Financial Reporting and Analysis

CFA一级培训项目

讲师：纪慧诚

101% Contribution Breeds Professionalism

纪慧诚

- 工作职称：金程教育金融研究院资深培训师
- 教育背景：金程教育Excel金融建模、量化投资(AQF)课程开发负责人
- 工作背景：金融行业从业经验丰富，曾先后就职于中国建设银行、中信证券等知名金融机构。对企业IPO、投资理财、量化投资等领域有着深入的研究和独到的见解。
- 服务客户：中国工商银行、中国银行、中国建设银行、上海银行、兴业银行、中国人民银行研究生部、兴业证券、平安证券、南京证券、湘财证券、上海证券交易所、深圳综合开发研究院、山东省银行同业协会、中国CFP标准委员会、杨浦区党校、太平洋保险、泰康人寿、中国人寿、人保资产管理、中国平安、华夏基金
- 主编出版：参与金程CFA项目各类参考书目的编写工作，包括翻译CFA协会官方参考书《企业理财》，《国际财务报告分析》，金程CFA中文Notes等

Topic Weightings in CFA Level I

Session NO.	Content	Weightings
Study Session 1	Ethics & Professional Standards	15
Study Session 2-3	Quantitative Analysis	12
Study Session 4-6	Economics	10
Study Session 7-10	**Financial Reporting and Analysis**	**20**
Study Session 11	Corporate Finance	7
Study Session 12	Portfolio Management	7
Study Session 13-14	Equity Investment	10
Study Session 15-16	Fixed Income	10
Study Session 17	Derivatives	5
Study Session 18	Alternative Investments	4

原理前导：财务报表分析的作用

- 某上市公司拥有一间原价为500万元的旧仓库，扣除折旧后，净值为300万元，旧仓库的市场价为3000万元，该公司经营不善，有可能被ST。这时，公司CFO出手了，将旧仓库3000万元卖了，同时以3000万元购入一间类似的仓库，公司立即避免了被ST的命运。
- 某上市公司，希望自己能盈利，可是这家公司今年却亏损了，而且没少亏，亏了1个亿，这公司不想让人家知道它亏损了，它想让亏损变成盈利，那怎么办呢，它发现它在银行有1.6个亿的贷款，这家公司说虽然贷款还没提前到期，我申请提前偿还，我用什么来还呢，我用一个房子来还，这个房子呢价值3000W，今天我拿这个房子去把1.6亿的债去抵掉，明天呢我再拿1.6个亿的现金去把这个房子买回来，那大家发现其实在这个过程当中房子根本没有给银行，这家公司其实最后就是拿了1.6个亿的现金还了1.6亿的贷款。但是整个过程都一样了，抵债的时候赚了1.3个亿，变成了盈利3000万，第二天是拿1.6个亿买了3000万的房子，其实这件事做的非常亏本，但是你的利润永远只跟卖东西有关系，它没有卖东西，它不会影响利润。结果就是盈利三千万，还有房子从3000万的价值变成了1.6个亿

原理前导：财务报表分析的作用

- **对于个人而言财务分析的意义**
  - 掌握财务报表分析知识更容易升职；
  - 财务报表分析在运用范围极其广泛，不同工作和岗位都能用到；
  - 每个创业者都必须掌握管理财务知识，不懂财务，无法管理公司；
  - 一般投资做的好的人，也是财务高手。

Framework

F.R.A

- SS7
  - R21: Financial Statement Analysis: An Introduction
  - R22: Financial Reporting Mechanics
  - R23: Financial Reporting Standards
- SS8
  - R24: Understanding the I/S
  - R25:Understanding the B/S
  - R26: Understanding the C/F
  - R27: Financial Analysis Techniques
- SS9
  - R28: Inventories
  - R29: Long-Lived Assets
  - R30: Income Taxes
  - R31: Long-Term Liabilities and Leases
- SS10
  - R32: Financial Reporting Quality
  - R33: Financial Statement Analysis: Applications

Reading 21

Financial Statement Analysis: An Introduction

原理前导：财务上的“三个代表”

- **想了解企业的财务状况，就必须要读懂企业的三张报表。这三张表可以说是企业管理层及外部投资者极其重要的"三个代表"。**
  - 资产负债表代表企业的资产、负债和所有者权益，体现其整体实力；
  - 利润表代表企业的利润来源，体现其盈利能力；
  - 现金流量表代表企业的现金流量，体现其获现能力；
  - 资产负债表是静态指标，反映企业某个时点的财务状况；利润表是动态指标，反映企业某段时期的经营成果，资产负债表未分配利润期末数等于利润表净利润本年累计数加上年初未分配利润数。资产负债表货币资金期末数减期初数，等于现金流量表现金净增加值。

The Framework of FRS

- **Two systems worldwide**
  - The Financial Accounting Standards Board (FASB)
  - The Statement of Financial Accounting Standards (SFAS)

    →**U.S. GAAP** (Generally Accepted Accounting Principle)
  - The International Accounting Standards Board (IASB)

IFRS {
- ✓ The International Accounting Standards (IAS)
- ✓ The International Financial Reporting Standards (IFRS)

Recognition → Measurement → Disclosure

↓

Financial analysis

Framework

1. The role of financial reporting and financial statement analysis
2. The resources used for financial statement analysis
   - Key financial statements
   - Other relevant information
3. Auditing
4. Financial statement analysis framework

Financial reporting & analysis

- **The role of financial reporting** is to provide information about the
  - **Financial position;**
  - **Financial performance;**
  - **Changes in financial position of an entity** that is useful to a wide range of users **in making economic decisions.**
- **The role of financial reporting analysis** is to
  - Use relevant information in and outside a company's financial statements;
  - So as to evaluate the previous, present, and future financial condition of the entity for making economic decisions.

Financial statements

Financial position	Financial performance	Change in financial position
The balance sheet	The income statement	The cash flow statement
Assets = liabilities + owner's equity	**•Revenue** **•Expenses** ↓ **Net income**	**•Operating cash flows** **•Investing cash flows** **•Financing cash flows** ↓ **Net cash inflow or outflow for the financial year**

The statement of changes in owner's equity

Balance sheet

- **Balance sheet**
  - Balance sheet (statement of financial position, statement of financial condition) reports the firm's present financial position **at a point of time.**
  - **Elements**
    - ✓ **Assets**. The firm's controllable resource generating potential revenues;
    - ✓ **Liabilities**. A firm's obligations to creditors;
    - ✓ **Owner's equity**. Residual claim of shareholders on the company's assets after repaying all the liabilities.
  - **Fundamental accounting equation**
    - ✓ **Assets = Liabilities + Owners' Equity**

Income statement

- **Income statement**
  - The income statement (statement of operations, profit and loss statement) presents the results of a company's performance **during a period of time**.
  - **Elements**
    - ✓ **Revenues** are inflows generated from a firm's **ordinary business activities**, including delivering or producing goods, rendering services, or other activities.
    - ✓ **Expenses** reflect outflows, depletions of assets, and incurrences of liabilities that decrease equity.
    - ✓ **Other income** includes **gains** that may or may not arise in the ordinary course of business.

Cash flow statement

- **Cash flow statement**
  - Disclose the **cash inflows and outflows** of the **firm during a period of operating time.**
  - **Elements**
    - ✓ **Operating cash flows** contains cash received and expensed relating with routine business activities;
    - ✓ **Investing cash flows** are cash flows due to the acquisition or sale of long-term assets, such as property, plant, and equipment, a subsidiary or segment, securities, and of investments in other firms;
    - ✓ **Financing cash flows** are cash flows due to retiring or obtaining capital.

Financial statements

- **Measurement of financial elements**
  - **Historical cost**
    - ✓ The amount of cash or cash equivalents paid to purchase an asset, including any costs of acquisition and/or preparation.
  - **Amortized cost**
    - ✓ Historical cost adjusted for depreciation, amortization, depletion, and impairment.
  - **Current cost**
    - ✓ The amount the firm would have to pay today for the same asset.
  - **Realizable value**
    - ✓ The amount for which the firm could sell the asset or settlement of obligation
  - **Present value**
    - ✓ The discounted value of the asset's expected future cash flows.
  - **Fair value**
    - ✓ The amount at which two knowledgeable, willing parties in an arm's-length transaction would exchange the asset.

Statement of Comprehensive Income

- **Statement of comprehensive income**
  - Report all items that impact owners' equity but are not the result of transactions with shareowners.
  - Under IFRS the statement of comprehensive income can be presented as
    - ✓ A single statement of comprehensive income combining income statement and other comprehensive income;
    - ✓ **Two statements**
      - ◆Income statement;
      - ◆Statement of comprehensive income that begins with profit or loss from the income statement.
  - OCI presented in the statement of changes in equity (Permitted in GAAP).
- **The statement of changes in equity** (statement of changes in owners' equity or statement of changes in shareholders' equity).
  - Primarily report changes in the owners' investment in the business over time.

Other relevant information

Other relevant information	
Financial Notes and Supplementary Schedules★	Fiscal period; consolidation basis; accounting methods, assumptions and estimates; explanatory information about every line item on FSs Note disclosures include information about the following: ● financial instruments and risks arising from financial instruments; ● commitments and contingencies; ● related-party transactions; ● subsequent events; ● business acquisitions and disposals.
Management's Discussion and Analysis(MD&A)★	**General contents** (Publicly held companies): nature of the business, past results, material uncertainty and future outlook; **Characteristic**: MD&A is a good for understanding information in the financial statements. In particular, the forward-looking disclosures in an MD&A, can be useful in projecting a company's future performance.

Other relevant information

Framework for (MD&A)	
IASB (guidance)	• Nature of the business; • Management's objectives and strategies; • Company's significant resources, risks, and relationships; • Results of operations; • Critical performance measures.
Proxy statements	• Management compensation; stock performance; potential conflict of interests; • Matters that are to be put to a vote at the company's annual (or special) meeting of shareholders.

Other relevant information

Interim reports	• Provided semiannually or quarterly; • Present the four basic financial statements and condensed notes but are not audited; • Provide updated information since the last annual period.
Earnings announcements	• Followed by a conference call held by senior executives; • Describe the company's performance and answer questions posed by conference call participants.
External sources	• Economy, the industry, the company, and peer (comparable) companies; • External information is helpful in assessing the company's future.

Auditing

- **A principal – agent relationship**

Principal

Shareholders

Board of directors (BOD)

Agent

Management

Company

External auditors
(Public accountants)

- ✓ Examines the company's accounting and internal control systems;
- ✓ Generally tries to determine that there are no material errors in the financial statements;
- ✓ Under U.S. Generally Accepted Accounting Principles(GAAP), the auditor must state its opinion on the company's internal control.

Auditor's Report

- **Audit**
  - **Definition:** audit refers to the process that an independent accounting firm examined the company's financial statements to ensure their accordance with specified auditing standards.
  - **The basic component** is an **audit opinion** on the **fairness** of the financial statements that were audited.
  - **Objective of audits**
    - ✓ Provide reasonable assurance that the financial statements are fairly presented.
      - ◆Namely, it is highly probable that the audited financial reports contain no material errors, fraud or illegal acts that seriously mitigate its creditability.

Auditor's Report

The Standard Auditor's Opinion	
1	Although managements have the duty to prepare financial statements, auditor need **to review** the financial statements **independently**.
2	**Generally accepted auditing standards** reasonably **ensure no material errors** in the financial statements.
3	The auditor ensured that the financial statements are complied with **accounting principles and that the selection of principles and estimates are on reasonable base.**
Results	

Unqualified opinion

Qualified opinion

Adverse opinion

Disclaimer of opinion

Auditor's Report

- **The standard auditor's opinion**
  - **Unqualified (clean) opinion:** the financial statements are compliance with applicable accounting standards;
  - **Qualified opinion:** the statements contains several exceptions or limitations from accounting principles and the explanations of these deviations will be presented for users to determine their importance;
  - **Adverse opinion:** the statements are unfairly presented and contains material deviations from accounting standards;
  - **Disclaimer of opinion:** the limitations of financial statements hinder the auditor's ability to express an opinion.
- **Internal control system**
  - The internal processes are created to ensure the accuracy of financial statements;
  - Mangers are responsible for maintain and demonstrate the effectiveness of internal control;
  - Under GAAP, the auditor **must** presents a comment on internal controls.
    - ✓ Can be presented separately or incorporated with standard opinion.

Auditing

审计师出具意见与其真实意思对照	
标准无保留意见(Unqualified opinion)	造假迹象未被本人发现
附带说明的无保留意见	黑锅有人背，本人大胆收钱
保留意见审计报告(Qualified opinion)	假报表，别看了
无法出具意见审计报告(Disclaimer of opinion)	本人拒绝和拙劣的骗子合作
否定意见审计报告(Adverse opinion)	本人举报诈骗犯

Financial statement analysis framework

Phase	Sources of info	Output
1. Articulate the purpose and context of the analysis	•Nature •Needs & concern •Guidelines	•Statement of purposes and objectives •A list of specific questions •Timetable & budgeted resources
2.Collect data	•Financial data •Discussion •Visits	•Organized F/S •Financial data table •Complete questionnaires
3.Process data	•Data from previous phase	•Adjusted F/S •Common – size statements •Ratios & Forecasts
4.Analyze/interpret the processed data	•Input data •Processed data	•Analytical results
5.Conclusions & recommendations	•Analytical results	•Analytical reports •recommendation
6.Follow up	•Periodically repeating	•Updated reports & recommendations

Basic concepts: Example

- A company's financial position would be most likely provided in the
  - A. balance sheet.
  - B. income statement.
  - C. cash flow statement

- **Correct Answer: A.**
  - The balance sheet portrays the current financial position.
  - The income statement and cash flow statement present different aspects of performance.

Basic concepts: Example

- A company's profitability for a period would best be evaluated using the
  A. balance sheet.
  B. income statement.
  C. cash flow statement.

- **Correct Answer: B.**
  - Profitability is the performance aspect measured by the income statement;
  - The balance sheet portrays the current financial position;
  - The cash flow statement presents a different aspect of performance.

Basic concepts: Example

- Accounting methods, estimates, and assumptions used in preparing financial statements are found
  A. in footnotes.
  B. management s discussion and analysis
  C. in the proxy statement.

- **Correct Answer: A.**
  - The footnotes disclose choices in accounting methods, estimates, and assumptions.

Basic concepts: Example

- Information about material events and uncertainties would best be found in
  A. footnotes.
  B. the proxy statement.
  C. management s discussion and analysis

- **Correct Answer: C.**
  - This is a component of management's discussion and analysis.

Basic concepts: Example

- Which step in the financial analysis framework contain inputs such as financial ratios?
  - A. Process data.
  - B. Collect input data.
  - C. Analyze/interpret the processed data.

- **Correct Answer: C.**
  - Ratios are an output of the process data step but are an input into the analyze/interpret data step.

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Reading 22

Financial Reporting Mechanics

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Framework

1. Financial Statement elements
2. Flow of information in an accounting system
3. Double Entry Theory
4. Accounting equation
   - Financial statement elements and relationships
   - Accrual accounting
5. Cash accounting & cash flow statements

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Financial Statement elements

- **Financial statement elements** are the major classifications of assets, liabilities, owners' equity, revenues, and expenses.
- **Accounts** record specific business transactions within each element. Accounts are summarized and grouped properly in relative financial statement elements;
- **Chart of account** includes far more details than those presented in financial statements;
- **Contra accounts** presents entries that offset or deducted from some part of the value of another account.
  - Accumulated deprecation ——PP&E
  - Bad debt allowance——A/R
  - Valuation allowance——DTA

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Financial Statement elements

- **Classifying Accounts Into the Financial Statement Elements**
  - Assets
  - Liability
  - Owners' equity
  - Revenue
  - Expenses

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Financial Statement elements-Assets

- Assets are the firm's economic resources**.** Examples of assets include:
  - **Cash and cash equivalents:** securities with maturities of 90 days or less;
  - **Accounts receivable**: Contra account: allowance for bad debt expense;
  - **Inventory**;
  - **Financial assets:** such as marketable securities;
  - **Prepaid expenses**: a normal operating expense that has been paid in advance of when it is due;
  - **Property, plant, and equipment**. Contra account: accumulated depreciation;
  - **Investment in affiliates;**
  - **Investment property**: property used to earn rental income and/or capital appreciation;
  - **Intangible assets**: assets that do not have physical forms. Contra account: accumulated amortization, except for goodwill.

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Financial Statement elements-Liabilities

- **Liabilities are creditor claims on the company's resources.** Examples of liabilities include:
  - **Accounts payable** and trade payables.
  - **Financial liabilities** such as short-term notes payable.
  - **Unearned revenue**. Cash received from customers with revenues not yet earned;
  - **Accrued liabilities (expense)**. Liabilities related to expenses that have been incurred but not yet paid;
  - **Income taxes payable**. The taxes accrued during the past year but not yet paid.
  - **Long-term debt** such as bonds payable.
  - **Deferred tax liabilities**.

Financial Statement elements-Owner's equity

- **Owners' equity（Residual claim/net asset）** is the owners' residual claim on a firm's resources, which is the amount by which assets exceed liabilities. Owners' equity includes:
  - **Capital**. Par value of common stock;
  - **Additional paid-in capital.** The amount collected from shareholders than proceeds from par value;
  - **Retained earnings**. Cumulative net income that has not been distributed as dividends.
  - **Other comprehensive income**. Changes resulting from foreign currency translation, minimum pension liability adjustments, unrealized gains and losses from cash flow hedging derivatives, or unrealized gains and losses from available- or-sale.

Financial Statement elements-Expenses

- **Expenses are outflows of economic resources and include:**
  - **Cost of goods sold;**
  - **Selling, general, and administrative expenses.** These include such expenses as advertising, management salaries, rent, and utilities;
  - **Depreciation and amortization.** The distributed amount of some fixed assets over their life time;
  - **Tax expense;**
  - **Interest expense;**
  - **Losses.** asset outflows not directly related to ordinary businesses;
  - **EBIT**: Earnings before interest and tax.

Accounting Items

- **中文总结**
  - 钱压在商品里，就是存货
  - 钱放在保险柜里，就是现金
  - 钱在客户那里，就是应收账款
  - 钱是占用供货方的，就是应付账款
  - 钱用在设备、厂房里，就是固定资产
  - 钱用于研发并有成果的，就是无形资产
  - 钱是投入的，就是实收资本、资本公积
  - 钱投到外面的子公司，就是长期股权投资
  - 钱是借来的，就是短期借款、长期借款
  - 钱是占用内部员工的，就是应付职工薪酬
  - 钱是赚来的，就是盈余公积、未分配利润
  - 钱自由自在地放在银行里，就是银行存款
  - 钱已经花出去了，但在超过一个会计年度摊销就是长期待摊费用
  - 钱在股市、债市里，就是交易性金融资产、持有至到期以及可供出售金融资产

Accounting Items– 中文总结

- **中文总结**
  - 营业收入，就是通过销售活动而在资产负债表中增加的那些现金和应收款项
  - 营业成本，就是由于销售活动而在资产负债表中转走的那些存货
  - 销售费用：与销售有关的费用，比如销售人员的工资以及销售过程中发生的运输费、包装费、保险费以及广告费等。对应资产负债表的表现就是现金的减少
  - 管理费用：就是管理部门发生的所有费用，比如发工资和各种报销
  - 财务费用：一般就是借钱发生的利息费用
  - 所得税费用：就是赚钱后交给国家这个最大的老板的分成

Flow of information in an accounting system

- **Information flows through an accounting system in four steps**
  - **Journal entries** record <u>all the transactions,</u> classifying them into related account **in the order of their dates** and adjusting the specific amount(日记账);
  - The **general ledger** lists all journal entries <u>by their dates</u> and sorts the entries in the general journal **<u>by account</u>**(分类账);
  - An **initial trial balance** prepared at the end of the accounting period <u>shows the amount</u> in each account;
  - An **adjusted trial balance records** <u>adjustment at the end of the period</u> that changes the amount in the accounts listed in initial trial balance;
  - The account balances presented in adjusted trial balance are then presented in <u>financial statements.</u>

Flow of information in an accounting system

Sources of documents

↓

Day books/ General Journal

↓ Journal entries

General Ledger

↓

Trial Balance

↓

Financial Statements

Accounting equation

- **Accounting equation**
  - **Ending retained earnings** for an accounting period are the result of adding that period's retained earnings (revenues minus expenses minus dividends) to beginning retained earnings.
    - ✓ **Ending retained earnings** = Beginning retained earnings
      + Net income
      – Dividend
      - Net income = Revenue – Expense

Assets = Liabilities
+ Contributed capital
+Beginning retained earnings
+ Revenue
- Expenses
- Dividend

Accounting equation: Example

- An analyst has compiled the following information regarding Rubsam, Inc.

Liabilities at year-end	€1,000
Contributed capital at year-end	€500
Beginning retained earnings	€600
Revenue during the year	€5,000
Expenses during the year	€4,300

There have been no distributions to owners. The analyst's most likely estimate of total assets at year-end should be closest to:

A. €2,100.

B. €2,300.

C. €2,800.

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Accounting equation: Example

➤ **Correct Answer: C.**

- Assets = Liabilities + Contributed capital + Beginning retained earnings - Distributions to owners + Revenues - Expenses

Liabilities	$1,000
+Contributed capital	500
+Beginning retained earnings	600
-Distributions to owners	(0)
+revenues	5,000
-expenses	(4,300)
=Assets	$2,800

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Accounting equation: Example

➤ If a company reported fictitious revenue, it could try to cover up its fraud by:

A. decreasing assets.
B. increasing liabilities.
C. creating a fictitious asset.

➤ **Correct Answer: C.**

- In order to balance the accounting equation, the company would either need to increase assets or decrease liabilities. Creating a fictitious asset would be one way of attempting to cover up the fraud.

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Double Entry Theory

➤ **Double-entry accounting**

- To balance the accounting equation for every single transaction, <u>a recorded activity need to affect at least two accounts.</u>
  - ✓ An increase in an asset account must be balanced by a decrease in another asset account or by an increase in a liability or owners' equity account;
  - ✓ Vise versa. A decrease in an asset account should be covered by either an increase in another asset account or by decrease in a liability or owners' equity account.

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Accrual accounting

Goods/ Service

Goods/ Service provider **Goods / Services receiver**

Cash

Cash received in advance		**Cash paid in advance**
Unearned revenue	⟷	Prepaid expense
Cash received in arrears		**Cash paid in arrears**
Accrued revenue	⟷	Accrued expense

Accrual accounting: Example

- On 30 April 2006, Pinto Products received a cash payment of $30,000 as a deposit on production of a custom machine to be delivered in August 2006 This transaction would most likely result in which of the following on 30 April 2006?
  A. No effect on liabilities.
  B. A decrease in assets of $30,000.
  C. An increase in liabilities of $30,000.

- **Correct Answer: C.**
  - The receipt of cash in advance of delivering goods or services results in unearned revenue, which is a liability. The company has an obligation to deliver $30,000 in goods in the future. This balances the increase in cash (an asset) of $30,000.

Relationships between B/S & I/S

Elements	Definition		Relationship
Assets	•Current assets •Non – current assets	B/S	Assets = liabilities + owner's equity Owner's equity = Contributed capital +Beginning retained earning +Net income (current year) - Dividend (current year) +Other comprehensive income
Liabilities	•Current liabilities •Non – current liabilities		
Owner's equity	•Capital •Additional paid-in capital •R/E •OCI		
Revenue	•Sales •Investment income •Gains	I/S	Revenue – expenses = net income (current year)
Expenses	•Cost of good sold •Other expense •losses		

Reading 23

Financial Reporting Standards

Framework

1. Standard – setting bodies & Regulatory authorities
2. IASB & FASB convergence
3. Awareness of an analyst

Standard-setting bodies

- **Standard-setting bodies**
  - Consist of board members who are experienced accountants, auditors, users of financial statements, and academics;
  - Set the standards.
    - ✓ **Financial Accounting Standards Board (FASB)**
      - ◆Sets U.S. GAAP (SFAS)
    - ✓ **International Accounting Standards Board (IASB)**
      - ◆Sets International GAAP (IAS & IFRS)
- **Regularly authorities**
  - Government agencies that have legal authority to ensure their reports are compliance with financial reporting standards.
    - ✓ The **Securities and Exchange Commission (SEC)** in the U.S.
    - ✓ The **Financial Service Authority (FSA)** in the U.K.

Regularly authorities

✓ **International Organization of Securities Commissions (IOSCO)**

- **Not** a regulatory authority, but
  - Contains most of the national regulatory authorities;
  - Sets to guide securities and regulate capital market.
- The **objectives** of securities regulation:
  - Protecting investors;
  - Ensuring the fairness, efficiency, and transparency of markets;
  - Reduce systemic risk;
  - Set universe financial regulations suitable worldwide as a response to increasing globalization in capital market.

SEC filings required

➢ **SEC filing requirements for publicly traded companies in the U.S.**

- Form S-1
  - ✓ Registration statement filed prior to initial public offerings.
- Form 10-K
  - ✓ Annual financial statements.
- Form 10-Q
  - ✓ Quarterly financial statements .
- Form DEF-14A
  - ✓ Proxy statements.
- Form 8-K
  - ✓ Material events associated with acquisition and disposal of assets or changes in management or corporate governance.
- Form 144
  - ✓ Offerings to certain qualified investors with notification of SEC but not yet registering.
- Forms 3,4,5
  - ✓ The beneficial ownership of securities by a company's officers and directors.

Barriers to Convergence

➢ **Barriers to developing one universally accept set of financial reporting standard (convergence)**

- Disagreement with best reactions of a item or issue, due to specific condition faced by different standard-setting bodies and the regulatory authorities of different countries;
- Political pressures that regulatory bodies face from business groups and others who will be affected by changes in reporting standards.

IASB conceptual framework

Reporting Elements

Qualitative Characteristics

Objective
To provide financial information useful making decisions about providing resources to the entity.

- Relevance
- Faithful representation
- Comparability
- Verifiability
- Timeliness
- Understandability

- **Performance**
  - Income
  - Expenses
  - Capital maintenance adjustments
  - Past cash flows
- **Financial Position**
  - Assets
  - Liabilities
  - Equity

Constraint
- Cost (cost/benefit considerations)

Underlying assumption
- Accrual basis
- Going concern

Fundamental principles for preparing F/S

- **General features for preparing financial statements**
  - **Going concern basis**
    - ✓ Going concern basis assumes the firm will continue its operating activities unless it is mandated to liquidate.
  - **Accrual basis of accounting**
    - ✓ Except cash flow statement, all other financial statements are prepared under an accrual basis of accounting.
  - **Fair presentation**
    - ✓ Faithful report of effects of transactions, events and conditions complying with the definitions and recognition criteria for financial elements set in Framework.
  - **Materiality and aggregation**
    - ✓ All material class should be disclosed and similar item should be grouped, while dissimilar items should be recorded in separate class.

Fundamental principles for preparing F/S

- **General features for preparing financial statements**
  - **Comparative information**
    - ✓ Comparative information of previous period should be disclosed for all amounts reported in the financial statements.
  - **Consistency**
    - ✓ Items are presented and classified in same manners from one period to the next.
  - **No offsetting**
    - ✓ Unless getting permission from IFRS, assets cannot offset liabilities, and revenues cannot offset expenses.
  - **Reporting frequency**
    - ✓ Firm must issue financial reports at least annually.

Structure and contents of F/S

- **The <u>structure and content</u> of financial statements**
  - **Classified balance sheet**
    - ✓ Distinguish from current and non-current assets.
  - **Minimum information** should be provided<u> in notes and on the face of the financial statements.</u>
    - ✓ IAS No.1 specifies minimum line item disclosure.
  - **Comparative information**
    - ✓ <u>Comparative information for prior periods </u>should be included unless another standard requires or permits otherwise.

Reconciliation of IFRS and GAAP

- **Reconciliation statement** reflects how the results would have been under another accounting framework.
  - <u>Significant differences</u> <u>between different standards;</u>
  - <u>Underlying effects on financial account balances.</u>
- With a unified framework though, particular industries **(e.g., insurance or banking)** will still have special reporting standards.
- GAAP does **not** require <u>non-public companies </u>to disclose reconciliation statement.

Barriers to coherent

- **Valuation**
  - <u>Different measures of the value of asset and liabilities</u>. Historical cost valuation requires minimal judgment. Fair value, require considerable judgement but can provide more relevant information.
  - **IFRS**
    - ✓ **Principles-based approach**, which provides broad framework without specific guideline, thus requiring considerably judgments.
  - **U.S. GAAP**
    - ✓ **Rules-based approach,** but is currently shifting towards an **objectives-oriented approach**.
      - ◆**Rules-based approach**. Set rules for the record of every single transaction.
      - ◆**Objectives-oriented approach**. Combine two approaches.

Reading 24

Understanding Income Statement

Framework

The income statement	Comprehensive income	The statement of changes in equity	The balance sheet
1. Format and components	1. Format and components	1. Format and components	1. Format and components
	Relationship		
2. Common – size I/S ratio			2. Common – size B/S ratio
3. Accrual accounting & Revenue recognition			3. Measurement bases
4. Earnings per share			4. Basic accounting for Financial instruments

Income Statement Components

- **Net income =(revenues - ordinary expenses) + (other income - other expense) + (gains – losses)**
- **Revenues (sales)** are generated from selling goods or service in routine business activities.
  - **Net Revenue** = Revenue - adjustments (e.g., cash, volume discounts, or estimated returns);
  - Warranties provided by firms will be expensed (warranty expenses) when incurred.
- **Expenses** are the amounts incurred to generate revenue, such as COGS, operating expense, interest expense, etc.
  - **By nature**
    - ✓ Depreciation expenses are displayed in one account regardless of whether they come from manufacturing or administration.
  - **By function** (cost of sales method)
    - ✓ Cost of goods sold is composed of all manufacturing costs, such as raw materials, depreciation, labor, etc.

Income Statement Format and Components

- **Gain or loss:**
  - May or may not result from ordinary business activities;
  - Gain (loss) will increase (reduce) economic profit;
  - E.g. selling of fixed assets: the differences between asset's carrying value and the sale price will be reported as gains (losses) in the income statement.
- **Non controlling interest (Minority interest)**
  - Minority interest refers to the portion of income that "belongs" to minority shareholders of the consolidated subsidiaries, instead of the parent company itself;
  - Minority shareholders: shareholders hold a minor portion of the outstanding shares for a specific company, thus having limited control in voting;
  - Subtracted from net income when company reports all revenues and expenses from the subsidiary.

Income Statement Format and Components

- **Presentation Formats**
  - **Single-format:** All expenses are grouped after all incomes.
  - **Multi-format:** Contain a subtotal known as gross profit.
- **Subtotals** (**required to be presented under IFRS**)
  - **Gross profit/margin=Revenues - COGS.**
    - ✓ The residual amount after direct costs and expenses are subtracted from revenue.
  - **Operating profit /income/EBIT=gross profit - operating expenses**
    - ✓ Operating expenses: selling, general, administrative, and research and development expenses.
    - ✓ Operating income reflects a company's profits on its **usual** business activities
      - ◆Before deducting taxes;
      - ◆Before deducting interest expense (for non-financial companies);
      - ◆Net income (earnings/bottom line).

Income Statement format and components

Net revenues **from Sales of goods and services**
– Cost of goods sold/Cost of service provided
Gross profit
– Other operating Expenses (SG&A)
Operating income from continuing operations
+ Other Income and Revenues
Recurring income before interest and taxes from continuing operations
– Financing Costs
Recurring (pretax) income from continuing operations
+/ – Unusual or Infrequent Items
Pretax income from Continuing Operations
– Income Tax Expense
Net Income from Continuing Operations
+/ – Income from Discontinued Operations (net of tax)
+/ – Extraordinary Items (net of tax)
Net Income

Operating components

Non operating components

The best indicator of future earnings

The line

Below the line

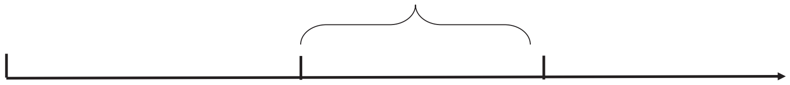
Income Statement — Format

- **Unusual or infrequent items (nonrecurring items)**
  - Reported "above the line" and presented on a pretax basis.
    - ✓ G/L from the sale of assets or part of a business;
    - ✓ Impairments, write-offs, write-downs, and restructuring costs.
- **Extraordinary items (presented on net of tax)**
  - Loss from expropriation of assets;
  - Gains or losses from early retirement of debt;
  - Uninsured losses from natural disasters.
- **Discontinued operations (presented on net of tax)**
  - When a company disposes of or establishes a plan to dispose of one of its component operations and will have no further involvement in the operation, the income statement reports separately the effect of this disposal as a "discontinued" operation under both IFRS and US GAAP.
- **Accounting changes (notes)**
  - Change in accounting principle (might be retrospective);
  - Change in accounting estimate (prospective and not a below line item);
  - Error (retrospective).

Income Statement - Discontinued operations

Report discontinued operations (net of tax)

Phase out period



Measurement date | **Actual disposal date**

Restate past income statement to separate discontinued operations.

The date when the company plans to dispose an operation.

The date when the company will recognize any estimated loss in the phase out period and on the sale of the business.
Any expected gain should be reported after the sale is completed.

Income Statement Format and Components

- **Above the line**
  - Unusual or infrequent items (nonrecurring items)
    - ✓ Either unusual or infrequent but not both
    - ✓ Presented on a pretax basis
- **Below the line (presented on net of tax)**

Extraordinary items	Discontinued operations	Accounting changes
•Both unusual and infrequent •Examples: •Losses from an expropriation assets •Gains or losses from early retirement of debt; •Uninsured losses from natural disasters.	•The time between Measurement date and Disposal date → phase out period	•Change in accounting principle →retrospective application •Change in accounting estimate →prospective application (and not a below line item). •Errors →restate financial statement →Notes disclosure

Income Statement Format and Components

- Fairplay had the following information related to the sale of its products during 2006, which was its first year of business:

Revenue	$1,000,000
Returns of goods sold	$100,000
Cash collected	$800,000
Cost of goods sold	$700,000

Under the accrual basis of accounting, how much net revenue would be reported on Fairplay's 2006 income statement?

A. $200,000.

B. $800,000.

C. $900,000.

Income Statement Format and Components

- **Correct Answer: C.**
  - Net revenue is revenue for goods sold during the period less any returns and allowances, or $1,000,000 minus $100,000 — $900,000.
  - A is incorrect; this represents gross profit.
  - B is incorrect; this is the cash collected that is not used under the accrual basis.

Income Statement Format and Components

- Denali Limited, a manufacturing company, had the following income statement information:

Revenue	$4,000,000
Cost of goods sold	$3,000,000
Other operating expenses	$500,000
Interest expense	$100,000
Tax expense	$120,000

Denali's gross profit is equal to

A. $280,000.

B. $500,000.

C. $1,000,000.

- **Correct Answer: C.**
  - Gross margin is revenue minus cost of goods sold. A is net income and B is operating income.

Accrual accounting & revenue recognition

- **Under the accrual method of accounting**
  - revenue is recognized when earned and expenses are recognized when incurred.
  - Accrual accounting does not necessarily coincide with the receipt or payment of cash.
  - Consequently, firms can manipulate net income by recognizing revenue earlier or later or by delaying or accelerating the recognition of expenses.
- **According to the International** Accounting Standards Board (IASB),
  - For **sale of goods**, revenue is recognized when:
    - ✓ The risk and reward of ownership is transferred.
    - ✓ There is no continuing control or management over the goods sold.
    - ✓ Revenue can be reliably measured.
    - ✓ There is a probable flow of economic benefits.
    - ✓ The cost can be reliably measured.
  - For **services rendered**, revenue is recognized when:
    - ✓ The amount of revenue can be reliably measured.
    - ✓ There is a probable flow of economic benefits.
    - ✓ The stage of completion can be measured.
    - ✓ The cost incurred and cost of completion can be reliably measured.

Revenue Recognition

- **According to the Financial Accounting Standards Board (GAAP)** specify two criteria for recognition of revenue
  - Realized or realizable;
  - Earned.
- **Guidance from the Securities and Exchange Commission (SEC)**
  - There is evidence of an arrangement between the buyer and seller;
  - The product has been delivered or the service has been rendered;
  - The price is determined or determinable;
  - The seller is reasonably sure of collecting money.

Accrual accounting & revenue recognition

- **Matching principle**
  - Revenue is recognized when **earned**
  - Expenses are recognized when **incurred**

  } Accrual accounting

  - Expenses the directly related to revenue generation are recognized in **the same period as** the revenue.

↓

Firms can manipulate Net income by

recognizing revenue earlier or delaying the expenses recognition.

Revenue Recognition: LT Contract

<table>
<tr><th></th><th>Condition</th><th colspan="2">Methods</th><th>Descriptions</th></tr>
<tr><td rowspan="4">LT Contract</td><td rowspan="2">✓ Projects of long-term contract;
✓ Reliable estimates of the revenues, costs and completion time.</td><td>GAAP</td><td rowspan="2">Percentage-of-completion method</td><td rowspan="2">✓ Revenue, expense, and profit recognized as work is performed;
✓ Percentage of completion measured by the total cost incurred to date divided by the total expected cost of the project.</td></tr>
<tr><td>IFRS</td></tr>
<tr><td rowspan="2">✓ Projects of long-term projects;
✓ Outcome of the project cannot be reliably estimated.</td><td>GAAP</td><td>Completed contract method</td><td>Revenue, expense and profit are recognized only when the contract is complete.</td></tr>
<tr><td>IFRS</td><td colspan="2">✓ Revenue is recognized to the extent of contract costs;
✓ Costs are expenses when incurred;
✓ Profits is recognized only at completion.</td></tr>
</table>

LT Contract: Example

- BBB Corp. signs a contract of building a vessel pricing at $5,000. The reliable expected cost of the contract is $3,000.
  Project costs incurred during the establishment are as follows:

Year	2015	2016	2017	Total
Cost incurred	$1,500	$1,200	$300	$3,000

- Calculate the net income of BBB each year under percentage-of-completion and completed contract methods.

LT Contract: Example

- **Correct Answer:**
  - **Percentage-of-completion**

Year	2015	2016	2017	Total
Revenue	$2,500	$2,000	$500	$5,000
Expense	($1,500)	($1,200)	($300)	$3,000
Net income	$1,000	$800	$200	$2,000

  - **Completed contract**

Year	2015	2016	2017	Total
Revenue	—	—	$5,000	$5,000
Expense	—	—	$3,000	$3,000
Net income	—	—	$2,000	$2,000

Revenue Recognition: LT Contract

- **POC vs. Completed-contract: Impact on F/S during one fiscal year**

F/S	Items	POC	Completed Contract
CFS	Cash flows	Same	Same
I/S	Income Volatility	Less	Reverse
	Net Income	Greater	

Revenue Recognition: Installment Sales

Installment contract (a firm finances a sale and payments are expected to be received over an extended period**)**	**GAAP**	Collectability cannot be **reasonably estimated.**	**Installment sales method** (Similar to percentage of completion method**)**	✓ Profit is recognized as cash is collected; ✓ Profit is equal to cash collected during the period multiplied by the total expected profit as a percentage of sales; ✓ Used in limited circumstances, e.g. sale of estate or other firm assets.
		Collectability is **highly uncertain**.	**Cost recovery method** (Similar to the completed contract method**)**	✓ Sales are recognized when cash is received; ✓ Profit is recognized only when cash collected exceeds costs incurred.

Revenue Recognition: Installment Sales

Installment contract (a firm finances a sale and payments are expected to be received over an extended period**)**	**IFRS**	Outcome **can** be reliably estimated	✓ The discounted present value of the installment payments is recognized at the time of sale; ✓ The difference between the installment payments and the discounted present value is recognized as interest over time.
		Outcome **cannot** be reliably estimated	✓ Revenue recognition under IFRS is similar to cost recovery method.

Installment Sales: Example

- K property corporation sold a piece of land for $3,000, whose historical cost reported on financial statements was $2,000.
  The expected cash flows for the sale are as follows:

Year	2015	2016	2017	Total
Cash collected	$1,500	$1,200	$300	$3,000

- Compute K's profit under the installment and cost recovery methods.

Installment Sales: Example

- **Correct Answer:**
  - **Installment method**

Year	2015	2016	2017	Total
Revenue	$1,500	$1,200	$300	$3,000
Expense	($1,000)	($800)	($200)	$2,000
Net income	$500	$400	$100	$1,000

  - **Cost recovery method**

Year	2015	2016	2017	Total
Revenue	$1,500	$1,200	$300	$3,000
Expense	($1,500)	($500)	—	($2,000)
Net income	—	$700	$300	$1,000

Revenue Recognition: Barter transaction

- **Barter Transactions:** Non-monetary exchange.
- **Round-trip transaction:** Exchange goods with identical goods simultaneously with a same party.
- **Revenue from barter** equals to:
  - **Under IFRS**
    - ✓ **Fair value** of revenue from similar non-barter transactions with unrelated parties (parties other than barter partner).
  - **U.S. GAAP**
    - ✓ **Fair value** only if
      - ◆Historically received cash for the specific goods and services;
      - ◆Can use this historical experience to determine fair value.
    - ✓ Otherwise: **carrying value** of the asset surrendered.

Gross and Net Reporting of Revenue

- **Gross revenue reporting**
  - Gross amount of sales proceeds received from their customers.
- **Net revenue reporting**
  - Net difference between sales proceeds and their cost.
- **Under GAAP, to report gross revenue, the firm must:**
  - Be the primary obligor of the contract;
  - Independently choose its supplier;
  - Tolerate risks involved, including inventory risk and credit risk;
  - Free to determine the price.

Implications for Financial Analysis

- **Impact of revenue recognition on financial analysis**
  - Whether a policy results in recognition of revenue sooner rather than later (sooner is less conservative);
  - To what extent a policy requires the company to make estimates.

Revenue Recognition: Example

- Consider a travel agent who arranges a first-class ticket for a customer flying to Singapore. The ticket price is $10,000, and the travel agent receives a $1,000 commission.
  - Using gross reporting, the travel agent would report $10,000 of revenue, $9,000 of expense, and $1,000 of profit.
  - Using net reporting, the travel agent would simply report $1,000 of revenue and no expense.

Earnings per share (EPS)

- **Earnings per share (EPS)**
  - EPS is usually used to measure profitability of listed firms. (No need for nonpublic firms to provide EPS).
  - Require the **presentation of EPS** on the face of
    - ✓ income statement for net profit or loss (net income);
    - ✓ profit or loss (income) from continuing operations.
  - EPS is reported only for shares of common stock (ordinary stock).
    - ✓ Basic EPS
    - ✓ Diluted EPS, diluted by
      - ◆Convertible debt;
      - ◆Convertible preferred stock;
      - ◆Stock option;
      - ◆Warrants.

Basic EPS

- **Formula**

$$\text{Basic EPS}=\frac{\text{NI - Preferred dividends}}{\text{weighted average number of common shares outstanding}}$$

- **Weighted average number of common share outstanding**
  - New issue, repurchase is **weighted by time (days or months).**
  - Stock dividend and split
    - ✓ **Stock dividends**. Additional shares are distributed as a proportion of current holding shares.
      - ◆10% stock dividend: the holder of 100 shares of stock would receive 10 additional shares.
    - ✓ **Stock splits**. Divide current shares into a post-determined number of shares.
      - ◆2-for-1 split: 100 shares will be converted to 200 shares;
      - ◆3-for-2 split: 100 shares will be converted to 150 shares.
    - ✓ Stock dividends or split should be adjusted in a retroactive way.
      - ◆Cannot be weighted directly, instead number of outstanding stocks should be adjusted to the number before stock dividends or split when calculating EPS.

Example

- Johnson company has net income of $10,000 and paid $1,000 cash dividend to its preferred shareholders and $1,750 cash dividend to its common shareholders. At the beginning of the year, there were 10,000 shares of common stock outstanding. 2,000 new shares were issued on July 1. what is johnson's basic EPS?

- **Correct Answer:**
  - Weighted average shares = 10,000 × (12/12) + 2,000 ×(6/12) = 11,000
  - BEPS = ($10,000 - $1,000)/11,000 = $0.82

Diluted EPS

- **Dilutive securities & Antidilutive securities**
  - Stock options, warrants, convertible debt, or convertible preferred stock that would
    - ✓ decrease EPS if exercised **(dilutive securities);**
    - ✓ increase EPS if exercised **(antidilutive securities).**
- **If-converted method**
  - Diluted EPS required to be calculated when dilutive securities exist.

$$\text{Diluted EPS}=\frac{\text{adjusted income available for common shares}}{\text{weighted avg. common \& potential common shares out}}$$

$$=\frac{\left[\text{NI- div}_{\text{preferred}}\right]+\left[\text{div}_{\substack{\text{convertible}\\\text{preferred}}}\right]+\left[\text{interest}_{\substack{\text{convertible}\\\text{debt}}}\right](1\text{-t})}{\text{WACSO}+\left[\text{shares}_{\substack{\text{conversion of}\\\text{conv. pfd. shares}}}\right]+\left[\text{shares}_{\substack{\text{conversion of}\\\text{conv. debt}}}\right]+\left[\text{shares}_{\substack{\text{issuable from}\\\text{stock opt.}}}\right]}$$

Example-EPS with convertible debt

- GF reported $231,200 net income in 2016 and had 400,000 shares of outstanding common stock as well as 2,000 shares of preferred stock. No change in number of stocks outstanding during the entire year. GF's preferred stock can be converted into 40 shares of common stock each.
  Calculated the diluted EPS.

- **Correct Answer:**
  - Basic EPS = ($231,200- $100 × 2000 × 10%)/ 400,000 = 52.8 Cents
    Adjusted income available for common shares = $231,200
    Weighted average common shares and potential shares = 400,000 + 2000 × 40 = 480,000
    DEPS = $231,200 / 480,000 = 48.2 Cents

Example: EPS with convertible debt

- GF Corp. earned a net income of $231,200 in 2016. The firm had 400,000 shares of common stock outstanding and 2,000 shares of preferred stock (10%, $100 par). GF issued 1,200 convertible bonds (7%, $1000 par) at face value in 2005. Each bond could be converted to 100 shares of common stock. GF lied in the 40% tax bracket.
  Calculate basic and diluted EPS in 2016.

- **Correct Answer:**
  - Basic EPS = ($231,200- $100 × 2000 × 10%)/ 400,000 = 52.8 Cents
  - Adjusted income available for common shares = $231,200 – pref div $20,000 + int saving $1,200,000 × 7% × (1-40%) = $261,600
  - Weighted average common shares and potential shares = 400,000 + 1,200 × 100 = 520,000
  - DEPS = $261,600 / 520,000 = 50.3 Cents

Diluted EPS-Options or Warrants

- **Treasury stock method**
  - Used for calculate number of shares converted from **stock options or warrants;**
  - Assume firm use the <u>amount received from conversion of options and warrants</u> to <u>repurchase</u> its shares outstanding at <u>average market price</u>;
  - The newly created weighted average number of shares outstanding = number of shares that would be issued upon exercise - number of shares that would have been purchased with the proceeds;
  - **No <u>adjustments to numerator</u>.**

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Example: Treasury stock method

- Company B has 10,000 shares outstanding. It converted each of the 4,000 shares of warrants into one share of common stock at $40. The year-end price of the stock was $80, and the average price was $70. Calculate the difference of the number of shares outstanding before and after the convert action.

- **Correct Answer:**
  - Convert: 4,000 x $40 = $160,000 and issue 4,000 new shares.
  - The treasury stock method assumes the company uses these funds to repurchase shares at the average market price of $70.
  - The company would repurchase $160,000 / $70 = 2286 shares.
  - Net shares issued would be 4,000 - 2286 = 1714 shares.

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Comprehensive Income

- **Retained earnings.** Cumulative amount of the company's profits that have been retained in the company. Hence transactions affecting net income will affect shareholders' equity through retained earnings.
- **Statement of comprehensive income**
  - Begin with profit or loss (NI) from the income statement;
  - Then **other comprehensive income (OCI)**.
    - ✓ Foreign currency translation adjustment on a foreign subsidiary;
    - ✓ Unrealized G/L on derivatives contracts accounted for as cash flow hedges;
    - ✓ Unrealized G/L on available for sale securities;
    - ✓ Certain costs of a company's defined benefit post-retirement plans that are not recognized in the current period;
    - ✓ <u>(Solely for IFRS)</u> changes in the value of long-lived assets measured using the revaluation model rather than the cost model.

Comprehensive income

Comprehensive income	
	$
Net income	**50**
Other comprehensive income:	
Foreign currency translation adjustment on a foreign subsidiary	**15**
Certain costs of a company's defined benefit post-retirement plans that are not recognized in the current period	**(10)**
Unrealized G/L on derivatives contracts accounted for as cash flow hedges	**3**
Unrealized G/L on available for sale securities	**2**
Comprehensive income	**60**

Reading 25

Understanding the B/S

Balance Sheet format and components

- **Assets**
  - Provide **probable future economic benefits controlled** by an entity as a result of **previous transactions**;
  - Current and Non – current assets (Long – lived assets).
- **Liabilities**
  - Are **obligations owed** by an entity **from previous transactions** that are expected to result in **an outflow of economic benefits in the future**;
  - Current and Non – current liabilities (Long – term liabilities).
- **Stockholders' equity**
  - Is **the residual interest in assets** that remains after subtracting a firm's liabilities.
- Recognize a financial transaction when
  - **Probable** economic inflow (outflow);
  - **Reliable** measurements of cost or value.

Alternative formats of B/S presentation

- **Classified balance sheet**
  - Under IFRS and U.S. GAAP, firms should distinguish between current and non current assets (liabilities).
  - With separately classified current and non-current assets and liabilities.
- **Liquidity-based presentations** (Under IFRS only)
  - Listed all assets and liabilities by liquidity;
  - Used when resulting in more relevant and reliable presentation.

Balance Sheet format and components

- **Account format**

The balance sheet

Assets	X	Equity	X
		Liabilities	X
Total assets	X	Total equity and liabilities	X

- **Report format - Classified balance sheet**

Assets	
Non – current assets	X
Current assets	X
Total assets	**X**
Equity & liabilities	
Equity	X
Non – current liabilities	X
Current liabilities	X
Total equity and liabilities	**X**

Balance Sheet format and components

- **Assets**

Current Assets	Cash and equivalents	Presented in the order of liquidity
	Accounts receivable	
	Inventory	
	Prepaid expenses	
	Short – term investments	
	Other current assets	
Non Current Assets	Property , plant and equipment (PP&E)	
	Intangible assets	
	Long – term investments	
	Deferred tax assets	
	Pension assets	

Balance Sheet format and components

➤ **Liabilities**

Current Liabilities	Bank overdraft	In the **order** of •Maturity •Descending order by amount •In the event of liquidation
	Accounts payable	
	Accrued expenses	
	Unearned revenue	
	The current portion of long – term debt	
	Current taxes payable	
Long – Term Liabilities	Notes payable	
	Bonds payable	
	Capital / Financial lease obligations	
	Pension liabilities	
	Deferred tax liabilities	

Balance Sheet format and components

➤ **Stockholders' equity**

Capital	Common stock , preferred stock
Additional paid-in-capital	Capital in excess of par i.e. premium
Treasury stock	Stock repurchased by the issuing firm but not yet retired. No voting rights, no dividend
Retained earnings	Net Income – Dividend
Accumulated other comprehensive income	1. Foreign currency translation adjustment on a foreign subsidiary 2. Unrealized G/L on derivatives contracts accounted for as cash flow hedges 3. Unrealized G/L on available for sale securities 4. Certain costs of a company's defined benefit post-retirement plans that are not recognized in the current period
Minority interest	Group accounting

Financial instruments

Category	**Measurement**	**Unrealized/Realized Gains or Losses**
Held-to-maturity	Amortized cost	Unrealized: not reported Realized: reported in income statement
Trading	Fair value	Unrealized: reported in income statement Realized: reported in income statement
Available-for-sale	Fair value	Unrealized: reported in equity Realized: reported in income statement

Financial instruments

- For financial assets classified as trading securities, how are unrealized gains and losses reflected in shareholders' equity?
  A. They are not recognized.
  B. As an adjustment to paid-in capital.
  C. They flow through income into retained earnings.

- **Correct Answer: C.**
  - For financial assets classified as trading securities, unrealized gains and losses are reported on the income statement and flow to shareholders' equity as part of retained earnings.

Financial instruments

- For financial assets classified as available for sale, how are unrealized gains and losses reflected in shareholders' equity?
  A. They are not recognized.
  B. They flow through retained earnings.
  C. As a separate line item (other comprehensive income)

- **Correct Answer: C.**
  - For financial assets classified as available for sale, unrealized gains and losses are not recorded on the income statement but do appear on the balance sheet. Shareholders' equity is adjusted through a separate line item for valuation gains and losses termed "other comprehensive income."

Reading 26

Understanding the C/F

Framework

1. Types of cash flows
   - CFO, CFI,CFF
   - U.S. GAAP vs. IFRS
2. Cash flow calculation
   - CFO, CFI, CFF
3. Analysis of Cash flow statement
   - Common – size CFS
   - Other ratios
4. Free cash flows

The cash flow statement

- **The cash flow statement:** (cash accounting) The cash flow statement provides
  - Information of **cash** receipts and cash payments **during a period;**
  - Information of operating, investing, and financing activities;
  - **Statement of impact** of accrual accounting events on cash flows.
- Items on the cash flow statement come from **two sources**
  - Income statement items
  - Changes in balance sheet accounts

Operating cash flow
\+ Investing cash flow
\+ Financing cash flow
= Change in cash balance for the current year
\+ Beginning cash balance
= Ending cash balance

Non cash activities are not reported in the cash flow statement.

Types of cash flows

- **U.S. GAAP Cash Flow Classification**

Cash flows from Operating Activities Cash inflows and outflows that affects **firm's net income**	
Inflows	**Outflows**
Cash collected from customers	Cash paid to employees and suppliers
Sale proceeds from trading securities	Acquisition of trading securities
Interest received	Interest paid
Dividend received	Taxes paid
	Cash paid for other expenses Purchase trading

Types of cash flows

➢ **U.S. GAAP Cash Flow Classification**

Cash flows from Investing Activities Cash inflows and outflows regarding with long – term assets and investments	
Inflows	**Outflows**
Sale proceeds from fixed assets	Acquisition of fixed assets
Sale proceeds from debt & equity investments	Acquisition of debt & equity investments
Principal received from loans made to others	Loans made to others

Type of cash flows

➢ **U.S. GAAP Cash Flow Classification**

Cash flows from Financing Activities Cash inflows and outflows due to changes in **capital structure**	
Inflows	**Outflows**
Principal amounts of debt issued	Principal paid on debt
Proceeds from issuing stocks	Payments to reacquire stock
	Dividends paid to shareholders

Types of cash flows

Items	**U.S. GAAP**	**IFRS**
Interest received	CFO	CFO or CFI
Interest paid	CFO	CFO or **CFF**
Dividends received	CFO	CFO or CFI
Dividends paid	CFF	CFO or **CFF**
Taxes paid	CFO	CFO, CFI or CFF
Bank overdrafts	CFF	Cash equivalents
Disclosure	Encourage **direct method**, but allows indirect method. If direct method presented, footnotes must also be provided of the indirect method.	Encourage **direct method,** but permits either; IFRS permits more flexibility in reporting.

➢ **Direct method is encouraged**

CFO calculation—Direct & Indirect Method

- The only difference between the indirect and direct methods of presentation is in the cash flow from operations (**CFO**).
  - **Direct Method**
    - ✓ Converts an accrual-basis income statement into a cash-basis income statement;
    - ✓ The direct method calculate cash flows by subtracting cash outflows (e.g. purchases, operating expenses, interest, and taxes) from cash collected from customers.
  - **Indirect Method** (for CFO only)
    - ✓ Calculate CFO begins with net income (NI) with adjustments of non-cash transactions;
    - ✓ CFO = NI + noncash expenses (e.g., depreciation and amortization),- G/L nonoperating items (e.g., gains and losses) – change in net working capital.

Cash Flow Statement — Memorizing Tips

A basic setting: To an entity

- Cash inflow: **+**
- Cash outflow: **-**

Liability

- + Δ; Namely, + (ending – beginning)

Assets

- - Δ ; Namely, - (ending – beginning)

CFO calculation: Indirect Method

Calculation of CFO by Indirect method	
Net income	
+ Non-cash expenses or losses	Income statement items
- Non-cash revenues or gains	
+ Non-operating items loss-gain	
-Increase in non-cash operating asset accounts (Inventory, A/R)	Balance sheet items (working capital)
+Increase in operating liability accounts (A/P)	
=CFO	

CFO calculation: Indirect Method

- An analyst gathered the following information from a company's 2005 financial statements ($ millions):

Balances as of year ended 31 December	2004	2005
Retained earnings	120	145
Accounts receivable	38	43
Inventory	45	48
Accounts payable	36	29

The company declared and paid cash dividends of $10 million in 2005 and recorded depreciation expense in the amount of $25 million for 2005. The company's 2005 cash flow from operations ($ millions) was closest to:

A. 25.
B. 35.
C. 45.

CFO calculation: Indirect Method

- **Correct Answer: C.**
  - Net income (NI) for 2005 can be computed as the change in retained earnings, $25, plus the dividends paid in 2005, $10.
  - NI can also be calculated from the formula: beginning retained earnings + NI - dividends paid = ending retained earnings.
    - ✓ Depreciation of $25 would be added back to net income
    - ✓ while the increases in accounts receivable, $5, and in inventory, $3, would be subtracted from net income because they are uses of cash. The decrease in accounts payable is also a use of cash and, therefore, a subtraction from net income.
    - ✓ Thus, cash flow from operations for 2005 is $25 + $10 + $25 - $5 - $3 - $7 = $45 ($ millions).

CFO calculation: Direct Method

Calculation of CFO by Direct method	
Cash received from customers	Opening A/R + net sales – Closing A/R=Net sales-ΔA/R
- Cash paid to suppliers	Opening A/P + COGS – Closing A/P = - COGS +ΔA/P + Depreciation included in COGS -ΔInventories (COGS = Opening Inventory + purchase – Closing Inventory)
- Cash paid to employees	Opening wage pay' + wage exp. – Closing wage pay' =-wage expense + Δ wage payables
- Interests paid	Opening interest payables + interest expense – Closing interest payables=- interest expense +Δ Interest payables
- Tax paid	Opening tax payables + income tax expense – Closing tax payables = - income tax expense +Δ tax payables + ΔDTL -ΔDTA
= CFO	

CFO calculation: Direct Method

- An analyst gathered the following information from a company's 2004 financial statements ($ millions):

Year ended 31 December	2003	2004
Net sales	245.80	254.60
Cost of goods sold	168.30	175.90
Accounts receivable	73.20	68.30
Inventory	39.00	47.80
Accounts payable	20.30	22.90

CFO calculation: Direct Method

- Based only on the information above, the company's 2004 statement of cash flows prepared using the direct method would include amounts ($ millions) for cash received from customers and cash paid to suppliers, respectively, that are closest to:

	Cash received from customers	Cash paid to suppliers
A	249.7	182.1
B	259.5	169.7
C	259.5	182.1

- **Correct Answer: C.**
  - Cash received from customers = Sales + The decrease in accounts receivable = 254.6 + 4.9 = 259.5.
  - Cash paid to suppliers = Cost of goods sold + The increase in inventory - Increase in accounts payable = 175.9 + 8.8 – 2.6 = 182.1.

Cash Flow Statement-Calculation

Cash collection	= net sales	-ΔA/R + Δunearned revenue
Cash inputs	=-COGS	-Δinventories + ΔA/P+ Dep
Cash expenses	=-operating expenses	+ΔO/P + Δaccruals
Cash interest	=-interest expenses	+ ΔI/P+ payable+ Amortization of bond discount-premium
Cash taxes	= -income tax expenses	+ ΔT/P + ΔDTL-ΔDTA

Net income
+ Depreciation
+Loss/-Gain not relating to operating activities

- Δ working capital (excluding cash, loan, dividend payables and N/P)

Note: Δhere means increase.

- **Calculation of CFO — Direct method**

CFI Calculation

- **Cash used in purchase of fixed assets**
  - Pay attention to the movement of fixed assets.
  - Book Value = Carrying value = Purchase cost – AD – Impairment
  - BV end = BV Begin + Purchase – Disposal BV – Depreciation
- **Proceeds received from sale of fixed assets**
  - Gain or loss = proceeds received – disposal NBV
  - Gain or loss resulting from disposal of PP&E or other long term assets are NOT presented in the CFI; instead, cash generated should be calculated based on the gain or loss.
- **Review other non-current assets: an increase in these items using cash, and vise versa.**
- **$CFI=-(BV_1+Depreciation-BV_0)+Gain-Loss$**

CFI Calculation

- Silverago Incorporated, an international metals company, reported a loss on the sale of equipment of $2 million. In addition, the company's income statement shows depreciation expense of $8 million and the cash flow statement shows capital expenditure of $10 million, all of which was for the purchase of new equipment. Using the following information from the comparative balance sheets, how much cash did the company receive from the equipment sale?

Balances sheet item	12-31-2005	12-31-2006	Change
Equipment	$100million	$105million	$5million
Accumulated depreciation equipment	$40million	$46million	$6million

A. $6 million.
B. $5 million.
C. $1 million.

CFI Calculation

- **Correct Answer: C.**
  - $BV_0=100-40=60$
  - $BV_1=105-46=59$
  - Dep=8
  - $CFI=-(BV_1+Dep-BV_0)+gain-loss$=Proceeds of sale – Expenditure

    $=-(59+8-60)-2$=Proceeds of sale $-10= -9$

    Proceeds of sale=1

CFF Calculation

- **All events that could have increased or decreased cash must be reconstructed.**
- **Review long-term debt and stock**
  - Increases supply cash and decreases use cash.
- **Dividend paid**
  - Dividend paid = - Dividend declared + Δdividend payables
  - Opening R/E + Net Income – Dividend declared = Ending R/E

CFF Calculation

- Jaderong Plinkett Stores reported net income of $25 million, which equals the company's comprehensive income. The company has no outstanding debt. Using the following information from the comparative balance sheets (in millions), what should the company report in the financing section of the statement of cash flows?

Balances sheet item	Y1	Y2	change
Common stock	$100	$102	$2
Additional paid-in capital common stock	$100	$140	$40
Retained earnings	$100	$115	$15
Total stockholders' equity	$300	$357	$57

A. Issuance of common stock $42 million; dividends paid of $10 million.
B. Issuance of common stock $38 million; dividends paid of $10 million.
C. Issuance of common stock $42 million; dividends paid of $40 million.

- **Correct Answer: A.**

Free Cash Flow

- Free cash flow **attempts to measure cash free to use.**
- **Two common measure**
  - **Free cash flow to the firm (FCFF)**
    - ✓ Cash available to all investors, both stockholders and creditors.
  - **Free cash flow to equity (FCFE)**
    - ✓ Cash available to equity owners.

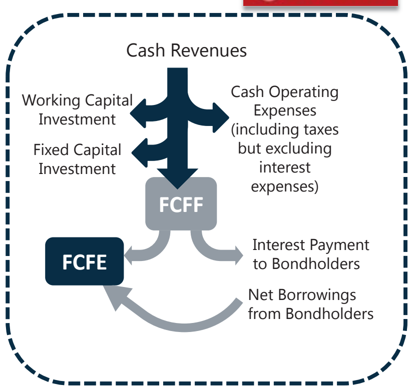
Free Cash Flow

- **FCFF = NI + NCC – WC Inv – FC Inv +[Int * (1 - tax rate)]**

  FCFF = CFO – FC Inv +[Int * (1 - tax rate)]
- **FCFE = CFO – FC Inv + Net borrowing**
  - Where:
    - ✓ NI = net income
    - ✓ NCC = noncash charges (depreciation and amortization)
    - ✓ Int = interest expense
    - ✓ FCInv = fixed capital investment (net capital expenditure)
    - ✓ WCInv = working capital investment
    - ✓ Net borrowing = debt issued – debt repaid

***For firms follow IFRS that treat Dividend paid as part of CFO, the dividend paid must be added back for free cash flow calculation**

Free Cash Flow



- Free cash flow
- Free cash flow attempts to measure the discretionary cash.
- **Two common measure:**
  - Free cash flow to firm (FCFF)
  - Free cash flow to equity (FCFE)
- **US GAAP :**
  - FCFF = NI + NCC +[Int * (1 - tax rate)] – FC Inv – WC Inv
  - FCFE = CFO – FC Inv + Net borrowing

Reading 27

Financial Analysis Techniques

Framework

1. Common – size analysis
2. Ratios and Ratio analysis
3. DuPont system of analysis
4. Equity analysis, credit analysis and segment analysis

Financial statement analysis framework

- **分析资产负债表可以全面了解公司的健康状况**
  - 是否“负荷过重”——欠银行和供应商太多的钱
  - 是否“贫血”——账面上的现金和现金等价物是否过低
  - “新陈代谢”是否正常——存货和应收账款周转是否过慢
  - 进一步可分析偿债能力，包括短期、长期偿债能力；营运能力，包括总资产周转率、流动资产周转率、营业周期等

Common – size analysis

- **Common – size I/S** $\frac{\text{income statement account}}{\text{revenues}}$
- **Common – size B/S** $\frac{\text{balance sheet account}}{\text{total assets}}$
- **Common – size CFS** $\frac{\text{cash flow statement account}}{\text{revenues}}$

$$\frac{\text{cash outflow}}{\textit{total}\ \text{cash outflows}} \qquad \frac{\text{cash inflow}}{\text{total cash inflows}}$$

Analysis of CFS

- Which is an appropriate method of preparing a common-size cash flow statement?
  - A. Begin with net income and show the items that reconcile net income and operating cash flows.
  - B. Show each line item on the cash flow statement as a percentage of net revenue.
  - C. Show each line item on the cash flow statement as a percentage of total cash outflows.
- **Correct Answer: B**

Ratio and Ratio analysis

- **Categories of ratios**
  - **Profitability** ratio – ability to generate profit
  - **Activity** ratio – efficiency in using assets to generate revenue
  - **Liquidity** ratio – ability to pay short – term debt
  - **Solvency** ratio – ability to pay long – tem debt
  - **Valuation** ratio – analysis for investment in common equity

Profitability Ratios

- **Profit/Net revenue**

Gross profit margin = Gross profits/net revenue
Operating profit margin = EBIT/net revenue
Pretax margin = EBT/net revenue
Net profit margin = NI/net revenue

- **Profit/Capital**

Return on assets (ROA) = [NI + int.(1-t)] / average total assets
Operating return on assets = EBIT / average total assets
[Return on total capital (ROTC) = EBIT / average total capital]
Return on equity (ROE) = NI / average total equity
Return on common equity = (NI- Preferred Dividend) / average common equity

Activity Ratios

Inventory	A/R	A/P
Inventory turnover = COGS / average inventory	Receivables turnover = Net revenue / average A/R	Payables turnover = Purchase / average A/P
Average inventory processing period = 365 / inventory turnover	Average receivables collection period = 365 / receivables turnover	Average payment period = 365 / payables turnover
Operating cycle = collection period + inventory period		
Cash conversion cycle = collection period + inventory period - payment period		

Corporate finance

Activity Ratios

- **A firm's efficiency in using assets to generate revenue**
  - Turnover = Net revenue/ assets

Total asset turnover = net revenue/ average total assets

Fixed asset turnover = net revenue / average net fixed assets

Working capital turnover = net revenue / average **WC**

Where:

Working capital = current assets – current liabilities

Liquidity Ratios

- **A firm's ability to pay short – term debt**

Current ratio = Current assets / Current liabilities

Quick ratio

= [cash + marketable securities + receivable] / Current liabilities

= [current asset - inventories] / Current liabilities

Cash ratio

= [cash + marketable securities] / Current liabilities

Defensive interval

= (cash + marketable securities + receivables) / average daily expenditures

Solvency Ratios

- **A firm's ability to pay long – term debt**
- **Leverage**

Debt-to-equity ratio = D / E

Debt-to-capital= D/(D+ E)

Debt-to-assets = D / A

Financial leverage = A / E

- **Coverage**

Interest coverage = EBIT / Interest

Fixed charge coverage

= (EBIT + lease payments) / (Interest + lease payments)

Valuation Ratios

	Numerator	Denominator
P / E	Price per share	Earnings Per share
P / CF		Cash flow per share
P / S		Sales per share
P / BV		Book Value per share

	Numerator	Denominator
BEPS & DEPS		
Cash flow per share	Cash flow from operations	Weighted average number of ordinary shares outstanding
EBITDA per share	EBITDA	
Dividends per share	Common dividends declared	

Valuation Ratios — Application

- **庄家如何通过财务造假的“财计”赚股民的血汗钱**
  - 假设某国内上市公司，总股本1亿股，业绩较差，正常情况下可以取得每股利润0.1元，此时的每股股价4元，则市盈率40倍(4/0.1=40)。此时来了一个庄家，相中了这家上市公司，并经过一段时间购买了40%的股票，即4000万股，每股4元，庄家总共投入1.6亿元(4000万*4元)。接着，上市公司把一笔分文不值的劣质资产高价卖掉，假设劣质资产多卖了1亿元。但让上市增加了1亿元的利润，即每股利润提升了1元，使每股利润达到1.1元(1+0.1=1.1)。如果上市公司的市盈率还是保持40倍不变，则股价应为44元(40*1.1=44)。如果庄家能在这个价位卖掉股票，减去当初投入的1.6亿元和买劣质资产损失的1亿元，庄家最终获利15亿元

Sustainable growth rate

- **Clean surplus relationship:** Assume changes in equity only relate to changes in retained earnings
  - No changes in capital and OCI

$$g = ROE \times RR = ROE \times \left(1 - \frac{\text{div declared}}{\text{Net Income}}\right)$$

	Company A	Company B
EPS	3	4
DPS	1.5	1
ROE	14%	12%

14% * 50% = 7%

12% * 75% = 9%

DuPont system of analysis

- **The three-part approach**

$$ROE = \left(\frac{\text{net income}}{\text{sales}}\right)\left(\frac{\text{sales}}{\text{assets}}\right)\left(\frac{\text{assets}}{\text{equity}}\right)$$

$$= \left(\begin{array}{l}\text{net profit}\\ \text{margin}\end{array}\right)\left(\begin{array}{l}\text{asset}\\ \text{trunover}\end{array}\right)\left(\begin{array}{l}\text{leverage}\\ \text{ratio}\end{array}\right)$$

✓ It is not for the purpose of computing ROE, but for the purpose of decomposing the known ROE.

Example: DuPont system of analysis

- Start Inc. has maintained a stable and relatively high ROE of approximately 18% over the last three years. Use traditional DuPont analysis to decompose this ROE into its three components and comment on trends in company performance ($'million).

	2003	2004	2005
Net income	21.5	22.3	21.9
Sales	305	350	410
Equity	119	124	126
Assets	230	290	350

Example: DuPont system of analysis

- **Correct Answer:**
  - **ROE**

	2003	2004	2005
Net income	21.5	22.3	21.9
Equity	119	124	126
ROE	18.1%	18.0%	17.4%

  - **DuPont (Some rounding in values)**

	2003	2004	2005
Net income/sales	7.0%	6.4%	5.3%
Sales / assets	1.33	1.21	1.17
Assets / equity	1.93	2.34	2.78

DuPont system of analysis

- **The five-part analysis**

$$ROE = \left(\frac{\text{net income}}{\text{EBT}}\right)\left(\frac{\text{EBT}}{\text{EBIT}}\right)\left(\frac{\text{EBIT}}{\text{revenue}}\right)\left(\frac{\text{revenue}}{\text{assets}}\right)\left(\frac{\text{assets}}{\text{equity}}\right)$$

$$= \left(\begin{matrix}\text{tax}\\ \text{burden}\end{matrix}\right)\left(\begin{matrix}\text{interest}\\ \text{burden}\end{matrix}\right)\left(\begin{matrix}\text{EBIT}\\ \text{margin}\end{matrix}\right)\left(\begin{matrix}\text{asset}\\ \text{trunover}\end{matrix}\right)\left(\begin{matrix}\text{leverage}\\ \text{ratio}\end{matrix}\right)$$

✓ Tax burden = 1 – tax rate

✓ Interest burden = 1 – interest ratio

Analysis of CFO

Other cash flow ratios	
Performance ratios	**Coverage ratio**
CFO/ Revenue	CFO / Total debt
CFO/ Average total assets	CFO / Cash paid for long - term assets
CFO / Average total equity	CFO / Cash long – term debt repayment
CFO/ Operating income	CFO/ dividend paid
(CFO – Preferred dividends) / Weighted average number of common shares	CFO / Cash outflows from investing and financing activities
	(CFO + interest paid + taxes paid)/ Interest paid

Credit analysis

- **Credit analysis – whether a firm can repay its obligations (Credit risk)**
  - The analysis of a company's financial reports;
  - A broad assessment of a company's operations
    - ✓ Meeting with management;
    - ✓ Tours of major facilities;
    - ✓ Meeting of a ratings committee after considering factors that include
      - ◆Business risk;
      - ◆Financial risk - Interest coverage ratio, Return on capital, Debt - to - asset ratio and Ratios of cash flow to total debt, Z- score.

Credit Analysis

- **Z – score**

Z = 1.2 A + 1.4 B + 3.3 C + 0.6 D + 1.0 E

Where:

A = WC / TA

B = RE / TA

C = EBIT / TA

D = MV of Equity / BV of Debt

E = Revenue / TA

If Z<1.8 → Bankruptcy

Reading 28

Inventories

Framework

1. Inventory accounting/ The cost flow method
   - Specific identification
   - Last in first out (LIFO)
   - First in first out (FIFO)
   - Weighted average (AVCO)
2. Periodic vs. Perpetual Inventory systems*
3. Inventory valuation
   - U.S. GAAP
   - IFRS
4. LIFO reserve and LIFO liquidation
5. Inventory adjustment
6. Inventory management
7. Inventory disclosure *

Inventory accounting

➢ **Cost of goods sold (COGS)**

- **Cost of goods sold (COGS)** also referred to as cost of sales (COS) under IFRS, is related to the beginning balance of inventory, purchases, and the ending balance of inventory. The relationship is summarized in the following equation:
- COGS = beginning inventory + purchases - ending inventory
  - ✓ This equation can be rearranged to solve for any of the four variables:
    - ◆purchases = ending inventory - beginning inventory + COGS
    - ◆beginning inventory = COGS - purchases + ending inventory
    - ◆ending inventory = beginning inventory + purchases - COGS

Inventory accounting

➢ **Product costs.** cost composed the value of inventory.

- <u>Capitalized</u> in inventories, including
  - ✓ Purchase cost - trade discounts and rebates;
  - ✓ Conversion costs (e.g. labor and overhead);
  - ✓ Other costs required to make inventory in use.
- Capitalizing cost as an asset (inventory) delays the expense till the sale of inventory and the recognition of revenues.

➢ **Period costs.**

- <u>Expensed</u> during the period, including
  - ✓ Abnormal waste of materials, labor, or overhead;
  - ✓ Storage costs (unless required as part of production);
  - ✓ Administrative and selling expenses.

Inventory valuation method

- **Assume cost of inventory is unchanged**
  - COGS=number of units sold * cost per unit;
  - Ending Inventory=the number of units remaining * cost per unit.
- **If cost of inventory is changeable**, cost flow method (GAAP, cost flow assumption and IFRS, cost flow formula) is used for determining cost per unit for calculating: COGS (I/S) and Ending inventory (B/S).
  - Under **IFRS,** the permissible methods are
    - ✓ Specific identification;
    - ✓ First-in, first-out (FIFO);
    - ✓ Weighted average cost.
  - **U.S. GAAP** permits last-in, first-out (LIFO) method as well;
  - Same cost flow method must be used for inventories of similar nature and use.

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Inventory valuation method

Method	Assumption	COGS consist of…	Ending inventory consists of…
FIFO (U.S. And IFRS)	The items first purchased are the first to be sold.	First purchased	More recent purchases
LIFO (U.S. Only)	The items last purchased are the first to be sold.	Last purchased	Earliest purchases
Weighted average cost WACO (U.S. And IFRS)	Items sold are a mix of purchases.	Average cost of all items	Average cost of all items

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Inventory valuation method

- **Being the time of raising price**

	FIFO	LIFO	AVCO
B/S Ending inventory	110,000	105,000	109,091
I/S COGS	490,000	495,000	490,909

Better

Better

- LIFO provides the most useful estimate of COGS
- FIFO provides the most useful estimate of Inventory value

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Inventory valuation method

➢ **In periods of rising prices and stable /increasing inventory quantities**

		LIFO	FIFO
I/S		Higher COGS	Lower COGS
		Lower EBIT	Higher EBIT
		Lower taxes	Higher taxes
		Lower net income(EAT)	Higher net income (EAT)
B/S		Lower inventory balances	Higher inventory balances
		Lower working capital	Higher working capital
CFS		Higher CFO(↓ taxes paid)	Lower CFO(↑ taxes paid)
Ratios	Profitability	Lower net/gross margins	Higher net/gross margins
	Liquidity	Lower current ratio	Higher current ratio
	Solvency	Higher D/A and D/E	Lower D/A and D/E
	Activity	Higher inventory turnover	Lower inventory turnover

Inventory valuation method

➢ Zimt AG uses the FIFO inventory accounting method, and Nutmeg Inc. uses the LIFO method. Compared to the cost of replacing the inventory, during periods of rising prices the cost of goods sold reported by:

A. Zimt is too low.

B. Nutmeg is too low.

C. Nutmeg is too high.

➢ **Correct Answer: A.**

- Zimt uses the FIFO method, so its cost of goods sold represents units purchased at a (no longer available) lower price. Nutmeg uses the LIFO method, so its cost of goods sold is approximately equal to the current replacement cost of inventory.

Periodic vs. Perpetual inventory systems*

Periodic	Perpetual
• "Purchase" account; • Balances of inventory and COGS are reported at the end of accounting period.	• Balances of inventory and COGS are reported continuously.
•Same result for FIFO & Specific identification method •Different result for LIFO & AVCO	

Inventory systems*: Example

Jan 1 beginning inventory	2 units @$2 each
Jan 7 purchase	3 units @ $3 each
Jan 12 sale	4 units
Jan 19 purchase	5 units @ $5each
Jan 29 sale	3 units
Calculate COGS and ending inventory under the FIFO and LIFO cost flow method using the two inventory systems	

Example: FIFO (Periodic)*

Jan Sale of 7 Units Consists of:			
Units	**From**	**Costs**	**$**
2	Jan 1 beginning inventory	2 units @ $2 each	4
3	Jan 7 purchase	3 units @ $3 each	9
2	Jan 19 purchase	2 units @ $5 each	10
	Total		**23**
Jan Ending Inventory			
Units	**From**	**Costs**	**$**
3	Jan 19 purchase	3 units @ $5 each	15
	Total		**15**

Example : FIFO (Perpetual)*

Same result under FIFO

Jan 12 Sale of 4 Units Consists of:			
Units	**From**	**Costs**	**$**
2	Jan 1 beginning inventory	2 units @$2 each	4
2	Jan 7 purchase	2 units @ $3 each	6
	Total		**10**
Jan 29 Sale of 3 Units Consists of :			
Units	**From**	**Costs**	**$**
1	Jan 7 purchase	1 units @ $3 each	3
2	Jan 19 purchase	2 units @ $5each	10
	Total		**13**
Jan Ending Inventory			**COGS=$23**
Units	**From**	**Costs**	**$**
3	Jan 19 purchase	3 units @$5 each	15

Example: LIFO (Periodic)*

Jan Sale of 7 Units Consists of:			
Units	**From**	**Costs**	**$**
5	Jan 19 purchase	5 units @ $5each	25
2	Jan 7 purchase	2 units @$3 each	6
	Total		**31**
Jan Ending Inventory			
Units	**From**	**Costs**	**$**
2	Jan 1 beginning inventory	2 units @$2 each	4
1	Jan 7 purchase	1 units @$3 each	3
	Total		**7**

Example: LIFO (Perpetual)*

Different result under LIFO

Jan 12 Sale of 4 Units Consists of:			
Units	**From**	**Costs**	**$**
3	Jan 7 purchase	3 units @$3 each	9
1	Jan 1 beginning inventory	1 units @ $2 each	2
	Total		**11**
Jan 29 Sale of 3 Units Consists of :			
Units	**From**	**Costs**	**$**
3	Jan 19 purchase	3 units @ $5each	15
	Total		**15**
Jan Ending Inventory			**COGS=$26**
Units	**From**	**Costs**	**$**
1	Jan 1 beginning inventory	1 units @$2 each	2
2	Jan 19 purchase	2 units @$5 each	10
	Total		**12**

Inventory valuation

U.S. GAAP	IFRS
The lower of	The lower of
• Cost Or • Market • If replacement cost (RC) > NRV Market = NRV • If replacement cost (RC) < NRV – normal profit margin Market = NRV – normal profit margin • NRV – normal profit margin < RC < NRV Market = replacement cost	• Cost Or • Net realizable value NRV = selling price – estimated cost of completion – selling costs
If Cost > Market • Written down to market (B/S) • Loss on the I/S • **No written up** is allowed	If Cost > NRV • Written down to NRV (B/S) • Loss on the I/S • **Can be written up** • Gain on the I/S

Example: Inventory valuation

- A Corp. recorded following data of its inventory.
  - Estimated selling price $450
  - Original cost $420
  - Normal profit margin $24
  - Replacement cost $394
  - Estimated selling cost $44
- Compute the carrying value of inventory per unit in A corp. under IFRS and GAAP.

Example: Inventory valuation

- **Correct Answer:**
  - Under IFRS,
    - ✓ Inventory (B/S) = min (cost, net realizable value).
    - ✓ Net realizable value= estimated selling price – selling cost = ($ 450 - $ 44 = $ 406).
    - ✓ Carrying value = $406.
    - ✓ Write down of $ 14 ($ 406 net realizable value - $ 420 original cost) is reported as COGS (I/S).
  - Under U.S. GAAP,
    - ✓ Inventory (B/S) = min (cost, market).
    - ✓ Market = replacement cost of $ 394.
    - ✓ Also, net realizable value minus a normal profit margin ($ 406 - $ 24 = $ 382) <market ($394)<net realizable value ($ 406).
    - ✓ Carrying value = $394.
    - ✓ Write down = $26 ($ 394 replacement cost - $ 420 original cost) is reported in the income statement.

Example: Inventory valuation

- Zimt AG wrote down the value of inventory in 2007 and reversed the write-down in 2008. Compared to ratios calculated if the write-clown had never occurred, Zimt's reported 2007
  A. current ratio was too high.
  B. gross margin was too high
  C. inventory turnover was too high.
- **Correct Answer: C.**
  - The write-down reduced the value of inventory and increased cost of goods sold in 2007. The higher numerator and lower denominator mean that the inventory turnover ratio as reported was too high. Gross margin and the current ratio were both too low.

LIFO to FIFO Conversion

- **LIFO reserve**
  - The difference between the reported LIFO inventory carrying amount and the inventory amount that would have been reported if the FIFO method had been used.
  - LIFO reserve = FIFO inventory – LIFO inventory
- **LIFO to FIFO Conversion**
  - $INV_F = INV_L + \text{LIFO reserve}$
  - $COGS_F = COGS_L - \Delta\ \text{LIFO reserve}$
  - B/S:
    - ✓ Asset: $+LIFO_{Reserve}$,
    - ✓ +Equity: (retained earnings) $LIFO_{Reserve}^{0} \times (1-t_{past}) + \Delta\ LIFO_{Reserve} \times (1-t_{current})$
    - ✓ - Reduction in cash: $-LIFO_{Reserve}^{0} \times t_{past} - \Delta\ LIFO_{Reserve} \times t_{current}$
  - I/S: $+NI + \Delta\ LIFO_{Reserve} \times (1-t_{current})$
    - ✓ $\Delta\ LIFO_{Reserve} = LIFO_{Reserve}^{1} - LIFO_{Reserve}^{0}$

LIFO & FIFO Conversion: Example

日期	价格	数量
1/5	1	1
1/10	2	1
1/15	3	1
1/23	Sell	1
2/5	4	1
2/10	Sell	1

Sell 1

FIFO	LIFO
Inv=5	Inv=3
COGS=1	COGS=3

LIFO reserve = $Inv_F - Inv_L = 2$

$COGS_F = COGS_L - \Delta$ LIFO reserve = 1

Sell 2

FIFO	LIFO
Inv=7	Inv=3
COGS=2	COGS=4

LIFO reserve = $Inv_F - Inv_L = 4$

$COGS_F = COGS_L - \Delta$ LIFO reserve = 2

LIFO liquidation

- **LIFO liquidation**
  - A LIFO liquidation incurs when **purchased volume is less sales volume.**
  - 在物价水平上升的情况下，通过使用老旧存货降低COGS，达到操作net income的手段。
    - ✓ COGS ↓ ⟶ Gross profit margin ↑ & NI ↑
- **Under LIFO liquidation, and if price is rising**
  - COGS does not reflect current costs;
  - LIFO reserve may decline;
  - An analyst should adjust COGS for decrease in LIFO reserve.

LIFO liquidation

日期	价格	数量
1/5	1	1
1/10	2	1
1/15	3	1
1/23	Sell	1
2/5	4	1
2/10	Sell	1
3/15	Sell	1

Sell 3

FIFO	LIFO
Inv=4	Inv=1
COGS=3	COGS=2

LIFO reserve= 3

$COGS_F = COGS_L - \triangle$ LIFO reserve = 3

Summary for LIFO liquidation

- LIFO reserve may decline
- The higher profit is unsustainable because the company will eventually run out of inventory.

专业·领先·增值

LIFO method

- **Summary:**
  - $Inv_F = Inv_L$ + LIFO reserve
  - $COGS_F = COGS_L - \triangle$ LIFO reserve
    - ✓ $\Delta\ LIFO_{Reserve} = LIFO_{Reserve}{}^{1} - LIFO_{Reserve}{}^{0}$
  - $\Delta\ NI = \Delta\ LIFO_{Reserve} \times (1-t_{current})$
  - Under LIFO liquidation LIFO reserve may decline;

专业·领先·增值

Example: LIFO & FIFO Conversion

- A company uses LIFO inventory valuation and has a 40 percent marginal tax rate. The company reports an increase in the LIFO reserve of $5,000 for the year. If the company had used FIFO instead of LIFO, the amount reported for:
  - A. net income would be $3,000 higher
  - B. net income would be $5,000 higher
  - C. cost of goods sold would be $3,000 higher

- **Correct Answer: A.**
  - Using FIFO, cost of goods sold would be $5,000 lower and income before taxes $5,000 higher:
  - $5,000 (1 -tax rate) = $3,000 increase in net income using FIFO.

专业·领先·增值

Example: LIFO & FIFO Conversion

- An adjustment to operating income for the effects of a change in LIFO reserves will most likely be required if the change in the LIFO reserve is the result of:
  - A. price declines.
  - B. price increases.
  - C. a decrease in the number of units held in inventory.

- **Correct Answer: C. (LIFO liquidation)**

LIFO & FIFO Conversion: Example

- The company's LIFO reserve at the end of 2010 is $1000 less than it at the beginning of 2010. If the company changes into FIFO method, the cost of goods sold at the end of 2010 should:
  - A. Increase by $1000
  - B. Be no change
  - C. Decrease by $1000

- **Correct Answer: A.**

  $COGS_{FIFO} = COGS_{LIFO} - \triangle\text{LIFO reserve} = COGS_{LIFO} + 1{,}000$

Reading 29

Long-Lived Assets

Framework

1. Capitalize or Expense
   - Capitalizing interest
2. Tangible assets
   - Measurement *
   - Depreciation *
3. Intangible assets
   - Measurement
   - Amortization
4. Other measurement points for assets
   - Impairment *
   - Revaluation
5. De recognition of assets
6. Disclosure *
7. Leasing

Capitalize or Expense

Spending Expenditures: Future Economic Benefit Is Probable?

Yes	Recognize assets in the balance sheet , while the effects will flow to the income statement over the asset's useful life	Inventory		Go to I/S when the inventory is sold Cost of goods sold
		Non current assets	Tangible assets	Depreciation expense over useful life
			Intangible assets	Amortization expense over useful life
No	Recognize Expenses in the income statement when incurred	e.g. •Selling expense; •General expense; •Administrative expense.		Affect NI thus R/E

Capitalize or Expense

- **How to treat an expenditure depending on the nature of the expenditure**
  - Capitalize as an asset on the **B/S**;

  or
  - Recognize as an expenses in the **I/S.**
- **Remember:**
  - **The asset** you capitalized today **will be** expensed in the future.

Impact on the Cash flow statement:

- **Capitalized expenditures** are classified as **CFI;**
- **Expensed expenditures** are classified as **CFO.**

Capitalize or Expense

F/S	Items	Capitalizing	Expensing
B/S & ratios	Total assets	Higher	Reverse
	Shareholders' equity	Higher	
	Leverage ratios (debt/equity & debt/assets)	Lower	
I/S & ratios	Income volatility	Lower	
	Net income – first year (ROA & ROE)	Higher	
	Net income – later years (ROA & ROE)	Lower	
CFS	**Total cash flow**	**Same**	**Same**
	Cash flow from operating	Higher	Reverse
	Cash flow from investing	Lower	

Capitalizing Interest

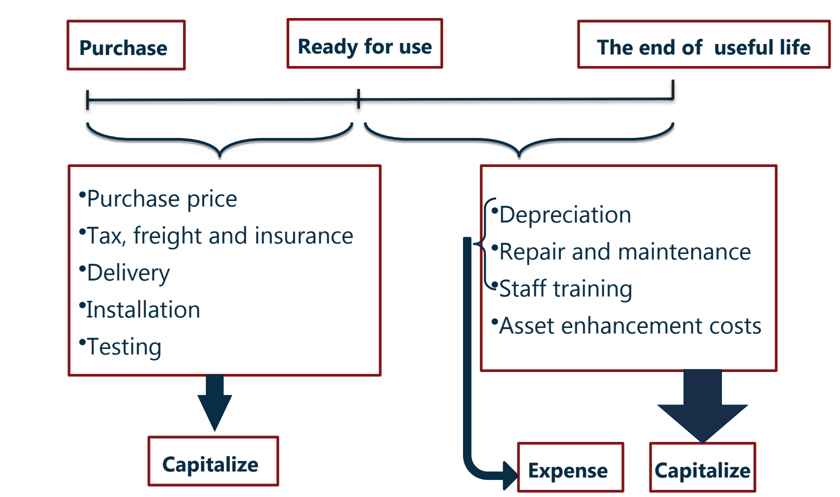
- **Under U.S.GAAP and IFRS**
  - Interest that accrues during the construction of an asset (for a firm's own use or resale) must be capitalized (e.g., depreciation or COGS; IFRS: net interest expense, US GAAP no reduction).

Items / Impacts	Int. exp.	Income statement impacts	Net Income	Interest coverage ratio	CFI	CFO
First Year	N/A	No	Higher	Higher? the same?	Understate	Overstate
Later Years		Depreciation expense	Lower	Lower		

- **Implications for analysis**
  - ✓ Treat as normal interest;
  - ✓ Interest expense charged to I/S directly, and classified as part of CFO.

Tangible assets*

Capitalize or expense



Example: Tangible assets*

- JOOVI Inc. has recently purchased and installed a new machine for its manufacturing plant. The company incurred the following costs:

Purchase price	$12,980
Freight and insurance	$1,200
Installation	$700
Testing	$100
Maintenance staff training cost	$500

The total cost of the machine to be shown on JOOVI's balance sheet is closest to:
A. $14,180 B. $14,980 C. $15,480

- **Correct Answer : B.**
  - Only costs necessary for the machine to be ready for use can be capitalized, therefore, total capitalized costs = 12,980 + 1,200 + 700 + 100 = $14,980.

Tangible assets*

	Measurement	
	Historical costs	**Carrying value**
Also called:	• The gross investment in the assets	• The carrying amount • The net book value • The book value • The ending net investment in assets
Measurement	• Initial measurement • **Purchase price** • **Tax, freight and insurance** • **Delivery** • **Installation** • **Testing**	Subsequent measurement Equals to Historical costs → Cost model – accumulated depreciation; – accumulated impairment losses; or Revaluation (IFRS only) → Revaluation model.

Depreciation

Depreciation	
Straight-Line	$\text{SL depreciation expense} = \dfrac{\text{cost} - \text{residual value}}{\text{useful life}}$
Accelerated Depreciation	Depreciation expense= (2/asset life in years) ×net book value at the beginning of year X
Units – of – production	$\dfrac{\text{Orignalcost-salvage value}}{\text{Life in output units}} \times \text{Out put units in period}$

Example: Depreciation

➢ Miguel Rodriguez of MARIO S.A., an Uruguayan corporation, is computing the depreciation expense of a piece of manufacturing equipment for the fiscal year ended 31 December 2009. the equipment was acquired on 1 January 2009. Rodriguez gathers the following information:

Cost of the equipment	\$1,200,000
Estimated residual value	\$200,000
Expected useful life	8 years
Total production capacity	800,000 units
Production in FY2009	135,000 units

Calculate the depreciation expense recognized in the income statement for FY2009 using three depreciation methods.

Example: Depreciation

➢ **Correct Answer:**

	Depreciation
Straight-Line	$\frac{\$1,200,000 - \$200,000}{8 \text{ years}}$ = \$125,000 p.a.
DDB	2/8 × \$1,200,000 = \$300,000
Units – of – production	(\$1,200,000 - \$200,000) × (135,000 units / 800,000 units) = \$168,750

Depreciation

	Straight line	**Accelerated (DDB)**
Depreciation expense	**Lower**	**Reverse**
Net income	**Higher**	
Assets	**Higher**	
Equity	**Higher**	
ROA	**Higher**	
ROE	**Higher**	
Total asset turnover ratios	Lower	Higher
Cash flow – Tax	Same	Same

Depreciation

- **The choice of useful life and residual value / salvage value**
  - Longer useful life & higher residual value.
    - ✓ Lower depreciation expense and higher net income.
  - Relevant accounting treatments.

Depreciation expense can be allocated to		
Cost of goods sold (COGS)	Or	Selling , general and administration expense SG&A)
Affect GP Margin		Affect OP margin

	U.S. GAAP	IFRS
Residual /Salvage value	Down ward only	Allowed to adjust the estimated residual value either upward or down ward
Component depreciation*	Rarely used	Required

Intangible Assets

- **Long – term assets without physical substance**

Identifiable IA	Unidentifiable IA	Internally generated
• **Can be purchased separately** • **E.G. Patents, Trademarks, Copyright purchased externally** • **Some have** a finite useful life and **others have** an indefinite useful life	• **Cannot be purchased separately and may have** an indefinite life • **E.G. Goodwill**	• Cannot be capitalized **on B/S** • **E.G. Research and Development cost under <u>U.S. GAAP</u>**
Capitalized on the B/S		•**Expensed** as incurred

IA with a finite UL – Amortization over UL (SL, Zero salvage value)
IA with an indefinite UL - Annual impairment test

Intangible Assets

Type of Expenditure	**IFRS**	**U.S.GAAP**
Research	**Expense as incurred**	
Development	Capitalize if certain criteria are met	Expense as incurred Except for: ·Costs to develop a software • For sales to others ✓ Expensed as incurred; ✓ Once economic feasibility is established, subsequent production costs can be capitalized. • For own internal use ✓ Expense until it is probable that the project will be completed and that the software will be used as intended; Thereafter, Capitalized

Impairment of assets

Tangible assets	Intangible assets
•Held for use **Impairment indicators** ↓ **Impairment test** •Held for sale No depreciation Immediate impairment test If **Carrying value > NRV**	•Held for use **Goodwill** **&** **Other IA with indefinite useful life** ↓ **Annual impairment test** •Held for sale No amortization Immediate impairment test If **Carrying value > NRV**

Impairment of assets – IFRS*

$$\begin{pmatrix}\text{carrying}\\ \text{value}\\ \text{of assets}\end{pmatrix} > \begin{pmatrix}\text{Recoverable}\\ \text{amount}\end{pmatrix}$$

↓

The higher **of**	
Fair value less cost to sell	Value in use **i.e. the present value of its future cash flow from continued use**

Impairment of assets – U.S. GAAP

- **Step1 Recoverability test / Impairment test**

$$\begin{pmatrix}\text{carrying}\\ \text{value}\\ \text{of assets}\end{pmatrix} > \begin{pmatrix}\text{undiscounted}\\ \text{future cash flows}\\ \text{generated by}\\ \text{the assets}\end{pmatrix}$$

- **Step2 Loss measurement**

$$\begin{pmatrix}\text{carrying}\\ \text{value}\\ \text{of assets}\end{pmatrix} - \begin{pmatrix}\text{fair market value}\\ \text{or}\\ \text{PV of future CF}\end{pmatrix}$$

Example: Impairment of assets

➢ For impairment tests of an equipment, company L collected following information.

Original cost	$450,000
Accumulated depreciation	$50,000
Expected future cash flow	$412,500
Fair value	$395,000
Value in use	$392,500
Selling cost	$15,000

Calculate the impairment loss under GAAP and IFRS, given the ongoing use of the equipment.

Example: Impairment of assets

➢ **Correct Answer:**

- **U.S.GAAP**

  Carrying value = $450,000 - $50,000 = $400,000
  Expected future cash flow = $412,500
  Carrying value < Expected future cash flow, no impairment required.
  Value of equipment (B/S) = $400,000

- **IFRS**

  Carrying value = $450,000 - $50,000 = $400,000
  Fair value less cost to sell = $395,000 - $15,000 = $380,000
  Value in use = $392,500
  Recoverable amount = max (380,000, 392,500) = $ 392,500
  Carrying value > recoverable amount, the equipment is impaired
  Carrying value (B/S) = $392,500
  Impairment loss = $7,500 (I/S).

Impairment of assets (Cost model)

➢ **Once an asset is written down**

- **Under U.S.GAAP**

  ✓ Held for use → recoveries are not allowed

  ✓ Held for sale → recoveries are allowed

- **Under IFRS**, recoveries are allowed except for goodwill , but still no allowance for written up.

Impairment of assets

Impairment Effects	
Cash flow	**No effect**
Assets	Decrease
Equity	Decrease
Debt/equity ratio	Increase
Current net income, ROA,ROE	Decrease
Future depreciation expense	Decrease
Future net income, ROA,ROE	Increase
Future asset turnover ratios	Increase

Revaluation of assets

U.S. GAAP	IFRS
Cost model	Cost model & Revaluation model

Permit upward revaluation of assets

- **Upward revaluation of assets will**
  - Increase assets and equity, leading to decrease leverage ratios;
  - Increase comprehensive income in the period the revaluation occurs.
  - In subsequent periods
    - ✓ Higher depreciation expense;
    - ✓ Lower net income, resulting in
      - ◆Lower ROA (return on asset);
      - ◆Lower ROE (return on equity).

De-recognition of assets

- **Sale of long-lived asset**
  - Report Gains or losses (I/S) =sales proceed – carrying value of long-lived asset.
- **Abandon of long-lived asset**
  - Remove carrying value (B/S);
  - Loss on the I/S.
- **Exchange of long-lived asset**
  - G/L = fair value of the old asset (or fair value of new asset) - book value of the old asset.

Investment property

- **Definition**
  - **Under IFRS**, as property that is owned (or, in some cases, leased under a finance lease) for the purpose of earning rentals or capital appreciation or both.
    - ✓ To use the fair value model, a company must be able to reliably determine the property's fair value on a continuing basis. However, a company can still use cost model under the circumstances;
    - ✓ A company must apply one model (cost or fair value) to all of its investment property.
  - **U.S. GAAP** classified investment property as normal long-lived assets.

Investment property

- **The cost model**
  - The cost model is identical to the cost model used for property, plant, and equipment.
- **The fair value model**
  - The fair value model differs from the revaluation model used for property, plant, and equipment.
    - ✓ Under the revaluation model, whether an asset revaluation affects net income depends on whether the revaluation initially increases or decreases the carrying amount of the asset. (surplus in owner's equity);
    - ✓ Under investment property, all changes in the fair value of the asset affect net income (gain on income statement).

Reading 30

Income Taxes

Framework

1. Current tax & Deferred tax
2. Terminology for taxation
3. B/S approach to deferred tax issue
   - Identify Accounting base and Tax base for a B/S item
   - Calculating temporary difference and deferred tax asset or liability
4. Measurement
5. Analysis

Current and deferred tax: Example 1

➢ **Example 1: A firm may use <u>different depreciation methods</u> for:**

- Financial reporting

	year 1	2	3	4	5	total
revenue	600	600,000	600,000	600,000	600,000	2,400,600
other expense	-300,000	-300,000	-300,000	-300,000	-300,000	-1,500,000
depreciation expense	-100,000	-100,000	-100,000	-100,000	-100,000	-500,000
profit before tax	-399,400	200,000	200,000	200,000	200,000	400,600
income tax expense 30%	-119,820	60,000	60,000	60,000	60,000	120,180
profit for the year	-279,580	140,000	140,000	140,000	140,000	280,420

- Tax reporting

	year 1	2	3	4	5	total
revenue	600,000	600,000	600,000	600,000	600,000	3,000,000
other expense	-300,000	-300,000	-300,000	-300,000	-300,000	-1,500,000
tax depreciation	-220,000	-132,000	-80,000	-50,000	-18,000	-500,000
taxable profit	80,000	168,000	220,000	250,000	282,000	1,000,000
tax payable 30%	24,000	50,400	66,000	75,000	84,600	300,000
net profit	56,000	117,600	154,000	175,000	197,400	700,000

Temporary difference

Current and deferred tax: Example

➢ **Example (Continued)**

Tax department

B/S Deferred tax liability

I/S	Year 1	Year 2	Year 3	Year 4	Year 5
Income tax expense	**60,000 =**	**60,000 =**	**60,000 =**	**60,000 =**	**60,000 =**
Current tax expense	**24,000**	**50,400**	**66,000**	**75,000**	**84,600 +**
Deferred tax expense / (Income)	**36,000**	**9,600**	**(6,000)**	**(15,000)**	**(24,600)**

B/S	Year 1	Year 2	Year 3	Year 4	Year 5
Deferred tax liability	**36,000**	(36,000 +9,600) = 45,600	(45,600-6,000) = 39,600	(39,600-15,000) = 24,600	**(24,600-24,600)**

Tax Return Terminology

- **Taxable income:** the portion of its income that is subject to income taxes under the tax laws of its jurisdiction;
- **Taxes payable:** (current tax expense) the tax liability on the balance sheet caused by taxable income;
- **Income tax paid:** the real cash payments for taxes also involves payments or refunds from other years;
- **Tax loss carry forward:** a taxable loss in the current period that may be used to reduce future taxable income;
- **Tax base:** the amount at which an asset or liability is valued for tax purpose.

Financial Reporting Terminology

- **Accounting profit** (income before taxes or pretax income): income as reported on the income statement, in accordance with prevailing accounting standards, before the provisions for income tax expense.
- **Income tax expense**: income tax expense = taxes payable + Δ DTL - ΔDTA.
- **Deferred tax liabilities**: temporary timing differences between a company's income as reported for tax purposes (taxable income) and income as reported for financial statement purposes (reported income).
- **Deferred tax assets:** deferred tax assets may result when the actual income tax payable based on income for tax purposes in a period exceeds the amount of income tax expense based on the reported financial statement income due to temporary timing differences.
- **Valuation allowance:** contra account to record the reduction of deferred tax assets, if the assets cannot be realized.
- **Carrying value:** the net amount shown for an asset or liability on the balance sheet; book value may also refer to the company's excess of total assets over total liabilities. For a bond, the purchase price plus (or minus) the amortized amount of the discount (or premium).

Terminology

- **Timing difference**
  - **Temporary difference**
    - ✓ Difference will reverse.

Deferred tax assets	Deferred tax liabilities
B/S amounts that result from an excess of tax payable over income tax expense that are expected to be recovered from future operations.	B/S amounts that result from an excess of income tax expense over taxes payable that are expected to result in future cash outflows.
$\begin{pmatrix}\text{taxes}\\\text{payable}\end{pmatrix} > \begin{pmatrix}\text{income tax}\\\text{expense}\end{pmatrix}$	$\begin{pmatrix}\text{taxes}\\\text{payable}\end{pmatrix} < \begin{pmatrix}\text{income tax}\\\text{expense}\end{pmatrix}$

- **Permanent difference**
  - ✓ Difference will not reverse, thus **no deferred tax** issues.

B/S approach to Deferred tax issue

- **Deferred taxes arise from different principals of accounting and tax reports**, including different
  - Recognition of revenues and expenses;
  - Revenues and expenses recognized only in one of the income statement or tax return;
  - Different carrying amounts and tax bases;
  - Recognition of gains or losses;
  - Tax losses in the past can offset taxable income in the future;
  - Adjustments may not influence tax return or may be reported in different periods.

B/S approach to Deferred tax issue

- **Two steps for Deferred tax**
  - Step 1 Identify DTL and DTA through a B/S approach;
  - Step 2 Calculate deferred tax expense.
- **B/S approach**
  - Identify Accounting base and Tax base for **every asset and liability item on B/S.**
  - Calculate the difference between two bases
    - ✓ For assets = accounting base-tax base
    - ✓ For liabilities = (-accounting base)-(-tax base)

Positive figure * tax rate = DTL
Negative figure * tax rate = DTA

Accounting Base & Tax Base - Assets

- **Example:**
  - Assets with and original Cost of $1,000,000
  - Accounting depreciation (depreciation expense) = $100,000 p.a.
  - Tax depreciation = $ 200,000 p.a.

	A/C base	-	Tax base	=	Temporary difference	×	Tax rate	=	DTL in B/S
Y1	900,000	-	800,000	=	100,000	×	30%	=	30,000
Y2	800,000		600,000		200,000	×	30%	=	60,000

I/S income tax expense		B/S DTL	
Year 1	Year 2	Year 1	Year 2
30,000	30,000	30,000	60,000

Accounting Base & Tax Base - Assets

- **An asset's tax base is** deducted (expensed) from the tax return when the assets generate economic benefits for the firm.
- **Depreciable NCA**
  - Accounting base → Original cost – accumulated accounting depreciation;
  - Tax base → Original cost – accumulated tax depreciation.
- **R&D**
  - Accounting base (Expensed as incurred) → Zero;
  - Tax base (Capitalized)→ Original cost - accumulated amortization.
- **A/R**
  - Accounting base → Invoiced amount – allowance for bad debt;
  - Tax base → Invoiced amount (do not recognize allowance).
- **Financial assets (for Trading and AFS financial assets held at Fair value)**
  - Accounting base → Fair value;
  - Tax base →Amortized cost.

Accounting Base & Tax Base - Liabilities

- Customer advanced = 10,000 → Dr Cash 10,000
  Cr Unearned revenue 10,000

A/C base	-	Tax base	=	Temporary difference	×	Tax rate	=	DTA in B/S
-10,000	-	0	=	-10,000	×	30%	=	3,000

I/S income tax expense	B/S DTA
(3,000)	3,000

Accounting Base & Tax Base - Liabilities

- **Customer advance**
  - Accounting base (accrual accounting)→ Unearned revenue treat as a Liability;
  - Tax base (cash accounting) →Revenue is recognized no liability arise → Zero.
- **Warranty liability**
  - Accounting base (accrual accounting) →A liability is recognized for future obligation;
  - Tax base (cash accounting) → Recognize a expense when a cash outflow incurred → Zero.
- **Financial liabilities – Note payable (for Trading and AFS financial liability held at Fair value)**
  - Accounting base → Fair value;
  - Tax base →Amortized cost.

Example: Deferred tax

- A company incurs a capital expenditure that may be amortized over five years for accounting purposes, but over four years for tax purposes. The company will most likely record:
  A. a deferred tax asset.
  B. a deferred tax liability.
  C. no deferred tax asset or liability.

- **Correct Answer：B.**
  - The difference is temporary, and the tax base will be lower (because of more rapid amortization) than the carrying value of the asset. The result will be a deferred tax liability.

Example: Deferred tax

- When accounting standards require an asset to be expensed immediately but tax rules require the item to be capitalized and amortized, the company will most likely record:
  A. a deferred tax asset.
  B. a deferred tax liability.
  C. no deferred tax asset or liability.

- **Correct Answer: A.**
  - The capitalization will result in an asset with a positive tax base and zero carrying value. The amortization means the difference is temporary Because there is a temporary difference on an asset resulting in a higher tax base than carrying value, a deferred tax asset is created.

Measurement

- **Income tax expense**

  = Current tax expense +/- Deferred tax expense / income

  Taxable income × Current tax rate

  +ΔDTL
  Or
  -ΔDTA

- The **ending balance of DTL or DTA** is calculated at the end of each fiscal year, the net Δ amount during current fiscal year.
  - ✓ **Tax rate applicable to the periods in which the DTA and DTL will be reversed** (forecast;
  - ✓ Usually the current tax rate.

Tax rate changes

- **If tax rate changes**
  - New DTA or DTL = $\text{Old DTA or DTL} \times \dfrac{\text{new tax rate}}{\text{old tax rate}}$
- **A change in accounting estimate**
  - The change in DTA and DTL due to the tax rate changes will be part of the current year △DTA and △DTL, and will impact the income tax expense for the year the changes take place.

Example: Tax rate changes

- Carnation Corporation had a deferred tax liability of $30,000 on January 1,2002 that is expected to reverse in 2004. In 2002, Carnation generated pretax financial income of $300,000 and taxable income of $150,000 due to a difference in depreciation. The tax rate for 2002 is 30% but Congress enacted a reduction in tax rates effective January 1, 2003 to 25%, Carnation's income tax expense for 2002 is closest to:
  A. $75,000.
  B. $77,500.
  C. $82,500.

Example: Tax rate changes

- **Correct Answer: B.**
  - Current tax expense = 150,000 × 30% = 45,000
  - Temporary difference balance at the end of 2002
    = 30,000 / 30% + 150,000 = 250,000
  - Deferred tax expense = 250,000 × 25% -30,000
    = 62,500 – 30,000 = 32,500
  - Income tax expense = 45,000 + 32,500 = 77,500

Tax rate changes

Tax rate increases

Deferred tax liability increases → Income tax expense increases

Deferred tax asset increases → Income tax expense decreases

If deferred tax liabilities exceed deferred tax assets

Tax expense increase
Net income and equity decline

Reversal of temporary difference

- **Treatment of DTL**
  - If unlikely to be reversed;
    - ✓ Treated as equity
  - If to be reversed;
    - ✓ Treated as true liability
  - If non-reversal/ reversal is uncertain;
    - ✓ Ignored
- **Treatment of DTA**
  - If <50% probability to be reversed
    - ✓ Valuation allowance is created

$$\text{DTA} = \text{DTA} - \left(\begin{array}{c}\text{Valuation}\\ \text{Allowance}\end{array}\right)$$

$$\text{Asset}\downarrow \& \text{Income}\downarrow$$

Compare a company's deferred tax items

- **DTL arose from**
  - Accelerated depreciation for tax purposes;
  - Straight-line depreciation for preparing financial reports;
  - Whether to reverse the differences is determined by growth rate and capital spending of the firm.
- **DTA arose from**
  - **Impairments**, since
    - ✓ Write-down is recognized immediately;
    - ✓ Deduction on the tax return is recorded in the future (disposal/sale).
  - **Restructuring**, since
    - ✓ The costs are recognized when the restructuring is announced;
    - ✓ Not deducted for tax purposes until actually paid;
    - ✓ Large cash outflows (net of the tax savings) are recorded in the years after the restructuring costs are reported.

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Compare a company's deferred tax items

- **DTA arose from** (cont.)
  - Post-employment benefits and deferred compensation
    - ✓ Recognized when earned;
    - ✓ Reversed when cash payments are made.
- A **deferred tax adjustment** for equity is to record tax effects arising from OCI , which records unrealized gains (losses) of available-for-sale securities. Realized gains (losses) will not result in DTL.
- Under GAAP, firms are required to use **LIFO in both of the financial and tax reporting**, thus resulting no deferred tax items.

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Effective tax rates

$$\text{Effective tax rate} = \frac{\text{Income tax expense}}{\text{Pre-tax income (EBT)}}$$

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Disclosures relating to deferred tax items

- **Disclosure of deferred tax information.**
  - Deferred tax liabilities or assets;
  - Net changes in valuation allowance;
  - Any unreported deferred tax liability of earnings for subsidiaries and joint ventures that have not yet been distributed;
  - Current-year tax effect of each type of temporary difference;
  - Combinations of income tax expense;
  - Reconciliation of income tax expense and tax expense calculated from statutory rate;
  - Tax loss carry forwards and credits.

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Reading 31

Long-Term Liabilities and Leases

Bond

- **Bond Terminology**
  - The **face value**, also known as the maturity value or par value, is the amount of principal that will be paid to the bondholder at maturity. The face value is used to calculate the coupon payments.
  - The **coupon rate** is the interest rate stated in the bond that is used to calculate the coupon payments.
  - The **coupon payments** are the periodic interest payments to the bondholders and are calculated by multiplying the face value by the coupon rate.
  - The **effective rate of interest** is the interest rate that equates the present value of the future cash flows of the bond and the issue price.
    - ✓ The coupon rate is typically fixed for the term of the bond.
    - ✓ The market rate of interest on a firm's bonds, however, will likely change over the bond's life, which changes the bond's market value as well.

Bond Terminology

- **Bond Terminology**
  - The **balance sheet liability** of a bond is equal to the present value of its remaining cash flows (coupon payments and face value), discounted at the market rate of interest at issuance.
    - ✓ At maturity, the liability will equal the face value of the bond.
  - The **interest expense** (also known as the book value or carrying value of the bond) reported in the income statement is calculated by multiplying the book value of the bond liability at the beginning of the period by the market rate of interest of the bond when it was issued.

Bond Terminology

- **Bond Terminology**
  - At the date of issuance, the market rate of interest may be equal to, less than, or greater than the coupon rate.
    - ✓ When the market rate is equal to the coupon rate, the bond is a **par bond (priced at face value).**
    - ✓ When the market rate is greater than the coupon rate, the bond is a **discount bond (priced below par).**
    - ✓ When the market rate is less than the coupon rate, the bond is a **premium bond (priced above par).**

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Bond Issued at Par

- **Bonds Issued at Par**
  - On the **balance sheet**, par value of bond (bond's proceeds) is recorded as both assets and liabilities. Bond liability recorded remains constant;
  - On the **income statement**, interest expense = coupon payment;
  - On the **cash flow statement**,
    - ✓ Face value received at issuance are recorded as CFF inflow;
    - ✓ Coupon payments are recorded as
      - ◆CFO outflows (U.S. GAAP);
      - ◆CFO or CFF outflows (IFRS).
    - ✓ Repayment of the face value is recorded reported as CFF outflow at maturity.

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Bonds Issued at a Discount or Premium

- **Bonds Issued at a Discount or Premium**
  - **Discounted Bond**
    - ✓ Coupon rate < market rate at issuance;
    - ✓ Discount = Face value - proceeds received (price at issuance);
    - ✓ The bond value less to holders due to lower coupon rate.
  - **Premium Bond**
    - ✓ Coupon rate > market rate at issuance;
    - ✓ Premium = Proceeds received (price at issuance)- Face value;
    - ✓ The bond value more to holders due to higher coupon rate.

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Bond and Cash flows

- **Bond**
  - Two types of cash flows
    - ✓ Periodic payment of Interest/ Coupon **CFO**
      - → **Cash outflow** from operating activities
    - ✓ Principal **CFF**
      - ◆ Amount received at issuance
        - → **Cash inflow** from financing activities
      - ◆ Principal repayment at maturity
        - → **Cash outflow** from financing activities

Analysis :
•Bond issue price (par, discount or premium)
→ Makes the difference on CFO & CFF

Example: zero coupon bond

- A zero coupon bond issued on 1 January 2001 with 4 years to maturity and a redemption price of \$100, the market interest rate at the time of issuance is 8%.

$\frac{\$100}{1.08^4}$

$\$73.5030 \times 8\%$

$\frac{\$100}{1.08^3} = \$73.5030 + \$5.8802$

	Beginning BV@1/1	Int. exp. 8%	Coupon payment	Ending BV @12/31
Year 2001	73.5030	5.8802	0	79.3832
Year 2002	79.3832	6.3507	0	85.7339
Year 2003	85.7339	6.8587	0	92.5926
Year 2004	92.5926	7.4074	0	100

Example: zero coupon bond

Cash inflow CFF

	Beginning BV@1/1	Int exp 8%	Coupon payment	Ending BV @12/31
Year 2001	73.5030	5.8802	0	79.3832
Year 2002	79.3832	6.3507	0	85.7339
Year 2003	85.7339	6.8587	0	92.5926
Year 2004	92.5926	7.4074	0	100

?

Cash outflow CFF

Example: zero coupon bond

	Beginning BV@1/1	Int exp 8%	Coupon payment	Ending BV @12/31
Year 2001	73.5030	5.8802	0	79.3832
Year 2002	79.3832	6.3507	0	85.7339
Year 2003	85.7339	6.8587	0	92.5926
Year 2004	92.5926	7.4074	0	100

Cash inflow CFF

CFO cash outflow

Cash outflow CFF

Example

- **On 31 Dec 2002, a company issued a three – year 10% annual coupon bond with a face value of $1000**
  - Market interest rate at issuance is 10%
  - Market interest rate at issuance is 8%
  - Market interest rate at issuance is 12%

What is the effect on B/S, I/S, CFS?

Example

- **Market interest rate at issuance is 10% = Coupon rate → Issue at par**

	Beginning BV 1st Jan	Interest expense 10%	Coupon	Ending BV 31st Dec
Year 2003	1000	100	(100)	1000
Year 2004	1000	100	(100)	1000
Year 2005	1000	100	(100)	1000

Example

- **B/S:** The bond liability remains at face value over the life of the bond
- **I/S:** Interest expense = Coupon payment = $100
- **CFS: CFO cash outflow**

  → $100 p.a. = Coupon payment

  CFF cash inflow

  → $1000 on 31st Dec 2002 = Issue price

  cash outflow

  →$ 1000 on 31st Dec 2005 = Redemption price

Example

➢ **Market interest rate at issuance is 8% < Coupon rate 10%→ Issue at premium**

	Beginning BV 1st Jan	Interest expense @ 8%	Coupon @ 10%	Ending BV 31st Dec
Year 2003	1051.54	84.12	(100)	1035.66
Year 2004	1035.66	82.85	(100)	1018.52
Year 2005	1018.52	81.48	(100)	1000

Example

✓ **B/S:** the bond liability will decrease towards the face value over the life of the bond

◆i.e. Amortize the premium in issuance to zero over the life of the bond

✓ **I/S:** Interest expense < Coupon payment

◆i.e. The amortization of premium will reduce the interest expense shown on I/S

$$\text{Int. expn}_t = \text{coupon-prem. amortization}_t$$

Example

- **CFS**: CFO **Cash outflow = Coupon payment** → $100 p.a.
  - ✓ For analysis purpose, the interest expense and the amortization of the premium should be separated
    - ◆e.g. Year 2003

Cash outflow	**Original CFO**		**CFO for F/A**		**CFF for F/A**
	100	=	84.12	+	15.88

  - ✓ Without adjustment
    - ◆CFO is **understated** and CFF is **overstated**

Example

- **CFS:** CFO Cash outflow
  = Coupon payment → $100 p.a.
  - ✓ **For analysis purpose**, the interest expense and the amortization of the discount should be separated
    - ◆Year 2003

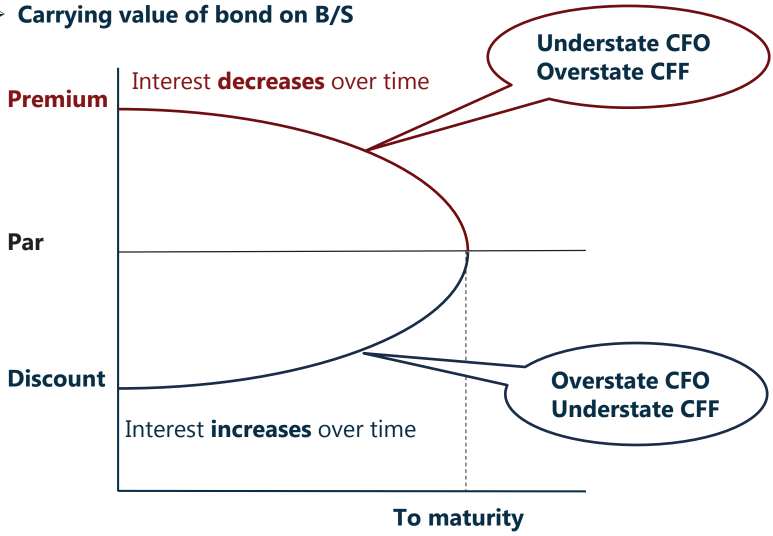
Cash outflow/ inflow	Original CFO		CFO for F/A		CFF for F/A
	100	=	114.24	-	14.24

Cash inflow

  - ✓ **Without adjustment**
    - ◆CFO is **overstated** and CFF is **understated**

Summary

➢ **Carrying value of bond on B/S**



Summary

- **Premium or discount bond**
  - **B/S** $\text{liability}_0 = \text{amount received}$

    $$\text{liability}_t = \sum \frac{\text{all pay}_t}{\text{MR}_{\text{issue}}}$$

    ✓ The amount of premium and discount is **amortized over the time**.
  - **I/S**

    ✓ Premium (CR> Market rate) → **Decrease over time**

    $$\text{Int. expn}_t = \text{coupon-prem. amortization}_t$$

    ✓ Discount (CR < Market rate) → **Increase over time**

    $$\text{Int. expn}_t = \text{coupon+disc. amortization}_t$$
  - **CFS : No change** for accounting /**Adjust** for F/A purpose

Bond

- Innovative Inventions, Inc. needs to raise $10 million and typically would issue coupon-bearing bonds at par value. If the company chooses to issue zero-coupon bonds instead, its debt-to-equity ratio will
  - A. rise as the maturity date approaches.
  - B. decline as the maturity date approaches.
  - C. remain constant throughout the life of the bond.

Bond

- **Correct Answer：A.**
  - Both bonds will add $10 million to debt and nothing to equity, and thus have the same effect on the debt/equity ratio at the time they are issued.
  - However, the value of the liability for zero-coupon bonds increases as the discount is amortized over time while the liability will not change for the par bonds.
  - Furthermore, the amortized interest will reduce earnings at an increasing rate over time as the value of the liability increases.
  - Higher relative debt and lower relative equity (through retained earnings) will cause the debt/equity ratio to increase as the zero-coupon bonds approach maturity, compared to the bonds issued at par.

Issuance costs*

- **Issuance Costs**
  - Fees related with issuance of bond (e.g., legal and accounting fees, printing costs, sales commissions).
    - ✓ Under **U.S. GAAP**
      - ◆Capitalized in deferred charge (asset);
      - ◆Amortised on a straight-line basis to the relevant expense (e.g., legal fees) over the life of the bonds.
    - ✓ Under **IFRS**
      - ◆Subtracted as an unamortized discount from measurement of the liability, bonds payable.
    - ✓ Under IFRS and US GAAP, cash outflows related to bond issuance costs are included in the financing section of the statement of cash flows (usually netted against bond proceeds).

Issuance costs*

- **Example: Company C issued a $1 million bond for $980,000 with an issuance cost of $5,000.**

U.S.GAAP	IFRS
Assets: Cash $975,000 Deferred charge $5,000	**Assets:** Cash $975,000
Liabilities: Bond $980,000	**Liabilities:** Bond $975,000

Fair value reporting option*

- **Fair Value Reporting Option**
  - The book value of a bond liability is determined by market yield at issuance.
  - The fair value of the bond is the economic liability at a point in time.
    - ✓ Bond's yield increases → decrease in the fair value of the bond liability'
    - ✓ Bond's yield decreases → increase in its fair value;
    - ✓ The differences between bond payable and fair value is due to changes in market yield.

Example: Fair value reporting option*

- Fairmont Golf issued fixed rate debt when interest rates were 6 percent. Rates have since risen to 7 percent. Using only the carrying amount based on historical cost reported on the balance sheet to analyze the company's financial position would most likely cause an analyst to:
  A. overestimate Fairmont's economic liabilities
  B. underestimate Fairmont's economic liabilities
  C. underestimate Fairmont's interest coverage ratio

- **Correct Answer: A.**
  - When interest rate rise, bonds decline in value. Thus the carrying amount of the bonds being carried on the balance sheet is higher than the market value. The company could repurchase the bonds for less than the carrying amount, so the economic liabilities are overestimated. Because the bonds are issued at a fixed rate, there is no effect on interest coverage.

Derecognition of Debt

- **A firm may choose to redeem bonds before maturity**
  - Possible reasons
    - ✓ Interest rates reduction
    - ✓ Firm has generated surplus cash through operation
    - ✓ Funds from the issuance on the equity market is available
  - A gain or loss is recognized in I/S

Example

- AAA Corp. used $1,020,000 excessive cash to repurchase their bonds priced at 102. The carrying value of the corresponding bond is $995,000 at the date of purchasing.

- **Correct Answer:**
  - Losses = $1,020,000 - $995,000 = $25,000 (I/S)

    Unamortized issuance costs must be written off and included G/L under GAAP. While no write off is required under IFRS, since issuance costs have already recorded in book value of bond.

Debt Covenant

- **Debt covenants**
  - Borrowing agreements (the bond indenture) often include restrictions called covenants that protect creditors by restricting activities of the borrower;
  - Reduce default risk and thus borrowing costs.
  - **Two types of restrictions**
    - ✓ Affirmative covenants: **commit to do so** from borrower.
      - ◆Timely payments of principal and interest;
      - ◆Target financial ratios (such as the current, debt-to-equity, and interest coverage ratios) unchanged;
      - ◆Use collateral in working order.
    - ✓ Negative covenants: **commit not to do so** from borrower.
      - ◆Not to pay higher dividends or repurchase more shares;
      - ◆Not to borrow more;
      - ◆Not to engage in mergers and acquisitions.

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Debt Covenant

- **Debt covenants**
  - Restrictions on the issuer that protect the bondholder's interests.
  - Reduce default risk and thus borrowing costs.
- **Examples**
  - Dividend payments;
  - Share repurchases;
  - Mergers & acquisition;

  } Usage of cash

  - Sale & leaseback;
  - Disposal of certain assets;
  - Issuance of new debt in the future.

  } Asset↓ liability↑

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Framework for Lease

- **Classification of leases under U.S. GAAP & IFRS***
- **Accounting for Lease**
  - Lessee
  - Lessor
- **Operating lease ***
- **Off-balance sheet financing**

Classical example of lease

- A four-year financial lease, with the annual payment of $1000, interest rate is 10%. How to report the financial lease when:
  a. The rental is paid in the beginning of the year.
  b. The rental is paid in the end of the year.

Classification of leases

- A **lease** is a contractual arrangement where by the **lessor**, the owner of the asset, allows the **lessee** to use the asset for a specified period of time (lease term) in return for periodic lease payment.
  - Two partied involved in leases
    - ✓ Lessee： Use the asset
    - ✓ Lessor： Owner of the asset
- **Two types of leases (Classification)**
  - Operating lease
  - Finance lease/Capital lease (U.S.)

Classification of leases

- **Classification of leases**
  - **Operating lease**
    - ✓ An operating lease is an agreement allowing the lessee to use some asset for a period of time, essentially a rental;
    - ✓ No asset or liability still reported in lessors financial statement;
    - ✓ Lease payments are recorded as rental expense (I/S).
  - **Finance lease/Capital lease (U.S.)**
    - ✓ A finance (capital) lease is equivalent to the purchase of some asset (lease to own) by the buyer (lessee) that is directly financed by the seller (lessor);
    - ✓ Lessee reports equal assets and liabilities (B/S);
    - ✓ Also, depreciation expense and interest expense should be reported.

Classification of leases

- **Classification of leases**
  - **Operating lease**
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    - ✓ Lessee reports equal assets and liabilities (B/S);
    - ✓ Also, depreciation expense and interest expense should be reported.

Example

- GF leases a machine for its own use for 4 years with annual payments of 1000 paid in arrears; The appropriate interest rate on the lease is 10%.
  - Calculate the impact of the lease on GF' balance sheet and income statement for each of the 4 years, including the immediate impact.
  - Assuming GF depreciates all assets on SL basis.

Example

- **Correct Answer:**
  - B/S is affected by Finance lease only
  - At the inception of the lease

    Leased asset = lease liability =3169.8654=3170

    N=4, I/Y=10, PMT=1000, FV=0, CPT PV -3168.8654=-3170
  - Over the lease term

    Leased asset → annual depreciation (SL) i.e. 3170 / 4years =792.5 p.a.

    Lease liability → separate Interest expense & Lease payment

Accounting for finance lease of lessee

T=0

B/S

Asset leased 3170	Lease obligation
	Current 683
	Long-term 2487

T=1

B/S		I/S
Asset leased 3170	Lease obligation	
	Current 683	
	Long-term 2487	
A.D. -792.50		Dep. Exp. -792.50
Cash -1000	Amortization -683	Interest Exp. -317

Interest Exp.=BV_0 × interest rate=3167 × 10%=317

Amortization=Payment-Interest Exp.=1000-317=683

Comparison between FL&OL

Capital lease			Operating lease
Depreciation expense	**Interest expense**	**Total expense**	**Lease expense**
792.50	**317**	**1109.5**	**1000**
792.50	**249**	**1041.5**	**1000**
792.50	**174**	**966.5**	**1000**
792.50	**91**	**883.5**	**1000**
3170	**830.00 =4000-3170**	**4000**	**4000**

Comparison between FL&OL

	Operating lease	**Finance lease**		
Year	**CFO**	**CFO**	**CFF**	**Total CF**
1	1,000	317	683	1,000
2	1,000	249	751	1,000
3	1,000	174	826	1,000
4	1,000	91	910	1,000
Total	**4,000**			**4,000**
	Rental **Stable p.a.**	Interest expense **Decreasing**	Lease payment - interest expense **Increasing**	Rental **Stable p.a.**

Effect on Financial statements

		Finance lease	Operating lease
B/S	Assets	Higher	Reverse
	Liabilities	Higher	
I/S	EBIT	Higher	
	Net income in early years	Lower	
	Net income in later years	Higher	
	Total net income	Same	Same
CFS	CFO	Higher	Reverse
	CFF	Lower	
	Total CF	Same	Same

Effect on ratios

	Finance lease	Operating lease
Current ratio (↑Current Liab)	Lower	Reverse
Working capital (↑Current Liab)	Lower	
Asset turnover (↑ Asset)	Lower	
ROA (in early years) (↓NI)	Lower	
ROE(in early years)	Lower	
Debt/asset (↑Liab)	Higher	
Debt/equity(↑ Liab)	Higher	

Classification of lease - Lessor

- **Two conditions to be satisfied**
  - The collectivity of lease payments is reasonably certain;
  - The lessor has substantially completed performance.

Lessee		Lessor
Operating lease	→	● Operating lease
Finance lease	Two additional conditions are not satisfied →	● Operating lease
	Two additional conditions are satisfied →	● Capital lease ✓ If manufacturer, sales-type lease; ✓ If for financing, direct-financing lease.

Classification of lease - Lessor

- **From the lessor's perspective**
  - **Under U.S. GAAP**, a **capital lease** is treated
    - ✓ **Sales-type lease**
      - ◆Present value of the lease payments >carrying value of the asset.
    - ✓ **Direct financing lease**
      - ◆Present value of the lease payments = carrying value.
  - **Under IFRS**
    - ✓ **No distinction** between a sales-type lease and a direct financing lease;
    - ✓ A sales-type lease **can** be used for finance leases originated by manufacturers or dealers;
    - ✓ Generally, present value of the lease payments > the carrying value of the asset.

Classification of lease - Lessor

- **Two conditions to be satisfied:**
  - The collectivity of lease payments is reasonably certain.
  - The lessor has substantially completed performance.

Example– Sales-type lease with salvage

- **GF leases a machine to an oil company for 4 years with annual lease payments of 1,000 in arrears. It cost GF $3,000 to produce the machine.**

At the end of the lease, the lessor regains possession of the asset, which will be sold for scrap value of $600. The collectability of the lease payments is predictable, and there are no significant uncertainties about GF' unreimbursable costs. The implicit rate on the lease is 10%.

PV of the lease payments	?
PV of salvage value	?
COGS	?
Profit for the sale	?
Lease receivable	?

Example– Sales-type lease with salvage

- **The PV of lease payment = 3,170 (previous example) = FV of leased asset**
- **The PV of salvage value =600/1.14=410**
- **The Cost of goods sold = 3,000 - 410 = 2,590**
- **The profit on the sales = 3,170 – 2,590 = 580**
- **Lease receivable = 3,170+410 = 3,580**

Both use 10% as discount rate

I/S
CFO ↑
CFI ↓

Asset on the B/S
i.e. lease receivable

Sales-type lease with salvage

Reduction of Lease Receivable=**1000-358**

Year	Beginning	Lease Payment Received	Interest income 10%	Reduction of Lease Receivable	Lease Receivable
1	3,580	1,000	358	642	2,938
2	2,938	1,000	294	706	2,232
3	2,232	1,000	223	777	1,455
4	1,455	1,000	146	854	600
Total		**4,000**	**1,020**		

PV of future lease payment and salvage value at the end of year 1
= 3,580-(1000-3580*10%)

Salvage value

Example: Sales-type lease with salvage

3,170 1,000 1,000 1,000 1,000

$\underbrace{\text{3,170 – 2,590}}_{\text{Gross profit}}$

Year 1 **Year 2** **Year 3** **Year 4**

+ 358 int income +294 int income +223 int income +146 int income

- For sales-type lease
  - Only the first year recognized a 580 gross profit
  - The following years only have interest income
  - So, total income is 1,600, which consists of 580 gross profit and 1,020 interest income, but if we exclude salvage value 600…

Direct financing lease

- **Direct financing lease**
  - Present value of lease payments (and thus the amount recorded as a lease receivable) = carrying amount of the leased asset;
  - No "profit" recorded.
- **At the inception of the lease (Lessor)**
  - Removes the asset from B/S;
  - Lease receivable = PV of lease payments. Principal portion of received payments (PPMT) reduce lease receivable.
- **In the income statement**
  - Interest income (IPMT) = lease receivable (beginning value) * interest rate.
- **In the cash flow statement**
  - IPMT: inflows of CFO;
  - PPMT: inflows of CFI.

Example：Direct financing lease

- Follow the previous example, however, the GF leases a machine to an oil company for 4 years with annual lease payments of $1,000 in arrears. The salvage value is zero. It cost GF $3,170 to purchase the machine.
- At the end of the lease, the lessor regains possession of the asset .The collectability of the lease payments is predictable, and there are no significant uncertainties about GF' unreimbursable costs. The implicit rate on the lease is 10%.

PV of the lease payments	?
PV of salvage value	?
COGS	?
Profit for the sale	?
Lease receivable	?

Direct financing lease

Reduction of Lease Rec'=**1000-317**

Year	Beginning	Lease Payment Received	Interest Income 10%	Reduction of Lease Receivable	Lease Receivable
1	3,170	1,000	317	683	2,487
2	2,487	1,000	249	751	1,736
3	1,736	1,000	173	827	909
4	909	1,000	91	909	0
Total		**4,000**	**830**		

PV of future lease payment and salvage value at the end of year 1

= 3,170-(1000-3,170*10%)

Salvage value

Accounting for lease - Lessor

	Sales-type Lease	**Financing Lease**
At inception-I/S	• **Sales =** PV of MLP (lease receivable) • Discount rate = The interest rate implicit in the lease • **COGS =** Cost of assets – PV of salvage • **Profit =** Sales – COGS	No profit is recognized.
At inception-B/S	Lease receivable = PV of MLP + PV of salvage value	Lease receivable = cost of assets
Periodic - I/S	**Interest revenue** = r * Lease receivable at the beginning of the period	
At inception-Cash Flow	**No effect**	
Periodic - Cash Flow	**CFO – inflow** **CFI – inflow**	

Operating Lease

- **Operating lease**
  - Lease payment: Rental income paid by lessee;
  - Lessor reports leased assets on B/S and depreciation expense on (I/S).
- **Total income** (operating lease)= income from direct financing lease.
  - However, **early years** of the lease, income (direct financing lease) > income (operating lease).
- **Total cash flow** (operating lease) = TCF (direct financing lease).
  - However, CFO: operating > financing.

Direct financing lease vs. operating Lease

- **Example: If the lease is treated as an operating lease.**

Direct financing lease		**Operating lease**		
Year	**Interest Income**	**Rental Income**	**Depreciation Expense**	**Rental Income Net of Depreciation Expense**
1	317	1,000	792.5	207.5
2	249	1,000	792.5	207.5
3	173	1,000	792.5	207.5
4	91	1,000	792.5	207.5
	$830			**$830**

Direct financing lease vs. operating Lease

	Direct Financing Lease		Operating Lease
Year	**CFO**	**CFI**	**CFO**
1	$317	$683	$1,000
2	$249	$751	$1,000
3	$173	$827	$1,000
4	$91	$909	$1,000

- Total cash flow is the same for an operating lease and a direct financing lease. However, cash flow from operations is higher with the operating lease. With a direct financing lease, the lease payment is separated into the interest portion (CFO) and principal portion (CFI).

Off-balance sheet financing

- Following is information for ABC Corp. in 20X1:

  Total assets $40 million
  Total debt $20 million
  Capital lease liability $3 million

	Capital Lease Payments	Operating Lease Payments
20X2	$2 million	$1.5 million
20X3	$2 million	$1.5 million
20X4	$2 million	$1.5 million
20X5	$2 million	$1.5 million
20X6	$2 million	$1.5 million
Beyond 20X6	$8 million	$4 million

- Present value of capital leases: $7.184 million
- Estimate the present value of ABC's operating leases?

Off-balance sheet financing

- **Method 1: Assume operating leases have the same ratio of PV to payments as the firm's capital leases.**
  - A total of $18 million in capital lease payments and $11.5 million in operating lease payments are due in the future;
  - The ratio of the PV of ABC capital leases to its total future lease payments is $7.184 million / $18 million = 0.399;
  - Using this ratio, we can estimate the PV of their operating leases as 0.399 x $11.5 million = $4.589 million.

Off-balance sheet financing

- **Method 2: Estimate discount rate for capital leases and apply it to operating leases.**
  - To calculate a single discount rate that would produce the reported PV of capital leases, we must make an assumption about the timing of capital lease payments beyond 20X6. The annual payments, together with the reported PV, can be used to estimate a discount rate to use when calculating the PV of the operating lease payments;
  - Some alternatives are as follows: all paid at the end of Year 6, or payments at the average of the prior five years until the obligation for future payments beyond 20X6 is met, spread evenly over some specific number of years.

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Off-balance sheet financing

- **Method 2: Estimate discount rate for capital leases and apply it to operating leases.**
  - All paid at the end of Year 6 ($8 million in Year 6)
    - ✓ CF 0= -7.184; C01 = 2;F01 = 5; C02 = 8, F02=1; CPT IRR = 26.43%.
  - Payments at the average of the prior five years($2 million in Years 6 to 9):
    - ✓ **CF0-= -7.184; C01 = 2; F01 = 9; CPT IRR =23.75%.**
  - Spread evenly over five years ($1.6 million in Years 6 to 10):
    - ✓ CF0 = -7.184; C01 = 2; F01 = 5; C02 = 1.6; F02 = 5; CPT IRR = 23.08%.

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Off-balance sheet financing

- Note that the further in the future we assume the payments are made, the lower their discount rate given the PV.
- If we choose to assume that capital lease payments beyond 20X6 are spread evenly over five years ($1.6 million per year), we will use the discount rate 23.08%.
- Making the same assumption about lease payments beyond 20X6 for the operating leases ($800,000 per year for five years), we can calculate the PV of these payments, and, thus, the operating lease liability:
  - I/Y = 23; CF0 = 0; C01 = 1,500; F01 = 5; C02 = 800; F02 = 5; CPT NPV = 5,001.85
- This amount, $5.0 million, should be added to the firm's liabilities and assets (equity need not be adjusted) to better reflect the use of off-balance-sheet financing and to calculate solvency ratios such as debt-to-equity and debt-to-assets.

Framework for Pension plans*

- A **pension** is a form of deferred compensation earned over time through employee service. The most common pension arrangements are defined contribution plans and defined benefit plans.
  - **Defined contribution plan**
    - ✓ A defined contribution plan is a retirement plan in which the firm contributes a sum each period to the employee's retirement account.
    - ✓ The firm's contribution can be based on any number of factors, including years of service, the employee's age, compensation, profitability, or even a percentage of the employee's contribution.
  - **Defined benefit plan**
    - ✓ In a defined benefit plan, the firm promises to make periodic payments to employees after retirement.
    - ✓ The benefit is usually based on the employee's years of service and the employee's compensation at, or near, retirement.

Solvency Ratios

- **A firm's ability to pay long – term debt**
- **Leverage**

Debt-to-equity ratio = D / E
Debt-to-capital= D/(D+ E)
Debt-to-assets = D / A
Financial leverage = A / E

- **Coverage**

Interest coverage = EBIT / Interest
Fixed charge coverage
= (EBIT + lease payments) / (Interest + lease payments)

Pension plans*

Defined contribution plans	Defined benefit plan
All risk born by employees	All risk born by employers

Employer → **Pension Plan/Fund** → **Employee**

Employer paid the **contribution** during the employee service period

Employees receive **benefit** after retirement

Defined benefit plan*

- Pehben corporation has a defined benefit pension plan. At 31 December, its pension obligation is $10 million, pension assets are $9 million and actuarial loss of $0.4 million. If Penben chooses to report under a method consistent with both IFRS and U.S. GAAP, the reporting on the balance sheet would be closest to which of the following?
  A. $10 million is shown as a liability and $9 million appears as an asset
  B. $1 million is shown as a net pension obligation.
  C. $0.6 million is shown as a net pension obligation

- **Correct Answer: B.**
  - Under both IFRS and U.S. GAAP, a company can choose to report net pension obligation or asset.

Reading 32

Financial Reporting Quality

The quality of financial reports

- **The quality of financial reports**
  - Financial reporting quality
  - Earnings (results) quality

	Financial Reporting Quality Low	Financial Reporting Quality High
Earnings Quality High (Results)	LOW financial reporting quality impedes assessment of earnings quality and impedes valuation.	HIGH financial reporting quality enables assessment. HIGH earnings quality increases company value.
Earnings Quality Low (Results)		HIGH financial reporting quality enables assessment. LOW earnings quality decreases company value.

The quality of financial reports

➢ **Two basic points provide a basic conceptual framework to assess the quality of a company's financial reports and to locate the company's financial reports along the quality spectrum.**

- The financial reports are GAAP-compliant and decision-useful;
- The results (earnings) are high quality (adequate level of return).

Quality Spectrum of Financial Reports	Quality
GAAP, decision-useful, sustainable, and adequate returns	HIGH
GAAP, decision-useful, not sustainable, Low "earnings quality"	↓
Within GAAP, but biased choices	↓
Within GAAP, but "earnings management" (Real EM, Accounting EM)	↓
Non-compliant Accounting	↓
Fictitious transactions	LOW

The quality of financial reports

➢ **GAAP** refers generically to the generally accepted accounting principles or the accepted accounting standards of the jurisdiction under which the company reports (IFRS,US GAAP);

➢ Decision-useful information embodies the characteristics of relevance and faithful representation;

➢ High-quality earnings provide an adequate level of return on investment (i.e., a return equal to or in excess of the cost of capital) and are sustainable;

➢ Biased accounting choices result in financial reports that do not faithfully represent economic phenomena. Choices are deemed to be "aggressive" if they increase the company's reported performance and financial position in the current period.

The quality of financial reports

➢ **The spectrum for assessing financial reporting quality**

- The reports conform to GAAP, includes decision-useful information; earnings generated is sustainable and adequate earnings;
- The reports conform to GAAP, includes decision-useful information; but earnings generated is not sustainable or not adequate;
- The reports conform to GAAP, but the firm has biased accounting choices;
- The reports conform to GAAP, but earnings management exists.
  - ✓ Earnings management aims to understate earnings volatility.
- The reports do not conform to GAAP, even the reports are presented based on their actual activities;
- The reports do not conform to GAAP and fictitious or fraudulent exist in the reports.

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Aggressive and conservative accounting

- **Conservative accounting**: it would delay reporting profits until the following period (so-called "hidden reserves");
- **Aggressive accounting**: it would increase the company's reported performance and financial position in the current period.

	Aggressive	Conservative
Current period cost	Capitalizing	Expensing
Useful life for depreciable assets	Longer time	Shorter time
Salvage values	Higher	Lower
Depreciation method	Straight line	Accelerated
Recognition of impairments	Delay recognition	Early recognition
Accrual of reserves for bad debt	Less	More
Valuation allowances for DTA	Smaller	Larger

专业・领先・增值

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Motivation for manipulation

- **Firms are motivated to manage**
  - Earnings / Net income

Overstate NI	Understate NI
• Meet earnings expectation; • Remain in compliance with debt covenants; • Receive higher incentive compensation.	• Obtain trade relief; • Negotiate favorable repayment term from creditors; • Negotiate favorable labor union contracts.

- **Firms are motivated to manage**
  - Balance sheet
    - ✓ Overstating Assets or understating Liabilities to appear more solvent.
      - ◆E.G. Lower D/E ratio
    - ✓ Understating Assets or overstating Liabilities to enhance its performance ratios.
      - ◆E.G. Higher ROA, ROE, Asset turnover ratio

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Conditions for issuing low quality reports

- **Three conditions for issuing low quality reports**
  - Opportunity;
  - Motivation;
  - Rationalization.
- **Motivation for manipulation**
  - To meet or beat market expectations as reflected in analysts' forecasts and/or management's own forecasts;
  - Increase management compensation that is linked to increases in stock price or to reported earnings;
  - Career concerns and incentive compensation may motivate accounting choices;
  - Avoiding debt covenant violations can motivate managers to inflate earnings.

专业・领先・增值

Conditions for issuing low quality reports.

- **Opportunity**
  - Opportunity can be the result of internal conditions or external conditions.
  - Internal conditions can be
    - ✓ Poor internal controls;
    - ✓ Ineffective board of directors.
  - External conditions can be
    - ✓ Accounting standards that provide scope for divergent choices;
    - ✓ Minimal consequences for an inappropriate choice.
- **Rationalization**
  - Rationalization is important because if an individual is concerned about a choice, he or she needs to be able to justify it to him- or herself.

Mechanisms for financial reporting quality

- **Regulatory regime that most directly affect financial reporting quality**
  - **Registration requirements.** Market regulators require publicly traded companies to register securities before offering the securities for sale;
  - **Disclosure requirements.** Market regulators require publicly traded companies to make public periodic reports;
  - **Auditing requirements.** Market regulators require companies' financial statements to be accompanied by an audit opinion attesting that the financial statements conform to the relevant set of accounting standards;
  - **Management commentaries.** Regulations require publicly traded companies' financial reports to include statements by management;
  - **Responsibility statements.** Regulations require a statement from the person or persons responsible for the company's filings;
  - **Regulatory review of filings.** Regulators undertake a review process to ensure that the rules have been followed;
  - **Enforcement mechanisms.** Regulators are granted various powers to enforce the securities market rules.

The effects of different accounting methods

- **Revenue recognition**
  - Timing of revenue recognition
    - ✓ Free-on-board(FOB); at the shipping or at the destination;
    - ✓ A simple change in shipping terms can make a difference in revenue recognition.
  - Channel stuffing: the practice of overloading a distribution channel with more product than it is normally capable of selling.
  - Bill-and hold transaction: a customer purchases goods but requests that the goods remain with the seller until a later date.
- **Estimates of credit losses**
  - Significant additions for estimation of allowance for the loan loss;
  - The collection experience a difference from historical provisions;
  - Additional change for warranty reserves.
- **Valuation allowance**
  - Deferred tax asset;
  - Bad debt.

The effects of different accounting methods

- **Depreciation methods and estimates**
  - Straight-line depreciation vs. accelerated method;
  - Estimates of the useful life;
  - Salvage value.
- **Amortization and Impairment**
  - Amortization method selected for intangible assets & Impairment for goodwill.
- **Inventory method**
  - FIFO vs. weighted-average method.
- **Related party transactions**
  - Shift profit between the parent and subsidiary.
- **Capitalization**
  - Capitalized expense;
  - Cash flow classifications.
- **Other cash flow effects**
  - Increase CFO through stretching payables;
  - increase CFO and decrease CFO by capitalizing interest expenses;
  - Different classification under IFRS and US GAAP.

Other warning signs

- **Depreciation methods and useful lives**
  - Depreciation methods and the useful lives selected can greatly influence profitability.
- **Fourth-quarter surprises**
  - The company may be over- or under-reporting profits in the first three quarters of the year.
- **Presence of related-party transactions**
  - Related-party transactions often arise when a company's founders are still very active in managing the company.
- **Non-operating income or one-time sales included in revenue**
  - A company might classify non-operating income items into revenues or fail to clarify the nature of revenues.
- **Classification of expenses as "non-recurring"**
  - To make operating performance look more attractive, managers might carve out "special items" in the income statement.
- **Gross/operating margins out of line with competitors or industry**
  - This disparity is an ambivalent warning sign. It might signal superior management ability.

Reading 33

Financial Statement Analysis: Applications

Evaluating past financial performance

- **Reasons for analysts to examine company's past financial performance**
  - Cross-sectional analysis of financial performance facilitates understanding of the comparability of companies for a market-based valuation;
  - Analysis of a company's historical performance over time can provide a basis for a forward-looking analysis of the company;
  - Both cross-sectional and trend analysis can provide information for evaluating the quality and performance of a company's management.
- **Useful data should include**
  - Industry information;
  - Consumer information;
  - Information that is gathered by the analyst first hand.
- **Processing the data typically involves**
  - Creating common-size financial statements;
  - Calculating financial ratios;
  - Reviewing or calculating industry- specific metrics.

Projecting future financial performance

- **Usefulness for projection of future financial performance**
  - Determining the value of a company or its equity component;
  - Credit analysis—particularly in project finance or acquisition finance;
  - As an input to market-based valuation or relative valuation.
- **Sources of data for analysts' projections include**
  - The company's projections;
  - The company's previous financial statements;
  - Industry structure and outlook;
  - Macroeconomic forecasts.

F/S analysis in assessing credit quality

- **Ratio analysis for evaluation of past financial performance Forecasting**
  - A company's future income and cash flow can be projected by forecasting future sales

GDP growth → Industry sales growth → Firm's sales growth → Earning growth

- Credit analysis uses a firm's financial statement to asset its credit quality
  - Character;
  - Covenant;
  - Collateral;
  - Capacity to pay.
- **The application to an industry group of four groups of quantitative factors in credit analysis**
  - Scale and diversification;
  - Tolerance for leverage;
  - Operational efficiency;
  - Margin stability.

Adjustments for comparison

- **Aspects that appropriate for adjustments**
  - Importance (materiality): adjustments are material if the change would likely to affect the decision making;
  - Body of standards: the difference of standards used (IFRS or US GAAP) would likely to affect the decision making;
  - Methods: different accounting method used would likely to affect the decision making;
  - Estimates: different accounting estimations would likely to affect the decision making.

Adjustments to facilitate comparison

- **Investments in securities;**
- **Inventory accounting differences;**
- **Differences in depreciation methods and estimates;**
- **Off-balance-sheet financing;**
- **Goodwill.**

Adjustments to facilitate comparison

- **Investments in Securities.**
  - Different classification on investment securities
    - ✓ When securities are classified as "financial assets measured at FV through P/L" (similar to "trading" securities in US GAAP), unrealized G/L are reported in the income statement;
    - ✓ When securities are classified as "financial assets measured at FV through other comprehensive income" (similar to "available-for-sale" in US GAAP), unrealized G/L are recognized in equity.

Adjustments to facilitate comparison

- **Inventory Accounting Differences**
  - If a company not reporting under IFRS uses LIFO and another uses FIFO, comparability of the financial results of the two companies will suffer. Companies that use the LIFO method, must also, however, disclose the value of their inventory under the FIFO method.
- **Differences in Depreciation Methods and Estimates**
  - Depreciation expense affects the values of reported net income and reported net fixed assets;
  - Analysts often consider management's choices related to depreciation as a qualitative factor in evaluating the quality of a company's financial reporting;
  - In some cases, analysts may adjust reported depreciation expense for a specific analytical purpose.

Adjustments to facilitate comparison

- **Off-Balance-Sheet Financing**
  - Off balance sheet financing are obligations which are not required to be reported on a company's balance sheet, even though they are economically liabilities of a company;
  - Including off-balance-sheet obligations in a company's liabilities can affect ratios and conclusions based on such ratios.
- **Goodwill**
  - Goodwill arises when one company purchases another for a price that exceeds the fair value of the net identifiable assets acquired;
  - Adjustments are needed on goodwill in order to improve the comparability between two firms.

It's not the end but just beginning.

By training your thoughts to concentrate on the bright side of things, you are more likely to have the incentive to follow through on your goals. You are less likely to be held back by negative ideas that might limit your performance.

试着训练自己的思想朝好的一面看，这样你就会汲取实现目标的动力，而不会因为消极沉沦停滞不前。