resources. Especially when the risk and materiality for an account are low, analytical review can be a very efficient and effective method for obtaining audit evidence.

Many auditors feel that the full potential of analytical review has not been realized. A common explanation for this is a general lack of understanding of what analytical review is, how it is properly applied, and how much it should be relied upon. It is precisely this lack of understanding which has motivated us to write this book, and we have prepared it with these concerns in mind.

In odd contrast to the general lack of confidence in analytical review noted above, it is used widely in audit practice. Thus, the objective of the book is to show how the available well-known techniques can be used most effectively, rather than merely to describe an assortment of review techniques which are already familiar to the auditor.

For the more experienced auditors, our book will be an aid to getting the most benefit from the use of the analytical procedures they are now using. Also, it will help the experienced auditor to identify new applications of analytical review. For the less experienced auditor, the book will be useful for training and as a reference to assist in resolving the day-to-day questions which come up in the audit or review engagement. We feel the book will be especially useful for the inexperienced auditor, since the effectiveness of analytical review is very dependent on the auditor's knowledge and experience, more so than for other audit procedures.

As our focus is on guidance for the well-known analytical review procedures, our approach in the book is to provide a nontechnical presentation of these well-known and easy-to-apply methods. However, because regression analysis is becoming more common in analytical review applications, we discuss it in a nontechnical manner in the book, and supplement this with the more technical aspects of regression in an appendix.

The basis for our suggestions and guidance contained in this book is our research in recent years of auditors' analytical review judgments. Also, we have used the results from other researchers, who are cited frequently throughout the book. This research has identified the judgment biases and mistakes made by auditors when planning and using analytical review. The research has also provided some preliminary evidence on the relative effectiveness of various analytical review procedures. Our book makes this important research information available to the auditor in a nontechnical, easy-to-read form.

Chapter 1 presents some basic information about the nature of analytical review and its role in the external audit, the internal audit, the review engagement, and related types of engagements. Chapter 2 describes the elements of inherent risk and the means for analyzing and evaluating it by analytical review. *Inherent risk* is the risk that a material error will occur in the accounting records, apart from the influence of the internal control system or the auditor's testing. Chapters 3 through 5 then deal with the three common analytical review procedures—trend analysis, ratio analysis, and the reasonableness test, respectively. Chapter 6 explains the approach we suggest for selecting an analytical review procedure for each account. Certain procedures are expected to be more effective for specific accounts, and other procedures are more effective for other accounts. Also, there is a discussion of the use of analytical review for choosing which of many branches, or "sites," to test, given that the auditor is not able to examine all sites. Chapter 7 briefly describes the objectives and procedures for the conduct of analytical review at the end of the audit engagement, as part of the final review. Chapter 8 includes our suggestions for incorporating work sheet decision aids and other explicit forms of guidance into the review procedure to enhance the effectiveness of auditor usage of analytical review. The appendixes include selected relevant portions of the *Statements on Auditing Standards*, plus the somewhat technical presentation of regression analysis. We hope you find the book to be thoroughly interesting and useful.

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chapter one

The Uses of Analytical Review

A continuing concern for auditors is the choice of procedures to use in achieving audit objectives. In response to this concern, increasing attention is given to analytical review as a means for improving audit efficiency. *Analytical review* is a name for a variety of techniques for gathering audit evidence through analyses of expected relationships between an organization's operating and financial data, using ratios, trends, reasonableness tests, and related procedures. An important common characteristic of these procedures is that they require relatively little auditor time or resources. For this reason they are preferable to other audit procedures when they are sufficient to achieve the given audit objective. However, many auditors argue against increased reliance on analytical review until the profession and the individual auditor understand it much better. They point to the unexplained diversity of use for analytical review procedures among the largest firms, and to the perceived low precision of the procedures, as conditions which indicate the need for guidance before the procedures are used more extensively.

Auditors both in practice and in academia are pursuing ongoing research efforts to provide the desired improvement in our understanding of analytical review procedures. The research has two thrusts:

1. To develop new and more effective analytical review procedures
2. To discover whatever obstacles there might be for auditors in using current procedures effectively and to develop the practical forms of guidance (checklists, decision flowcharts, etc.) to address these obstacles

While both types of research are important, our primary interest is in the latter, that is, helping auditors use available methods more effectively. Moreover, we are specifically concerned with the analytical review procedures which are well known and in widespread usage, rather than with the newer mathematical and statistical methods, such as regression and time-series analysis. We feel the greatest overall benefit will come from more effective use of the well-known procedures rather than from the wider use of the new mathematical and statistical procedures.

It is not appropriate here to pursue the arguments supporting or refuting this position, as it would necessarily be a lengthy and probably inconclusive discussion. However, restricting our efforts to the well-known procedures should not limit the utility of this book for most auditors since these procedures are useful for a wide variety of audit engagements, whereas the utility of the mathematical and statistical procedures may depend on the size of the engagement, the audit history, and the availability of expertise.

OBJECTIVES OF THE BOOK

This book can be used for both instructional and reference purposes. In the first instance, it provides a comprehensive presentation of analytical review which shows the auditor how to use the procedures most effectively. To facilitate quick and lasting learning of the material, illustrations and case examples are used frequently. The focus throughout is on those well-known procedures now used in audit practice, so the terms and concepts will be familiar to most auditors. However, the presentation assumes no prior knowledge of analytical review, so the inexperienced auditor or student will find it useful as well.

Since the procedures will be familiar to most auditors, a key aspect of the approach of the book is to highlight the *obstacles* to the most effective use of these procedures. This is done by identifying and explaining the most common judgment mistakes an auditor can make in applying and interpreting the results of an analytical review procedure. This exposition is based in part on the findings of extensive research projects by ourselves and others. Generally, these mistakes involve the use of irrelevant or incomparable data in the process of assessing the reasonableness of some figure. A second aspect of the approach of the book is to develop a strategy for choosing which of the procedures should be used in analyzing a given financial statement account. Again, by reference in part to prior research, we will see that certain procedures are more effective than others for certain accounts, but that no single procedure is preferred for all accounts.

The book does not require an understanding of mathematical and statistical concepts and techniques beyond that level contained in the *Statements on Auditing Standards (SAS)*, the American Institute of Certified Public Accountants guidelines to the profession. However, regression and time-series models are known to be useful in certain applications of analytical review, so a thorough presentation of how to develop and apply these statistical models is given in Appendix 4. This appendix explains the proper statistical interpretation of the models, the common mistakes in developing the models, and the conditions for which the models are most effectively applied.

In addition to the instructional objective described above, the book can be used as a reference to guide the auditor's analyses of a given account balance. This use of the book is facilitated by the inclusion of decision flowcharts, outlines, and illustrations which promptly direct the auditor's attention to the needed information.

WHO SHOULD USE THE BOOK?

The book will assist both the independent auditor and the internal auditor in selecting and in interpreting the results of analytical review procedures. Though the overall audit objectives for independent versus internal auditors differ substantially, the role which analytical review plays in the audit process for each is quite similar. That is, analytical review is used to direct the auditor's attention to those areas with the greatest potential for material misstatement, and to provide a basis for allocating effort using this indication of potential for misstatement. Both independent and internal auditors are served by these two uses of analytical review.

Examples of uses for the independent auditor: (1) The auditor might use trend analysis to assess which of a set of expense accounts has the highest potential for misstatement, or (2) use a gross profit test to assess the reasonableness of the cost-of-sales/sales relationship, relative to prior years.

Examples of uses for the internal auditor: (1) Suppose a company has several contracts with others to supply goods and services to the company per contract. The internal auditor must choose a sample of these contractors for audit on a periodic basis. An analytical review approach would be used to determine which of the contractors might have the greatest potential for error, that is, billing the company for costs not covered by the contract. (2) The internal auditor would use an analytical procedure to determine which of several branch locations of a multilocation company (for example, a bank with many offices) to audit on a periodic basis.

It is useful to distinguish the *financial audit* from the *operational* or *management audit* when considering audit objectives. The financial audit is concerned with the bona fides of the reported amounts, whereas the operational or management audit is concerned with operational efficiency and management compliance with established policies. The independent auditor is primarily associated with the financial audit; the internal auditor can be involved in either type of audit. The book is designed principally for the financial audit, where analytical review procedures are most commonly used.

WHERE ANALYTICAL REVIEW IS USED BY THE INDEPENDENT AUDITOR

Analytical review can be used by the independent auditor in a variety of situations including the conventional financial audit engagement. There are five easily identified uses:

The Financial Audit Engagement

In the financial audit, analytical review is a substantive auditing procedure which can be used to direct the auditor's attention to areas with the highest potential for material misstatement. Alternatively, it can be used to reduce the scope of other substantive tests in an audit area where risk and materiality are low and where the auditor can be satisfied by the results of the analytical review procedure. Also, it can be used as a compensating test in lieu of tests of internal control compliance, and at the final review of the audit working papers to assess the overall reasonableness of the financial statements. The use of analytical review in the financial audit is described more fully in *SAS 23*, "Analytical Review Procedures" (Appendix 1).

The Review Engagement

A review engagement has a narrower scope than that of the financial audit. The auditor expresses only limited assurance that the financial statements do not depart materially from conformity with generally accepted accounting principles. Review procedures consist of certain inquiries and analytical procedures. See *Statements on Standards for Accounting and Review Services (SSARS) 1*, "Compilation and Review of Financial Statements" (Appendix 2).

Review of Interim Financial Information

When interim financial information is presented together with the financial statements, or is presented alone and purports to conform to the provisions of *Accounting Principles Board (APB) Opinion 28*, "Interim Financial Reporting," then certain review procedures and reporting standards apply as described in *SAS 36*, "Review of Interim Financial Information" (Appendix 3). The review procedures consist primarily of certain inquiries and analytical review. Review of internal controls and limited tests of details might also be involved.

Special Reports

For the auditor who is involved in an engagement in which scope is limited to certain elements, items, or accounts of a financial statement, the proper test procedures and reporting standards are described in *SAS 35*, "Special Reports—Applying Agreed Upon Procedures . . ." The *SAS* does not prescribe the procedures to be applied, but in practice the auditor will find it useful to apply analytical review procedures in the planning and testing phases of the engagement. Preacquisition reviews and reviews of creditors' claims are examples of this type of engagement.

Budgeting and Short-Run Financial Planning

It is apparent that the use of analytical review, which involves an understanding of financial and operating relationships, is in effect an important part of the process of short-run financial planning and budgeting. That is, projecting account balances and relationships between accounts and operating data is an integral part of both analytical review and short-run financial planning. Thus, developing an expertise in analytical review should have benefits to the independent auditor both within the audit practice and for that portion of the consulting practice which provides financial planning services for clients.

THE NATURE, TIMING, AND EXTENT OF ANALYTICAL REVIEW

Given these different uses for analytical review, we are interested in whether there should be differences in the nature, timing, and extent of analytical review for each. Also, it appears that the second, third, and fourth applications (review, interim information, and special reports, respectively) are quite similar, since all three require analytical review and inquiry to provide limited assurance that there is no material misstatement. Thus, we will use the term "review-type engagement" to refer to these collectively in the following discussion, which contrasts the nature, timing, and extent of analytical review for (1) the independent audit engagement, (2) the review-type engagement, and (3) internal auditing (the operational audit excluded).

Nature

Since independent audit, review, and internal auditing are all concerned with financial statement accounts, there is no difference in the nature of analytical review between them. That is, the risk analysis or analytical procedure would be applied in the same manner in each case.

Timing

The audit engagement has three principal phases—planning, field work, and final review. During initial planning, analytical review is used to evaluate the overall risk of the entity by considering financial liquidity and related measures of the entity's ability to maintain a going concern. The results of this evaluation are important in setting the overall scope of audit testing. In application to individual accounts, analytical review helps to direct attention to accounts which might be materially misstated, by identifying those with unusual relationships or changes relative to the prior period. Also, an analytical review procedure can be used to reduce the amount of detail testing in an account, if the auditor is satisfied that the procedure is sufficiently accurate and if the materiality and risk of the account are low. Since analytical review provides negative rather than positive assurance, this work-reducing role of analytical review requires careful judgment. When the risk or materiality of an account is high, the auditor may choose to employ a limited analytical review, or omit it entirely, and rely on detail testing.

Analytical review is also employed in the second phase of the audit—the field work. Here it is used to assist in selecting subsegments of the entity, or periods of transactions within an account, for in-depth examination. For example, it is used in selecting branch retail stores for detail work. Second, it is used in those situations where the auditor must estimate an account balance for the purpose of making an adjustment or assisting the client in making an accrual. For example, the auditor might use an analytical review approach to estimate the amount of a contingent liability.

Then in the final phase of the audit, analytical review is applied to assess the overall reasonableness of the financial statements. This review can lead to additional audit work if an account balance or relationship appears to be unreasonable.

An internal audit activity can be viewed in the same manner, except that the final review phase is generally not applicable since the internal audit is not typically intended to attest to the reasonableness of the financial statements taken as a whole. Also, it is generally not meaningful to consider phases for the review-type engagement, since it involves limited procedures which do not require extensive planning or review for overall reasonableness.

Extent

The extent of analytical review in any engagement depends on many factors—risk, materiality, cost-benefit, applicability of analytical review relative to other procedures, and so on. However, the principal factor which determines the extent of analytical review to be used in independent audit, review, and internal audit engagements is the availability and effectiveness of substitutable procedures. In the audit engagement, tests of details are the substitute for analytical review, whereas in review engagements the principal substitute is inquiry. The internal auditor may use both inquiry and tests of details in addition to the analytical review.

Thus, the chief difference between independent audit, review, and internal audit engagements is the *extent* of the use of analytical review procedures and the nature of substitutes, rather than the nature or the timing of the procedures themselves. With this in mind, Chapter 6, Using Analytical Review for Selected Accounts, will include a discussion of the relative efficiency of analytical review and tests of details for each account, in order to assist the auditor in choosing the extent to which analytical review should be used for each of the three engagement types. Chapter 7 is relevant only for the independent audit engagement since it relates to the use of analytical review in the final review. The other chapters deal only with the nature of analytical review procedures, so they are applicable for all three engagement types.

A FRAME OF REFERENCE FOR ANALYTICAL REVIEW

In order to benefit fully from the book, it is important to have a frame of reference for organizing one's thinking about what analytical review consists of, and what knowledge, experience, information gathering, and information analysis are necessary to use it properly. The frame of reference we use is the distinction between two general methods for analytical review (see Table 1-1). Each of the two methods is a broad category encompassing steps and procedures which produce audit evidence through analysis of relationships between financial and operating data. Together, the methods include virtually all the steps and procedures which have been referred to as analytical review. Recognizing that auditors disagree about what should be labeled analytical review, our two methods are defined to be very comprehensive. The importance of the distinction between these methods is that they require a somewhat different nature and extent of auditor knowledge and experience. Also, the two methods have somewhat different demands for information gathering, evaluation, and analysis.

The two methods are:

1. *Risk analysis* requires the use of extensive accounting and business knowledge and experience to assess the potential for material misstatement in the financial statements taken as a whole. Often, this involves the analysis of financial ratios and indicators or the search for what has been called a "red flag," such as a turnover in key personnel, certain aspects of the audit history, or a change in credit rating. Risk analysis is covered in Chapters 2 and 7.
2. *Analytical review procedures* involve the use of a quantitative procedure to analyze the potential for misstatement in a single account, item, or element of the financial statements. Trend analysis, ratio analysis, and reasonableness tests are the common examples of analytical review