**Agenda Item 10-A**

# PROPOSED INTERNATIONAL STANDARD ON AUDITING 530

# (REDRAFTED)

# MARK-UP BASED ON FEBRUARY 2007 IAASB DRAFT

# AUDIT SAMPLING ~~AND OTHER MEANS OF TESTING~~

(Effective for audits of financial statements for periods beginning on or after [date]*)

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# Introduction

## Scope of this ISA

1. This International Standard on Auditing (ISA) deals with the auditor's use of audit sampling ~~and other means of selecting items for testing~~ when designing and performing audit procedures to obtain audit evidence. This ISA is applicable when the auditor designs and performs tests of controls and tests of details. ~~It is not applicable when the auditor performs substantive analytical procedures (see ISA 520, "Analytical Procedures"). (Ref: Para. A1-A7)~~

2. This ISA complements [proposed] ISA 500 (Redrafted) "Considering the Relevance and Reliability of Audit Evidence", which deals with what constitutes audit evidence in an audit of financial statements, the auditor's responsibility to obtain information that is capable of providing sufficient appropriate audit evidence, and the evaluation of whether sufficient appropriate evidence has been obtained.

## Effective Date

~~2.~~3. This ISA is effective for audits of financial statements for periods beginning on or after [date[1]].

# Objective

~~3.~~4. ~~The objective of the auditor is to use appropriate bases for selecting items for testing in order to obtain sufficient appropriate audit evidence.~~ The objective of the auditor when using audit sampling is to design, perform, and evaluate samples so as to provide appropriate bases for conclusions about the populations tested.

# Definitions

~~4.~~5. For purposes of the ISAs, the following terms have the meanings attributed below:

(a) Audit sampling (sampling) — The application of audit procedures to less than 100% of items within a ~~class of transactions or account balance~~population of audit relevance such that all sampling units have a chance of selection.

(b) Population — The entire set of data from which a sample is selected and about which the auditor wishes to draw conclusions. For example, all of the items in a class of transactions or account balance constitute a population. A population may be divided into strata, or sub-populations, with each stratum being examined separately. ~~The term population is used to include the term stratum.~~

(c) 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. There are two types of sampling risk:

(i) The risk the auditor will conclude, 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 ~~error~~misstatement does not exist when in fact it does. ~~This type of risk~~Because it

1 This date will not be earlier than December 15, 2008.

affects audit effectiveness and is more likely to lead to an inappropriate audit opinion, the auditor is primarily concerned with this type of sampling risk.

The term "confidence level" is used to denote its complement—one minus the risk; ~~and~~

(ii) The risk the auditor will conclude, 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 ~~error~~misstatement exists when in fact it does not. This type of risk affects audit efficiency as it would usually lead to additional work to establish that initial conclusions were incorrect.

~~The mathematical complements of these risks are termed confidence levels.~~

~~(d) Non-sampling risk — Arises from factors that cause the auditor to reach an erroneous conclusion for any reason not related to sampling. Non-sampling risk includes the possibility of selecting audit procedures that are not appropriate to achieve the specific objective of the procedure. For example, confirming recorded receivables cannot be relied on to reveal unrecorded receivables. Non-sampling risk also could arise because the auditor may misinterpret audit evidence and thus not recognize a misstatement or deviation included in documents that the auditor examines, which would make that procedure ineffective even if the auditor was able to examine all items.~~

(d) Non-sampling risk —The risk that the auditor does not recognize misstatements or deviations included in the sample for what they are.

(e) Sampling unit — The individual items constituting a population.

(f) Statistical sampling — ~~Any~~An approach to sampling that has the following characteristics:

(i) Random selection of ~~a~~the sample items; and

(ii) ~~Use~~The use of probability theory to evaluate sample results, including measurement of sampling risk.

A sampling approach that does not have characteristics (i) and (ii) is considered non-statistical sampling.

(g) Stratification — The process of dividing a population into subpopulations, each of which is a group of sampling units which have similar characteristics (often monetary value).

(h) Tolerable ~~rate — The maximum rate of deviations from the prescribed control that the auditor is willing to accept without revising the auditor's risk assessment.~~misstatement — An amount that the auditor seeks to obtain reasonable assurance is not exceeded by the actual misstatement in the population. (Ref: Para A1)

~~(i) Tolerable misstatement — The maximum monetary misstatement for the class of transactions or account balance that the auditor is willing to accept. Tolerable misstatement is an amount less than the auditor's materiality used for the individual class of transactions or account balances being audited.~~

(i) Tolerable rate of deviation — A rate that the auditor seeks to obtain reasonable assurance is not exceeded by the actual rate of deviation in the population.

(j) Estimated maximum misstatement – The upper limit of the range of reasonably possible misstatement. In this context, "reasonably possible" means that the risk is acceptably low that actual misstatement exceeds the upper limit. (Ref: Para A2- A4)

(k) Estimated maximum rate of deviation – The upper limit of the range of reasonably possible rates of deviation. In this context, "reasonably possible" means that the risk is acceptably low that the actual rate of deviation exceeds the upper limit. (Ref: Para A2- A4)

(l) Projected misstatements[2] – The auditor's best estimate of misstatements in populations involving the projection of misstatements identified in audit samples to the entire populations from which the samples were drawn.

## Requirements

**~~Selecting Items for Testing to Obtain Audit Evidence~~Sample Design, Size and Selection of Items for Testing**

~~5. When designing tests of controls and tests of details, the auditor shall determine appropriate means of selecting items for testing in order to be satisfied that the means used are effective in providing sufficient appropriate audit evidence to meet the objectives of the audit procedure. (Ref: Para. A8)~~

~~6. The means available to the auditor are:~~

~~(a) Selecting all items (100% examination); (Ref: Para. A9)~~

~~(b) Selecting specific items; (Ref: Para. A10-A11) and~~(c) Audit sampling. ~~(Ref: Para. A12-A15)~~When designing an audit sample, the auditor shall consider the objectives of the audit procedure and the characteristics of the population from which the sample will be drawn. (Ref: Para. A5-A11)

~~7. When designing tests of controls, the auditor shall identify the characteristics or attributes that indicate performance of a control, as well as possible deviation conditions which indicate departures from adequate performance. The presence or absence of attributes can then be tested by the auditor. When designing tests of details, the auditor shall identify the conditions that constitute a misstatement. The auditor shall determine what conditions constitute a deviation or misstatement by reference to the objectives of the audit procedure and shall make an assessment of the expected rate of deviation or expected misstatement in the population to be tested. (Ref: Para. A16)~~

~~*Audit Sampling*~~

7. The auditor shall determine a sample size sufficient to allow the auditor to conclude with an acceptably low level of sampling risk that:

(i) In the case of tests of details, the total misstatement does not exceed tolerable misstatement; or

(ii) In the case of tests of controls, the total rate of deviation does not exceed the tolerable rate of deviation. (Ref: Para. A12-A13)

[2] The term projected misstatements can be used when referring to a particular sample or when referring to a combination of samples.

8. ~~When designing an audit sample, the auditor shall consider the objectives of the audit procedure and the attributes of the population from which the sample will be drawn. (Ref: Para. A17-A18)~~

~~9. The auditor shall determine that the information on which the audit procedures are based is appropriate to the objective of the audit procedure, accurate and complete. (Ref: Para. A19-A20)~~

~~10. In determining the sample size, the auditor shall evaluate whether sampling risk is reduced to an acceptably low level. (Ref: Para. A21-A22)~~11. The auditor shall select items for the sample in such a way that all sampling units in the population have a chance of selection. (Ref: Para. A~~23~~14-A~~24~~15)

**Performing Audit Procedures**

~~12.~~9. The auditor shall perform audit procedures appropriate to the particular audit objective on each item selected. If a selected item is not ~~appropriate~~applicable for the ~~application~~performance of the audit procedure, the auditor shall perform the procedure on a replacement item. If the auditor is unable to apply the designed audit procedures, or suitable alternative procedures, to a selected item the auditor shall treat that item ~~to be~~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: Para. A25-A26~~The auditor shall also consider whether the reasons for the inability to examine the items have implications for the assessed risk of material misstatement due to fraud, for the assessed level of control risk that the auditor expects to be supported, or for the degree of reliance on management representations (Ref: Para. A16-A17)

**Nature and Cause of Deviations and Misstatements**

~~13.~~10. The auditor shall consider the sample results, the nature and cause of any deviations or misstatements identified, and their possible effect on the objective of the particular audit procedure and on other areas of the audit. (Ref: Para. A~~27-A28~~)

~~14. When performing tests of controls, the auditor is primarily concerned with obtaining audit evidence that controls operated effectively throughout the period of reliance. The concept of effectiveness of the operation of controls recognizes that some deviations in the way controls are applied by the entity may occur. When the auditor identifies such deviations, the auditor shall make specific inquiries to understand these matters and shall also consider matters such as:~~

~~(a) The direct effect of identified deviations on the financial statements; and~~

~~(b) The effectiveness of internal control and their effect on the audit approach, for example, when the deviations result from management override of a control.~~

~~In these cases, the auditor shall determine whether the tests of controls performed provide an appropriate basis for use as audit evidence, whether additional tests of controls are necessary, or whether the potential risks of misstatement need to be addressed by using substantive procedures. 15. The auditor may be able to establish that a deviation or misstatement arises from an isolated event that has not recurred other than on specifically identifiable occasions and is therefore not representative of similar errors in the population (an anomaly). To be considered an anomaly, the auditor has to have a high degree of certainty that the deviation or~~

~~misstatement is not representative of the population. Where the auditor believes that a deviation or misstatement may be an anomaly, the auditor shall obtain this high degree of certainty by performing additional audit procedures that are adequate to provide the auditor with sufficient appropriate audit evidence that the deviation or misstatement does not affect the remaining part of the population. (Ref: Para. A30~~18)

**Projecting ~~Misstatements~~ and Evaluating Sample Results**

~~16.~~

11. For tests of details, the auditor shall ~~project misstatements found in the sample to the population~~determine, for the population, both projected misstatement and estimated maximum misstatement, and shall evaluate ~~the~~their effect ~~of the projected misstatement~~ on the objective of the particular audit procedure and on other areas of the audit. ~~If a class of transactions or account balance has been divided into strata, the auditor shall project the misstatement for each stratum separately. For tests of controls, no explicit projection of deviations is necessary since the sample deviation rate is also the projected rate of deviations for the population as a whole. (Ref: Para. A29)~~(Ref: Para. A19).

12. For tests of controls, the auditor shall determine, for the population, both the projected rate of deviation and the estimated maximum rate of deviation, and shall evaluate their effect on the objective of the particular audit procedure and on other areas of the audit. (Ref: Para. A19)

13. For tests of details, the auditor shall compare estimated maximum misstatement to tolerable misstatement. If estimated maximum misstatement exceeds tolerable misstatement the auditor cannot conclude with reasonable assurance that actual misstatement does not exceed tolerable misstatement. In that case, the auditor shall perform further audit procedures that will either achieve such reasonable assurance or prove that actual misstatement does, in fact, exceed tolerable misstatement.

~~17. The~~14. For tests of controls, the auditor shall compare the ~~total amount of projected misstatement for the population to tolerable misstatement. If the total amount of projected misstatement is greater than tolerable misstatement~~estimated maximum rate of deviation to the tolerable rate of deviation. If the estimated maximum rate of deviation exceeds the tolerable rate of deviation the auditor cannot conclude with reasonable assurance that the actual rate of deviation does not exceed the tolerable rate of deviation. In that case, the auditor shall either perform ~~audit procedures to reduce projected misstatements below tolerable misstatement or modify the auditor's opinion. (Ref: Para. A30)~~further audit procedures that will achieve such reasonable assurance or shall reconsider the appropriateness of reliance on the controls that were tested. (Ref: Para. A20)

**~~Evaluating Sample Results~~**

~~18.~~15. The auditor shall evaluate the sample results to determine whether the assessment of the relevant characteristic of the population is confirmed or needs to be revised. ~~(Ref: Para. A31-A32)~~

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## Application and Other Explanatory Material

### Definitions

~~**Audit Evidence**~~*Tolerable Misstatement* (Ref: Para. ~~1~~5(i))

~~A1. In accordance with ISA 500, "Audit Evidence" audit evidence is obtained by performing~~

A1. The concept of tolerable misstatement is described in paragraph A13 of [proposed] ISA 320, (Revised and Redrafted), "Materiality in Planning and Performing an Audit." This ISA describes the application of tolerable misstatement to audit sampling. Tolerable misstatement is used to design samples that, taken together with all the other evidence considered by the auditor, should be sufficient to allow the auditor to conclude with reasonable assurance that total misstatement in the financial statements is not material. Tolerable misstatement is set lower than materiality for two reasons. The first is prudence: it provides a margin of safety against an unexpectedly high incidence of misstatements, so that if tests do not turn out as expected, the auditor may still be able to conclude with reasonable assurance that total misstatement is not material. The second is to reduce aggregation risk so that when sample results for a specific population are aggregated into the results for the audit as a whole, the auditor may obtain reasonable assurance that the aggregate misstatement in the financial statements is not material. The determination of tolerable misstatement is not a simple mechanical calculation and requires the auditor to exercise professional judgment. It is affected by the auditor's understanding of the entity, updated during the execution of the risk assessment procedures, ~~tests of controls and substantive procedures. The type of audit procedure to be performed is important to an understanding of the application of audit sampling in obtaining audit evidence.~~

~~*Risk Assessment Procedures*~~

~~A2. ISA 315, "Identifying and Assessing the Risks of Material Misstatement Through Understanding the Entity and Its Environment," requires the auditor to perform risk assessment procedures through understanding the entity and its environment, including the entity's internal control. Ordinarily, risk assessment procedures do not involve the use of audit sampling. However, the auditor may plan and perform tests of controls concurrently with obtaining an understanding of the design of controls and determining whether they have been implemented. In such cases, the discussion of tests of controls in paragraphs A3–A5 of this ISA is relevant.~~

~~*Tests of Controls*~~

~~A3. In accordance with ISA 330, "The Auditor's Responses to Assessed Risks" tests of controls are performed when the auditor's assessment of risks of material misstatement at the assertion level includes an expectation that the controls are operating effectively.~~

~~A4. Audit sampling for tests of controls may be appropriate when application of the control leaves audit evidence of performance (for example, initials of the credit manager on a sales invoice indicating credit approval, or evidence of authorization of data input to a microcomputer based data processing system).~~

*Substantive Procedures*

A5. Substantive procedures are concerned with amounts and are of two types: (i) tests of details of classes of transactions, account balances, and disclosures and (ii) substantive analytical procedures. The purpose of substantive procedures is to obtain audit evidence to detect material misstatements at the assertion level. When performing tests of details, audit sampling and other means of selecting items for testing and obtaining audit evidence may be used to verify one or more assertions about a financial statement amount (for example, the existence of accounts receivable), or to make an independent estimate of some amount (for example, the value of obsolete inventories).

*Risk Considerations in Obtaining Audit Evidence*

A6. Sampling risk and non-sampling risk can affect the components of the risk of material misstatement. For example, when performing tests of controls, the auditor may find no deviations in a sample and conclude that controls are operating effectively, when the rate of deviation in the population is, in fact, unacceptably high (sampling risk). Or there may be deviations in the sample which the auditor fails to recognize (non-sampling risk). With respect to substantive procedures, the auditor may use a variety of methods to reduce detection risk to an acceptable level. For both tests of controls and tests of details, sampling risk can be reduced by increasing sample size, while non-sampling risk can be reduced by proper engagement planning supervision and review.

*Audit Procedures for Obtaining Audit Evidence*

A7. Audit procedures for obtaining audit evidence include inspection, observation, inquiry and confirmation, recalculation, reperformance and analytical procedures. The choice of appropriate audit procedures is a matter of professional judgment in the circumstances. Application of these audit procedures will often involve the selection of items for testing from a population. Paragraphs 19-38 of ISA 500 contain additional discussion on audit procedures for obtaining audit evidence.

**Selecting Items for Testing to Obtain Audit Evidence** (Ref: Para. 5-7)

A8. The application of any one or combination of the means of selecting items for testing identified in paragraph 6 may be appropriate in particular circumstances. The decision as to which means, or combination of means, to use is made on the basis of the risk of material misstatement related to the assertion being tested and audit efficiency.

*Selecting All Items*

A9. The auditor may decide that it will be most appropriate to examine the entire population of items that make up a class of transactions or account balance (or a stratum within that population). 100% examination is unlikely in the case of tests of controls; however, it is more common for tests of details. 100% examination may be appropriate when, for example:

- The population constitutes a small number of large value items;

- There is a significant risk and other means do not provide sufficient appropriate audit evidence; or
- The repetitive nature of a calculation or other process performed automatically by an information system makes a 100% examination cost effective. In this circumstance the use of computer-assisted audit techniques (CAATs) may be appropriate.

*Selecting Specific Items*

A10. The auditor may decide to select specific items from a population. In making this decision, factors the auditor might consider include, for example, the auditor's understanding of the entity, the assessed risk of material misstatement, and the characteristics of the population being tested. The judgmental selection of specific items is subject to non-sampling risk. Specific items selected may include:

- *High value or key items*. The auditor may decide to select specific items within a population because they are of high value, or exhibit some other characteristic, for example items that are suspicious, unusual, particularly risk-prone or that have a history of error.
- *All items over a certain amount*. The auditor may decide to examine items whose values exceed a certain amount so as to verify a large proportion of the total amount of class of transactions or account balance.
- *Items to obtain information*. The auditor may examine items to obtain information about matters such as the nature of the entity, the nature of transactions, and internal control.
- *Items to test control activities*. The auditor may use judgment to select and examine specific items to determine whether or not a particular control activity is being performed.

A11. While selective examination of specific items from a class of transactions or account balance will often be an efficient means of obtaining audit evidence, it does not constitute audit sampling. The results of audit procedures applied to items selected in this way cannot be projected to the entire population. The auditor may need to obtain sufficient appropriate audit evidence regarding the remainder of the population when that remainder is material.

*Audit Sampling* (Ref: Para. 6(c) and 8-11)and by the nature and extent of misstatements accumulated in previous audits (e.g., for an entity with a history of large or numerous misstatements accumulated in previous audits, the amount or amounts so determined would be lower than if such misstatements were not present).

*Estimated Maximum Misstatement and Estimated Maximum Rate of Deviation* (Ref: Para. 5(j)-(k))

A2 Projected misstatement is the auditor's best estimate of the amount of misstatement in the population. Estimated maximum misstatement, on the other hand, is the upper limit of the range of reasonably possible misstatement; and is always larger than projected misstatement. Even if no misstatements are detected in a sample, so that projected misstatement is zero, there is a probability that at least some misstatement exists despite the lack of sampling evidence. The risk ordinarily declines for increasingly large amounts of potential misstatement, and at some point on the continuum of potential misstatement reaches an

acceptably low level. That point is the estimated maximum misstatement. If misstatements are detected in the sample, the projected misstatement is greater than zero and the estimated maximum misstatement is greater than it would have been had no misstatements been detected.

A3 When the sample is evaluated, estimated maximum misstatement is compared with tolerable misstatement to determine whether the auditor has achieved reasonable assurance that actual misstatement is tolerable. When statistical sampling is used the evaluation can be performed with statistical rigor to determine the estimated maximum misstatement relative to acceptable risk and the results of the sample. When non-statistical sampling is used the same rigor is not possible though the concepts of estimated maximum misstatement and acceptable risk are just as relevant, as is the comparison of estimated maximum misstatement with tolerable misstatement. In fact, many auditors apply the mechanics of a statistical evaluation as an aid to professional judgment even though the evaluation lacks statistical rigor. These same general concepts also apply to the evaluation of other types of substantive tests, even though they may need to be judgmentally applied.

A4 Considerations analogous to those discussed in paragraphs A2 and A3 in relation to estimated maximum misstatement also apply to the estimated maximum rate of deviation in the context of tests of controls.

## Sample Design, Size and Selection of Items

*Sample Design* (Ref: Para. 6)

~~A12. The auditor may decide to apply audit sampling to a class of transactions or account balance.~~ A5. 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 drawn. Audit sampling can be applied using either non-statistical or statistical sampling approaches.

~~Statistical versus Non-Statistical Sampling Approaches~~

~~A13. The decision whether to use a statistical or non-statistical sampling approach is a matter for the auditor's judgment regarding the most efficient manner to obtain sufficient appropriate audit evidence in the particular circumstances. For example, in the case of tests of controls the auditor's analysis of the nature and cause of deviations will often be more important than the statistical analysis of the mere presence or absence (that is, the count) of deviations. In such a situation, non-statistical sampling may be most appropriate.~~

~~A14. When applying statistical sampling, the sample size can be determined using either probability theory or professional judgment. Sample size is not a valid criterion to distinguish between statistical and non-statistical approaches. Sample size is a function of factors such as those identified in Appendices 1 and 2. When circumstances are similar, the effect on sample size of factors such as those identified in Appendices 1 and 2 will be similar regardless of whether a statistical or non-statistical approach is chosen.~~

~~A15. While the approach adopted may not meet the definition of statistical sampling, elements of a statistical approach may be used, for example the use of random selection using computer~~

~~generated random numbers. However, statistical measurements of sampling risk are valid only when the approach adopted has the characteristics of statistical sampling.~~

A6. When designing an audit sample, the auditor's consideration includes the specific objectives to be achieved and the combination of audit procedures which is likely to best achieve those objectives. 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.

~~A16. It is important that the auditor has~~A7. The auditor's consideration of the objectives of the audit procedure, as required by paragraph 9, includes a clear understanding of what constitutes a deviation or misstatement so that all, and only, those conditions that are relevant to the objectives of the audit procedure are included in the projection of deviations or 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, a misposting between customer accounts does not affect the total accounts receivable balance. Therefore, it is not appropriate to consider this a misstatement in evaluating the sample results of this particular audit procedure, 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.

~~Design of Sample~~

A~~17.~~8. For tests of controls, the assessment of the rate of ~~deviations~~deviation is based on the auditor's understanding of the design of the relevant controls and whether they have been implemented, or on the examination of a small number of items from the population. Similarly, for tests of details, the auditor makes an assessment of the expected misstatement in the population. This assessment is useful for designing an audit sample and for determining sample size. For example, if the expected rate of ~~deviations~~deviation is unacceptably high, tests of controls will normally not be performed. If the expected misstatement is high, 100% examination or use of a large sample size may be appropriate, when performing tests of details.

~~A18. When designing an audit sample, the auditor's consideration includes the specific objectives to be achieved and the combination of audit procedures which is likely to best achieve those objectives. 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.~~

Statistical versus Non-Statistical Sampling Approaches

A9. The decision whether to use a statistical or non-statistical sampling approach is a matter for the auditor's judgment, however sample size is not a valid criterion to distinguish between statistical and non-statistical approaches. For example, in the case of tests of controls the auditor's analysis of the nature and cause of deviations will often be more important than the

statistical analysis of the mere presence or absence (that is, the count) of deviations. In such a situation, non-statistical sampling may be more appropriate.

A10. While the approach adopted may not meet the definition of statistical sampling, elements of a statistical approach may be used, for example the use of random selection using computer generated random numbers. However, statistical measurements of sampling risk are valid only when the approach adopted has the characteristics of statistical sampling.

Information on Which Audit Procedures Are Based

~~A19. It is important for the auditor to determine that the information on which the audit procedures are based is:~~

~~(a) *Appropriate* to the objective of the audit procedure, which will include consideration of the direction of testing. For example, if the objective of the audit procedure is to test for overstatement of accounts payable, the population could be defined as the accounts payable listing. On the other hand, when testing for understatement of accounts payable, the population is not the accounts payable listing but rather subsequent disbursements, unpaid invoices, suppliers' statements, unmatched receiving reports or other populations that provide audit evidence of understatement of accounts payable;~~

~~(b) *Accurate*. In order for the auditor to obtain reliable audit evidence, the information upon which the audit procedures are based needs to be accurate, for example, when the information to be used by the auditor in performing audit procedures is produced by the entity's information system; and~~

~~(c) *Complete*. For example, if the auditor intends to select payment vouchers from a file, conclusions cannot be drawn about all vouchers for the period unless the auditor is satisfied that all vouchers have in fact been filed. Similarly, if the auditor intends to use the sample to draw conclusions about whether a control activity operated effectively during the financial reporting period, the population needs to include all relevant items from throughout the entire period. A different approach may be to stratify the population and use sampling only to draw conclusions about the control activity during, say, the first 10 months of a year, and to use alternative audit procedures or a separate sample regarding the remaining two months. ISA 330 contains additional guidance on performing audit procedures at an interim period.~~

~~A20. In considering the attributes~~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. Appendix ~~4~~1 provides further discussion on stratification and value weighted selection .

*Sample Size* (Ref: Para. 7)

A~~21.~~12. Sample size is affected by the level of sampling risk that the auditor is willing to accept. The lower the risk the auditor is willing to accept, the greater the sample size will need to be.

A~~22.~~13. The sample size can be determined by the application of a statistically-based formula or through the exercise of professional judgment. Appendices ~~1 and~~ 2 and 3 indicate the

influences that various factors typically have on the determination of sample size, and hence the level of sampling risk. When circumstances are similar, the effect on sample size of factors such as those identified in Appendices 2 and 3 will be similar regardless of whether a statistical or non-statistical approach is chosen.

~~Selecting the Sample~~

*Selection of Items for Testing* (Ref: Para. 8)

A~~23.~~14. Statistical sampling requires that sample items are selected at random so that each sampling unit has a known ~~chance~~probability of being selected. The sampling units might be physical items (for example, checks listed on deposit slips, credit entries on bank statements, sales invoices or debtors' balances) or monetary units. With non-statistical sampling, an auditor uses professional judgment to select the items for a sample. Because the purpose of sampling is to draw conclusions about the entire population, it is important that the auditor selects a representative sample by choosing sample items which have characteristics typical of the population, and so that bias is avoided.

A~~24.~~15. The principal methods of selecting samples are the use of random ~~number tables or CAATs~~selection, systematic selection and haphazard selection. Each of these methods is discussed in Appendix ~~3.~~4.

**Performing Audit Procedures** (Ref: Para. ~~12~~9)

A~~25.~~16. An example of when it may be necessary to perform the procedure on a replacement item is when a voided check ~~may be~~is selected when testing for evidence of payment authorization. If the auditor is satisfied that the check ~~had~~has been properly voided such that it does not constitute a deviation, an appropriately chosen replacement is examined.

A~~26.~~17. An example of when ~~Sometimes~~ the auditor is unable to apply the designed audit procedures to a selected item is when ~~because, for instance,~~ documentation relating to that item has been lost~~. An example of a suitable alternative audit procedure might be the examination of subsequent receipts when no reply has been received in response to a positive confirmation request~~.

**Nature and Cause of Deviations and Misstatements** (Ref: Para. ~~13-15~~10)

A~~27. When performing tests of controls, the auditor is primarily concerned with obtaining audit evidence that controls operated effectively throughout the period of reliance, in accordance with ISA 330. This includes obtaining audit evidence about how controls were applied at relevant times during the period under audit, the consistency with which they were applied, and by whom or by what means they were applied. A28.~~ 18. In analyzing the deviations and misstatements identified~~discovered~~, 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 in that stratum. In addition, such deviations or misstatements may be intentional, and may indicate the possibility of fraud.

**Projecting ~~Misstatements~~and Evaluating Sample Results** (Ref: Para. ~~16~~11-~~17~~15)

A~~29. Because an anomaly is, by definition, not representative of misstatements in a population, it is excluded when projecting misstatements in the sample to~~19. As required by paragraphs 11 and 12, all misstatements and deviations, including those the auditor may believe are anomalous, are included in the relevant projections of the samples to the populations. In rare circumstances, the auditor may conclude that a sample is not representative of the underlying population. In such cases, the results of such samples cannot be used to draw conclusions about the population.

A~~30. To reduce projected~~20. In performing further audit procedures to achieve reasonable assurance that actual misstatement ~~below~~does not exceed tolerable misstatement or that the actual rate of deviation does not exceed the tolerable rate of deviation, the auditor may:

- Request management to first investigate misstatements or deviations that have already been identified ~~errors~~ and the potential for further ~~errors,~~misstatements or deviations and to make any necessary adjustments; and/or
- ~~Modify~~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.

~~**Evaluating Sample Results** (Ref: Para. 18)~~

~~A31. In the case of tests of controls, an unexpectedly high sample deviation rate may lead to an increase in the assessed risk of material misstatement, unless further audit evidence substantiating the initial assessment is obtained. In the case of 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.~~

~~A32. For example, if the projected deviations or projected misstatement plus anomaly is less than but close to the tolerable rate or tolerable misstatement, the auditor would consider the persuasiveness of the sample results in the light of other audit procedures, and may consider it appropriate to obtain additional audit evidence. The total of projected deviations or projected misstatement plus anomalies is the auditor's best estimate of deviations or misstatements in the population. However, sampling results are affected by sampling risk. Thus when the best estimate of deviations or misstatement is close to the tolerable rate or tolerable misstatement, there is a risk that a different sample would result in a different best estimate that could exceed the tolerable rate or tolerable misstatement. Considering the results of other audit procedures helps the auditor to assess this risk, while the risk is reduced if additional audit evidence is obtained.~~

**Appendix 1**
(Ref: Para. A~~14 and A22~~11)

## Stratification and Value Weighted Selection

In determining the attributes of the population from which the sample will be drawn, the auditor may determine that stratification or value weighted selection is appropriate. This appendix provides guidance to the auditor on the use of stratification and value weighted sampling techniques.

## Stratification

1. Audit efficiency may be improved if the auditor stratifies a population by dividing it into discrete sub-populations which have an identifying characteristic. The objective of stratification is to reduce the variability of items within each stratum and therefore allow sample size to be reduced without increasing sampling risk.

2. When performing tests of details, the population is often stratified by monetary value. This allows greater audit effort to be directed to the larger value items, as these items may contain the greatest potential misstatement in terms of overstatement. Similarly, a population may be stratified according to a particular characteristic that indicates a higher risk of misstatement, for example, when testing the valuation of accounts receivable, balances may be stratified by age.

## Value Weighted Selection

3. When performing tests of details it will often be efficient, particularly when testing for overstatements, to identify the sampling unit as the individual monetary units (for example, dollars) that make up the population. Having selected specific monetary units from within the population, for example, the accounts receivable balance, the auditor may then examine the particular items, for example, individual balances, that contain those monetary units. One benefit of this approach to defining the sampling unit is that audit effort is directed to the larger value items because they have a greater chance of selection, and can result in smaller sample sizes. This approach is ordinarily used in conjunction with the systematic method of sample selection (described in Appendix 4) and is most efficient when selecting items using random selection.

**Appendix 2**
(Ref: Para. A13)

**Examples of Factors Influencing Sample Size for Tests of Controls**

The following are factors that the auditor may consider when determining the sample size for tests of controls. These factors, which need to be considered together, assume the auditor does not modify the nature or timing of tests of controls or otherwise modify the approach to substantive procedures in response to assessed risks.

| FACTOR | EFFECT ON SAMPLE SIZE |
|---|---|
| 1. An increase in the extent to which the risk of material misstatement is reduced by the operating effectiveness of controls | Increase |
| 2. An increase in the rate of deviation from the prescribed control activity that the auditor is willing to accept | Decrease |
| 3. An increase in the rate of deviation from the prescribed control activity that the auditor expects to find in the population | Increase |
| 4. An increase in the auditor's required confidence level (or conversely, a decrease in the risk that the auditor will conclude that the risk of material misstatement is lower than the actual risk of material misstatement in the population) | Increase |
| 5. An increase in the number of sampling units in the population | Depends on the type of sample |

1. *The extent to which the risk of material misstatement is reduced by the operating effectiveness of controls.* The more assurance the auditor intends to obtain from the operating effectiveness of controls, the lower the auditor's assessment of the risk of material misstatement will be, and the larger the sample size will need to be. When the auditor's assessment of the risk of material misstatement at the assertion level includes an expectation of the operating effectiveness of controls, the auditor is required to perform tests of controls. Other things being equal, the greater the reliance the auditor places on the operating effectiveness of controls in the risk assessment, the greater is the extent of the auditor's tests of controls (and therefore, the sample size is increased).

2. *The rate of deviation from the prescribed control activity the auditor is willing to accept (tolerable rate of deviation).* The lower the rate of deviation that the auditor is willing to accept, the larger the sample size needs to be.

3. *The rate of deviation from the prescribed control activity the auditor expects to find in the population (expected control deviation).* The higher the rate of deviation that the auditor expects, the larger the sample size needs to be so that the auditor is in a position to make a reasonable estimate of the actual rate of deviation. Factors relevant to the auditor's consideration of the expected error rate include the auditor's understanding of the business (in particular, risk assessment procedures undertaken to obtain an understanding of internal control), changes in personnel or in internal control, the results of audit procedures applied in prior periods and the results of other audit procedures. High expected control deviation rates ordinarily warrant little, if any, reduction of the assessed risk of material misstatement, and therefore in such circumstances tests of controls would ordinarily be omitted.

4. *The auditor's required confidence level.* The greater the degree of confidence that the auditor requires that the results of the sample are in fact indicative of the actual incidence of error in the population, the larger the sample size needs to be.

5. *The number of sampling units in the population.* For large populations, the actual size of the population has little, if any, effect on sample size. For small populations however, audit sampling may not be as efficient as alternative means of obtaining sufficient appropriate audit evidence.

**Appendix ~~2~~3**
(Ref: Para. A~~14 and A22~~13)

**Examples of Factors Influencing Sample Size for Tests of Details**

The following are factors that the auditor may consider when determining the sample size for tests of details. These factors, which need to be considered together, assume the auditor does not modify the approach to tests of controls or otherwise modify the nature or timing of substantive procedures in response to the assessed risks.

| FACTOR | EFFECT ON SAMPLE SIZE |
|---|---|
| 6. An increase in the auditor's assessment of the risk of material misstatement | Increase |
| 7. An increase in the use of other substantive procedures directed at the same assertion | Decrease |
| 8. An increase in the auditor's required confidence level (or conversely, a decrease in the risk that the auditor will conclude that a material misstatement does not exist, when in fact it does exist) | Increase |
| 9. An increase in the total error that the auditor is willing to accept (tolerable misstatement) | Decrease |
| 10. An increase in the amount of misstatement the auditor expects to find in the population | Increase |
| 11.Stratification of the population when appropriate | Decrease |
| 12. The number of sampling units in the population | Negligible Effect |

6. *The auditor's assessment of the risk of material misstatement.* The higher the auditor's assessment of the risk of material misstatement, the larger the sample size needs to be. The auditor's assessment of the risk of material misstatement is affected by inherent risk and control risk. For example, if the auditor does not perform tests of controls, the auditor's risk assessment cannot be reduced for the effective operation of internal controls with respect to the particular assertion. Therefore, in order to reduce audit risk to an acceptably low level, the auditor needs a low detection risk and will rely more on substantive procedures. The more audit evidence that is obtained from tests of details (that is, the lower the detection risk), the larger the sample size will need to be.

7. *The use of other substantive procedures directed at the same assertion.* The more the auditor is relying on other substantive procedures (tests of details or substantive analytical procedures) to reduce to an acceptable level the detection risk regarding a particular ~~class of transactions or account balance~~population, the less assurance the auditor will require from sampling and, therefore, the smaller the sample size can be.

8. *The auditor's required confidence level.* The greater the degree of confidence that the auditor requires that the results of the sample are in fact indicative of the actual amount of misstatement in the population, the larger the sample size needs to be.

9. *The total misstatement the auditor is willing to accept (tolerable misstatement).* The lower the total misstatement that the auditor is willing to accept, the larger the sample size needs to be.

10. *The amount of misstatement the auditor expects to find in the population (expected misstatement).* The greater the amount of misstatement the auditor expects to find in the population, the larger the sample size needs to be in order to make a reasonable estimate of the actual amount of misstatement in the population. Factors relevant to the auditor's consideration of the expected misstatement amount include the extent to which item values are determined subjectively, the results of risk assessment procedures, the results of tests of control, the results of audit procedures applied in prior periods, and the results of other substantive procedures.

11. *Stratification.* When there is a wide range (variability) in the monetary size of items in the population. It may be useful to group items of similar size into separate sub-populations or strata. This is referred to as stratification. When a population can be appropriately stratified, the aggregate of the sample sizes from the strata generally will be less than the sample size that would have been required to attain a given level of sampling risk, had one sample been drawn from the whole population.

12. *The number of sampling units in the population.* For large populations, the actual size of the population has little, if any, effect on sample size. Thus, for small populations, audit sampling is often not as efficient as alternative means of obtaining sufficient appropriate audit evidence. (However, when using monetary unit sampling, an increase in the monetary value of the population increases sample size, unless this is offset by a proportional increase in materiality.)

**Appendix ~~3~~4**
(Ref: Para. A~~24~~15)

**Sample Selection Methods**

There are many methods of selecting samples. The principal methods are as follows:

~~(a) Use of a computerized random number generator~~ (a) Random selection, (such as may be applied through ~~CAATs) or~~ random number ~~tables~~generators).

~~(b)~~ (b) Systematic selection, in which the number of sampling units in the population is divided by the sample size to give a sampling interval, for example 50, and having determined a starting point within the first 50, each 50th sampling unit thereafter is selected. Although the starting point may be determined haphazardly, the sample is more likely to be truly random if it is determined by use of a computerized random number generator or random number tables. When using systematic selection, the auditor would need to determine that sampling units within the population are not structured in such a way that the sampling interval corresponds with a particular pattern in the population. Monetary unit sampling is a form of systematic selection using the monetary unit as the base.

~~(c)~~ (c) Haphazard selection, in which the auditor selects the sample without following a structured technique. Although no structured technique is used, the auditor would nonetheless avoid any conscious bias or predictability (for example, avoiding difficult to locate items, or always choosing or avoiding the first or last entries on a page) and thus attempt to ensure that all items in the population have a chance of selection. Haphazard selection is not appropriate when using statistical sampling.

~~(d) Block selection involves selecting a block(s) of contiguous items from within the population. Block selection cannot ordinarily be used in audit sampling because most populations are structured such that items in a sequence can be expected to have similar characteristics to each other, but different characteristics from items elsewhere in the population. Although in some circumstances it may be an appropriate audit procedure to examine a block of items, it would rarely be an appropriate sample selection technique when the auditor intends to draw valid inferences about the entire population based on the sample.~~

**Appendix 4**
(Ref: Para. A20)

**Stratification and Value Weighted Selection**

In determining the attributes of the population from which the sample will be drawn, the auditor may determine that stratification or value weighted selection is appropriate. This appendix provides guidance to the auditor on stratification and value weighted selection.

**Stratification**

1. Audit efficiency may be improved if the auditor stratifies a population by dividing it into discrete sub-populations which have an identifying characteristic. The objective of stratification is to reduce the variability of items within each stratum and therefore allow sample size to be reduced without a proportional increase in sampling risk. Sub-populations need to be carefully defined such that any sampling unit can only belong to one stratum.

2. When performing tests of details, a class of transaction or account balance is often stratified by monetary value. This allows greater audit effort to be directed to the larger value items, as these items may contain the greatest potential misstatement in terms of overstatement. Similarly, a population may be stratified according to a particular characteristic that indicates a higher risk of misstatement, for example, when testing the valuation of accounts receivable, balances may be stratified by age.

3. The results of audit procedures applied to a sample of items within a stratum can only be projected to the items that make up that stratum. To draw a conclusion on the entire population, the auditor will need to consider the risk of material misstatement in relation to whatever other strata make up the entire population. For example, 20% of the items in a population may make up 90% of the value of an account balance. The auditor may decide to examine a sample of these items. The auditor may evaluate the results of this sample and reach a conclusion on the 90% of value separately from the remaining 10% (on which a further sample or other means of obtaining audit evidence will be used, or which may be considered immaterial).

**Value Weighted Selection**

4. When performing tests of details it will often be efficient, particularly when testing for overstatements, to identify the sampling unit as the individual monetary units (for example, dollars) that make up a class of transactions or account balance. Having selected specific monetary units from within the population, for example, the accounts receivable balance, the auditor may then examine the particular items, for example, individual balances, that contain those monetary units. One benefit of this approach to defining the sampling unit is that audit effort is directed to the larger value items because they have a greater chance of selection, and can result in smaller sample sizes. This approach is ordinarily used in conjunction with the systematic method of sample selection (described in Appendix 3) and is most efficient when selecting items using CAATs.

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