

GLOBAL  
EDITION



# AUDITING AND ASSURANCE SERVICES

*An Integrated Approach*

EIGHTEENTH EDITION

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## Using Data Visualization to Perform Risk Assessment

Data visualization can provide a powerful tool in performing risk assessment. The AICPA *Guide to Audit Data Analytics* provides an example related to examining trends in account balances from year-to-year. The auditor can use audit software to access a client's general ledger for the current and prior years. This information can be used to generate a trend analysis, using bar charts or other visual depictions, of changes in account balances and percentage changes in account balances over time. If the auditor establishes a threshold for account balance changes that require further consideration—for example, all changes greater

than \$2 million or greater than 5 percent of the account balance—then the visualization can flag these changes and the auditor can quickly identify accounts that require additional risk assessment procedures. The auditor can then select the account requiring further consideration, and access the details underlying the account. For example, if the auditor would like to see more information about the inventory account, the auditor can select inventory from the bar chart and access more detailed information about the inventory balances such as inventory by product line or by geographic location. This “drilling down” further into the data from the initial visualization enables the auditor to quickly identify the source or sources of the unexpected changes and perform the analysis in a much more efficient way.

The auditor is likely to require further explanation and corroborating evidence for the changes in advertising, bad debt expense, and office repairs and maintenance.

- Note that advertising expense has increased as a percent of sales. One possible explanation is the development of a new advertising campaign.
- The dollar amount of bad debt expense has not changed significantly but has decreased as a percent of sales. The auditor needs to gather additional evidence to determine whether bad debt expense and the allowance for doubtful accounts are understated.
- Repairs and maintenance expense has also increased. Fluctuations in this account are not unusual if the client has incurred unexpected repairs. The auditor should investigate major expenditures in this account to determine whether they include any amounts that should be capitalized as a fixed asset.

### CONCEPT CHECK

1. Identify the eight major steps in planning audits.
2. What factors should an auditor consider prior to accepting an engagement?
3. Explain the five elements that are part of a strategic understanding of the client's business.

## MATERIALITY

After performing preliminary analytical procedures, the fourth step in the audit planning process is to make a preliminary judgment about materiality for the audit of the financial statements. Materiality is a major consideration in determining the appropriate audit report to issue, and the materiality concepts discussed in this chapter are directly related to those we introduced in Chapter 3. Auditing standards define **materiality** as the magnitude of misstatements, including omissions, that individually, or when aggregated with other misstatements, are substantially likely to influence the judgment made by a reasonable user of the financial statements.

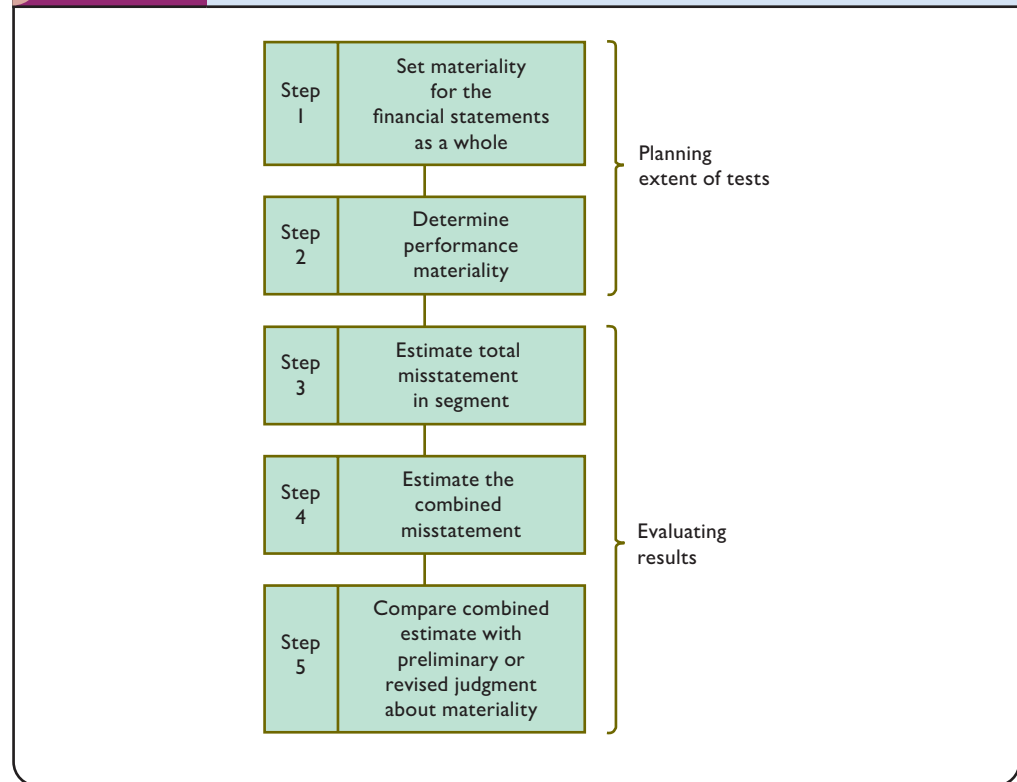
Because auditors are responsible for determining whether financial statements are materially misstated, they must, upon discovering a material misstatement, bring it to the client's attention so that a correction can be made. If the client refuses to correct the statements, the auditor must issue a qualified or an adverse opinion depending on the materiality of the misstatement. To make such determinations, auditors depend on a thorough knowledge of the application of materiality.

### OBJECTIVE 8-5

Apply the concept of materiality to the audit.

FIGURE 8-5

## Steps in Applying Materiality



Because materiality depends on the decisions of users who rely on the statements, auditors must have knowledge of the likely users of the client's statements and the decisions that are being made. For example, if an auditor knows that financial statements will be relied on in a buy-sell agreement for the entire business, the amount that the auditor considers material may be smaller than that for an otherwise similar audit. In practice, of course, auditors may not know who all the users are or what decisions they may make based on the financial statements. As a result, applying materiality in practice is a difficult professional judgment.

Auditors follow five closely related steps in applying materiality, as shown in Figure 8-5. The auditor first determines materiality for the financial statements as a whole. Second, the auditor determines **performance materiality**, which is materiality for segments of the audit (classes of transactions, account balances, and related disclosures) as shown in the first bracket of the figure. These two steps, which are part of planning, are our primary focus for the discussion of materiality in this chapter. Step 3 occurs throughout the engagement, when auditors estimate the amount of misstatements in each segment as they evaluate audit evidence. Near the end of the audit, during the engagement completion phase, auditors proceed through the final two steps. These latter three steps, as shown in the second bracket in Figure 8-5, are part of evaluating the results of audit tests.

## MATERIALITY FOR FINANCIAL STATEMENTS AS A WHOLE

### OBJECTIVE 8-6

Make a preliminary judgment about what amounts to consider material.

Auditing standards require auditors to decide on the combined amount of misstatements in the financial statements that they would consider material early in the audit as they are developing the overall strategy for the audit. We refer to this as the **preliminary judgment about materiality**. It is called a preliminary judgment about materiality because, although a professional opinion, it may change during the engagement. This judgment must be documented in the audit files.

The preliminary judgment about materiality for the financial statements as a whole (step 1 in Figure 8-5) is the maximum amount by which the auditor believes the statements could be misstated and still *not* affect the decisions of reasonable users.

This judgment is one of the most important decisions the auditor makes, and it requires considerable professional wisdom.

Auditors set a preliminary judgment about materiality to help plan the appropriate evidence to accumulate. The lower the dollar amount of the preliminary judgment, the more evidence required. Examine the financial statements of Hillsburg Hardware Co., found online on the Companion Website. What combined amount of misstatements will affect decisions of reasonable users? Do you believe that a \$100 misstatement will affect users' decisions? If so, the amount of evidence required for the audit is likely to be beyond that for which the management of Hillsburg Hardware is willing to pay. Do you believe that a \$10 million misstatement will be material? Most experienced auditors believe that amount is far too large as a combined materiality amount in these circumstances.

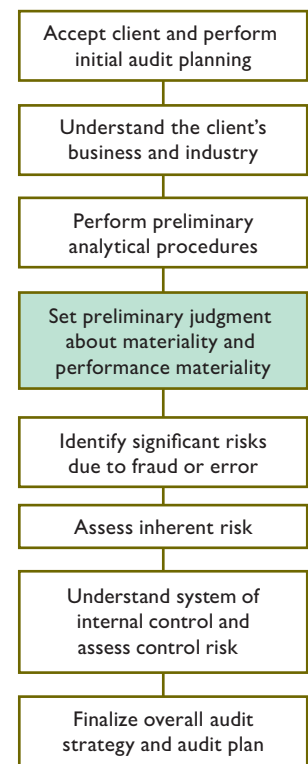
During the audit, auditors may change the preliminary judgment about materiality. We refer to this as the **revised judgment about materiality**. Auditors are likely to make the revision because of changes in one of the factors used to determine the preliminary judgment; that is, the auditor decides that the preliminary judgment was too large or too small. For example, a preliminary judgment about materiality is often determined before year end and is based on prior years' financial statements or annualized interim financial statement information. The judgment may be reevaluated after current financial statements are available. Or client circumstances may have changed due to qualitative events such as the issuance of debt, which created a new class of financial statement users.

Several factors affect the auditor's preliminary judgment about materiality for a given set of financial statements. The most important of these are discussed below.

**Materiality Is a Relative Rather Than an Absolute Concept** A misstatement of a given magnitude might be material for a small company, whereas the same dollar misstatement could be immaterial for a large one. This makes it impossible to establish dollar-value guidelines for a preliminary judgment about materiality that are applicable to all audit clients. For example, a total misstatement of \$10 million would be extremely material for Hillsburg Hardware Co. because, as shown in their financial statements, total assets are about \$61 million and net income before taxes is less than \$6 million. A misstatement of the same amount is almost certainly immaterial for a company such as IBM, which has over \$140 billion in total assets and net income of several billion dollars.

**Benchmarks Are Needed for Evaluating Materiality** Because materiality is relative, it is necessary to have benchmarks for establishing whether misstatements are material. *Net income before taxes* is often the primary benchmark for deciding what is material for profit-oriented businesses because it is regarded as a critical item of information for users. Some firms use a different primary benchmark because net income often fluctuates considerably from year to year and therefore does not provide a stable benchmark, or when the entity is a not-for-profit organization. Other primary benchmarks include net sales, gross profit, and total or net assets. After establishing a primary benchmark, auditors should also decide whether the misstatements could materially affect the reasonableness of other benchmarks such as current assets, total assets, current liabilities, and owners' equity. Auditing standards require the auditor to document in the audit files the preliminary judgment about materiality and the basis used to determine it.

Assume that for a given company, an auditor decides that a misstatement of income before taxes of \$100,000 or more would be material, but that a misstatement would need to be \$250,000 or more to be material for current assets. It is not appropriate for



### Factors Affecting Preliminary Materiality Judgment

the auditor to use a preliminary judgment about materiality of \$250,000 for both income before taxes and current assets. Instead, the auditor must plan to find all misstatements affecting income before taxes that exceed the preliminary judgment about materiality of \$100,000. Because almost all misstatements affect both the income statement and balance sheet, the auditor uses a primary preliminary materiality level of \$100,000 for most tests. The only other misstatements that will affect current assets are misclassifications within balance sheet accounts, such as misclassifying a long-term asset as a current one. So, in addition to the primary preliminary judgment about materiality of \$100,000, the auditor will also need to plan the audit with the \$250,000 preliminary judgment about materiality for misclassifications of current assets.

**Qualitative Factors Also Affect Materiality** Certain types of misstatements are likely to be more important to users than others, even if the dollar amounts are the same. Examples:

- Amounts involving fraud are usually considered more important than unintentional errors of equal dollar amounts because fraud reflects on the honesty and reliability of the management or other personnel involved. For example, most users consider an intentional misstatement of inventory more important than clerical errors in inventory of the same dollar amount.
- Misstatements that are otherwise minor may be material if there are possible consequences arising from contractual obligations. Say that net working capital included in the financial statements is only a few thousand dollars more than the required minimum in a loan agreement. If the correct net working capital were less than the required minimum, putting the loan in default, the current and noncurrent liability classifications would be materially affected.
- Misstatements that are otherwise immaterial may be material if they affect a trend in earnings. For example, if reported income has increased 3 percent annually for the past 5 years but income for the current year has declined 1 percent, that change may be material. Similarly, a misstatement that would cause a loss to be reported as a profit may be of concern.

### Illustrative Guidelines

Accounting and auditing standards do not provide specific materiality guidelines to practitioners. The concern is that such guidelines might be applied without considering all the complexities that should affect the auditor's final decision. However, in this chapter, we do provide guidelines to illustrate the application of materiality. These are intended only to help you better understand the concept of applying materiality in practice. The guidelines are stated in Figure 8-6 in the form of policy guidelines of a CPA firm. Notice that the guidelines are formulas using one or more benchmarks and a range of percentages. The application of guidelines, such as the ones we present here, requires considerable professional judgment.

### Application to Hillsburg Hardware

Using the illustrative guidelines in Figure 8-6, let's examine a preliminary judgment about materiality for Hillsburg Hardware Co. The guidelines are as follows:

	<b>Preliminary Judgment About Materiality (Rounded, in Thousands)</b>			
	<b>Minimum</b>		<b>Maximum</b>	
	<b>Percentage</b>	<b>Dollar Amount</b>	<b>Percentage</b>	<b>Dollar Amount</b>
Earnings from operations	3	\$221	6	\$442
Current assets	3	1,531	6	3,062
Total assets	1	614	3	1,841
Current liabilities	3	396	6	793



FIGURE 8-6

## Illustrative Materiality Guidelines

BERGER AND ANTHONY, CPAs  
Gary, Indiana 46405

## POLICY STATEMENT

No. 321C

Title: Materiality Guidelines

Charles G. Berger  
Joe Anthony

Professional judgment is to be used at all times in setting and applying materiality guidelines. As a general guideline, the following policies are to be applied:

1. The combined total of misstatements in the financial statements exceeding 6 percent is normally considered material. A combined total of less than 3 percent is presumed to be immaterial in the absence of qualitative factors. Combined misstatements between 3 percent and 6 percent require the greatest amount of professional judgment to determine their materiality.
2. The 3 percent to 6 percent must be measured in relation to the appropriate benchmark. Many times there is more than one benchmark to which misstatements should be compared. The following guides are recommended in selecting the appropriate benchmark:
  - a. *Income statement.* Combined misstatements in the income statement should ordinarily be measured at 3 percent to 6 percent of operating income before taxes. A guideline of 3 percent to 6 percent may be inappropriate in a year in which income is unusually large or small. When operating income in a given year is not considered representative, it is desirable to substitute as a benchmark a more representative income measure. For example, average operating income for a 3-year period may be used as the benchmark.
  - b. *Balance sheet.* Combined misstatements in the balance sheet should originally be evaluated for current assets, current liabilities, and total assets. For current assets and current liabilities, the guidelines should be between 3 percent and 6 percent, applied in the same way as for the income statement. For total assets, the guidelines should be between 1 percent and 3 percent, applied in the same way as for the income statement.
3. Qualitative factors should be carefully evaluated on all audits. In many instances, they are more important than the guidelines applied to the income statement and balance sheet. The intended uses of the financial statements and the nature of the information in the statements, including footnotes, must be carefully evaluated.

If the auditor for Hillsburg Hardware decides that the general guidelines are reasonable, the first step is to evaluate whether any qualitative factors significantly affect the materiality judgment. Assuming no qualitative factors exist, if the auditor concludes at the end of the audit that combined misstatements of operating income before taxes are less than \$221,000, the statements will be considered fairly stated. If the combined misstatements exceed \$442,000, the statements will not be considered fairly stated. If the misstatements are between \$221,000 and \$442,000, a more careful consideration of all facts will be required. The auditor then applies the same process to the other three bases.

## DETERMINE PERFORMANCE MATERIALITY

Performance materiality is defined as the amount(s) set by the auditor at less than materiality for the financial statements as a whole to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds materiality for the financial statements as a whole. Determining performance materiality (step 2 in Figure 8-5 on p. 276) is necessary because auditors accumulate evidence by segments rather than for the financial statements as a whole, and the level of performance materiality helps them decide the appropriate audit evidence to accumulate. Performance materiality is inversely related to the amount of evidence an auditor will accumulate. For an accounts receivable balance of \$1,000,000, for example, the auditor should accumulate more evidence if a misstatement of \$50,000 is considered material than if \$300,000 were considered material. However, if auditors assigned

### OBJECTIVE 8-7

Determine performance materiality during audit planning.

the same level of materiality to each segment of the audit that was assigned for the overall financial statements, there would likely be unidentified misstatements that exceed materiality for the financial statements as a whole.

Many auditors set performance materiality for most tests as a standard percentage of the preliminary judgment about materiality for the financial statements as a whole. Performance materiality is commonly set at 50–75 percent of overall materiality. However, performance materiality can vary for different classes of transactions, account balances, or disclosures, especially if there is a focus on a particular area. For example, users of financial statements might expect disclosures of related party transactions involving the CEO or the purchase price of a newly acquired subsidiary to be more precise, and therefore auditors might set a lower materiality level in these audit areas. In addition, overall audit assurance and the cost of audit evidence can be considered when determining performance materiality, as discussed further below.

We refer to the process of determining performance materiality as the **allocation of the preliminary judgment about materiality** to segments in our discussion that follows. If auditors do not use a standard percentage and consider audit assurance and the cost of audit evidence in determining performance materiality, most practitioners allocate materiality to balance sheet rather than income statement accounts because most income statement misstatements have an equal effect on the balance sheet due to the nature of double-entry accounting. For example, a \$20,000 overstatement of accounts receivable is also a \$20,000 overstatement of sales. Because most audit procedures focus on balance sheet accounts, materiality is usually allocated only to balance sheet accounts.

The determination of performance materiality is based on professional judgment and reflects the amount of misstatement an auditor is willing to accept in a particular segment. For example, if an auditor decides to allocate \$100,000 of a total preliminary judgment about materiality of \$200,000 to accounts receivable, this means the auditor is willing to consider accounts receivable fairly stated if it is misstated by \$100,000 or less. PCAOB auditing standards refer to this amount as **tolerable misstatement**, whereas AICPA standards define tolerable misstatement as the application of performance materiality to a particular sampling procedure. We use the term performance materiality rather than tolerable misstatement throughout this chapter to be consistent with AICPA and IAASB standards.

Auditors face three major difficulties in allocating materiality to balance sheet accounts:

1. Auditors expect certain accounts to have more misstatements than others.
2. Both overstatements and understatements must be considered.
3. Relative audit costs affect the allocation.

All three of these difficulties are considered in the allocation in Figure 8-7. It is worth keeping in mind that at the end of the audit, the auditor must combine all actual and estimated misstatements and compare them to the preliminary judgment about materiality. In determining performance materiality levels, the auditor is attempting to do the audit as efficiently as possible.

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### Allocation Illustrated

Figure 8-7 illustrates the allocation approach used to establish different performance materiality levels across segments of the financial statements for the audit of Hillsburg Hardware Co. It summarizes the balance sheet, combining certain accounts, and shows the allocation of total materiality of \$442,000 (6 percent of earnings from operations). The allocation approach uses judgment in the allocation, subject to the following two arbitrary requirements established by Berger and Anthony, CPAs:

- Performance materiality for any account cannot exceed 60 percent of the preliminary judgment (60 percent of \$442,000 = \$265,000, rounded).
- The sum of all performance materiality levels cannot exceed twice the preliminary judgment about materiality ( $2 \times \$442,000 = \$884,000$ ).