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LEARNING OBJECTIVES

AFTER STUDYING THIS CHAPTER YOU SHOULD BE ABLE TO:

- 7.1 explain how **audit sampling** is used in an audit
- 7.2 recognise the difference between **sampling and non-sampling risk**
- 7.3 discriminate between **statistical and non-statistical sampling**
- 7.4 describe **sampling methods**
- 7.5 describe the factors that influence the **sample size when testing controls**
- 7.6 explain the factors that influence the **sample size when conducting substantive testing**
- 7.7 explain how to evaluate the **results of tests conducted on a sample**
- 7.8 discriminate the difference between **tests of controls and substantive tests**
- 7.9 explain the factors that affect the **nature, timing and extent of audit testing**
- 7.10 explain how auditors arrive at a **conclusion based upon the evidence gathered**
- 7.11 illustrate how auditors **document the details of evidence gathered** in working papers.

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.). Wiley

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AUDIT SAMPLING

- **Sampling** is required whenever auditor **does not test entire group** of transactions or all items in a balance (ASA 530; ISA 530)
- In many cases, there are **too many items** to test, or auditor decides that it is not necessary to test all items
- Sample of items tested **should be representative of the population**
- **Audit Risk** is impacted by **Sampling Risk** and **Non Sampling Risk**

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.). Wiley

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SAMPLING AND NON-SAMPLING RISK

- **SAMPLING RISK**: is the risk that the sample chosen by the auditor is **not representative of the population** available for testing, and causes the auditor to arrive at an **inappropriate conclusion**.
- Consequences of sampling risk:
 1. Risk that audit will be **ineffective**
 2. Risk that audit will be **inefficient**

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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SAMPLING AND NON-SAMPLING RISK

SAMPLING RISK AND TESTS OF CONTROLS	IMPLICATIONS FOR THE AUDIT
The risk that the auditor concludes that the client's system of internal controls is effective when it is ineffective	An increased Audit Risk (that is – there is a risk that the audit will be ineffective)
The risk that the auditor concludes that the client's system of internal controls is ineffective when it is effective	An increase in the audit effort when not required (that is – there is a risk that the audit will be inefficient)

Table 7.1 Sampling Risk when **testing controls**

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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SAMPLING AND NON-SAMPLING RISK

SAMPLING RISK and SUBSTANTIVE TESTING	IMPLICATIONS FOR THE AUDIT
The risk that the auditor concludes that a material misstatement does not exist when it does	An increased audit risk (that is – there is a risk that the audit will be ineffective)
The risk that the auditor concludes that a material misstatement exists when it does not	An increase in the audit effort when not required (that is – there is a risk that the audit will be inefficient)

Table 7.2 Sampling Risk when conducting **substantive tests**

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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SAMPLING AND NON-SAMPLING RISK

- **NON-SAMPLING RISK**: is the risk that the auditor arrives at an inappropriate conclusion for a reason unrelated to sampling issues.
- The auditor could:
 - ☐ Use inappropriate audit procedures
 - ☐ Rely too heavily on unreliable evidence
 - ☐ Fail to gather evidence on most relevant assertion
 - ☐ Spend too little time testing high risk accounts or critical controls

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.). Wiley

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STATISTICAL AND NON-STATISTICAL SAMPLING

- **STATISTICAL SAMPLING**: involves random selection of sample and probability theory to evaluate the results, including sampling risk (ISA 530; ISA 530)
 - ☐ Advantage: Allows measurement of sampling risk
 - ☐ Disadvantage: Can be costly to use
- **NON-STATISTICAL SAMPLING**: allows auditor to use professional judgment to select sample items
 - ☐ More likely used when account is low risk and corroborating evidence available

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.). Wiley

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SAMPLING METHODS

RANDOM SELECTION

- Person selecting sample cannot influence choice of items
- Each item has equal chance of being selected
- Sample can be stratified before selecting random sample to increase efficiency
 - ☐ For example, stratify (subdivide) population of transactions into different size ranges, then take samples from each stratum
 - ☐ Stratification can reduce total sample size required for test

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.). Wiley

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SAMPLING METHODS

SYSTEMATIC SELECTION

- Divide number of items in population by **sample size**, giving sampling **interval (n)**. Select starting point, then take every nth item
- Risk that items are listed in way that **every nth item is related** - can **randomly order first**

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.), Wiley

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STEPS IN SYSTEMATIC SELECTION

- For example, suppose the **sample size is 20** and the number of items in the population is **10,000**:
- **Step 1:** Calculate the **sample interval**:

$$\frac{\text{No. of items in population}}{\text{Sample size}} = \frac{10000}{20} = 500$$
- **Step 2:** Give every item in population chance of selection by choosing a random number (**random start**) within range of 1 and sampling interval (in this example, 500), e.g. 217.
- **Step 3:** Continue to add sampling interval to random start, and identify items to be sampled, e.g. item nos. 217, 717, 1217 . . . 9217, 9717.

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.), Wiley

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SAMPLING METHODS

HAPHAZARD SELECTION

- Auditor does not use methodical technique
- **Not random sampling** because **personal bias** could affect choice

BLOCK SELECTION

- Select items **grouped together**
- **Sequence of items** may make this inappropriate
- **Non-statistical method**

JUDGEMENTAL SELECTION

- Auditor chooses items based on **judgement**
- E.g. after a new computer system installed
- **Non-statistical method** commonly used for **low risk accounts**

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.), Wiley

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FACTORS TO CONSIDER WHEN SELECTING SAMPLE

BEFORE SELECTING A SAMPLE, AN AUDITOR WILL USE PROFESSIONAL JUDGMENT TO

1. Assess **Control risk (CR)**
2. Set **Detection risk (DR)**
3. Set **planning materiality (PM)**
4. Select **appropriate population** for testing
5. Define 'error' for test, set 'tolerable error' and confidence level required

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.). Wiley

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FACTORS THAT INFLUENCE SAMPLE SIZE –CONTROLS TESTING

When determining size of sample for **controls testing**, ASA 530; ISA 530 requires auditor to consider:

1. **Larger sample size** if auditor intends to **rely more** heavily on *that control* to reduce substantive testing
2. **Smaller sample size** if auditor is willing to **tolerate a higher deviation rate** for *that control*
3. **Larger sample size** if auditor expects the population to have **a higher rate of deviation** for *that control*
4. **Larger sample size** if auditor requires **greater confidence** that *the control* is operating effectively (i.e. lower control risk)
5. **Very little change** to sample size if population has **more sampling units**

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.). Wiley

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FACTORS THAT INFLUENCE THE SAMPLE SIZE – CONTROLS TESTING (Table 7.3)

FACTOR	EFFECT ON SAMPLE SIZE
1. An increase in the extent to which the auditor's assessment takes into account relevant controls	INCREASE ↑
2. An increase in the tolerable rate of deviation	DECREASE ↓
3. An increase in the expected rate of deviation of the population to be tested	INCREASE ↑
4. An increase in the auditor's desired level of assurance that the tolerable rate of deviation is not exceeded by the actual rate of deviation in the population	INCREASE ↑
5. An increase in the number of sampling units in the population	NEGLIGIBLE

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.). Wiley

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FACTORS THAT INFLUENCE SAMPLE SIZE – SUBSTANTIVE TESTING

When determining **size** of sample for **substantive testing**, ASA 530;
ISA 530 requires auditor to consider:

1. **Larger sample size** if auditor assesses **risk of material misstatement** as greater (**higher IR, CR**)
2. **Smaller sample size** if auditor also using **other substantive procedures** for **same assertion**
3. **Larger sample size** if auditor **requires greater confidence** from results of tests (requires **lower DR**)
4. **Smaller sample size** if auditor is willing to **accept greater total error** (**higher tolerable misstatement**)
5. **Greater sample size** if auditor expects to find **greater misstatement in population**
6. **Smaller sample size** if auditor using **stratification** of population
7. **Very little change** to sample size if population has **more sampling units**

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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FACTORS THAT INFLUENCE SAMPLE SIZE – SUBSTANTIVE TESTING (Table 7.4)

FACTOR	EFFECT ON SAMPLE SIZE
1. An increase in the auditor's assessment of the risk of material misstatement.	Increase ↑
2. An increase in the use of other substantive procedures directed at the same assertion.	Decrease ↓
3. An increase in the auditor's desired level of assurance that tolerable misstatement is not exceeded by actual misstatement in the population.	Increase ↑
4. An increase in tolerable misstatement.	Decrease ↓
5. An increase in the amount of misstatement the auditor expects to find in the population	Increase ↑
6. Stratification of the population where appropriate.	Decrease ↓
7. The number of sampling units in the population	Negligible

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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EVALUATING SAMPLE TEST RESULTS

- When **testing controls**, an auditor will consider whether the results of their tests applied to a sample provide evidence that the control is **effective** within the **entire population**.
- When conducting **tests of transactions/balances**, an auditor will consider whether the results of their tests applied to a sample provide evidence that the **class of transaction or account balance is fairly stated**
- If errors are found in sample, calculate for population
 - **Deviation rate for control**, or
 - **Misstatement of balance** or **class of transactions**

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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EVALUATING SAMPLE TEST RESULTS

If sample is representative of population

1. Conclude deviation from controls in sample is at **same rate** as deviation from controls in population
 - ☐ Is deviation rate tolerable?
 - ☐ More testing required?
2. **Project monetary errors** in sample to population
 - ☐ First remove unique errors
 - ☐ Consider if sample stratified
 - ☐ **Projected error = (dollar size of error / dollar size of sample) x dollar size of population or stratum**
 - ☐ Is total projected error tolerable?
 - ☐ More testing required?

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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EVALUATING SAMPLE TEST RESULTS (Table 7.5)

STRATUM (1)	ERROR (2)	SAMPLE (3)	STRATUM (4)	PROJECTED ERROR (2)/(3)*(4)
1	\$1 586	\$20 235	\$25 732	\$2 017
2	\$ (658)	\$ 8 398	\$15 367	\$(1 204)
3	\$1 721	\$12 568	\$32 456	\$4 444
TOTAL	\$2 649	\$41 201	\$73 555	\$5 257

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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TESTS OF CONTROLS AND SUBSTANTIVE PROCEDURES

AUDIT PLAN is based on AUDIT STRATEGY

- **Audit strategy** is developed after gaining an understanding of the client's business (**inherent risk**) and its internal control structures (**control risk**)
- Audit strategy provides the basis for developing a detailed audit program
- Emphasis on (1) **tests of controls** and (2) **substantive procedures** depends on client's **risk of material misstatement**

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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TESTS OF CONTROLS AND SUBSTANTIVE PROCEDURES (Figure 7.1)

AUDIT RISK = f	INHERENT RISK	CONTROL RISK	DETECTION RISK	AUDIT STRATEGY
	HIGH	HIGH No tests of controls	LOW Increased reliance on substantive tests of transactions and account balances	Predominantly substantive audit strategy
	LOW	LOW Increased reliance on tests of controls	HIGH Reduced reliance on substantive tests of transactions and account balances	Lower assessed level of control risk audit strategy

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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TESTS OF CONTROLS

- Preliminary assessment of control risk (CR) is made after gaining an understanding of client during planning stage
- Tests of controls are performed on controls identified during gaining understanding phase
 - ❑ To obtain evidence that controls operated effectively and consistently throughout period
 - ❑ Auditor can reduce reliance on substantive testing only if tests confirm CR not high

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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TESTS OF CONTROLS

Controls testing procedures include:

- **Inspection** of documents for evidence of authorisation
- **Inspection** of documents for evidence that details included have been checked by appropriate client personnel
- **Observation** of client personnel performing various tasks, such as opening mail and conducting a stocktake
- **Enquiry** of client personnel about how they perform their tasks
- **Re-performing** control procedures to test their effectiveness

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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SUBSTANTIVE TESTING

TYPES OF SUBSTANTIVE PROCEDURES:

1. Substantive tests of **transactions**
 2. Substantive tests of **balances**
 3. **Analytical procedures**
- When **CR is lower**, auditor can **rely more on analytical procedures** and **less on detailed substantive tests** of transactions and balances
 - **Analytical procedures are more efficient** and place **greater reliance on client's accounting records**

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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SUBSTANTIVE TESTING

Examples of substantive procedures:

- **Confirmation** from client's **bank** regarding **interest rates** on borrowings (tests **accuracy** assertion for **interest expense**)
- **Inspecting** documents to verify **date of transactions** posted around year-end (**cut-off** assertion)
- **Inspecting suppliers' invoices** to verify amounts recorded as **purchases** (**completeness** assertion)
- **Confirmation** from **debtors** for amount owed (**existence** assertion)
- **Recalculating wages payable** (**valuation and allocation** assertion)

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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SUBSTANTIVE TESTING

Examples of analytical procedures:

- **Estimate depreciation expense** by multiplying average depreciation rate by asset balance (**accuracy** assertion)
- **Compare inventory balances** for this year and last year (**existence**, **completeness** and **valuation and allocation** assertions)
- **Estimate theatre revenue** by multiplying average ticket price x number of seats in theatre x average proportion of seats sold per session x number of sessions per week x weeks per year (**occurrence** and **accuracy** assertions)

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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NATURE, TIMING AND EXTENT OF AUDIT TESTING

Nature, timing and extent of testing varies depending on **audit strategy** adopted and **type of testing** (ASA 330; ISA 330)

NATURE OF AUDIT TESTING

- The **purpose** of the test (control or substantive test; which assertion is being tested), and
- The **procedure** used (inspection, observation, enquiry, confirmation, recalculation, re-performance or analytical procedure)

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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NATURE, TIMING AND EXTENT OF AUDIT TESTING

TIMING OF AUDIT TESTING

- **Date** that audit evidence relates to, and
- **Stage** of audit when procedures are performed
- **Interim testing** usually done for:
 - ☐ Control testing
 - ☐ Low risk accounts
- **Year-end testing** usually done for:
 - ☐ High risk accounts
 - ☐ Accounts affected by high deviations in control tests
 - ☐ Cut-off assertion

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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NATURE, TIMING AND EXTENT OF AUDIT TESTING

EXTENT OF AUDIT TESTING

- Refers to **amount of audit evidence** gathered and **size of sample**
- **Increase extent of control testing** when adopting **lower assessed level** of control risk strategy
- **Reduce extent of substantive testing** when control testing **confirms lower CR**
- **Do little or no control testing** when adopting **predominantly substantive strategy**

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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DRAWING CONCLUSIONS

- After gathering all of the evidence required via tests of controls and substantive testing, the auditor will **arrive at conclusions for each assertion and each account**.
- **Management, audit committees and/or board of directors** will be informed of identified misstatements by the auditors.
- **The lead partner** will form an opinion regarding the truth and fairness of their client's financial report.

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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DOCUMENTATION – AUDIT WORKING PAPERS

Auditor must document each stage of the audit in **working papers** (ASA 230; ISA 230)

- Provides **evidence of work completed, details evidence gathered** to support opinion
- Include in a working paper
 - **Client name**
 - **audit period**
 - **Title** of contents of paper
 - **file reference**
 - Details of **preparer, reviewer**
 - **Cross references** to other documents

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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DOCUMENTATION – AUDIT WORKING PAPERS

PERMANENT FILE

Client information and documentation that apply to **more than one audit**

- e.g. client address, key personnel, long term contracts
- Main accounting policies, results of prior audits
- Copies of prior period financial reports

CURRENT FILE

Client information and documentation that apply to **current audit**

- Evidence gathered for this audit
- Include **correspondence** between the auditor and their client.

Adapted from Moroney, Robyn, et al. (2017). *Auditing: A practical approach* (3rd ed.). Wiley

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Question 1

STRATUM	POPULATION		SAMPLE			PROJECTED ERROR
	SIZE	AMOUNT	SIZE	AMOUNT	ERROR	
1	50	\$150,000	20	\$50,000	\$2,500	?
2	30	\$100,000	15	\$40,000	\$1,500	?
3	30	\$250,000	20	\$185,000	\$2,500	?
TOTAL	110	500000	?	?	?	?

Question a: Stratification executed on what basis?

Question b: What does the projected error represent/mean?

Question c: If tolerable errors are set at \$12,000, what should the auditor do?

Question d: If tolerable errors are set at \$24,000, what should the auditor do?

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.). Wiley

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Question 2

Jerry is a junior staff of Monash CPA firm and is verifying sales invoices. There are 9 invoices and he wants to choose 3 invoices for test. His strategy is to first stratify the 9 invoices into 3 strata based on the amount size. From each stratum, he will choose the invoice with median amount for test.

Question a: Identify the invoice number in each stratum.

Question b: Identify the 3 invoices Jerry would choose.

Number	Amount
1	700
2	300
3	900
4	600
5	100
6	500
7	800
8	200
9	400

Adapted from Moroney, Robyn, et al. (2017). Auditing: A practical approach (3rd ed.). Wiley

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