AU-C Section 530

Audit Sampling

Source: SAS No. 122.

Effective for audits of financial statements for periods ending on or after December 15, 2012.

Introduction

Scope of This Section

.01 This section applies when the auditor has decided to use audit sampling in performing audit procedures. It addresses the auditor's use of statistical and nonstatistical sampling when designing and selecting the audit sample, performing tests of controls and tests of details, and evaluating the results from the sample. (Ref: par. .A1–.A2)

.02 This section complements section 500, *Audit Evidence*, which addresses the auditor's responsibility to design and perform audit procedures to obtain sufficient appropriate audit evidence to be able to draw reasonable conclusions as a basis for forming the auditor's opinion. Section 330, *Performing Audit Procedures in Response to Assessed Risks and Evaluating the Audit Evidence Obtained*, provides guidance on the means available to the auditor for selecting items for testing, one of which is audit sampling.[1]

Effective Date

.03 This section is effective for audits of financial statements for periods ending on or after December 15, 2012.

Objective

.04 The objective of the auditor, when using audit sampling, is to provide a reasonable basis for the auditor to draw conclusions about the population from which the sample is selected.

Definitions

.05 For purposes of generally accepted auditing standards, the following terms have the meanings attributed as follows:

> **Audit sampling (sampling).** The selection and evaluation of less than 100 percent of the population of audit relevance such that the auditor expects the items selected (the sample) to be representative of the population and, thus, likely to provide a reasonable basis for conclusions about the population. In this context, *representative* means that evaluation of the sample will result in

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[1] Paragraphs .A65–.A71 of section 330, *Performing Audit Procedures in Response to Assessed Risks and Evaluating the Audit Evidence Obtained*.

conclusions that, subject to the limitations of sampling risk, are similar to those that would be drawn if the same procedures were applied to the entire population. (Ref: par. .A3)

Nonsampling risk. The risk that the auditor reaches an erroneous conclusion for any reason not related to sampling risk. (Ref: par. .A4)

Population. The entire set of data from which a sample is selected and about which the auditor wishes to draw conclusions.

Sampling risk. The risk that the auditor's conclusion based on a sample may be different from the conclusion if the entire population were subjected to the same audit procedure. Sampling risk can lead to two types of erroneous conclusions:

    a. In the case of a test of controls, that controls are more effective than they actually are, or in the case of a test of details, that a material misstatement does not exist when, in fact, it does. The auditor is primarily concerned with this type of erroneous conclusion because it affects audit effectiveness and is more likely to lead to an inappropriate audit opinion.

    b. In the case of a test of controls, that controls are less effective than they actually are, or in the case of a test of details, that a material misstatement exists when, in fact, it does not. This type of erroneous conclusion affects audit efficiency because it would usually lead to additional work to establish that initial conclusions were incorrect.

Sampling unit. The individual items constituting a population. (Ref: par. .A5)

Statistical sampling. An approach to sampling that has the following characteristics:

    a. Random selection of the sample items (Ref: par. .A16)

    b. The use of an appropriate statistical technique to evaluate sample results, including measurement of sampling risk

A sampling approach that does not have characteristics *a* and *b* is considered nonstatistical sampling.

Stratification. The process of dividing a population into subpopulations, each of which is a group of sampling units that have similar characteristics.

Tolerable misstatement. A monetary amount set by the auditor in respect of which the auditor seeks to obtain an appropriate level of assurance that the monetary amount set by the auditor is not exceeded by the actual misstatement in the population. (Ref: par. .A6)

Tolerable rate of deviation. A rate of deviation set by the auditor in respect of which the auditor seeks to obtain an appropriate level of assurance that the rate of deviation set by the auditor is not exceeded by the actual rate of deviation in the population.

Requirements

Sample Design, Size, and Selection of Items for Testing

.06 When designing an audit sample, the auditor should consider the purpose of the audit procedure and the characteristics of the population from which the sample will be drawn. (Ref: par. .A7–.A11)

.07 The auditor should determine a sample size sufficient to reduce sampling risk to an acceptably low level. (Ref: par. .A12–.A14)

.08 The auditor should select items for the sample in such a way that the auditor can reasonably expect the sample to be representative of the relevant population and likely to provide the auditor with a reasonable basis for conclusions about the population. (Ref: par. .A15–.A17)

Performing Audit Procedures

.09 The auditor should perform audit procedures, appropriate to the purpose, on each item selected.

.10 If the audit procedure is not applicable to the selected item, the auditor should perform the procedure on a replacement item. (Ref: par. .A18)

.11 If the auditor is unable to apply the designed audit procedures, or suitable alternative procedures, to a selected item, the auditor should treat that item as a deviation from the prescribed control (in the case of tests of controls) or a misstatement (in the case of tests of details). (Ref: par. .A19–.A20)

Nature and Cause of Deviations and Misstatements

.12 The auditor should investigate the nature and cause of any deviations or misstatements identified and evaluate their possible effect on the purpose of the audit procedure and on other areas of the audit. (Ref: par. .A21–.A23)

Projecting the Results of Audit Sampling

.13 The auditor should project the results of audit sampling to the population. (Ref: par. .A24–.A25)

Evaluating the Results of Audit Sampling

.14 The auditor should evaluate

   a.   the results of the sample, including sampling risk, and (Ref: par. .A26–.A27)

   b.   whether the use of audit sampling has provided a reasonable basis for conclusions about the population that has been tested. (Ref: par. .A28)

Application and Other Explanatory Material

Scope of This Section (Ref: par. .01)

.A1 The AICPA Audit Guide *Audit Sampling* provides interpretative guidance to apply the concepts in this section, including its definitions.

Considerations Specific to Governmental Entities

.A2 Chapter 11 of the AICPA Audit Guide Government Auditing Standards *and Circular A-133 Audits* provides interpretative guidance in designing an audit approach that includes audit sampling to achieve audit objectives related to both compliance and internal control over compliance in a Circular A-133 compliance audit or program-specific audit performed in accordance with Office of Management and Budget Circular A-133, *Audits of States, Local Governments and Non-Profit Organizations*.

Definitions

Audit Sampling (Ref: par. .05)

.A3 There may be audit procedures that are not considered audit sampling but that involve examination of fewer than 100 percent of the items comprising an account balance or class of transactions. For example, an auditor may examine only a few transactions from an account balance or class of transactions to (*a*) gain an understanding of the nature of an entity's operations or (*b*) clarify the auditor's understanding of the entity's internal control. In such cases, the guidance in this section is not applicable.

Nonsampling Risk (Ref: par. .05)

.A4 Examples of nonsampling risk include the use of inappropriate audit procedures or misinterpretation of audit evidence and failure to recognize a misstatement or deviation. Nonsampling risk may be reduced to an acceptable level through such factors as adequate planning (see section 300, *Planning an Audit*) and proper conduct of a firm's audit practice (see section 220, *Quality Control for an Engagement Conducted in Accordance With Generally Accepted Auditing Standards*).

Sampling Unit (Ref: par. .05)

.A5 The sampling units might be physical items (for example, checks listed on deposit slips, credit entries on bank statements, sales invoices, or accounts receivable) or monetary units.

Tolerable Misstatement (Ref: par. .05)

.A6 The auditor is required by section 320, *Materiality in Planning and Performing an Audit*, to determine performance materiality.[2] Performance materiality is determined to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements in the financial statements exceeds materiality for the financial statements as a whole. *Tolerable misstatement* is the application of performance materiality to a particular sampling procedure. Tolerable misstatement may be the same amount or an amount smaller than performance materiality (for example, when the population from which the sample is selected is smaller than the account balance).

Sample Design, Size, and Selection of Items for Testing

Sample Design (Ref: par. .06)

.A7 Audit sampling enables the auditor to obtain and evaluate audit evidence about some characteristic of the items selected in order to form or assist in forming a conclusion concerning the population from which the sample is

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[2] Paragraph .11 of section 320, *Materiality in Planning and Performing an Audit*.

drawn. Audit sampling can be applied using either statistical or nonstatistical sampling approaches.

.A8 When designing an audit sample, the auditor's consideration includes the specific purpose to be achieved and the combination of audit procedures that is likely to achieve that purpose. Consideration of the nature of the audit evidence sought and possible deviation or misstatement conditions or other characteristics relating to that audit evidence will assist the auditor in defining what constitutes a deviation or misstatement and what population to use for sampling. In fulfilling the requirement in section 500 when performing audit sampling, the auditor is required to perform audit procedures to obtain evidence that the population from which the audit sample is drawn is complete.[3]

.A9 The auditor's consideration of the purpose of the audit procedure, as required by paragraph .06, includes a clear understanding of what constitutes a deviation or misstatement so that all, and only, those conditions that are relevant to the assertions are included in the evaluation of deviations or projection of misstatements. For example, in a test of details relating to the existence of accounts receivable, such as confirmation, payments made by the customer before the confirmation date but received shortly after that date by the client are not considered a misstatement. Also, an incorrect posting between customer accounts does not affect the total accounts receivable balance. Therefore, it may not be appropriate to consider this a misstatement in relation to the relevant assertion even though it may have an important effect on other areas of the audit, such as the assessment of the risk of fraud or the adequacy of the allowance for doubtful accounts.

.A10 In considering the test objective and characteristics of a population for tests of controls, the auditor makes an assessment of the expected rate of deviation based on the auditor's understanding of the relevant controls. This assessment is made in order to design an audit sample and determine sample size. For example, if the expected rate of deviation is unacceptably high, the auditor will normally decide not to perform tests of controls. Similarly, for tests of details, the auditor makes an assessment of the expected misstatement in the population. If the expected misstatement is high, 100 percent examination or increasing the sample size may be appropriate when performing tests of details.

.A11 In considering the characteristics of the population from which the sample will be drawn, the auditor may determine that stratification or value-weighted selection is appropriate.

Sample Size (Ref: par. .07)

.A12 The level of sampling risk that the auditor is willing to accept affects the sample size required. The lower the risk the auditor is willing to accept, the greater the sample size necessary.

.A13 The sample size can be determined by the application of a statistically based formula or through the exercise of professional judgment. Various factors typically influence determination of sample size, as follows:

- For tests of controls:
  — The tolerable rate of deviation of the population to be tested
  — The expected rate of deviation of the population to be tested

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[3] Paragraph .09 of section 500, *Audit Evidence*.

— The desired level of assurance (complement of risk of over-reliance) that the tolerable rate of deviation is not exceeded by the actual rate of deviation in the population; the auditor may decide the desired level of assurance based on the extent to which the auditor's risk assessment takes into account relevant controls

— The number of sampling units in the population if the population is very small

- For substantive tests of details:

— The auditor's desired level of assurance (complement of risk of incorrect acceptance) that tolerable misstatement is not exceeded by actual misstatement in the population; the auditor may decide the desired level of assurance based on the following:

- The auditor's assessment of the risk of material misstatement
- The assurance obtained from other substantive procedures directed at the same assertion

— Tolerable misstatement

— Expected misstatement for the population

— Stratification of the population when performed

— For some sampling methods, the number of sampling units in each stratum

.A14 The decision whether to use a statistical or nonstatistical sampling approach is a matter for the auditor's professional judgment; however, sample size is not a valid criterion to use in deciding between statistical and nonstatistical approaches. An auditor who applies statistical sampling may use tables or formulas to compute sample size based on the factors in paragraph .A13. An auditor who applies nonstatistical sampling exercises professional judgment to relate the same factors used in statistical sampling in determining the appropriate sample size. Ordinarily, this would result in a sample size comparable with the sample size resulting from an efficient and effectively designed statistical sample, considering the same sampling parameters. This guidance does not suggest that the auditor using nonstatistical sampling also compute a corresponding sample size using an appropriate statistical technique.

Selection of Items for Testing (Ref: par. .08)

.A15 Audit sampling involves selection techniques that are probabilistic in nature. For example, through the assessment of the risk of material misstatement, an auditor might identify areas in which misstatement is relatively likely. The auditor might first separately examine those items deemed to be of relatively high risk and then use audit sampling (which will involve some form of probabilistic selection) to form an estimate of some characteristic of the remaining population.

.A16 Random selection techniques include the following:

a. Simple random

b. Systematic random

c. Probability weighted, including monetary unit

A detailed discussion of selection techniques is included in the AICPA Audit Guide *Audit Sampling*.

.A17 With statistical sampling, sample items are selected using random selection techniques. The principal techniques of selecting a nonstatistical sample are the use of random selection and haphazard selection to select sample items.

Performing Audit Procedures (Ref: par. .10–.11)

.A18 An example of when it is necessary to perform the procedure on a replacement item is when a voided check is selected while testing for evidence of payment authorization. If the auditor is satisfied that the check has been properly voided such that it does not constitute a deviation, an appropriately chosen replacement is examined.

.A19 In some circumstances, the auditor may not be able to apply the planned audit procedures to selected sample items because, for example, the entity might not be able to locate supporting documentation. The auditor's treatment of unexamined items will depend on their effect on the auditor's evaluation of the sample. If the auditor's evaluation of the sample results would not be altered by considering those unexamined items to be misstated, it may not be necessary to examine the items, for example, if the aggregate amount of the unexamined items, if treated as misstatements or deviations, would not cause the auditor's assessment of the amount of the misstatement or deviation in the population to exceed tolerable misstatement or tolerable deviation, respectively. However, when this is not the case, the auditor is required by paragraph .11 to perform alternative procedures that provide sufficient appropriate audit evidence to form a conclusion about the sample item and use the results of these procedures in assessing the sample results. If alternative procedures cannot be satisfactorily performed in these cases, the auditor is required to treat the items as misstatements or deviations, as appropriate, in evaluating the results of the sample. Section 240, *Consideration of Fraud in a Financial Statement Audit*, also requires the auditor to consider whether the reasons for the auditor's inability to examine the items have implications with regard to assessing risks of material misstatement due to fraud, the assessed level of control risk that the auditor expects to be supported, or the degree of reliance on management representations.

.A20 An example of a suitable alternative procedure for an accounts receivable positive confirmation request for which no reply has been received might be the examination of subsequent cash receipts, together with evidence of their source and the items they are intended to settle.

Nature and Cause of Deviations and Misstatements (Ref: par. .12)

.A21 Section 450, *Evaluation of Misstatements Identified During the Audit*, explains that the auditor may request management to examine a class of transactions, account balance, or disclosure in order for management to understand the cause of a misstatement identified by the auditor; perform procedures to determine the amount of the actual misstatement in the class of transactions, account balance, or disclosure; and make appropriate adjustments to the financial statements.[4]

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[4] Paragraph .A9 of section 450, *Evaluation of Misstatements Identified During the Audit*.

.A22 In analyzing the deviations and misstatements identified, the auditor may observe that many have a common feature (for example, type of transaction, location, product line, or period of time). In such circumstances, the auditor may decide to identify all items in the population that possess the common feature and extend audit procedures to those items. In addition, such deviations or misstatements may be intentional and may indicate the possibility of fraud.

.A23 In addition to the evaluation of the frequency and amounts of monetary misstatements, section 450 requires the auditor to consider the qualitative aspects of the misstatements.[5] These include (*a*) the nature and cause of misstatements, such as whether they are differences in principle or application, are errors, or are caused by fraud or are due to misunderstanding of instructions or carelessness, and (*b*) the possible relationship of the misstatements to other phases of the audit. The discovery of fraud requires a broader consideration of possible implications than does the discovery of an error.

Projecting the Results of Audit Sampling (Ref: par. .13)

.A24 For tests of details, the auditor is required by paragraph .13 to project misstatements observed in an audit sample to the population in order to obtain a likely misstatement. Due to sampling risk, this projection may not be sufficient to determine an amount to be recorded.

.A25 For tests of controls, the sample deviation rate is also the projected deviation rate for the population as a whole. Section 330 addresses the auditor's response when deviations from controls upon which the auditor intends to rely are detected.[6]

Evaluating the Results of Audit Sampling (Ref: par. .14)

.A26 For tests of controls, an unexpectedly high sample deviation rate may lead to an increase in the assessed risks of material misstatement, unless further audit evidence substantiating the initial assessment is obtained. For tests of details, an unexpectedly high misstatement amount in a sample may cause the auditor to believe that a class of transactions or account balance is materially misstated, in the absence of further audit evidence that no material misstatement exists.

.A27 Considering the results of other audit procedures helps the auditor assess the risk that actual misstatement in the population exceeds tolerable misstatement; such risk may be reduced if additional audit evidence is obtained. In the case of tests of details, the *projected misstatement* is the auditor's best estimate of misstatement in the population. As the projected misstatement approaches or exceeds tolerable misstatement, the more likely that actual misstatement in the population exceeds tolerable misstatement. Also, if the projected misstatement is greater than the auditor's expectations of misstatement used to determine the sample size, the auditor may conclude that there is an unacceptable sampling risk that the actual misstatement in the population exceeds the tolerable misstatement. The AICPA Audit Guide *Audit Sampling* contains further guidance regarding the concept of sampling risk.

.A28 If the auditor concludes that audit sampling has not provided a reasonable basis for conclusions about the population that has been tested, the auditor may

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[5] Paragraph .11 of section 450.

[6] Paragraph .17 of section 330.

- request management to investigate misstatements that have been identified and the potential for further misstatements and to make any necessary adjustments or

- tailor the nature, timing, and extent of those further audit procedures to best achieve the required assurance. For example, in the case of tests of controls, the auditor might extend the sample size, test an alternative control, or modify related substantive procedures.

Section 450 addresses misstatements identified by the auditor during the audit.

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