

RELEVANT TO ACCA QUALIFICATION PAPER F8 AND
FOUNDATIONS IN ACCOUNTANCY PAPER FAU

Audit sampling

Paper F8, *Audit and Assurance* and Paper FAU, *Foundations in Audit* require students to gain an understanding of audit sampling. While you won't be expected to pick a sample, you must have an understanding of how the various sampling methods work. This article will consider the various sampling methods in the context of Paper F8 and Paper FAU.

This subject is dealt with in ISA 530, *Audit Sampling*. The definition of audit sampling is:

'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

In other words, the standard recognises that auditors will not ordinarily test all the information available to them because this would be impractical as well as uneconomical. Instead, the auditor will use sampling as an audit technique in order to form their conclusions. It is important at the outset to understand that some procedures that the auditor may adopt do not involve audit sampling, 100% testing of items within a population, for example. Auditors may deem 100% testing appropriate where there are a small number of high value items that make up a population, or when there is a significant risk of material misstatement and other audit procedures will not provide sufficient appropriate audit evidence. However, candidates must appreciate that 100% examination is highly unlikely in the case of tests of controls; such sampling is more common for tests of detail (ie substantive testing).

The use of sampling is widely adopted in auditing because it offers the opportunity for the auditor to obtain the minimum amount of audit evidence, which is both sufficient and appropriate, in order to form valid conclusions on the population. Audit sampling is also widely known to reduce the risk of 'over-auditing' in certain areas, and enables a much more efficient review of the working papers at the review stage of the audit.

In devising their samples, auditors must ensure that the sample selected is representative of the population. If the sample is not representative of the population, the auditor will be unable to form a conclusion on the entire population. For example, if the auditor tests only 20% of trade receivables for existence at the reporting date by confirming after-date cash, this is hardly representative of the population, whereas, say, 75% would be much more representative.

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SAMPLING RISK

Sampling risk is the risk that the auditor's conclusions based on a sample may be different from the conclusion if the entire population were the subject of the same audit procedure.

ISA 530 recognises that sampling risk can lead to two types of erroneous conclusion:

1. The auditor concludes that controls are operating effectively, when in fact they are not. Insofar as substantive testing is concerned (which is primarily used to test for material misstatement), the auditor may conclude that a material misstatement does not exist, when in fact it does. These erroneous conclusions will more than likely lead to an incorrect opinion being formed by the auditor.
2. The auditor concludes that controls are not operating effectively, when in fact they are. In terms of substantive testing, the auditor may conclude that a material misstatement exists when, in fact, it does not. In contrast to leading to an incorrect opinion, these errors of conclusion will lead to additional work, which would otherwise be unnecessary leading to audit inefficiency.

Non-sampling risk is the risk that the auditor forms the wrong conclusion, which is unrelated to sampling risk. An example of such a situation would be where the auditor adopts inappropriate audit procedures, or does not recognise a control deviation.

METHODS OF SAMPLING

ISA 530 recognises that there are many methods of selecting a sample, but it considers five principal methods of audit sampling as follows:

- random selection
- systematic selection
- monetary unit sampling
- haphazard selection, and
- block selection.

Random selection

This method of sampling ensures that all items within a population stand an equal chance of selection by the use of random number tables or random number generators. The sampling units could be physical items, such as sales invoices or monetary units.

Systematic selection

The method divides the number of sampling units within a population into the sample size to generate a sampling interval. The starting point for the sample can be generated randomly, but ISA 530 recognises that it is more likely to be

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'truly' random if the use of random number generators or random number tables are used. Consider the following example:

Example 1

You are the auditor of Jones Co and are undertaking substantive testing on the sales for the year ended 31 December 2010. You have established that the 'source' documentation that initiates a sales transaction is the goods dispatch note and you have obtained details of the first and last goods dispatched notes raised in the year to 31 December 2010, which are numbered 10,000 to 15,000 respectively.

The random number generator has suggested a start of 42 and the sample size is 50. You will therefore start from goods dispatch note number (10,000 + 42) 10,042 and then sample every 100th goods dispatch note thereafter until your sample size reaches 50.

Monetary unit sampling

The method of sampling is a value-weighted selection whereby sample size, selection and evaluation will result in a conclusion in monetary amounts. The objective of monetary unit sampling (MUS) is to determine the accuracy of financial accounts. The steps involved in monetary unit sampling are to:

- determine a sample size
- select the sample
- perform the audit procedures
- evaluate the results and arriving at a conclusion about the population.

MUS is based on attribute sampling techniques and is often used in tests of controls and appropriate when each sample can be placed into one of two classifications – 'exception' or 'no exception'. It turns monetary amounts into units – for example, a receivable balance of \$50 contains 50 sampling units. Monetary balances can also be subject to varying degrees of exception – for example, a payables balance of \$7,000 can be understated by \$7, \$70, \$700 or \$7,000 and the auditor will clearly be interested in the larger misstatement.

Haphazard sampling

When the auditor uses this method of sampling, he does so without following a structured technique. ISA 530 also recognises that this method of sampling is not appropriate when using statistical sampling (see further in the article). Care must be taken by the auditor when adopting haphazard sampling to avoid any conscious bias or predictability. The objective of audit sampling is to ensure that all items that make up a population stand an equal chance of selection. This objective cannot be achieved if the auditor deliberately avoids items that are difficult to locate or deliberately avoids certain items.

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Block selection

This method of sampling involves selecting a block (or blocks) of contiguous items from within a population. Block selection is rarely used in modern auditing merely because valid references cannot be made beyond the period or block examined. In situations when the auditor uses block selection as a sampling technique, many blocks should be selected to help minimise sampling risk.

An example of block selection is where the auditor may examine all the remittances from customers in the month of January. Similarly, the auditor may only examine remittance advices that are numbered 300 to 340.

STATISTICAL VERSUS NON-STATISTICAL SAMPLING

Paper F8 students need to be able to differentiate between 'statistical' and 'non-statistical' sampling techniques. ISA 530 provides the definition of 'statistical' sampling as follows:

'An approach to sampling that has the following characteristics:

- i. Random selection of the sample items, and
- ii. The use of probability theory to evaluate sample results, including measurement of sampling risk.'²

The ISA goes on to specify that a sampling approach that does not possess the characteristics in (i) and (ii) above is considered non-statistical sampling.

The above sampling methods can be summarised into statistical and non-statistical sampling as follows:

Statistical sampling	Non-statistical sampling
Random sampling	Haphazard sampling
Systematic sampling	Block selection
Monetary unit sampling	

Statistical sampling allows each sampling unit to stand an equal chance of selection. The use of non-statistical sampling in audit sampling essentially removes this probability theory and is wholly dependent on the auditor's judgment. Keeping the objective of sampling in mind, which is to provide a reasonable basis for the auditor to draw valid conclusions and ensuring that all samples are representative of their population, will avoid bias.

CONCLUSION

Paper F8 and FAU students must ensure they fully understand the various sampling methods available to auditors. In reality there are a number of ways in which sampling can be applied that ISA 530 recognises – however, the standard itself covers the principal methods.

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Students must ensure they can discuss the results of audit sampling and form a conclusion as to whether additional work would need to be undertaken to reduce the risk of material misstatement.

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- 1 ISA 530, paragraph 5 (a)
- 2 ISA 530, paragraph 5 (g)