Chapter 11

Sampling and materiality
Learning objectives

• To discuss the importance of audit sampling.
• To distinguish between non-statistical and statistical sampling.
• To describe the key steps and data required for the auditors to perform statistical sampling.
• To discuss the importance of the concept of materiality.
• To explain the role of materiality in relation to the financial statements.
• To describe how the auditors set the materiality level and use it in various stages of the audit.
Audit sampling and materiality

• **Audit sampling** is one method auditors use to gather evidence to reach an opinion on financial statements. When auditors select transactions, documents, accounts balances for testing they take a sample, using audit sampling as a technique.

• **Materiality** is vital concept when auditors seek to determine company’s financial statements give a true and fair view. Without an idea of what level of misstatement in financial statements would be misleading, auditors would not be able to evaluate the importance of misstatements discovered during audit testing.

• The two concepts are related: when auditors assess significance of errors or misstatements in sample, they are putting into operation concept of materiality.
What is sampling?

• Auditors wish to be reasonably certain that audit conclusions are soundly based at reasonable cost. Audit sampling is used to achieve both aims and auditors select a sample from a population.

• The objective of sampling: ‘to provide a reasonable basis for the auditor to draw conclusions about the population from which the sample is selected’ (ISA 530).

• Auditors must decide when appropriate to use sampling.

• Sufficiency, relevance and reliability apply to audit sampling:
  – Is sample large enough to be representative of population?
  – Is sample relevant in the circumstances of this population?
  – Will selection procedures achieve a sample representative enough to assess the reliability of the population?
Designing and selecting the sample for testing

- Auditors may use either:
  - Judgemental sampling, or
  - Statistical sampling
Judgemental sampling

• Auditors use judgement in selection of samples and their interpretation.
• Judgement has to be exercised in both statistical and non-statistical sampling.
• But non-statistical sampling is said to be judgemental sampling because all aspects of sampling require exercise of judgement.
• Problem with judgemental sampling is that characteristics of sample do not necessarily reveal characteristics of population.
Statistical sampling

1. For sample to be representative must be homogeneity in the population – often different degrees of risk in items in population. Examples of lack of homogeneity:
   - Transactions not subjected to same internal controls, e.g. large transactions treated differently from small, or controls more lax in one part of period.
   - Balances in a population may have widely different values.
   - Because of lack of homogeneity – common practice to stratify and to treat different strata as different populations.

2. Sample can only be truly representative if it is taken from the whole population.
Sample selection methodology – sampling methods

- **Random sampling**
  
  This method tries to ensure that each item in the population has the same chance of selection as any other item.

- **Systematic or interval sampling**
  
  Possibly employs random starting point and then selects every nth item – provides cover throughout a population but only same effect as random sampling if errors spread randomly throughout population.

- **Block or cluster sampling (non-statistical)**
  
  Involves selection of a block of transactions and testing for the existence of some criteria.

- **Haphazard sampling (non-statistical)**
  
  Samples selected using (say) blindfolds, pins, spouses’ birthdays – not mathematically valid as sample may be biased – may not provide sample from which conclusions can be drawn about the whole population.
Sample selection methodology – size of sample – level of confidence

• Sample size is important – depends on level of confidence sought and expected and acceptable error/deviation rate.

• *Level of confidence* auditors require is influenced by assessment of inherent and control risks:
  – How confident are they about misstatements in transactions/balances prior to applying internal controls
  – Initial assessment of internal control system influences extent to which auditors believe misstatements exist in transactions/balances after processing
  – If auditors have obtained evidence from other relevant audit tests on control system or balances, degree of confidence they require from sampling is correspondingly reduced.
Sample selection methodology – size of sample – expected error rate

• *Expected error rate in population* – important determinant of sample size. When testing company’s internal controls auditors use attribute sampling, in which there are two responses to a test:
  – *yes* the control has been applied correctly, or
  – *no* the control has not been applied.

• When testing account balances, auditors are concerned with determining if balance is correctly stated.

• The greater expected error/deviation rate, the greater sample size must be to conclude that actual error rate is less than tolerable error rate.
Sample selection methodology – size of sample – tolerable error rate

- **Tolerable error rate**: maximum error rate auditors prepared to accept.
- **Tolerable deviation rate**: when testing controls this is maximum deviation rate in the sample auditors are willing to accept and still conclude initial evaluation of control risk is valid.
- Tolerable error when testing amounts is related to materiality level set by auditors. The lower the tolerable error rate the greater sample size.
- Reliability factors determine sample size.
- After determining sample size auditors select sample using random sampling and perform test.
- **Population selected**: consistent with audit test objective.
Evaluation of test results

• **First stage**: determine number of errors in sample. Auditor must define error or deviation.

• **Next stage**: auditors estimate on basis of sample results, at given level of confidence, **upper error rate** in population – known as ‘**projecting errors**’.

• Auditors use reliability factor relevant to number of errors in sample to assess upper error rate at a certain confidence level.

• If upper error rate is 2.14% at 80% confidence level, auditor can state with 80% degree of confidence there will be no more than just over two errors out of every 100 items in population.

• **Another perspective**: if no errors found, what sample size is commensurate with confidence level of 80% – may enable auditors to determine if under- or over-auditing.
Monetary unit sampling (MUS)

- Auditors not only interested in error rates – also in monetary effects.
- Decide materiality – maximum value of errors prepared to accept.
- MUS: sampling method that allows auditors to estimate amount of **most likely error** (MLE) and likely **upper error limit** (UEL) in monetary terms.
  - The population split into £1 units.
  - Error found in sample to which £1 is attached – sample ‘tainted’ by % of error.
- MUS used if population is expressed in £1 monetary amounts and cumulative total also
- Auditors specify **confidence level** and **tolerable error**. Using confidence level, tolerable error and estimate of likely error, AND statistical sampling tables, determine appropriate sample size.
- Using sample results auditors calculate MLE and, at confidence level used, the UEL. If UEL less than tolerable error, auditors can accept.
- If UEL more than tolerable error, auditors may adjust UEL for errors found to determine if that reduces UEL to below the tolerable error.
- If UEL remains above tolerable error, auditors should carry out additional procedures, such as extending detailed testing or performing alternative audit procedures.
Comparative advantages of statistical and non-statistical sampling

• **Advantage** of statistical sampling: auditors make explicit judgements on confidence level, expected error rate and tolerable error rate, to ensure they adopt methodical approach

• **Disadvantages** include:
  – More time consuming and costly than non-statistical sampling.
  – Documents must be separately identified for selection.
  – Statistical sampling is more difficult to understand, but specialized computer statistical sampling packages may get round this problem.

• Its only significant use is in specialized audit situations such as audit of banks or insurance companies.

• Risk-based auditing places greater emphasis on analytical review and the investigation of large or unusual items detected using audit software.

• Reduction in emphasis on sampling also because of move from detailed checking to placing emphasis on other aspects of control such as evaluating effectiveness of the control environment.
Alternative statistical sampling methods

• Discovery sampling
• Variables sampling
  – Mean per unit method
  – Ratio and difference method
Materiality – introduction

• Financial statements do not give a true and fair view when misstatements are significant or material.

• Misstatements, including omissions are considered to be material if they, individually or in the aggregate, could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements. Judgements about materiality are made in the light of surrounding circumstances, and are affected by the size or nature of a misstatement, or a combination of both.

• Materiality and size are related but factors other than size may be important.
Materiality and decision-making

- The effect on users’ decisions is important in determining whether an item is material.
- Auditors have to determine extent to which financial statements can be misstated before they would alter decision of shareholders – primary user group.
- Type of investor auditor should consider is a sophisticated and knowledgeable investor.
- At outset of audit – particularly during planning, auditors have to decide what level of error or misstatement could occur in the financial statements before an investor’s decision would be influenced.
Materiality in the financial statements

• Auditors often set materiality in terms of % of company’s profit figure.

• Materiality level and amount of evidence auditors need are related – lower the materiality level the greater quantity of evidence that auditors must acquire – and the greater cost.

• Most common profit figure is profit before tax or profit before tax from continuing operations.

• Materiality levels may be set for other figures, such as total assets and net assets.

• Auditors often calculate materiality levels on a number of different criteria and then decide on appropriate materiality levels for different aspects of the audit.

• Auditors should give same stress to under- and overstatements.

• Other aspects of materiality in relation to profit include:
  – The trend in profits over the last few years.
  – The effect of the profit figure on important ratios.
  – External influences.
Materiality at the planning stage

- Auditors set materiality levels at planning stage in context of audit risk: consider material individual items.
- Auditors assess general risks and component risk, assigning materiality, depending on:
  - Importance of heading
  - Nature
  - Auditors’ past experience
  - Trend in a/c balance.
- To reduce probability that total of uncorrected and undetected misstatements is greater than set materiality, auditors may set performance materiality lower.
- Audit firm may decrease component materiality if inherent or control risk high, thereby influencing nature and scope of work.
- Audit firms may reduce component materiality level when arriving at tolerable level to be prudent or because of evidence from other tests.
- Auditors should record decisions on materiality in audit files – at planning stage in audit planning memorandum.
Materiality during the audit

• Auditors may change views on materiality level for account balances if significant changes in figures or as a result of audit evidence.
• Auditors calculate and evaluate the effect not only of misstatements found but of misstatements not discovered.
• Auditors extrapolate from test results. Closer value of misstatements found to set materiality level, more likely sum of detected and undetected misstatements will exceed materiality. May extend tests.
• If auditors’ estimate of misstatements exceeds materiality, consider nature, discuss with management and determine if adjustment of financial statements appropriate. If management not willing to adjust, auditors ascertain the reasons and decide on action.
• Auditor document misstatements above trivial amount, both corrected and uncorrected. Where management do not want to adjust bring to attention of audit committee.
• Audit committee should also receive from the auditors a list of the misstatements found during audit and corrected by management.
Nature of misstatements found – Response to Activity 11.6

• Auditors will be interested in the following features:
  – The size and incidence of misstatements discovered.
  – If the misstatements exhibit some pattern.
  – If the errors or misstatements relate to factual matters or to matters of opinion.
  – If the misstatements found relate to matters that are illegal.
  – If there is any suspicion that some of the misstatements may have arisen because of fraud by employees.
  – If similar misstatements have been discovered in previous years’ audits of this client.
  – If the misstatements affect only balance sheet items or whether they affect the profit and loss account.
Materiality and the audit report

• For clients who are required to comply with the UK Corporate Governance Code, auditors have to identify their overall materiality level and how they have applied the materiality concept in planning and performing the audit. This is a fairly recent innovation and it will interesting to see how it operates in practice and what effect it has on users perceptions of the value of the audit.

• Discussed further in Chapter 16 – see page 675 and Chapter 16, PowerPoint slide 12
Some qualitative issues

- Auditors need to have regard to the following considerations.
  - Whether the item is required to be disclosed by law or by professional requirements.
  - Improper disclosure of accounting policies.
  - Improper classifications in the financial statements.