Implementation Guide to Standard on Audit (SA) 530 Audit Sampling

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Foreword

Standards on Auditing are critical in ensuring and enhancing quality in audits of financial statements and thus bridging the expectation gap. It is therefore necessary that the auditors properly understand and implement these Standards in their audit engagements. Implementation Guides to Standards are an important tool in the hands of the practitioners to appropriately understand the exacting requirements of these Standards and help them implement the Standards in real life audit scenarios.

I am happy to note that the Auditing and Assurance Standards Board is conscious of the fact that the mission of convergence with the International Standards on Auditing having been already achieved, focus is now required on taking these Standards to the common practitioners through various proactive awareness initiatives such as conferences/ seminars, training workshops, and more importantly, technical publications such as Implementation Guides to Standards. This Implementation Guide to Standard on Audit (SA) 530, 'Audit Sampling' is one such Guide.

I complement CA. Abhijit Bandyopadhyay, Chairman, Auditing and Assurance Standards Board who has been actively driving these awareness initiatives. I also keenly look forward to more such Implementation Guides and other technical publications from the Auditing and Assurance Standards Board.

December 28, 2011
New Delhi

CA. G. Ramaswamy
President, ICAI

Preface

Collection of audit evidence is an extremely crucial and sensitive phase of an audit since the ultimate opinion of the auditor hinges on the audit evidence obtained and auditor's evaluation thereof. Given the fact that it is neither possible nor practicable for an auditor to check each and every transaction or record or detail, especially, in contemporary modern businesses where the volume and geographical spread of transactions are incredibly enormous, test checking has been an acceptable method of evidence collection and evaluation all along.

Audit sampling is an established technique that removes *adhocism* and provides scientific and logical foundation and credence to the "test check" approach followed by the auditors in demanding situations. It allows the auditors to draw inference from testing a smaller sample and extrapolating the results to a much larger population.

The Institute of Chartered Accountants of India had issued a Standard on Audit dealing with audit sampling as back as in 1998. The Standard was revised in 2007 under the Clarity Project. The Standard deals with the auditor's use of statistical and non-statistical sampling when designing and selecting the audit sample, performing tests of controls and tests of details, and evaluating the results from the sample.

As a part of its efforts to create awareness among the members on methods to further improve the quality of their audit by encouraging their understanding and compliance with the various Standards on Audit, the Auditing and Assurance Standards Board has been bringing out Implementation Guides on auditing standards. This Implementation Guide on SA 530, Audit Sampling is one such Guide. It provides practical implementation guidance on important aspects relating to audit sampling in an easy and lucid language, covering matters such as need for audit sampling, its appropriateness and sufficiency, sampling foundation and sampling process, sampling techniques, performing audit procedures and evaluating results of audit sampling, computerised audit sampling, etc.

I am extremely grateful to CA. Paratha S De, Kolkata for preparing the preliminary draft of the Implementation Guide. I am also grateful to CA. Ganesh Balakrishnan, Hyderabad and his team *viz.,* Ms. Swati Naik, Mr. Sriraman Parthasarthy and Mr. T.S. Venkateswaran for reviewing and giving the Implementation Guide its final shape.

At this juncture, I also wish to express my sincere thanks to CA. G. Ramaswamy, President, ICAI as well as CA. Jaydeep N. Shah, Vice President, ICAI whose vision, guidance and support I have been privileged to receive in the activities of the Board.

Many thanks are also due to my Council colleagues at the Board, *viz.*, CA. Rajkumar S Adukia, Vice Chairman, CA. Amarjit Chopra, CA. Naveen N.D. Gupta, CA. Sanjeev K. Maheshwari, CA. M. Devaraja Reddy, CA. Rajendra Kumar P., CA. J. Venkateswarlu, CA. Sumantra Guha, CA. Anuj Goyal, CA. Pankaj Tyagee, CA. Jayant P. Gokhale, CA. S. Santhanakrishnan, CA. Mahesh P. Sarda, CA. Vijay Kumar Garg, CA. V. Murali, CA. Nilesh S. Vikamsey and the Central Government nominees, Shri Prithvi Haldea and Smt. Usha Sankar and also to the co-opted members at the Board, *viz*., CA. David Jones, CA. Sanjay Vasudeva, CA. Raviprasad, CA. P.R. Vittel, CA. C.N. Srinivasan, CA. Ramana Kumar B., for their dedication and support to the work plan of the Board and bringing them to fruition. I also wish to place on record my thanks to the special invitees to the Board, viz., CA. Vinod Chandiok, Prof. A. Kanagaraj, CA. Amit Roy, Shri Sunil Kadam, CA. Raj Agrawal, CA. Bhavani Balasubramanian, CA. K. Rajasekhar, CA. Harinderjit Singh, CA. N. Venkatram, CA. B. Padmaja, CA. L. Kamesh for their support to the Board.

I am confident that this Implementation Guide would be well received by members and other interested readers.

December 20, 2011
Kolkata

CA. Abhijit Bandyopadhyay
Chairman,
Auditing & Assurance Standards Board

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Chapter 1

Need of Audit Sampling, Its Appropriateness and Sufficiency

1.1 Auditors require reliable audit evidence from which they can draw robust conclusions. An auditor can apply sampling in carrying out both compliance procedures to review and evaluate the effectiveness of the internal Control System and substantive procedures to obtain evidence regarding the completeness, accuracy and validity of the data.

Need for Sampling

1.2 Audit sampling refers to the application of audit procedures to less than 100% of items within a population of audit relevance such that all sampling units have a chance of selection in order to provide the auditor with a reasonable basis on which to draw conclusions about the entire population.

1.3 An auditor is required to formulate and express an overall opinion on financial statements based on an examination of the records of transactions and other relevant information. The audit evidence enables the auditor to form an opinion on the financial statements. In forming such an opinion, the auditor may obtain audit evidence on a selective basis by way of judgmental or statistical sampling.

1.4 It is often necessary to draw a sample of information from the whole population to enable a more focused examination to take place. For instance, if the auditor of a bank checks each of the transactions of the bank, it would not be feasible to do so without incurring enormous cost and expending lot of time.

1.5 Sampling is an important auditing technique since it enables the auditor to select some transactions out of a large mass of similar transactions data in a manner that results in

drawing valid conclusions about the entire data after a thorough examination of the selected transaction.

1.6 In this back drop, the extent of checking has undergone a progressive change in favour of more focus on the principals and controls with a curtailment of non-consequential routine checking and with a shift in favour of formal internal control in the management of affairs of organizations, where the possibilities of routine error and frauds have greatly diminished.

1.7 **"**An effective sample test provides appropriate audit evidence to an extent that, taken with other audit evidence obtained or to be obtained, will be sufficient for the auditor's purposes. In selecting items for testing, the auditor is required to determine the relevance and reliability of information to be used as audit evidence; the other aspect of effectiveness (sufficiency) is an important consideration in selecting items to test. The means available to the auditor for selecting items for testing are:

(a) Selecting all items (100% examination);

(b) Selecting specific items.

1.8 The application of any one or combination of these means may be appropriate depending on the particular circumstances, for example, the risks of material misstatement related to the assertion being tested, and the practicality and efficiency of the different means.**"**

(Para A52 of SA 500 (Revised) Audit Evidence)

1.9 "When designing tests of controls and tests of details, the auditor shall determine means of selecting items for testing that are effective in meeting the purpose of the audit procedure."

(Para A10 of SA 500 (Revised)) Audit Evidence)

Consideration in the Evaluation of Sample and Basic Categories of Sampling

1.10 The extent of checking to be undertaken is primarily a matter of judgment of the auditor. There are generally, no statutory requirements specifying what work is to be done, how it

is to be done and to what extent. It is also not obligatory that the auditor must adopt the sampling technique. The ultimate objective of the auditor is to express his opinion and become bound by that.

1.11 Generally, the evaluation of a sample is based upon a "judgmental selection" of transactions for review, with little statistical foundation or mathematical reasoning behind the sample. For certain audit objectives, where statistically correct samples are impractical, this approach is acceptable as long as conclusions are fairly represented.

1.12 Audit sampling plays an important role in the auditor's ability to evaluate both internal control and account balances. Sampling techniques attempt to establish conclusions, or an inference, about a population of data based upon a smaller amount of information. The purpose of audit sampling is to obtain information or determine some characteristic about a population represented in an account balance or class of transaction types.

1.13 There are two basic categories of audit sampling i.e., statistical and non-statistical. The significance of the sample to an overall audit objective will affect the sample design, as will the auditor's knowledge of the area under consideration. For example, sampling could be used in substantive testing to collect evidence regarding account balances, transactions or disclosures. Samples can be selected non- statistically for known high-risk items or statistically for specific attributes or monetary coverage. Statistical sampling measures results with confidence intervals for sample reliability concerning the population. This foundation, free of bias, supports audit analysis grounded in mathematical principle.

1.14 As mentioned in SA 530 (Revised), an auditor may decide to use audit sampling in performing audit procedures. If it is so decided then SA 530 (Revised), Audit Sampling, applies. The SA 530 (Revised) deals with the auditor's use of statistical and non statistical sampling when:

- designing and selecting the audit sample,
- performing test of controls, test of details, and
- evaluating the results from the sample

Limitations of Sampling

1.15 Sampling can provide a valid, defensible methodology but it is important to match the type of sample needed to the type of analysis required. The auditor should also take care to check the quality of the information from which the sample is to be drawn. If the quality is poor, sampling may produce reliable results.

Chapter 2

Sampling Foundation and Sampling Process

Sampling Foundation

2.1 During audit planning for areas with a high number of transactions or large quantities of evidence for evaluation, the auditor should consider the use of sampling techniques. Since there are many variations to audit sampling, only a few common types are being discussed in this Implementation Guide along with the procedures for determining the right sample size to adequately represent the target population and develop conclusions. However, a discussion of sampling risks and concepts will precede the details of sampling types since this understanding is important for developing an appropriate sampling technique.

2.2 A risk is, no doubt, involved in selecting and checking only some items in order to reach a conclusion about all of them. Sampling risk arises from the possibility that the auditor's conclusion, based on a sample may be different from the conclusion auditor would reach if the entire population were subjected to the same audit procedure.

2.3 Auditors should, therefore, be careful about extrapolating audit findings or drawing broad conclusions across a population of activities or transactions. Extrapolating results that exceed the statistical significance of judgmental sampling activities can unintentionally increase audit risk. Conclusions based upon judgmental sampling should be limited to those items actually examined since subsequent events could contradict the conclusions -- especially when performed using a non-statistical approach. Conversely, many variations of statistical sampling provide a strong basis for conclusions about audit evidence.

2.4 A sampling approach should be consistent with audit objectives and testing programmes including the accurate interpretation of results (evidential matter) as in any audit reporting. Substantiation of significant findings may rely upon the statistical grounding of the sampling approach. Simply put, audit sampling establishes the objectivity and credibility of audit results and gives more meaning to recommendations, particularly when a mathematical approach is incorporated.

2.5 **Sampling Risk** arises in carrying out both the compliance procedure and the substantive procedures. When an auditor evaluates an internal control system through compliance procedure, auditor assumes the risk of under reliance or over reliance on internal controls. Thus, the sample results may show the auditor should not rely on a particular internal control whereas the actual position might have warranted such reliance. This is termed as the risk of under reliance. In such a situation, the auditor would, on the basis of the result of his sample test, extend his substantive test even though the additional work was not required. The risk of over reliance on the other hand, is a risk that the sample results support the auditor's reliance on a particular control, when actually auditor should not have so relied. Risk of over reliance is more serious since by wrongly relying on the result of the sample, auditor may reduce the extent of substantive test and may thereby reach erroneous conclusion.

2.6 Judgmental and statistical sampling types include sampling risk and require professional judgment to minimize this risk. Inherent in every sampling procedure is the risk that the sample is not representative and that the auditor would have drawn different conclusions from procedures that include examining 100% of the population.

2.7 Regarding substantive test and tests of controls, there are two basic sampling risk attributes. First, the risk of incorrect acceptance occurs when the sample leads the auditor to conclude that there is no material misstatement when, in fact, there is. In tests of the related controls, the sample would suggest that control is effective since sample results indicate a lower deviation rate

than actually exists in the true operating effectiveness of the control. Thus, the auditor has the risk of assessing control risk too low. In both instances, the sample does not detect the issues as intended by the related audit objective. On the other hand, a sampling error occurs when, for substantive tests, there exists a condition of incorrect rejection. In this situation, the sample leads the auditor to conclude that a material misstatement exists when, in fact, it does not. For tests of controls, the sample results indicate a greater deviation rate than actually exists, which leads to the risk of assessing control risk too high.

2.8 These erroneous conditions will have an impact on both the efficiency and effectiveness of the overall audit. The efficiency is compromised by performing more work than required because of incorrect rejection and assessing control risk too high. The effectiveness is compromised by not identifying misstated balances or ineffective controls because of incorrect acceptance and assessing control risk too low.

2.9 Auditors may be 90 or 95 per cent confident that a sample is representative of the population tested. As a corollary, the risk of not being correct, or sampling risk, would be 5% or 10% depending upon the confidence interval chosen. The risk of being ineffective + confidence level = 100%. The confidence level is the complement of the risk of sampling error.

Behind the Numbers

2.10 The probability theory is used to analyse events or processes with uncertain outcomes. Probability models quantify the risk of sampling error (the uncertainty caused by random chance in the selection process). In a random sample all data points should have the same probability of being picked. The value of statistical sampling is its ability to use probability theory to calculate the risk of sampling error.

2.11 One important assumption in understanding statistical sampling is that most populations follow a normal distribution on both sides of a mean or simple average. This type of distribution, if graphically represented, would be a **bell-shaped curve**. Although