

ACC531: Auditing and Assurance Services
Ch4. Audit Risk Model and Inherent Risk Assessment

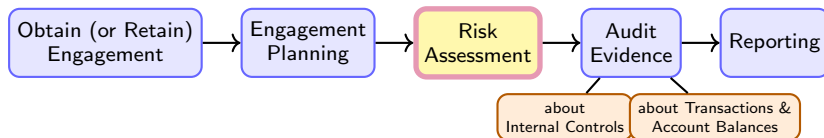
Jaeyoon Yu, Ph.D.
Central Michigan University

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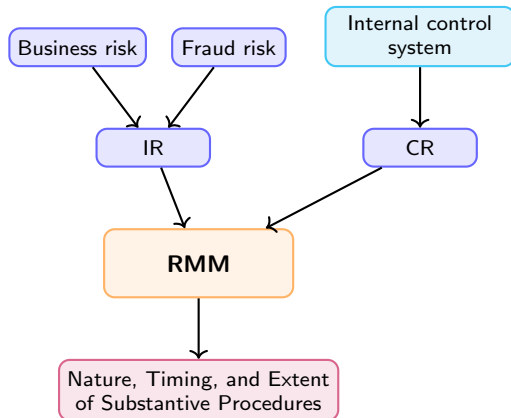
- 1 Audit Risk
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- 4 Gathering Information and Preliminary Analytical Procedures

Introduction: Importance of Risk Assessment

- Auditors assess various risks that could affect the audit.
- Auditors decide what audit procedures to perform based on the risks assessed.



Introduction: Importance of Risk Assessment



The purpose of risk assessment!

LO 4-1

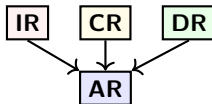
Define audit risk.

Describe how it can be broken down into inherent risk, control risk, and detection risk to help assess and respond to such risks during the audit planning process.

Audit Risk (AR)

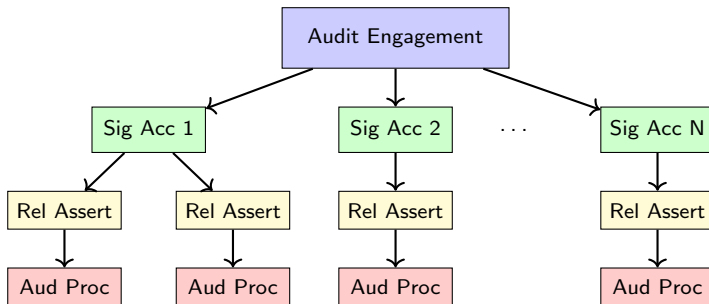
The risk that the auditor expresses an inappropriate audit opinion when the financial statements are materially misstated (i.e., the risk that the auditors fail to detect a material misstatement and issue a false audit opinion).

$$AR = IR \times CR \times DR$$



Audit Risk

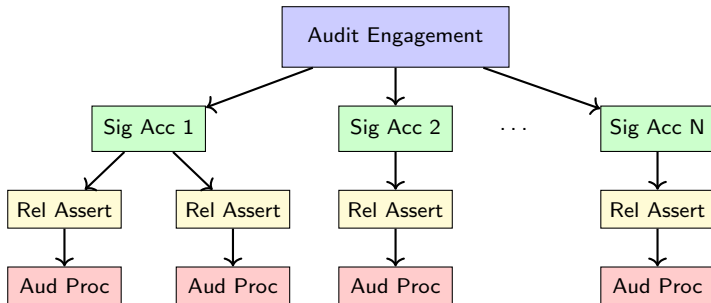
Audit risk should be evaluated **both** at the overall and for each identified.¹
through a focus on the



¹**Significant acc & disc:** accounts & disclosures that have a reasonable possibility of material misstatement.

Relevant assertions: assertions that have a reasonable possibility of material misstatement.

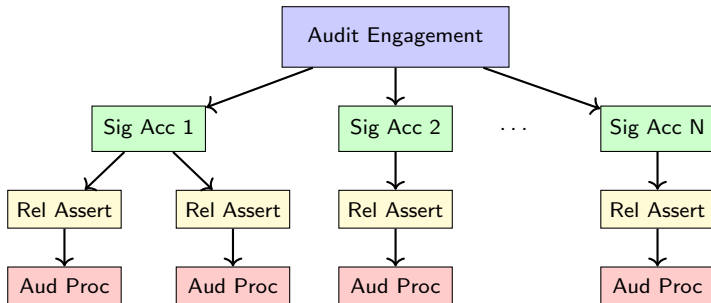
Audit risk should be evaluated **both** at the overall **FS level** and for each through a focus on the identified.¹



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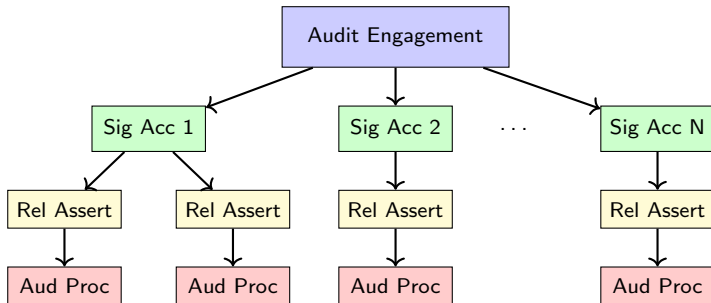
Audit risk should be evaluated **both** at the overall **FS level** and for each **significant acc & disc** through a focus on the identified.¹



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Audit risk should be evaluated **both** at the overall **FS level** and for each **significant acc & disc** through a focus on the **relevant assertions** identified.¹



¹**Significant acc & disc:** accounts & disclosures that have a reasonable possibility of material misstatement.

Relevant assertions: assertions that have a reasonable possibility of material misstatement.

For example, what are the relevant assertions for the following accounts?

- Cash: _____
- Revenue: _____
- Accounts Payable: _____

Which assertions are relevant? It depends on significant accounts and disclosures.

For example, what are the relevant assertions for the following accounts?

- Cash: Existence
- Revenue: _____
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- Cash: Existence
- Revenue: Existence
- Accounts Payable: Completeness

Which assertions are relevant? It depends on significant accounts and disclosures.

Audit risk is set by auditors at an acceptable level: Acceptable Audit Risk (AAR).

- AR always exists even when audits are well planned and executed.
- Auditing profession has no official standard for an acceptable level of overall AR.
- But it should be appropriately low.
- To have a low AR:
 - ▶ IR should be low, so there's no issue from the beginning.
 - ▶ CR should be low, so the client's internal controls can prevent or detect issues, if any.
 - ▶ DR should be low, so the auditor's procedures can detect issues, if any.
- If auditors can't make audit risk acceptably low, they should n't accept the audit.

Q.: But which risk can auditors control? _____

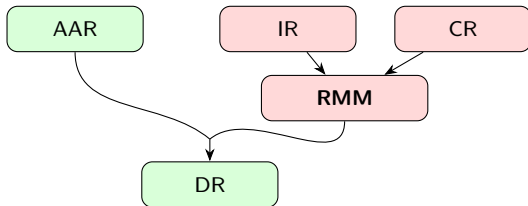
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Q.: But which risk can auditors control? DR

How DR is determined:

- **(Acceptable) AR**: set by the auditor at the beginning of the audit.
- **IR**: determined by the nature of the business.
- **CR**: determined by the effectiveness of the client's internal controls.
- **RMM**: defined as: $IR \times CR$.
- **(Planned) DR**: achieved through the audit procedures.²



² $DR = AR / (IR \times CR)$.

EX.: Suppose that an audit firm has a portfolio of two client companies. It would set a target AR of 5% for both clients. Whose audit team should work harder to achieve a DR of 10%?

- Client A has low IR and CR, and low RMM (10%), so the (target) DR should be 50%.
- Client B has high IR and CR, and high RMM (50%), so the (target) DR should be 10%.

Answer:

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Answer: B

Inherent Risk (IR)

The probability that material misstatements will occur if no internal controls are in place.

Sources of inherent risk includes:

- Economic difficulties that decrease profit making
- Changes in FMV of assets/liabilities³
- Problems with the integrity of top MGT
- Incentive compensation that encourages MGT risk taking

³FMT: Fair Market Value

Control Risk (CR)

The probability that material misstatements will not be prevented or detected by the client's internal controls.

Sources of control risk includes:

- Lack of segregation of duties among client personnel
- Poorly trained financial reporting personnel
- Changes to the IT system without proper supervision or review
- Weak monitoring systems over detecting processing errors

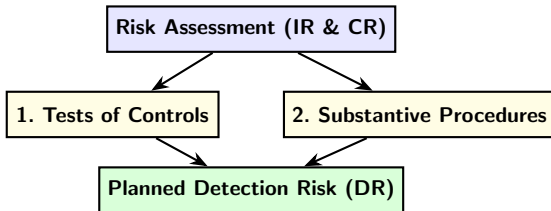
Effective control system can help reduce CR.⁴

⁴This topic is covered in Ch5 in detail.

Detection Risk (DR)

The probability that the auditor's procedures will not detect a material misstatement that exists.

- Given the level of IR and CR, auditors should set the level of **DR to be low** enough to achieve the **acceptable AR**. To do so, auditors perform **tests of controls** and **substantive procedures**.



LO 4-2

Explain auditors' responsibilities for fraud risk assessment.

Define and explain the differences among several types of fraud and errors.

What is Fraud?

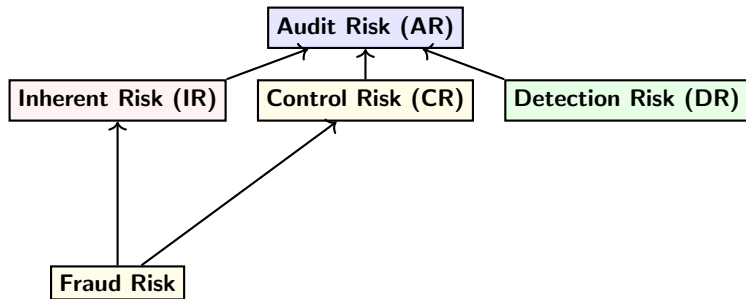
An act of knowingly making material misrepresentations of fact with the _____ of inducing someone to believe something that is not true.⁵

⁵Material misrepresentation includes both omission and misstatement of facts.

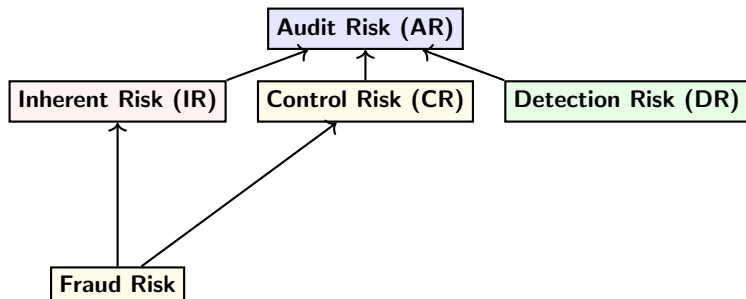
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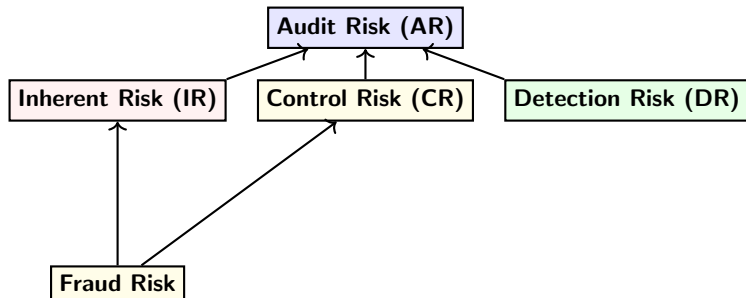
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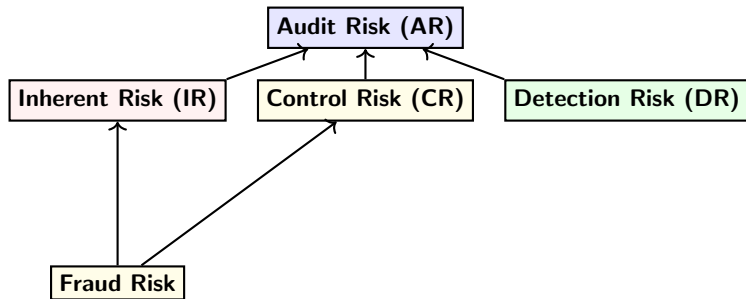
- Fraud risk is **NOT** a stated part of the audit risk model.
- But it affects _____.
- Given the potential damage resulting from fraud, auditors must specifically consider RMM due to _____, in addition to _____.



- Fraud risk is **NOT** a stated part of the audit risk model.
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- But it affects **IR & CR**.
- Given the potential damage resulting from fraud, auditors must specifically consider RMM due to **fraud**, in addition to **error**.

Under **auditing standards**, auditors must:

- **Assess the RMM** due to fraud & error at both the FS level and the assertion level.
- **Obtain reasonable assurance** that the FS are free of MM due to fraud or error.
- **Exercise professional skepticism** throughout the audit.
- **Communicate** fraud matters to management, those charged with governance, and possibly regulators (e.g., SEC) when required.

Auditors are **concerned with fraud only** as it affects _____. Auditors are responsible to detect cases where fraudulent activity results in materially misstated FS.⁶

EX 1. If a warehouse employee is misappropriating inventory but that doesn't result in materially misstated FS: Should auditors be concerned? _____

EX 2. If a salesperson is overstating sales revenue to meet targets, that results in materially misstated FS: Should auditors be concerned? _____

⁶This is not to say that auditors would ignore other types of frauds; but only that auditors' **primary responsibility** is to design procedures to provide reasonable assurance that the **FS are free of MM** due to fraud or error. 

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Managers have incentives to overstate NI to meet targets, which can lead to fraud. They do so usually through:

- Fictitious revenue
- Accelerated revenue recognition
- Concealed liabilities
- Delaying the recognition of expenses

EX 1. Managers expected their profit would be \$150M, but it turned out to be \$100M. They can overstate net income to _____ by accelerating revenue recognition (i.e., recognizing revenues for products that were not yet delivered). But this would lead to _____ revenues in the next period.

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Managers at times have incentives to understate NI. Why?

- High profits would attract attention from regulators.
- High profits would lead to increased taxes.
- High profits would lead to demand from shareholders for dividends.
- High profits would lead to pressure from employees to increase salaries.

When profits are too high, managers can put reserves in a _____ to use in future periods.

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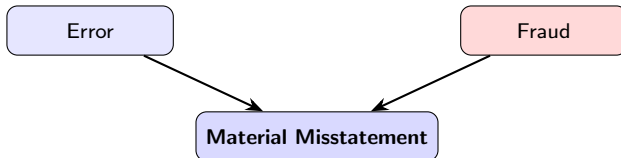
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EX 1. Managers expected their profit would be \$150M, but it turned out to be \$200M. They can understate net income to **\$150M** and set aside the extra **(\$50M)** as a reserve to use in future periods when profits are lower.

Error vs. Fraud

Unintentional misstatement or omission.
E.g., arithmetic mistake, overlooked accrual.

Intentional act involving deception.
E.g., fictitious revenue, misappropriation.



Standards require auditors to specifically consider RMM due to fraud, in addition to error.

Many frauds involve improper recognition of assets (e.g., Inventory and Accounts Receivable). In this case, there is an asset account that can be investigated and found to be false or questionable. This is called a dangling debit.

EX 1. A company recorded fictitious sales revenue of \$100M at the end of the year. The dangling debit is in the Accounts Receivable account.

EX 2. A company recorded fictitious inventory of \$100M at the end of the year. The dangling debit is in the Inventory account.⁷

⁷Higher inventory would indicate lower cost of goods sold, which would result in higher net income.

Two Types of Fraud (Relevant to FS Audit)

1. Fraudulent Financial Reporting

- **Intentional misstatements**, including omissions of amounts or disclosures in FS to deceive FS users.
- usually by _____ to meet targets or hide poor performance.
- It can injure investors and creditors through misstated FS.
- a.k.a. “ _____ ”

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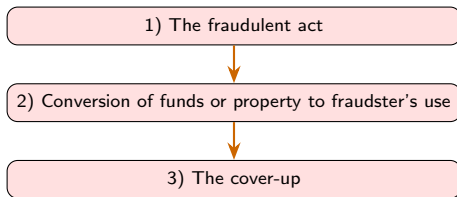
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- a.k.a. "Management Fraud"

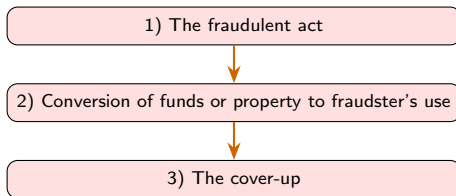
Type 2: Misappropriation of Assets

- Theft or misuse of the entity's assets.
- Usually by _____ to steal cash, inventory, or other assets.
- It usually comes with a _____ such as falsifying records to conceal the theft.
- The cover-up itself can result in **material misstatement** in FS.
- a.k.a. " _____ "



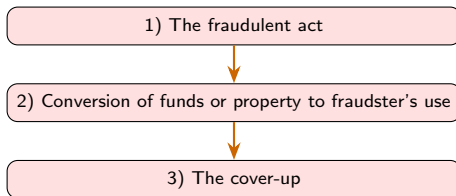
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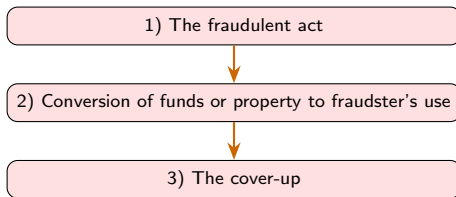
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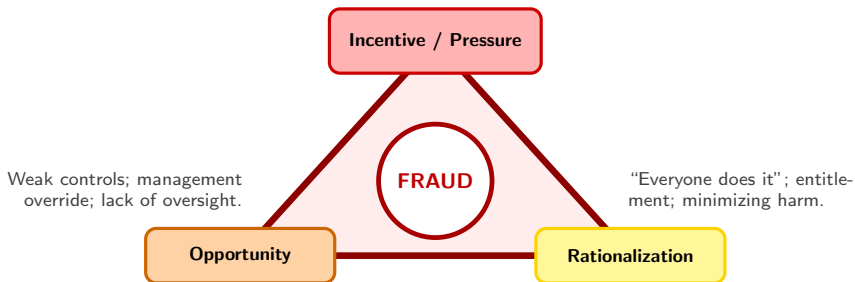


Two Types of Fraud (Relevant to FS Audit)

	Fraudulent Financial Reporting	Misappropriation of Assets
Who	<u>Management</u>	<u>Employees</u> (incl. management)
What	Intentional misstatement of the FS	Theft or misuse of the entity's assets
How	Override of controls; fictitious revenue; hidden liabilities; channel stuffing	Embezzlement; payroll fraud; stealing cash or inventory
Impact	Usually FS-level — affects multiple accounts	Usually account-level — affects specific accounts (e.g., cash, inventory)

The Fraud Triangle

Meet targets; hide poor performance; personal financial need.



Auditors consider the fraud triangle when assessing fraud risk and designing audit responses.

The Fraud Triangle — Example

A salesperson's bonus is tied to sales targets.

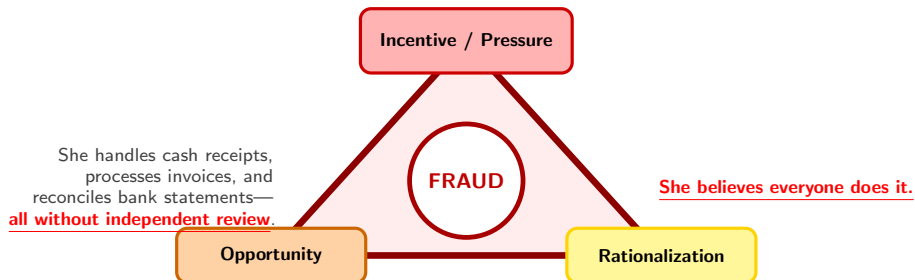


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3 Inherent Risk Assessment - "What could go wrong?"

4 Gathering Information and Preliminary Analytical Procedures

LO 4-3

Explain auditors' responsibilities to assess inherent risk.

Describe the type of risk assessment procedures that should be performed when assessing inherent risk.

⁸CR assessment is covered in Ch5.

Following **Auditing Standards**:

- Risk assessment underlies the entire audit process.
- RMM, either due to error or fraud.
- The first step is to assess _____ for each relevant _____ related to each of the significant accounts & disclosures identified on an audit engagement.

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Inherent Risk Assessment - “What could go wrong?”

Inherent risk assessment

- should be done at both the _____ and at each of the relevant _____ levels.
- helps auditors identify the areas that are most likely to contain _____ (error or fraud).
- So offers the opportunity to plan the audit and tailor it to the areas of the FS most likely to contain MMs.

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Factors that Influence Inherent Risk

Factor	Effect on inherent risk
Dollar size of the account	The larger the account, the more likely it is to contain an error or fraud.
Liquidity	The greater the account's liquidity (ability to be converted to cash quickly), the more susceptible the account is to fraud. For example, cash is more susceptible to fraud than a building.
Volume of transactions	The more transactions there are, the more likely there is to be an error or fraud.
Complexity of transactions	Complex transactions tend to be more susceptible to error or fraud.
Subjective estimates	Subjective measurements (e.g., Allowance for doubtful accounts, impairment of goodwill) tend to have more errors and fraud than objective measurements (e.g., Cash).

- Industry, Regulatory, and Other External Factors
- The Nature of the Company and Related Parties
- Client Computerized Processing
- Selection and Application of Accounting Principles, Including Related disclosures
- Company Objectives, Strategies, and Related Business risks
- Company Performance Measures

⁹You may want to review this section for the CPA exam. Textbook discusses in more detail. 

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Understand the different sources of information.

Understand the audit procedures used by auditors when assessing risks.

To properly assess **risks**, auditors need to gather information from various sources.

- **General** business magazines and newspapers
- **Industry** magazines and newspapers
- **Public information** disclosed by the company
 - ▶ Annual report through the SEC website
 - ▶ Website of the company
 - ▶ Stock price if a public company
 - ▶ Letter to stockholders
- **Additional info** from the company
 - ▶ Corporate charters and bylaws
 - ▶ contracts, agreements, and legal proceedings
 - ▶ minutes of the meetings of the board of directors and audit committee, etc.
- **Info from client acceptance/retention** decisions
- **Info from predecessor auditors**

Berkshire Hathaway shareholder letters by year (1977–2024)¹⁰

	X=0	X=1	X=2	X=3	X=4	X=5	X=6	X=7	X=8	X=9
197X								1977	1978	1979
198X	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
199X	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
200X	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
201X	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
202X	2020	2021	2022	2023	2024					

¹⁰<https://www.berkshirehathaway.com/letters/letters.html>

Appendix: Berkshire's Letters to Shareholders contains accounting themes

Warren Buffett's annual letters (berkshirehathaway.com/letters) offer rare plain-English insight into accounting and financial reporting. Examples include:

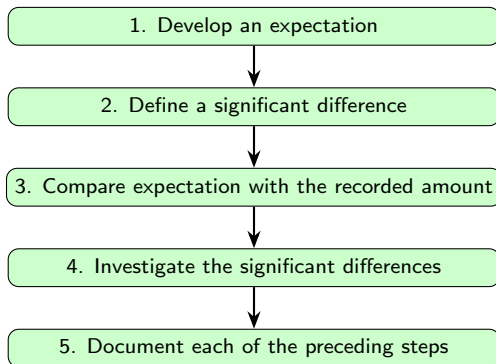
Year	Key Accounting Theme
1992	Intrinsic Value vs. Book Value — Why book value is a poor proxy for firm worth; intuitive introduction to DCF thinking.
2000	Goodwill & M&A Accounting — Critique of pooling-of-interests and the distortions caused by acquisition premiums.
2002	Derivatives & Disclosure — Why complex financial instruments obscure financial statements; coined “financial weapons of mass destruction.”
2007	Insurance Float — How a liability can function as interest-free capital; links to liquidity and financial structure.
2024	Non-GAAP Earnings vs. GAAP Net Income — The case against including unrealized investment gains in performance measurement.

Preliminary Analytical Procedures

Analytical procedures are mandatory in the planning stage of the audit.

- One of the most _____ procedures.
- Auditors can use them to identify potential issues early in the audit.

Steps for analytical procedures:

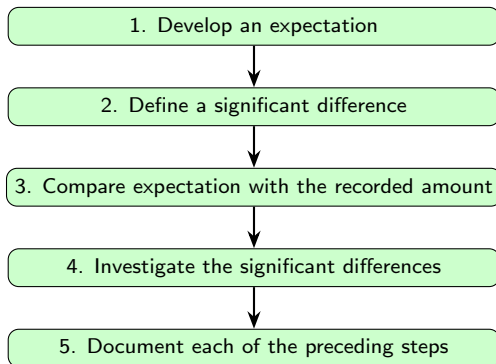


Preliminary Analytical Procedures

Analytical procedures are mandatory in the planning stage of the audit.

- One of the most **efficient** procedures.
- Auditors can use them to **identify potential issues** early in the audit.

Steps for analytical procedures:



EX. : Comparing current year (CY) to prior year (PY).

- **Expectation:** COGS is a variable cost and should increase at a similar rate to Sales.
- **Observation:** Sales increased by 20%, but COGS increased by only 10%.
- **Difference:** The 10% discrepancy is significant.
- **Investigation:** Auditors must determine if the change is due to:
 - ▶ Improved gross margins (e.g., better pricing or lower costs).
 - ▶ Errors or fraud (e.g., unrecorded purchases or inventory overstatement).

Example - Building Expectations

Given the expectation of the same growth rate in Sales, COGS, A/R, Inventory, & ADA, fill the blanks in the following statements:

Income Statement (\$ thousands)

	PY	CY
Sales	1,000	1,200
COGS	(600)	_____
Gross profit	400	_____
Operating expenses	(200)	(220)
Net income	200	_____

Balance Sheet (\$ thousands)

	PY	CY
Assets		
Cash	100	100
Accounts receivable, gross	200	_____
Allowance for doubtful accts	(10)	_____
A/R, net	190	_____
Inventory	300	_____
<i>Total current assets</i>	590	688
PPE, net	410	376
Total assets	1,000	1,064
Liabilities & equity		
Accounts payable	150	165
Long-term debt	200	175
Contributed capital (CC)	200	200
Retained earnings (RE)	450	524
<i>Equity</i>	650	724
Total L & E	1,000	1,064

Example - Building Expectations

Given the expectation of the same growth rate in Sales, COGS, A/R, Inventory, & ADA, fill the blanks in the following statements:

Income Statement (\$ thousands)

	PY	CY
Sales	1,000	1,200
COGS	(600)	<u>(720)</u>
Gross profit	400	<u>—</u>
Operating expenses	(200)	(220)
Net income	200	<u>—</u>

Balance Sheet (\$ thousands)

	PY	CY
Assets		
Cash	100	100
Accounts receivable, gross	200	<u>—</u>
Allowance for doubtful accts	(10)	<u>—</u>
A/R, net	190	<u>—</u>
Inventory	300	<u>—</u>
<i>Total current assets</i>	590	688
PPE, net	410	376
Total assets	1,000	1,064
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Accounts payable	150	165
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Income Statement (\$ thousands)

	PY	CY
Sales	1,000	1,200
COGS	(600)	<u>(720)</u>
Gross profit	400	<u>480</u>
Operating expenses	(200)	(220)
Net income	200	<u>—</u>

Balance Sheet (\$ thousands)

	PY	CY
Assets		
Cash	100	100
Accounts receivable, gross	200	—
Allowance for doubtful accts	(10)	—
A/R, net	190	—
Inventory	300	—
<i>Total current assets</i>	590	<u>688</u>
PPE, net	410	376
Total assets	1,000	1,064
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Given the expectation of the same growth rate in Sales, COGS, A/R, Inventory, & ADA, fill the blanks in the following statements:

Income Statement (\$ thousands)

	PY	CY
Sales	1,000	1,200
COGS	(600)	<u>(720)</u>
Gross profit	400	<u>480</u>
Operating expenses	(200)	(220)
Net income	200	<u>260</u>

Balance Sheet (\$ thousands)

	PY	CY
Assets		
Cash	100	100
Accounts receivable, gross	200	—
Allowance for doubtful accts	(10)	—
A/R, net	190	—
Inventory	300	—
<i>Total current assets</i>	590	688
PPE, net	410	376
Total assets	1,000	1,064
Liabilities & equity		
Accounts payable	150	165
Long-term debt	200	175
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Example - Building Expectations

Given the expectation of the same growth rate in Sales, COGS, A/R, Inventory, & ADA, fill the blanks in the following statements:

Income Statement (\$ thousands)

	PY	CY
Sales	1,000	1,200
COGS	(600)	<u>(720)</u>
Gross profit	400	<u>480</u>
Operating expenses	(200)	(220)
Net income	200	<u>260</u>

Balance Sheet (\$ thousands)

	PY	CY
Assets		
Cash	100	100
Accounts receivable, gross	200	<u>240</u>
Allowance for doubtful accts	(10)	—
A/R, net	190	—
Inventory	300	—
<i>Total current assets</i>	590	<u>688</u>
PPE, net	410	376
Total assets	1,000	1,064
Liabilities & equity		
Accounts payable	150	165
Long-term debt	200	175
Contributed capital (CC)	200	200
Retained earnings (RE)	450	524
<i>Equity</i>	650	724
Total L & E	1,000	1,064

Example - Building Expectations

Given the expectation of the same growth rate in Sales, COGS, A/R, Inventory, & ADA, fill the blanks in the following statements:

Income Statement (\$ thousands)

	PY	CY
Sales	1,000	1,200
COGS	(600)	<u>(720)</u>
Gross profit	400	<u>480</u>
Operating expenses	(200)	(220)
Net income	200	<u>260</u>

Balance Sheet (\$ thousands)

	PY	CY
Assets		
Cash	100	100
Accounts receivable, gross	200	<u>240</u>
Allowance for doubtful accts	(10)	<u>(12)</u>
A/R, net	190	—
Inventory	300	—
<i>Total current assets</i>	590	<u>688</u>
PPE, net	410	376
Total assets	1,000	1,064
Liabilities & equity		
Accounts payable	150	165
Long-term debt	200	175
Contributed capital (CC)	200	200
Retained earnings (RE)	450	524
<i>Equity</i>	650	724
Total L & E	1,000	1,064

Example - Building Expectations

Given the expectation of the same growth rate in Sales, COGS, A/R, Inventory, & ADA, fill the blanks in the following statements:

Income Statement (\$ thousands)

	PY	CY
Sales	1,000	1,200
COGS	(600)	<u>(720)</u>
Gross profit	400	<u>480</u>
Operating expenses	(200)	(220)
Net income	200	<u>260</u>

Balance Sheet (\$ thousands)

	PY	CY
Assets		
Cash	100	100
Accounts receivable, gross	200	<u>240</u>
Allowance for doubtful accts	(10)	<u>(12)</u>
A/R, net	190	<u>228</u>
Inventory	300	<u>360</u>
<i>Total current assets</i>	590	688
PPE, net	410	376
Total assets	1,000	1,064
Liabilities & equity		
Accounts payable	150	165
Long-term debt	200	175
Contributed capital (CC)	200	200
Retained earnings (RE)	450	524
<i>Equity</i>	650	724
Total L & E	1,000	1,064

Example - Building Expectations

Given the expectation of the same growth rate in Sales, COGS, A/R, Inventory, & ADA, fill the blanks in the following statements:

Income Statement (\$ thousands)

	PY	CY
Sales	1,000	1,200
COGS	(600)	<u>(720)</u>
Gross profit	400	<u>480</u>
Operating expenses	(200)	(220)
Net income	200	<u>260</u>

Balance Sheet (\$ thousands)

	PY	CY
Assets		
Cash	100	100
Accounts receivable, gross	200	<u>240</u>
Allowance for doubtful accts	(10)	<u>(12)</u>
A/R, net	190	<u>228</u>
Inventory	300	<u>360</u>
<i>Total current assets</i>	590	688
PPE, net	410	376
Total assets	1,000	1,064
Liabilities & equity		
Accounts payable	150	165
Long-term debt	200	175
Contributed capital (CC)	200	200
Retained earnings (RE)	450	524
<i>Equity</i>	650	724
Total L & E	1,000	1,064

Example - Preliminary Analytical Procedures

Assume that **managers gave auditors** the following information.

Income Statement (\$ thousands)

	PY	CY
Sales	1,000	1,200
COGS	(600)	(625)
Gross profit	400	575
Operating expenses	(200)	(220)
Net income	200	355

Balance Sheet (\$ thousands)

	PY	CY
Assets		
Cash	100	100
Accounts receivable, gross	200	285
Allowance for doubtful accts	(10)	(11)
A/R, net	190	274
Inventory	300	540
<i>Total current</i>	590	914
PPE, net	410	376
Total assets	1,000	1,290
Liabilities & equity		
Accounts payable	150	265
Long-term debt	200	275
Contributed capital (CC)	200	200
Retained earnings (RE)	450	550
Total L & E	1,000	1,290

Where are the red flags? What must we audit very carefully? Why?

Three areas where reported figures don't match what we'd expect:

ep: _____ :

ep: _____ :

ep: _____ :

Three areas where reported figures don't match what we'd expect:

- **Inventory and CGS**: Sales grew 20% but cost of goods sold grew only about 4%, and inventory grew 50%. That can mean inventory is overstated or COGS is understated, which overstates profit.

- _____ :

- _____ :

Three areas where reported figures don't match what we'd expect:

- **Inventory and CGS**: Sales grew 20% but cost of goods sold grew only about 4%, and inventory grew 50%. That can mean inventory is overstated or COGS is understated, which overstates profit.
- **Sales and A/R growth**: Sales went up 20% but A/R went up much more (about 42%). When receivables grow faster than sales, we worry that some sales might be made up or that customers aren't paying as expected.
- _____ :

Three areas where reported figures don't match what we'd expect:

- **Inventory and CGS**: Sales grew 20% but cost of goods sold grew only about 4%, and inventory grew 50%. That can mean inventory is overstated or COGS is understated, which overstates profit.
- **Sales and A/R growth**: Sales went up 20% but A/R went up much more (about 42%). When receivables grow faster than sales, we worry that some sales might be made up or that customers aren't paying as expected.
- **A/R and ADA growth**: A/R grew a lot but the allowance for doubtful accounts barely changed (10 to 11). The allowance should move with receivables; if it doesn't, the company may be under-reserving for bad debts and overstating income.