

# Reading 21: Financial Statement Analysis

## An introduction

21.1

- Financial Reporting - Provide financial info abt company
- Financial Statement Analysis

↳ Analyst sits & analysis the financial statements to evaluate company's past performance & current financial position.

- \* - Statement of financial position (Balance Sheet)

↳ Reports firms financial position (financial cond<sup>n</sup>)

↳ Consists of Assets: Resources controlled by the firm

Liabilities: Amts. owed to lenders etc.

Net Worth/ Owners Equity:  $\text{Assets} - \text{Liabilities}$

- Statement of comprehensive income

↳ non-owner changes to equity + traditional income

↳ non-owner changes income can come from different sources that are mentioned in the footnotes

- \* - Income Statement (Statement of Operat<sup>n</sup> / P&L Statement)

↳ Reports financial performance of the firm

↳ Includes revenues, expenses, gains & loss

- The income statement can be combined with comprehensive income & presented as a single statement of income. Alternatively, they can be presented separately.

- Statement of changes in equity.

\* - Statement of cash flows

↳ How well company generates cash to pay its debt obligations & fund its operating expenses.

↳ Complements balance sheet & income statement

↳ Allows investors to understand how company's operations are running, where its money is coming from, how money is spent.

↳ They are classified as:

**Operating Cash Flows:** how much cash effects of transact<sup>n</sup> that involve the normal business of the firm.

**Investing Cash Flows:** resulting from acquisition or sale of property plant, equipment etc (cash-out)

**Financing Cash Flows:** resulting from issuance or retirement of firms debt & equity (cash-in) & dividend paid to stock holders (cash-out)

- Balance Sheet → info at a specific point in time

Income Statement → info over a period of time

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- Financial statement notes (foot notes)

↳ details abt informat<sup>n</sup> summarized in financial statements.

- Managements commentary

↳ Most useful sections.

↳ Mngmt discusses variety of issues like nature of business, objectives, past performance, performance measure used.

↳ Some parts may be unaudited.

- Audit

↳ Independent review of an entity's financial statements

↳ Objective: Enable auditor to provide an opinion on the fairness & reliability of financial statements.

↳ The auditor examines the company's accounting & internal control systems; confirms assets & liabilities, generally tries to determine that there are no material errors in financial statements.

Unqualified opinion: Statements free from errors

If statements make any except<sup>n</sup> to accounting principles, the auditor may issue qualified opinion. & explain these except<sup>n</sup> in the audit report.

- **Adverse Opinion**: Statements not presented fairly or are materially non-conforming.
- **Disclaimer of opinion**: Unable to express opinion
- **Going concern assumption**, Auditors opinion will  
**Value of asset values**, : contain explanatory para  
**litigation** when material loss is probable but the amt cannot be estimated.

**SERIOUS PROBLEM.**

### Internal controls

↳ Process by which company ensures that it presents accurate financial statements

↳ Responsibility of mngt

↳ Auditors must express opinion on this either separately or combined.

- Sources analyst use for fin. st analysis other than annual financial reports

- **Quarterly / Semi-annual reports** (Not necessarily audited)
- **SEC Filings from EDGAR**

- ↳ **Form 8-K** - Company must file to report acq, disp. of major assets, changes in mng., corporate governance

- ↳ **Form 10-K** - Annual st.

- ↳ **Form 10-Q** - Quarterly st.

- ↳ **Proxy statements**

- ↳ **Corporate report / press releases**

## Steps in financial statement analysis framework

### State objective & context

Questions analysis seeks to answer

Form in which info needs to be presented

Resources & how much time is available for analysis

### Gather data

Acquire fin. st. abt company, economy.

Questions of company's mng, suppliers, customers

### Process the data

Make adj. to fin. st

Calculate ratios

Prepare graphs

### Analyse & interpret data

Use data to answer questions in 1<sup>st</sup> step

Conclusion & <sup>decide</sup> recommendat<sup>n</sup> info. supports.

### Report conclusion & recom.

Prepare report

### Update the analysis

Repeat & update concl./recom

## Proxy Statements

Issued to shareholders for their vote

Info. abt election of board memb., compensat<sup>n</sup>,

mngt. qualificat<sup>n</sup> & issuance of stock options

- Composite report / Press releases
  - ↳ Written by management
  - ↳ Not all reviewed by auditors

## Key Concepts :-

- Role of financial reporting: Info about company's performance & financial position
- Role of financial statement analysis: Use data from statements to support decisions
- Footnotes consists of information such as:
  - ↳ Accounting methods
  - ↳ Estimates
  - ↳ Assumptions
  - ↳ Segment results
  - ↳ Commitments & contingencies
  - ↳ Legal proceedings
  - ↳ Acquisitions
  - ↳ Issuance of stock options
  - ↳ Employee benefit plan.
- Management's commentary consists of
  - ↳ Overview of company
  - ↳ Imp. info about business trend
  - ↳ Future capital needs

## Reading 22: Financial Reporting Standards

- Because of variety of & complexity of possible transactions, estimates & assumptions, financial statements can be of any form if reporting standards did not exist.

- Fin. Report. standards are required to provide **Consistency** by narrowing the range of possible responses. It also ensures that transactions reported by the firm are

• Recognize  
in fin stat  
only if you  
can measure  
it w/ reliability

Similar

- However stds. must remain flexible

Financial reporting is not designed solely for valuation purposes. However it does provide imp. inputs for valuation purposes

Pub sector,  
Self regulated

- **Standard-setting bodies** consists of accountants & auditors that establish standards. (Cannot enforce)

Can overrule

- **Regulatory authorities** are government agencies that have legal authority to force fin. rep. std.

pub sector  
std. setting  
bodies

- Two primary std. setting bodies

↳ Country specific  
eg. SEC

↳ Intl. acc. std. board (IASB)

↳ Financ. acc. std. board (FASB)

- Inside USA, FASB sets forth GAAP (Generally Accepted Acc. Stds)

- Outside USA, IASB establishes (IFRS) Intl. financ. report stds

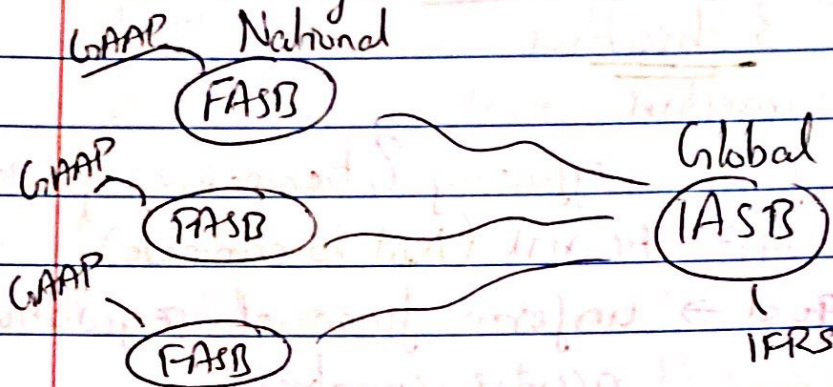
## Std setting

FASB IASB  
↓ ↓  
GAAP IFRS

## Reg. Authority

IOSCO  
↓  
SEC, FCA etc

There are other national bodies as well & many are working toward convergence with IFRS



Not so imp

Desirable attr. of standard setters

- High Professional stds.
- Adequate resources, authority, competences to accomplish its mission
- Clear & consistent std-setting process.
- Guided by well-articulated framework
- Operate independently while seeking i/p from stakeholders
- Not ~~compromised~~ compromised by public int
- Decision made in public int spirit

Regulatory authorities are established by national government

SEC (Securities & Exchange Commission) in USA

FCA (Fin. Conduct Authority)

SEC Filings are most imp. <sup>source</sup> for analysis of publicly traded companies



- Most national authorities belong to IOSCO  
(Intl. Org. of Securities Commissions)
- IOSCO has 3 objectives
    - ↳ Protect investors
    - ↳ Ensure fairness, efficiency & transparency of mkt
    - ↳ Reduce systematic risk (Not to eliminate)
  - IOSCO → goal → uniform financial regulations across countries

## - SEC Filings

### • Form S-1

- ↳ Reg. filed before sale of securities to public
- ↳ Includes audited fin. statements, risk assessment, underwriter identification, estimated costs & use of offering proceeds

### • Form 10-K

- ↳ Annual filing
- ↳ Info. abt business, management, fin. statements, disclosures abt legal matters
- ↳ Similar to annual report
- ↳ Equivalent to form 40-F for Canadian & 20-F for other foreign issuers

### • Form 10-Q

- ↳ Quarterly filing
- \* ↳ Need not be audited
- ↳ Non-US comp. file 6-K semi-annually

## • Form DEF-14A

↳ This form is filed with SEC w/ also when the company releases proxy statements for to shareholder.

## • Form 8K

↳ File this form to disclose significant acquisitions, change in mgmt, matters related to accountants, fin. state or MKts in which sec trade

## • Form 144

↳ If comp. wants to issue securities to a buyer without registering with SEC.

## • Form 3, 4, 5

↳ Involves beneficial ownership of securities by comp. directors.

↳ Analyst can learn abt purchases & sale of securities by corp. insiders

## - Barriers for universal convergence

↳ disagreements among stand. setting bodies & reg. author

↳ Political pressure from business grp to reg. author

Reporting Elements  
Qualitative char  
Objective

22.2

~~\*\*\*~~

## IFRS Frameworks

- IASB → qualitative character. of fin. st.  
↳ constraints & assumption

### Qualitative characteristics

↳ 2 fundamental charact. that make fin. info useful

#### ↳ Relevance:

↳ should have predictive value,

↳ confirm prior expectat<sup>n</sup> or both

↳ Materiality

↳ Fin. st. are relevant if they info in them can influence users decision

#### ↳ Faithful representation

↳ Complete

↳ Neutral

↳ free from error

↳ 4 charact. that enhance reliability & faithful

↳ Comparability (Shd be consistent)

↳ Verifiability (Ind. observers → similar results)

↳ Timeliness

↳ Understandability

### Required Reporting Elements

↳ **Assets**: result of past transact<sup>n</sup> that are expected to provide future economic benefits

CUT-  
FRV

A

↳ Liabilities: Result of past events that are expected to rep. outflow.

↳ Equity: Owner's residual int. in assets after deducting liabilities

↳ Income: ↑ in eco benefits by ↑ assets or ↓ liabilities  
Includes revenues & gains

↳ Expenses: ↓ eco benefits by ↓ assets or ↑ liabilities  
Includes losses.

- The amts. at which items are reported in financial statements is called measurement base

- Measurement base includes:

↳ Historical cost (Original amt. paid for the asset)

↳ Amortized cost (Historical cost adjusted for deprec. etc)

↳ Current cost (Amt. firm would have to pay today for same asset)

↳ Net realizable cost (Est. selling price of asset - selling cost)

↳ Present value (Discounted value of asset's expected future (CF))

↳ Fair value (Price at which asset can be sold)

- Constraints

↳ Cost benefit tradeoff of enhancing character

↳ Benefit to user > Cost of presenting it

↳ Non-quantifiable info cannot be captured in fin. stat.

- Assumption.

↳ Accrual accounting

↳ Fin stat shld reflect trans at the time they occur,

↳ Going concern

↳ Company will be there till foreseeable future

## General Requirements

According to IFRS IFRS (IAS)

- Required documents

↳ Bal. Sheet

↳ Stat of comp. income

↳ Stat of owners equity

↳ Stat of cash flow

↳ Footnotes

Statement of changes  
in income not required

- Features for preparing fin. stat

↳ Fair presentation

↳ Going concern basis

↳ Accrual basis (Used to prep fin stat other than cash flow)

↳ Consistency between periods

↳ Materiality

\* ↳ Aggregation of similar & dissimilar items

\* ↳ No offsetting unless specific stat permits

↳ Reporting freq atleast annually

↳ Comparative inf.

## - Structure & content

↳ Classified bal. sheet

↳ Minimum informat<sup>n</sup>

↳ Comp. info.

## Not imp - Difference between US GAAP & IFRS

↳ IASB framework lists income & expenses.

IASB - " - ~~income~~ comprehensive inc., revenue, gains, loss, expenses

↳ Definition of Asset

Acc IASB: - resource from which future eco benefit is expected

Acc FASB: future eco benefit.

↳ IASB uses probable in context of revenue & exp

FASB uses probable - " - assets & liabilities

\* ↳ FASB does not allow upward valuation

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## Effective Financial Reporting Framework

- Coherent financial reporting framework should be

Necessary

- ↳ Transparency: Fair Presentation
- ↳ Comph Comprehensive
- ↳ Consistency

- Barriers to creating one

- ↳ Valuation: Measurement bases for valuation that req. little judgment such as historical cost, may be less relevant than basis like fair value that req. more judgment

- ↳ Stand. Setting:

IFRS ← Principles-based approach: Broad Framework

US GAAP ← Rules-based: Specific guidance abt how to classify <sup>transac.</sup>

Objective-oriented: Blend of both

- ↳ Measurement:

- ↳ Asset & Liability approach → more emphasis on Balance Sheet

- ↳ Revenue / Expense app → more emp. on Inc Statement

- Analyst can use fin. rep. framework for evaluating ~~how~~ what effects new prod & trans

might have on fin. statements.

- Analyze disclosure <sup>require</sup> for a <sup>public</sup> company
  - ↳ To evaluate what policies were discussed, whether they cover relevant data
  - ↳ Which policies rep. might to make <sup>estimates</sup> ~~decisions~~
  - ↳ whether the disclosure / policy has change over time
- ↳ Impact of implementing new std.
  - ↳ & conclude it does not apply or
  - ↳ Not effect statements. materially or
  - ↳ Still evaluating the effects of new std.

Kaplan

- Interim reports are issued semi-annually or quarterly
  - ↳ They present 4 basic fin stats & notes & do not include full set of fin. stats & notes

• Sarbanes-Oxley Act: Have adequacy over internal sys

- General principles while preparing IFRS fin stats
  - ↳ Materiality
  - ↳ Accrual Basis



## Reading 23: Understanding Inc. Statement

- Reports exp. & rev.
- Also called stat. of ops, stat. of earnings, profit & loss statement

$$\text{net income} = \text{revenue} - \text{expenses}$$

- Investors examine inc. stat for valuation purposes
- Lenders - " - info. abt firm's ability to make principle promised interest & principal payments

### Components of income statement

↳ Revenue: Amt. sale of goods & serv. by firm from company

↳ Net Revenue: Rev. less adjustments to estimated

↳ Expenses

↳ Amt. incurred to generate rev

↳ Cost of goods sold

↳ Operating cost

↳ interest  
↳ Taxes

Can be grouped either by  
func<sup>n</sup> or nature

\* Grouping expenses by func<sup>n</sup> is sometimes referred to as cost of sales method

By nature of

↳ Gains & losses

↳ Which result in ↑ (gain) or ↓ (loss) in eq. benif<sup>t</sup>

↳ May or may not result from business activities

By func<sup>n</sup> eg.  
↳ Grouping  
COGS, depr.  
Salaries

↳ Grouping  
depr. on manf. ep.  
↳ depr. on admin

$$\text{Net income} = \text{Income} - \text{Expenses}$$

$$(\text{revenue} + \text{gain}) - (\text{loss})$$

$$= \text{revenues} - \text{ordinary exp} + \text{other rev} - \text{other exp} + \text{gains} - \text{losses}$$

NEI from book

- Gross profit: Amt that remains after direct costs of (used calculated in producing a product are subtracted from revenue multistep model).

↳ Revenue - Expenses.

- Operating profit (EBIT): For non-financial firm, op. profit is profit before financing cost, inc. tax & non-operating items.

↳ Gross profit - operating cost (selling, general, admin expenses)

- Net income: Operating profit - (Interest + Inc. tax).

• Interest exp. is usually considered operating exp for financial firm

### Revenue Recog. Methods.

- Accrual accounting

↳ Measure perf. & pos. of comp. by recognizing ev. events regardless of when cash trans. occur.

↳ Revenue is recog. when earned. & exp is recog. when incurred not when the payment is done.

# Single Step

# Multi Step

Net Sales	1,000,000
Cost of goods sold	500,000
SG&A	250,000
Depreciat <sup>n</sup>	80,000
Operating Profit (EBIT)	<u>\$170,000</u>
Interest	\$30,000
Earning b4 tax	<u>140,000</u>
Taxes (0-40)	56,000
Net inc	<u>84,000</u>

Net Sales	1,000,000
Cost of goods sold	500,000
Gross profit	<u>500,000</u>
SG&A	250,000
Dep <sup>r</sup>	80,000
EBIT	<u>170,000</u>
Int.	30,000
Ear. b4 taxes	<u>140,000</u>
Taxes	56,000
Net inc	<u>84,000</u>

↳ Allows current cash inflow/outflow to combine with future expected cash inflow/outflow to give accurate pic of comp. current position

## Revenue Recognized

- According to IASB, revenue is recognized from sale of goods when,

↳ Risk & reward of ownership is transferred

↳ No continuing control or mgmt over goods

↳ Rev. can be reliably measured

↳ Probable flow of eco benefits

↳ Cost can be reliably measured.

↳ For services rendered

↳ Amt of rev. can be rel. measured

↳ Probable flow of eco benefits

↳ Stage of complet<sup>n</sup> can be measured

↳ Cost incurred & cost of complet<sup>n</sup> can be rel. measured

- According to FASB, revenue is recog. when

(a) realised (b) earned

- SEC Criteria

↳ Evidence of arrangement bt<sup>n</sup> buyer & seller

↳ Prod. has been delivered or service is rendered

↳ Price is determined or determinable

↳ The seller is sure of collecting money

## - Unearned revenue

↳ If firm receives cash before revenue recognition is complete eg. magazine comp: receiving subscrip<sup>n</sup> payment beforehand

↳ Counted as liability

↳ Considered under revenue after recognit<sup>n</sup> is complete

## Long term contracts

### - Percentage of Completion Method (More Aggressive, Subjective)

↳ Rev. & Exp. for long-term contracts are recog. as % of work completed during the period.

↳ Common in construction

↳ Reg. reporting of rev. & exp. on period-by-period basis

↳ Reg. of inc. & exp. on this work-in-pg. applies to inc. statement. Bal. sheet is handled the same way as completed contract method.

↳ Used when outcome can be estimated

### - Completed Contract Method:

↳ Accounting method Enables taxpayer to postpone reporting of income & exp. until a contract is completed

↳ Used when outcome cannot be estimated.

• Under IFRS, if outcome of project cannot be estimated,

Revenue & expenses are recognized over the period, but profits is recog. only after completion

- Under US GAAP, if outcome cannot be estimated, no expenses, revenues, profits will be recog. until project completion i.e. completed contract method

• Cash Flows are same under both methods

23.3

### Installment Sales

↳ Buyer receives good at the beginning of the sale & makes payments over installment period.

↳ Rev. & Expenses are recognized at the time of

Under US GAAP Cash collect & not at the time of sale.

↳ Installment Method :- if collectability cannot be reasonably estimated

↳ Cost Recovery Method :- if collectability is highly uncertain

→ Profit is recog. as cash is collected

Profit is equal to Cash collected during the period multiplied by total expected profit as a percentage of sales.

$$\text{Profit} = \frac{\text{Cash collected during xyz period}}{\text{Selling Price}} \times \frac{\text{Selling Price} - \text{Cost Price}}{\text{Selling Price}}$$

→ Profit is recognized only when cash collected exceeds cost's incurred

Under IRPS,

↳ Discounted present value of installment payments is recognized at the time of sale.

↳ Interest over time = Install payments - Discounted present val

↳ If outcome cannot be reliably estimated, use **cost recovery method**.

### Barter transactions

↳ 2 parties exchange goods or services without cash payment

↳ According to US GAAP

↳ Rev. from barter transact<sup>n</sup> can be recog.

at fair value only if firm has historically received cash payments for such goods & services. Can we use historical exp. to determine fair value

↳ Acc to IRPS,

↳ Rev. must be based on fair value of rev. from similar non-barter transac with unrelated parties

Long term contracts

rev can be estimated

rev cannot be estimated

1/2 - Completed Method

Completed

contract method  
(US GAAP)

Rev = cost  
(IRPS)

Installment Sales

Reasonably sure of collect pmt

Uncertainty

Recog sales rev up front  
2 int. pmt over the yr

Instl. method  
or  
Cost recover method

To report gross, following criteria must be met  
↳ Primary obligor    ↳ Ability to choose supplier  
↳ Bear inventory & credit risk    ↳ Latitude to establish price

## Gross & Net Reporting of Revenue

↳ In gross, you report sales revenue & cost of goods sold separately. Splitwise settle off  
↳ In net, you report only diff. b/w sales revenue & cost of goods. Splitwise settle on.

- Different rev. recognit<sup>n</sup> ~~set~~ methods can be used by the company which is described in the footnotes.
- Users must take 2 things into consideration
  - ↳ how conservative firms revenue recog. policies are
  - ↳ extent to which firms policies rely on judgment
- IASB & FASB converged to new standards
  - principle based → similar to accrual accounting principle → 5 step process to recog. revenue
    - ↳ Identify contracts with customers
    - ↳ Identify distinct performance obligations
    - ↳ Determine transaction price
    - ↳ Allocate transact<sup>n</sup> price to perf. obli
    - ↳ Recog. rev. when entity satisfies perf. oblig.



• Net rev.  $\rightarrow$  rev - vol. disc & returns

- Contract (Exists only if collectability is possible)

↳ Agreement b/w 2 parties

↳ Specifies obli. & rights

- Perf. oblig.

↳ Promise to deliver distinct goods & services

↳ Call it distinct when

↳ Customer can benefit from goods on his

own or combined with other readily avail. things

↳ Promise to transfer goods can be identified separately.

- Transaction price

↳ Amt firm expects to receive in return of trans. goods

& services

- Industries expected to be affected the most ~~are~~ by

converged stels are those that often sell bundles of goods & services, such as software & telecom industries

• Disclosure requirements are more rigorous in the new standards.

• Req. to disclose remaining perf. obligat. & transact. price allocated to those obli.

# EXPENSE RECOGNITION

23.4

Principle of expense recognition

↳ Based on matching principle

↳ Expenses to generate revenue are recognized in the same period as revenue

↳ Eg. assume inventory purchased in 4<sup>th</sup> quarter & sold in upcoming 1<sup>st</sup> quarter. Then the cost of inventory & revenue both will be reported in 1<sup>st</sup> quarter.

Not imp ↳ Costs that cannot be linked to revenue generation is called 'period costs'. (like administrative costs etc)

## EXPENSES

### H12. Inventory Expense Recog

- If firm can identify exact items sold & remain in inventory, we can use specific identification method

Method	Assumpt <sup>n</sup>	Costs of goods Sold consists of	Used
			FIFO invent with <sup>limited</sup> shelf life
			LIFO invent that do not deteriorate
			Wght avg.

(Table from book)

- LIFO popular → income tax benefit → in inflation,

higher costs of goods sold, resulting in lower taxable income, lower inc. tax

## (12) Depreciation Expense Recognition

- Long-lived asset (LLA): Asset providing eco-benefit for more than 1 accounting period.
- Cost of LLA must also be matched with revenue
- Allocat<sup>n</sup> of cost over an asset's life is called depreciation, depletion, amortization

### • Straight-line method ~~method~~

↳ Recognizes equal amt of depreciat<sup>n</sup> exp. each period.

$$\text{SL depreciat<sup>n</sup> exp} = \frac{\text{cost} - \text{residual value}}{\text{useful life}}$$

### • Accelerated depreciat<sup>n</sup> method

↳ Most assets generate more income in early years as compared to later years. There we use this method

Most of the firms use straight line method

- Declining balance method applies const. rate of depreciat<sup>n</sup> to asset's book value. Most common method is double-declining method (DDP)

$$\text{DDP} = 2 \times \text{SL depreciat<sup>n</sup> exp}$$

$$= 2 \times (\text{cost} - \text{accumulated depreciat<sup>n}</sup>)$$

↳ If the asset has no residual value, DB will never depreciate fully so DDP is typically changed to SL at some pt in asset's life

Not imp

## (H2) Amortizat<sup>n</sup> Expense Recognition

- Amortizat<sup>n</sup>: Cost of Allocat<sup>n</sup> of cost to intangible asset
- Most firms use SL method to cal. annual. amort. cost
- Intang. ass. with indefinite lives are not amortized but must test for impairment at least annually.

## (H2) Bad debt & Warranty Exp. Recog

- If goods are sold on credit or warranty, matching principle wants comp. to estimate expense of bad debt / warranty & recognize it during the period of sale

## (H2) Implicat<sup>n</sup> for fin. analysis

- Delayed exp. recog.  $\rightarrow$   $\uparrow$  net incom  $\rightarrow$  aggressive

If firms bad debt exp  $\downarrow$ :

$\hookrightarrow$  Because collect<sup>n</sup> exp improved

$\hookrightarrow$  Or to manipulate net inc

- Compare with other peers. If warranty exp very less than other:

$\hookrightarrow$   $\hookrightarrow$  Because of good quality products

$\hookrightarrow$  Or more aggressive

- Analyst shd check if company is conservative or aggressive. It is mentioned in the footnotes
- Conservative comp → overestimate exp. | Aggressive → underestimate  
↳ Disclosed in MD & A and footnotes

## (H2) Non-recurring items

- Entry on fin. stat unlikely to happen again.
- Represents one-time expense involving unpredictable event & not a part of firms day to day ops
- Important for analysts as they are trying to estimate future earnings

### H1 Discontinued op<sup>n</sup>

↳ One that mgmt has disposed of but either not done so or disposed in current year after it generated profit or loss.

↳ Net inc from this is shown net of tax after net inc. from continuing op<sup>n</sup>

### ↳ Measurement date

↳ When comp develops formal plan for disposing op<sup>n</sup>

### ↳ Phase out period

↳ Time b/w measurement date & actual disposal date

↳ Reported separately

↳ On measur. date, comp will estimate loss during phaseout period → loss on sale of business  
→ Profit will be reported only after sale is complete

\* Not INCLUDED IN CURRENT OPS

### H1. Unusual / Infrequent items

↳ Analytical implications

↳ evaluated by analyst

↳ Events are unusual.

↳ Eg. gains/losses from part of business if it is not a firms ordinary ops

↳ Impairments

↳ INCLUDED IN CURRENT OPS

↳ Analytical implicat

↳ Analyst shd determine if to use it for forecasting future firm earnings.

## H1 Extra-ordinary items

↳ Event both unusual & infrequent

↳ NOT INCLUDED IN OPERATING COSTS

↳ After December 15, 2015

US GAAP & IFRS does not allow.

## H2 Changes in accounting policies

### H1 Change in accounting principle

↳ Refers to change from one GAAP or IFRS to another

↳ Requires retrospective applicat. It enhances the comparability of fin. stat over time

↳ REQUIRES RESTATEMENT

### H2 Change in accounting estimate

↳ Results from change in management's judgement

↳ Applied prospectively

↳ DOES NOT REQUIRE RESTATEMENT

↳ Analytical implicat - does not affect cash flow.

## 711 Error Prior-period adjustment

↳ Change from incorrect method to acceptable method or correction of accounting error in prev. fin. stat

↳ REQUIRES RESTATEMENT

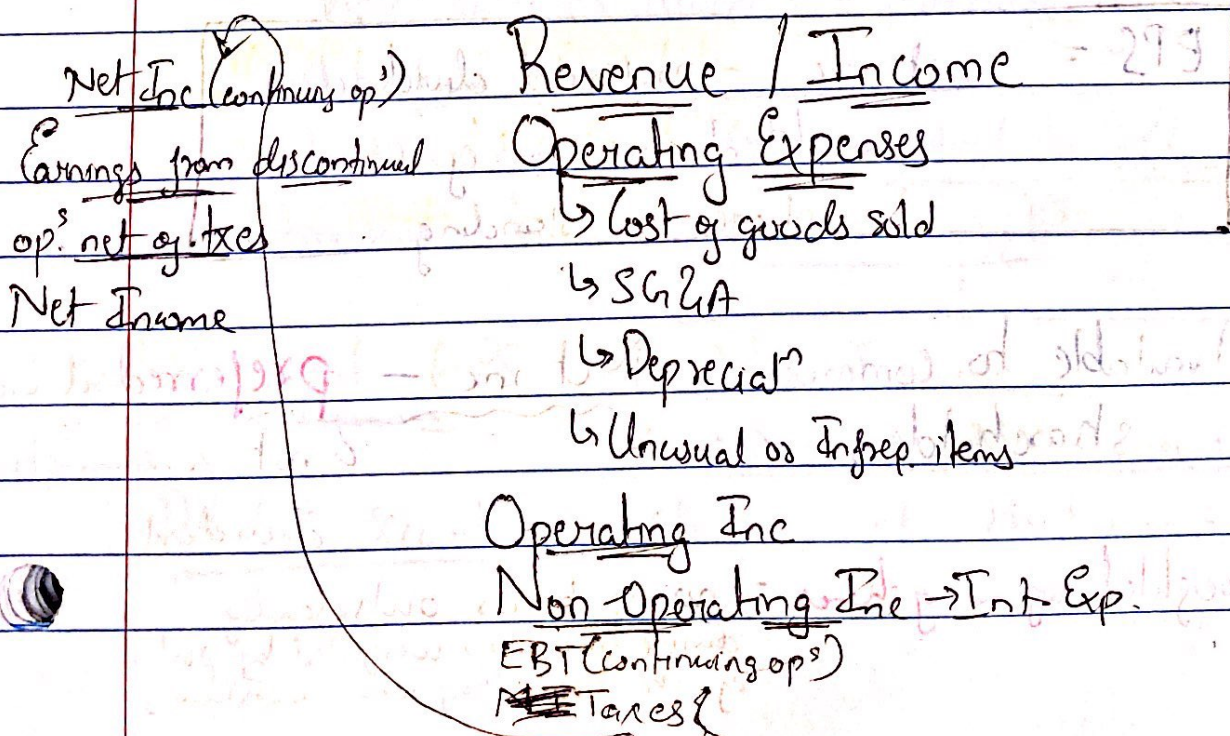
Net Imp ↳ Analytical impl - Involve errors.

- Does not affect cash flow

- Check errors for weakness in internal systems

- For non-financial firm, investment income & financing expenses → non-operating & for financial firm → operating

## \* Deprct<sup>n</sup> of Inc. Statement



• Revenue or Income	+
• Operating Expenses	-
↳ Cost of goods sold	
↳ SG & A	
↳ Depr.	
↳ Unusual / Extra items	
• Operating inc	
• Non-Operating Exp.	-
↳ Int. Exp.	
• EBT (continuing op <sup>s</sup> )	
• Taxes	-
• Net Inc (continuing op <sup>s</sup> )	
• Earnings from discontinued op <sup>s</sup> net of taxes	+
• Net Earnings / Net Inc	



# EPS & Dilutive Securities

## H2. Earning Per Share

- ↳ Commonly used corporate profitability perf. measure for publicly traded comp (non-public not rep.)
- ↳ Reported for common stock shares
- ↳ Companies have either simple capital or complex capital structure

### Simple Capital

- Consists of common stock & nonconvertible debt, stock
- No dilutive securities
- Report only basic EPS

### Complex Capital

- Consists of convertible options, stock etc
- Has dilutive securities
- Report dilutive & basic EPS

## H2. Basic EPS

$$\text{EPS} = \frac{\text{net inc.} - \text{preferred dividends}}{\text{weighted avg. no. of common shares outstanding}}$$

Inc

- Available to common shareholders =  $\text{Net inc} - \text{preferred dividends}$  & not common stock dividend

- weighted avg. no. of shares = no. of shares outstanding during the year, weighted by portion of the year they were outstanding

• Stock dividend : Additional shares to each shareholder in amt proportional to their current no. of shares  
If SD is 10% & you have 100 shares, you get 10 extra

• Stock split :- Division of each "old" share into specific no. of "new" shares

• Things to know about weighted avg. shares

↳ Weighting system is days outstanding divided by no. of days in a year, monthly approx can be used

↳ Shares issued are computed from date of issuance

↳ Reacquired shares are excluded from computation from the date of reacquisition

↳ Shares sold or issued in a purchase of assets is included from the date of issuance

↳ Stock split / dividend is applied to all shares before prior to the split

$$\text{H2} \quad \text{Diluted EPS} = \frac{\text{Net Income}}{\text{wt. avg shares} + \text{New shares if convt-shares are converted}}$$

• Dilutive securities :- stock opt<sup>n</sup> etc. that would ↓ EPS if exercised

• Antidilutive securities: stock opt<sup>n</sup> etc. that would  $\uparrow$  EPS if exercised

• If there are dilutive securities, numerator must be adjusted

↳ If CONVERTIBLE PREFERRED STOCK is dilutive, convertible preferred dividends must be added to numerator

↳ If CONVERTIBLE PREFERRED BONDS is dilutive, then bonds's after tax interest exp.  $\times (1 - \text{tax rate})$  must be added.

↳ Dilutive stock opt<sup>n</sup> or warrants, NO EFFECT on

• If there are multiple dilutive securities, denominator must be adjusted for ep. no. of common shares that will be created after conversion of all dilutive securities.

• If dilutive security was issued during the year, ↑ in weight avg shares is based on only portion of the year the dilutive security was outstanding.

(Formula from book)

- Stock opt<sup>n</sup> & warrants dilutive only when their exercise price < avg. mkt price of stock over the year.

If they are, use treasury stock method, to calculate no. of shares used in denominator

↳ Treas. stock mtd assumes, that company will use the money from the opt<sup>n</sup> to repurchase stock at avg price (Example at the end of this chapter)

↳ Adj Net ↑ in no. of shares outstanding (denominator) is no. of shares created by options less no. of shares hypothetically repurchased

## EXAMPLES FROM BOOK

ALWAYS CHECK FIRST IF DILUTIVE OR ANTI-DILUTIVE

if diluted EPS < basic EPS → dilutive

~~check using numerator impact vs basic EPS denominator impact~~

If diluted EPS > basic EPS → antidilutive → report

del EPS as b,  
basic as del EPS

## H1 Common size inc. statement

Common:

- Expresses each category as a percentage of revenue instead of actual figures.
- Helps to see relative numbers. e.g. A company may be large but relative % might be less.

Examine firm's strategy

One exception is showing inc. tax expense  
↳ More meaningful when expressed as a % of pretax income. Result is called effective tax rate (tax expenses in the form of % of pretax income)

## H2 Ratios

• Gross profit margin

↳ Can be ↑ by raising price of prods or by ↓ prod. cost.

$$\frac{\text{gross pft}}{\text{rev.}}$$

• Net profit margin

↳ profit generated after considering all expenses

$$\frac{\text{net inc}}{\text{rev.}}$$

Examples for EPS

1. XYZ had net inc of \$200,000. The comp. paid \$50,000 divd. to pref. shareholders & \$25,000 divd. to common shareholders. The common stock info is as follows

Shares as at Jan 1, 2010 → 75,000

Shares issued on July 1, 2010 → 15,000

→ Basic EPS =  $\frac{200,000 - 50,000}{75,000 \times \frac{6}{12} + (75,000 + 15,000) \times \frac{6}{12}} = 1.8$

2. XYZ had Net Inc of \$300,000. The comp. paid \$50,000 divd. to pref. shareholders & \$25,000 dividends to common shareholders. Common stock info is as follows

Shares at Jan 1, 2011 → 90,000

issued on April 1 → 15,000

repurchased on Oct 1, '11 → 30,000

2 for 1 split on December 1, 2011

→ Basic EPS =  $\frac{300,000 - 50,000}{180,000 \times \frac{3}{12} + 210,000 \times \frac{6}{12} + (210,000 - 60,000) \times \frac{3}{12}} = 1.33$

3. Est. net inc. of XYZ for 2013 is \$750,000. The capital struct for comp is as follows:

Common Stock outstanding → 50,000 shares

Convertible pref. stock → 10,000 shares

Each share of pref. stock pays \$4 divd. & is convt into 4 shares of common stock

# \* Comprehensive Inc

- Includes all trans. that affects shareholders equity except trans w/ shareholders
- So any trans affecting net inc will affect compr inc
- 4 types of items are treated under OCI
  - ↳ Foreign currency trans adj
  - ↳ Unrealized gains/losses on derivatives contracts accounted for hedges
  - ↳ Unrealized gains/losses for certain category of invest sec. eg. available for sale
  - ↳ Certain cost of comp. defined benefit post retirement plan.

• Under IFRS, OCI includes  $\Delta$  val (Long lived assets) measured using revaluat<sup>n</sup> model rather than cost model

repu.  $\rightarrow 30,000$  (60)

2 for 1 split on December 1, 2011

$$\Rightarrow \text{Basic EPS} = \frac{300,000 - 30,000}{180,000 \times \frac{3}{12} + 210,000 \times \frac{6}{12} + 210,000}$$

Cash collect is critical event for me ~~avg~~  
 under both Cost Recov. & Trust Method

→ Basic EPS =  $\frac{750,000 - 40,000}{50,000} = \underline{14.20}$

Diluted EPS =  $\frac{750,000}{50,000 + 40,000} = \underline{8.33}$

4. XYZ reported net inc. of \$500,000. The cap-struct of comp. was as follows:

Wt. avg common stock outstanding = 45,000

200 convt. bonds w/ \$100 par val & 10% cpn; convt. to 20 shares  
 15,000 non-convt. pref. shares, each paying \$2 divd

Tax rate = 40%

→ Basic EPS =  $\frac{500,000 - 30,000}{45,000} = \underline{10.44}$

Diluted EPS =  $\frac{500,000 + (200 \times 10)(1 - 0.4) - (15,000 \times 2)}{45,000 + 4,000} = \underline{9.6}$

5. XYZ reported net inc. of \$600,000 for 2009 & wt. avg common shares → 150,000. On Jan 1, 2009, company issued 10,000 employee stock opt<sup>n</sup> w/ exercise price of \$40. Over the yr, avg mkt price for comp share was \$50.

→ Basic EPS =  $\frac{600,000}{150,000} = \underline{4}$  | Dil. EPS =  $\frac{600,000}{150,000 + 20,000} = \underline{3.95}$

So comp will have \$400,000. It will buyback the shares @ \$50.  $\frac{400,000}{50} = 8,000$  shares.   
 (X=40)  $40 \times 10,000 = 400,000$    
 $\frac{400,000}{50} = 8,000$    
 $10,000 - 8,000 = 2,000$



# Reading 24: Understanding Balance Sheet

- Reports financial posit<sup>n</sup> of comp.
- Consists of
  - ↳ Assets
  - ↳ Liabilities
  - ↳ Equities (net assets)
- Fin. item is recognised if future economic benefit (to or from firm) is probable or cost can be measured.

- Uses of balance sheet, in evaluating:
  - ↳ Firms liquidity (Ability to meet short-term obligations)
  - ↳ Firms solvency (Ability to meet long-term obligations)
  - ↳ Ability to make distribution to shareholders

- Limitations of bal. sheet
  - ↳ Should not be interpreted as mkt or intrinsic val
  - ↳ There are no. of assets/liabilities not mentioned on bal. sheet like reputat<sup>n</sup>.

- Alternative formats
  - ↳ GAAP & IFRS req. firms to report current / noncurrent assets / liabilities → Classified bal. sheet → useful for eval. perf.
  - ↳ Liquidity-based presentat<sup>n</sup> → assets & liabilities in order of liquidity (Used by banks)

- Current Assets

- Cash & Cash Eq.
- Marketable Securities
- Trade Receivables
- Inventories
- Other current assets

↳ Cash & other assets that will be converted to cash or used up within one year or one operating cycle, whichever is greater.

↳ Operating cycle: Time taken to purchase inventory, sell it & collect the cash

↳ Reveal info about operating activities in the form

- Current Liabilities

- Deferred Inc.
- Accounts Payable
- Notes Payable
- Inc. tax payable
- Accrued Expenses

↳ Obligations that will be satisfied within one year or one operating cycle.

↳ Criteria for calling liabilities "current",

↳ Settlement is expected during normal operating cycle

↳ Settl. expected within one year

↳ Held for trading purposes

↳ Not an unconditional right to defer settlement for more than one year

(wc)  
- Working Capital = Current Assets - Current Liabilities

↳ Not enough WC → liquidity problems

↳ Too much WC → assets not used properly

## - Noncurrent assets

- ↳ that will not be converted into cash or used up within one year
- ↳ Reveals investing activities.

## - Noncurrent liabilities

- ↳ Opposite of current liabilities
- ↳ Reveals firm's long-term financing activities

## H2 Current Assets

### • Cash & cash equivalents

- ↳ Cash eq. are short term, highly liquid investments
- ↳ Eg. Treasury bill, commercial paper, money mkt funds
- ↳ REPORTED AT AMORTIZED OR FAIR VALUE

### • Marketable securities

- ↳ assets that are traded in public market
- ↳ Egs T-bills, notes, bonds, equity securities
- ↳ Details in footnotes

### • Accounts receivable

- ↳ Amounts owned to company by customers
- ↳ Bal. sheet reports NET REALIZABLE ACC.

↳ There is a chance that some customers will not payback also called "bad expense debt" which will indeed increase allowance for doubtful accounts. These are all mere estimates based on past sale

Also called  
contra-asset  
account

↳  $\text{A/cs rec. at realizable value} = \text{Gross receivable} - \text{Allowance for doubtful acc.}$

↳ Contra asset account decreases the value of controlling account

↳ Firms can underestimate bad debt expense, increasing reported earnings

↳ Analysing receivables relative to sales can reveal collection problems

## Inventories

↳ Goods held for sale

↳ Many firms separately report inventories of raw materials, work-in-process & finished goods

↳ Costs included in inventories include

↳ Purchase cost

↳ Conversion cost

↳ Other cost necessary to bring invent to present locat<sup>n</sup>

Not inc ↳ Costs excluded

↳ Abnormal waste

↳ Material cost

↳ Manuf. overhead

- ↳ Storage costs
- ↳ Admin overhead
- ↳ Selling costs.

Not imp

↳ Methods to measure inventory cost:

↳ Standard costing: often used by manuf. firm  
 ↳ Assigning predetermined amts. of materials, labor & overhead to goods

↳ Retail method: Measure inventory at retail price  
 ↳ Then subtract gross profit to determine cost

↳ REPORTED AT

↳ Lower of cost or net realizable cost under IFRS or GAAP for comp not using LIFO

↳ Under GAAP, if using LIFO or retail method, used lower of cost or market

→ Selling Price - complete cost or selling costs

Historical cost  
 (cost at which it was purchased)

↳  $NRV > Market\ value > Net\ realizable\ value - normal\ profit\ margin$

↳ If  $NRV (IFRS) \text{ or } Mkt\ val (GAAP) < \text{invent carrying value}$ ,

loss is recognized. ↳ Money comp

↳ If there is subsequent recovery, (IFRS) → can be written back has to pay to store inventory

GAAP → Cannot be written.

↳ <sup>current</sup>  
• Other assets

↳ Eg. prepaid ~~tax~~ <sup>expense</sup>, deferred tax

↳ Prepaid expense

↳ Operating costs paid in advance

↳ Eg. if a firm pays \$400,000 for 1 year rent in advance, its cash asset decreases but prepaid exp. asset increases.

After At the end of 3 months, one-quarter of prepaid exp. has been used. So \$100,000 will decrease from prepaid asset & added to income stat. as rent exp.

↳ Deferred tax assets

↳ Reduces taxable income

↳ Happens when company has overpaid taxes or paid taxes in advance

H2 Current Liabilities

• Accounts payable

↳ Amt firm owes to suppliers

↳ Analyzing payables to purchases → credit problems.

- Notes payable & current position of long-term debt
  - ↳ Obligat<sup>n</sup> in form of promissory notes owed to creditors

- Accrued liability [Recognized in inc. stat. but not yet paid]
  - ↳ Expense incurred but not yet paid
  - ↳ Entered during one period & reversed when paid.
  - ↳ Has been recognized in income statement but not yet due
    - ↳ Some firms include, income tax payable as accrued liability
    - ↳ Others like wages payable, accrued warranty expense, unearned revenue
    - ↳ May be indicat of future growth

## H2 Non-current assets & liabilities

### Non-current assets

- Property, plant & equipment (PP&E)
  - ↳ tangible assets
  - ↳ Includes land, buildings, furnitures, natural resources
  - ↳ REPORTED AT
    - ↳ Under IFRS, cost model or revaluation model
    - ↳ Under GAAP, cost model

## \* Cost model

↳ PP&E reported at amortized cost (historical cost - accumulated depreciat<sup>n</sup>, deplet<sup>n</sup> etc.) except for land.

↳ Must be tested for impairment i.e. if carrying value > recoverable amt

↳ ~~Re~~ Under IFRS, recoverable amt =  
max (mkt value - selling cost, asset value in use)

↓  
Net present value of cash flow generated by asset

## \* Revaluation model

↳ reported at fair value - accumulated depreciat<sup>n</sup>

↳ Changes in fair value reflected in shareholders equity ↳ maybe in inc. stat

## • Investment property

↳ REPORTED AT

↳ Under IFRS, amortized or fair value

↳ ~~GAAP~~

↳ GAAP has no definit<sup>n</sup> for invest property.

↳ Under fair value model, any change in fair value, include in inc. stat



# Reported at

## Non current assets/liab

## Inventories

~~REPORTED AT~~

PP&E

Invest prop

Lower ~~of~~ <sup>of</sup> cost  
~~or~~ <sup>or</sup> net realizable cost

Lower ~~of~~ <sup>of</sup> cost  
~~or~~ <sup>or</sup> mkt value

(If not using LIFO)

(if LIFO or retail method)

~~REPORTED AT~~

~~REPORTED AT~~

Cost model  
(IFRS, GAAP)

Reval Model  
(IFRS)

↓  
fair value -  
acc dep.

↓  
amortized  
(historical  
acc. dep)

Held-for-maturity  
↓  
Amortized cost

## Marketable securities

H2

## Intangible assets

- Non-monetary assets that lack physical substance.
- Either identifiable or unidentifiable
- Identifiable intangible ~~monetary~~ asset
  - ↳ Can be acquired separately
  - ↳ Egs. Patents, trademarks, copyrights
- Unidentifiable ~~monetary~~ intangible asset
  - ↳ Cannot be acquired separately
  - ↳ Egs. goodwill

## • REPORTED AT [IF PURCHASED]

↳ Under IFRS, cost model or revaluation model

↳ Under GAAP, cost method.

## • REPORTED AT [IF CREATED INTERNALLY]

↳ Under IFRS, expense cost <sup>incurred</sup> during research &

capitalize cost incurred during development

↳ Under GAAP; expense cost incurred during R & D.

## • Goodwill

↳ Recorded when purchase price of a company is greater than sum of fair value of tangible assets & intangible assets purchased in acquisition & liabilities assumed

Fair value

↳  $\text{Goodwill} = \text{Purchase} - (\text{Assets} - \text{Liabilities of going to be acquired comp})$

↳ Only created in purchase acquisition

↳ Should be checked for impairment annually

↳ Can manipulate net inc upward by allocating more of acquisition price to goodwill & ↓ to identifiable assets.

↳ Economic goodwill is different than accounting goodwill

↳ Eco good - depends on future performance of firm

Acc good - depends on result of past acq.

↳ ELIMINATE GOODWILL FROM BAL SHEET

↳ NOT TO BE CONSIDERED BY ANALYST

## H2 Marketable securities

Fin. instruments can be measured as  $\left\{ \begin{array}{l} \text{historical cost} \\ \text{Amortized cost} \\ \text{Fair value} \end{array} \right.$   
(Table on the book)

• ~~Historical~~ Fin. assets meas. at historical costs include  $\left\{ \begin{array}{l} \text{unpooled equity} \\ \text{invest} \\ \text{loans to} \\ \text{receivable form.} \end{array} \right.$

• Held-to-maturity securities (Held till maturity) amortized

↳ Fin. assets measured at amortized ~~historical~~ cost  
↳ debt security with the intention to hold on till maturity

↳ Amortized cost = org. issue price - principle payments +  
amortized disc - amort. premium

↳ Temporary price change do not appear in  
accounting statements

• Held for trading securities (Held for short period)

↳ Measured at fair value

↳ Can be ~~convert~~ liquidated fast

↳ Egs. stocks.

↳ Temporary price change appear on accounting  
statements

↳ Unrealized gains/losses

• Available for sale securities (Held for indefinite period)

↳ Measured at fair value

- ↳ Purchased with intent of selling before maturity or holding it for a long time if no maturity.
- ↳ Unrealized gains appear in Comprehensive income & not in income statement
- ↳ IFRS does not ~~rec~~ have \$ available for sale

★ For all 3, dividends, interest & realized gains/losses (actual gain when sold) <sup>recognize</sup> are recog in inc. stat.

	①	②	③
Purchased at, amortized/fair value			
interest			
unrealized gain/loss			
	Bal. Sheet	Inc. Stat.	Comp Inc
★ Held-to-maturity	①, ②	②	-
★ Held for trading	①, ②	②, ③	
★ Available for sale	①	②	③

## H2 Non current Liabilities

### Long-term financial liabilities

↳ If fin. liab. are not ~~iss~~ issued on face amt REPORTED AT AMORTIZED COST

↳ In some cases (like held for trading liabil., short posit<sup>n</sup>), they are REPORTED AT FAIR VALUE

Presents info abt the effects of any accounting changes retrospectively applied to prev periods

### Deferred tax liabilities

↳ Inc. tax payable in future cos. of taxable

temporary difference

↳ It is the amount of taxes a company has "underpaid" - which will eventually be made up in future

## Shareholders Equity & Ratios

### Components of shareholders equity

#### Owners Equity

↳ Assets - liabilities

↳ It consists of:

↳ Contributed Capital

- Money paid by shareholders to the comp. in exchange of stocks.

- Also includes:

↳ Authorized shares - no. of shares that may be sold under firm's article in corporation

↳ Issued Outstanding shares - Shares that are sold <sup>issued</sup> to investors from the available authorized shares.

↳ Preferred stocks

↳ class of ownership that has higher claim on assets/earnings than common stock

↳ Dividends to preferred are paid before common stock.

↳ Non-controlling interest

↳ Ownership posit<sup>n</sup> where shareholder owns less than 50% of outstanding shares

↳ Retained earnings

↳ Undistributed earnings of the firm

since incept<sup>n</sup>

No voting rights,  
no dividends

↳ Treasury stocks (Issued - outstanding)

↳ Stocks repurchased by the company

↳ Reduces shareholders equity

↳ Accumulated other comprehensive income

Common Size balance sheet (Highlights diff in peer comp. stat)

- Expresses each item as a % of assets.

- Balance sheet ratios

↳ helps evaluate company's liquidity & solvency

↳ Liquidity Ratio

↳ firm's ability to satisfy short-term obligations

↳ Include.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Quick ratio} = \frac{\text{cash} + \text{mkt. securities} + \text{receivables}}{\text{curr. liab.}}$$

(acid-test ratio)

$$\text{Cash ratio} = \frac{\text{cash} + \text{mkt. secu}}{\text{curr. l.i.a}}$$

↓  
- Poor asset utilization to hold large amt of cash  
for comp

### ↳ Solvency Ratios

↳ Ability to meet long term debt

↳ Include

$$\text{long-term debt to-equity} = \frac{\text{long-term total debt}}{\text{total equity}}$$

(↑ ratios, more risky)

$$\text{total debt-to-equity} = \frac{\text{total debt}}{\text{total equity}}$$

$$\text{debt ratio} = \frac{\text{total debt}}{\text{total assets}}$$

$$\text{fin. leverage} = \frac{\text{total assets}}{\text{total equity}}$$

Keplers

• According to IRS, cash dividends received from trading securities & fair val. through OCI, both P.

## Reading 25: Understanding Cash Flow

Provides important info about company & payments during the accounting period.

CF state is a vital info source that assists users to evaluate a company's liquidity, solvency & financial flexibility.

For an analyst, it is crucial to estimate future cash flows

### \* Components & Format of Cash Flow Stat.

#### # Classification of cash flow

Operating activities are activities that are a part of day-to-day business of the company.

↳ Sale of goods & services (R)

↳ Cost of producing goods & services (X)

↳ Short term assets & liab. directly related to op' act (A)(L)

Investing activities associated w/ acquisition & disposal of long term assets

↳ Purchase or sale of property, plant & equip (A)

↳ Purchase or sale of other entities equity & debt secur. (A)



- Financing Activities related to obtaining or repaying capital
  - ↳ Issuance or repurchase of company's own preferred or common stock (E)
  - ↳ Issuance or repmt of debt (L)
  - ↳ Dividend pmts (E)

Ex. JFK Enterprises recorded the following for 2012:

		CF	Inv.
Purchase of Equip.	\$70,000	✓	✓
Gain from sale of van	\$8,000	X	X
Receipts from sale of vans	\$18,000	✓	✓
Divid. paid on ord. share cap	\$10,000	✓	X
Interest & pref. divid. paid	\$12,000	✓	X
Salaries paid	\$40,000	✓	X

What is cash flow from investing?  
 -70,000 + 18,000 = -52,000

### # Summary of differences b/w IFRS & US GAAP

	Cash Flow	IFRS	US GAAP
Interest	Int. rec. (when it invests in bonds of other comp.) <sup>+</sup>	Operating or investing	Operating
	Int. paid (company issues bond, borrows money & pays int.) <sup>-</sup>	Operating or financing	Operating
	Divid. recd. (comp. invests in other comp. shares) <sup>+</sup>	Operating or investing	Operating
	Divid. paid <sup>-</sup>	Operating or financing	Financing

Not so imp

Cash Flow

IFRS

US GAAP

Bank overdrafts

Considered part of cash eq.

Not consid. part of cash eq. & classified as fm.

Taxes paid

Generally operating but a part can be allocated to investing or financing

Operating

Format of Statement

Direct or indirect: direct encouraged

Direct or indirect: Direct encouraged

### # Direct method & Indirect method for reporting CF from Operating Activities

Direct Method (Elements from Inc. Stat. expressed in cash fmt)

Direct Method

Indirect Method

1. Cash collect from cust. (Similar to revenue) =

Net inc

2. Cash paid to suppliers (Similar to cost of goods sold)

2 Adj. to reconcile net inc to CF provided by operating activities:

3. Cash paid for operating expenses

4. Cash paid for interest

5. Cash paid for taxes

6. Operating Cash Flow

$(1 - (2+3+4+5))$

3. Operating Cash Flow

• Benefit of direct method

↳ Provides details on specific sources of op. receipts & pmts

• Direct fmt for CFO → reflects economic reality

## # Non-Cash Activities

\* Non-cash transact<sup>n</sup> is any trans. that does not involve an outflow or inflow of cash.

\* Must be disclosed either in footnotes or supplemental schedule to CF stat.

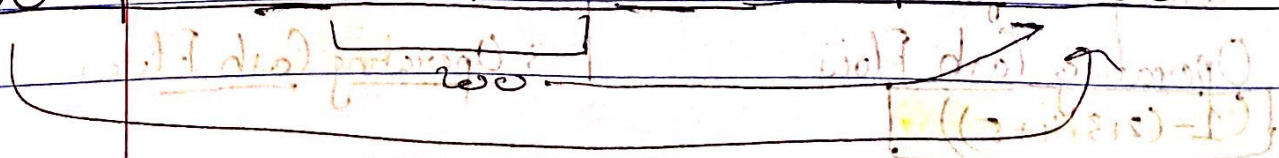
• An analyst must incorporate non cash trans. into analysis of past & current perf & include their effects in estimating future cash flows

## \* The Cash Flow Statement: Linkages & Preparation

### # Linkages of CF Stat. w/ Inc Stat. & Bal. Sheet

Beginning Bal Sheet at Jan 1	Stat. of CF for Year Ended 1/1 to 31/12 December	Ending Bal Sheet at 31/12 December
Beginning Cash 100	Plus Cash Receipts 50 Less Cash Pmts 40	= 110

Beg. Bal Sheet at Jan 1	Income Statement	Stat. of Cash Flow	Ending Bal. Sheet @ 31 Dec
Beg. Acc. Rec 200	Plus Revenue 5000	Less Cash Collected from Cust. 4800	Ending A/R 400



## Cash paid for interest (taxes)

↳ If reported interest (taxes) expense is 19 mil & int. (taxes) payable ↑ by 3 mil, then cash paid for int (tax) =  $-19 + 3$   
↓ by 3 mil →  $-19 - 3 = \underline{\underline{-22}} = \underline{\underline{-16}}$

## # Steps in preparing CF Stat

Operating Act - Direct Method

Invest Act

Financing Act

Overall Stat of CF

Overall Stat of CF - Indirect Method

## # Operating Activities - Direct Method

\*

Cash collected from customers

↳ If revenue from IS = 100

↳ And acct. rec. changes from 20 to 25 down BS

then Cash collected from cust =  $Rev - \Delta AIR = 100 - 5 = \underline{\underline{95}}$

\*

Cash paid to suppliers

↳ If cost of goods sold from IS = 100, inventories go from 0 to 10

& acct. payable go from 20 to 25 then

Cash paid to suppliers =  $-100 - 10 + 5 = \underline{\underline{-105}}$

• Cash paid to employees (- Salary & wages exp + ↑ sal/wage payable)

Similarly you can calculate rest of the costs

• Short-cut for determining Operating Cash Flows

↳ Determine if cash flow is income (+) or expense (-)

(cont'd) - for 5-10 min of changes (cont'd) for balance sheet  
 E + P.L. = Assets - Liabilities = Equity

- ↑ in Assets → +ve impact on CF
- ↑ in Liabilities → -ve impact on CF

• Eg. XYZ reported revenue of \$10 mil, expense of \$7.5 mil & profit of \$2.5 mil. Accts. receivables ↑ by \$4 mil. What is cash received from customers?  
 → Revenue - Accts rec. = 10 - 4 = 6 mil

• Eg. Analyst collects following info for a company

- Net revenue \$200,000
- Gross profit \$50,000
- ↑ inventory \$8,000
- ↑ accts payable \$12,000

Cash paid to suppliers = Cost of goods from suppl - inventory + accts pay

$$= (200,000 - 50,000) - 8,000 + 12,000$$

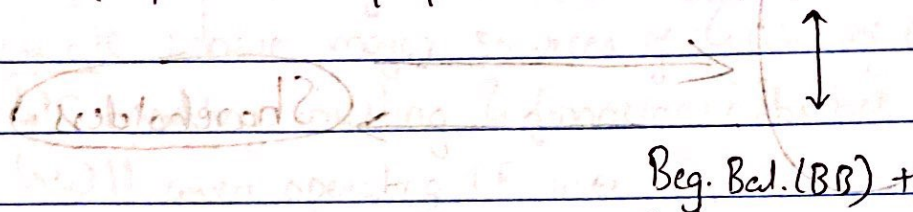
$$= \underline{\underline{-146,000}}$$

(cont'd) - for 5-10 min of changes (cont'd) for balance sheet  
 E + P.L. = Assets - Liabilities = Equity

# # Investing Activities - Direct Method #

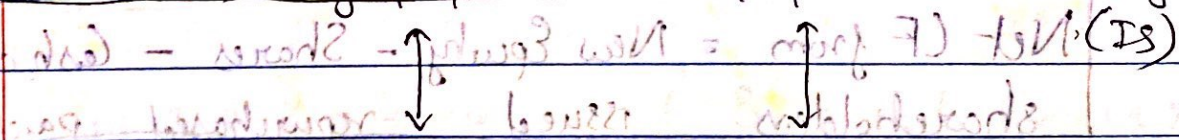
- CFI is calculated by examining change in gross asset acct that results from investing activities.

$$\text{Cash paid for New Equip} = \text{Ending Gross Equip Bal} + \text{Gross Cost of Equip Sold} - \text{Beg. Gross Equip Bal}$$



$$\text{Net Cash from Investing} = \text{EB (Equip.)} + \text{Net (IS)}$$

$$\text{Cash from Sale of Equip. Sold} = \text{Historical Cost of Equip. Sold} - \text{Depreciat}^{\text{on}} \text{ of Equip. Sold} + \text{Gain on Sale of Ep.}$$



$$\text{BB Ep.} + \text{Ep. Purch (FN)} - \text{EB Equip.} = \text{Net (IS)}$$

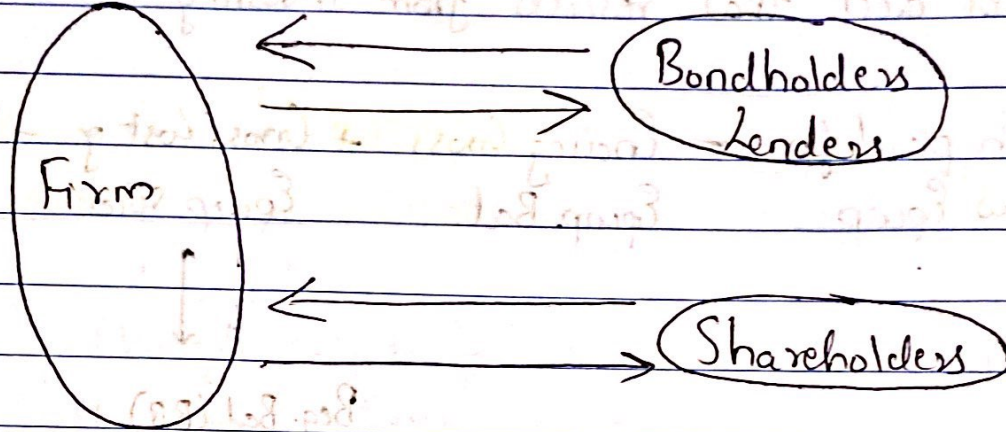
$$\text{BB. g. Acc Depr (BS)} + \text{Dep. Exp. (IS)} - \text{EB Acc Depr (BS)} = \text{Net (IS)}$$

$$\text{Net (IS)}$$

... because I am not explicitly doing more than what I should do  
 because I am not explicitly doing more than what I should do  
 because I am not explicitly doing more than what I should do

## # Financing Activities : Direct Method

CF b<sup>t</sup> firm & suppliers of capital



Net CF from = New - Principle  
creditors borrowings amt repaid

Net CF from = New Equity - Shares - Cash div.  
shareholders issued ↓ repurchased paid

## # Operating Activities : Indirect Method

1. Begin w/ net income
2. Add back all non cash charges to inc & subtract all non cash components of revenue
3. Subtract gain or add loss that resulted from

- financing or investing CF
- Add or subtract  $\Delta$  Bal Sheet operat<sup>n</sup> accts

## \* Cash Flow Statement Analysis

- Provides useful info for understanding company business, earnings & predicting future cash flows.
- Evaluate where major sources of & uses of cash flows are b/c operating, investing & financing activities.
    - ↳ Will cover operating CF over cap. exp.
  - Eval. primary determinants of operating cash flow.
    - ↳ Look at consistency of CFO
  - Eval. primary determinants of CFI & CFF. #

## # Common Size Analysis

Express each line item of cash inflow (outflow) as % of total inflow (outflow) . . . . .

Inflow	Actual	% of Total inflow
Receipt from cust	900	90%
Sale of equip	50	5%
Issue of shares	50	5%
Total	1000	

Express each line as a % of total revenue

Inflow	Actual	% of Total revenue
Receipt from cust	900	$\frac{900}{1100} \times 100$
Sale of equip	50	$\frac{50}{1100} \times 100$
Issue of shares	50	$\frac{50}{1100} \times 100$

If total rev = 1100 then ↑



## # Free cash flow to firm & free cash flow to equity

$$FCFF = \text{Net Inc} + \text{Non cash} + \text{Int}(1 - \text{Tax}) - \text{Fixed Capital} - \text{Working Capital}$$

charges    Inv.    Inv.

$$FCFF = CFO + \text{Int}(1 - \text{Tax Rate}) - \text{Fixed Capital Inv.}$$

$$FCFE = CFO + \text{Net Borrowing} - \text{Fix. Cap. Inv.}$$

$$FCFE = CFO - \text{Net debt repmt} - \text{Fix. Cost Inv.}$$

## # Cash Flow Ratios

Perf. Ratio	Calculation	What it measures
Cash flow to revenue	$CFO \div \text{Net rev.}$	Operating cash generated per dollar of revenue
Cash return on assets	$CFO \div \text{Avg. total assets}$	Operating cash generated per dollar of asset invest.
Cash return on equity	$CFO \div \text{Avg. shareholders equity}$	Operating cash generated per dollar of owner invest.

# Ratio Calculators

Ratio	Calculator	What it measures
Cash to income	$CFO \div \text{Operating inc.}$	Cash generating ability of operat <sup>n</sup>
Cash flow per share	$(CFO - \text{Pref. dividend}) \div \text{No. of common shares outstanding}$	Operating CF on a per-share basis
Debt coverage	$CFO \div \text{total debt}$	Financial risk & leverage
Interest coverage	$(CFO + \text{Int paid} + \text{Tax paid}) \div \text{Inte. paid}$	Ability to meet interest obligat <sup>n</sup>
Reinvestmt	$CFO \div \text{Cash paid on long term assets}$	Ability to acq. assets w/ operating CF
Debt payment	$CFO \div \text{Cash paid for long term debt repmt}$	Ab. to pay debt w/ op.
Divid. repmt	$CFO \div \text{Dividends paid}$	Ab. to pay dividends w/
Investing & finan. actg	$CFO \div \text{Cash outflows for inv. \& fin. activities}$	Ab. to acq. assets, pay debts & make dist <sup>n</sup> to owners.

• Net inc = ↑ in retained earnings + dividends paid

• Direct method for presenting CF is appr as it sh<sup>ld</sup> provide info abt specific sources of operating cash receipts & payments.

① Cash recd from customers = Net sales  $\left\{ \begin{array}{l} + \text{Decrease in accts rec} \\ - \text{Increase in accts rec} \end{array} \right.$

② Cash paid to suppliers = COGS  $\left\{ \begin{array}{l} + \uparrow \text{ in inv} \\ + \downarrow \text{ in accts payable} \\ - \downarrow \text{ inv} \\ - \uparrow \text{ in accts payable} \end{array} \right.$

③ Int. paid (Tax) = Int exp (Tax paid)  $\left\{ \begin{array}{l} + \downarrow \text{ int/tax payable} \\ - \uparrow \text{ in int/tax payable} \end{array} \right.$

### Indirect Method

Assets are related  $\left\{ \begin{array}{l} \text{Net income} \\ + \text{Depr exp} \\ + \downarrow \text{ accts rec} \\ - \uparrow \text{ in inv} \\ - \downarrow \text{ accts payable} \\ + \uparrow \text{ accts exp payable} \\ + \text{Loss} \\ - \text{Gain} \end{array} \right. \rightarrow \text{Non cash charges} \rightarrow \text{Adj to bal sheet}$

## Reading 26: Financial Analysis Techniques

- Useful for assessing company's performance & trends
- Primary source of data is company's annual report, fin stat. & MD&A.

### \* Financial Analysis Process

- Prior to beginning any financial analysis, analyst should clarify the purpose & context & clearly understand the following
  - ↳ What is the purpose & what quest<sup>n</sup> will this answer?
  - ↳ What level of detail is needed?
  - ↳ What data is available for analysis?
  - ↳ What factors/relat<sup>n</sup> will affect the analysis?
- Effective analysis encompasses computation & interpretation
- Quest<sup>n</sup> related to analysis of past performance
  - ↳ What aspects are critical & how did the comp. perform?
- Forward looking analysis
  - ↳ What is the impact of trends/events in the comp., incl., economy & what are the risks?

## \* Analytical Tools & Techniques

- Facilitate eval<sup>n</sup> of comp. data
- Evaluat<sup>n</sup> require comparison.
- Can perform cross sectional & time series data

## # Ratios

- Indicator of some aspect of comp. performance
- Help predict invest returns
- Ratio help us
  - ↳ Evaluate past perf
  - ↳ Assess current fin. posit<sup>n</sup>
  - ↳ Gain insights for projecting future results.

### Factors to consider when using ratios

- ↳ Need to use judgement
- ↳ Use of alternate acct method ← limitations
- ↳ Heterogeneity of comp. operating acct
- ↳ Consistency of results

## # Common-Size Analysis

Balance Sheet  $\leftarrow$  Vertical  
 Horizontal

Income Statement  $\rightarrow$  % of Revenue

Cash flow statement  $\leftarrow$  % of revenue  
 % of inflow, % of outflow

Vertical Common-Size Balance Sheet

- $\hookrightarrow$  All assets shown as % of total assets
- $\hookrightarrow$  Highlights composition of balance sheet

(Eg) Current Assets

Cash	10	(0.3%)
MKT Secur	90	(2.6%)
Acct Rec	200	(5.8%)
Inv.	300	(8.7%)
Prepaid exp	20	(0.6%)
	620	(18%)

Horizontal Common-Size Balance Sheet

$\hookrightarrow$  Highlights structural changes in business

	1	2	
Cash	1.00	0.80	$\rightarrow$ 20% $\downarrow$
MKT Secur	1.00	1.00	
Acct Rec	1.00	1.30	$\rightarrow$ 30% $\uparrow$

## # Relationship among Financial Statement (Examples)

- Compare growth rate of assets w/ growth rate of sales  
(BS) (IS)  
↳ So if growth rate of assets substantially > than sales then problem
- Compare growth rate of operating inc w/ operating CR  
↳ Both should be similar

## # Graph & Regression Analysis

- The use of graph as analytical tool  
↳ Comparison of performance & fin. structure over time  
↳ Several types of graphs can be used

### • Regression Analysis

- ↳ Help identify relat. (correlati.) bet. variables

# \* Common Ratios used in Financial Analysis

Category	Measures
Activity Ratio	Efficiency
Liquidity Ratio	Ability to meet its short term obligat <sup>n</sup>
Solvency Ratio	Ability to meet its long term obligat <sup>n</sup>
Profitability Ratio	Profitability
Valuat <sup>n</sup> Ratio	Qty of an asset or flow per share

## # Activity Ratios

• Inventory Turnover Ratio  $\rightarrow$   $\frac{\text{Beg. inv} = \text{COGS} + \text{end inv} - \text{inv. purchased}}{\text{Avg. inventory}}$

$$\text{Inv. Turnover} = \frac{\text{Cost of goods sold (COGS)}}{\text{Avg. inventory}}$$

↳ Interpretat<sup>n</sup>: How many times per period entire inv. was sold. (More the better)

$$\text{Days of inv. on hand} = \frac{365}{\text{Inv. Turn. Ratio}}$$

↳ On avg how many days of inv. is we maintain.



## • Receivables Turnover Ratio

$$\text{Receivables Turnover} = \frac{\text{Revenue}}{\text{Avg. receivables}}$$

↳ Interpretation: How quickly does a company collect cash (Higher the better)

$$\text{Days of sales outstanding} = \frac{365}{\text{Rec Turn Ratio}}$$

## • Payables Turnover Ratio

$$\text{Payables Turnover Ratio} = \frac{\text{Purchases}}{\text{Avg. trade payables}}$$

Instead of purchases, we can use COGS +  $\Delta$  Inventory

↳ Interpretation: No. of times per yr company pays Suppliers

↑ number → not making use of credit facilities

↓ number → liquidity issues

$$\text{Working Capital Turnover} = \frac{\text{Revenue}}{\text{Avg WC}}$$

↳ Interpretation: How efficiently does a company generate revenue from WC

$$\text{Fixed asset turnover} = \frac{\text{Revenue}}{\text{Avg Fixed Assets}}$$

↳ Interpretation: How eff. from net fixed asset

$$\text{Total asset turnover} = \frac{\text{Revenue}}{\text{Avg Total fixed assets}}$$

↳ Interpretation: How eff. from total assets

### Remembering Ratios

↳ Name tells us BS item

↳ Numerator → IS

↳ Denominator → BS

$$\text{Current} = \frac{CA}{CL}$$

$$\text{Quick} = \frac{\text{Cash} + \text{Mkt sec} + \text{Rec}}{CL}$$

$$\text{Cash} = \frac{\text{Cash} + \text{Mkt sec}}{CL}$$

### # Liquidity Ratios

We already know Current, Quick & Cash Ratio.

$$\text{Defensive Interval Ratio} = \frac{\text{Cash} + \text{Mkt sec} + \text{Receivables}}{\text{Daily cash expend.}}$$

↳ Interpretation: No. of days worth short term assets

Cash conversion cycle (Net op. cycle) = Days of inv. on hand + Days of sale of payable - No. of days of payable

↳ Interpretation: Time b/w when comp. spends money on inv. till the time it receives money  
↓ no. → high liquidity

## # Solvency Ratios

All the ratios from BS heading

• ↑ no. → ↑ debt

• Interest coverage =  $\frac{\text{EBIT}}{\text{Int. pmt}}$

↳ If this is 10 i.e. Operating inc. covers your Int. 10 = times. ↑ the better

• Fixed charge coverage =  $\frac{\text{EBIT} + \text{lease pmt}}{\text{Int. pmt} + \text{lease pmt}}$

growth rate = book rate =  $R_{2010} \times R_{08}$

# # Profitability Ratios

operating profit

↑ the better

## Return on Sales

Ratio	Numerator	Denominator
Gross profit margin	Gross profit	Revenue
Operating " "	Operating inc	" "
Pretax margin	EBT	" "
Net profit margin	Net inc	" "

## Return on Invest (Can follow $\frac{RS}{BS}$ track)

Ratio	Numerator	Denominator
Op-Return on Assets	Operating inc	Avg. total assets
ROA	Net inc	" "
Ret. on total capital	(EBIT)	Short & long term debt & equity
ROE	Net inc	Avg. total equity
Ret on common equity	Net inc - pref. div.	Avg common eq.

# DuPont Analysis

Return on Equity

Return on Asset × Fin. Leverage

Net pft margin × Total Asset Turnover

Tax Burden × Int. Burden × EBT margin

$$ROE = \frac{NI}{E} = \frac{NI}{A} \times \frac{A}{E}$$

(Ret on Assets) (Fin Levg)

$$= \frac{NI}{S} \times \frac{S}{A} \times \frac{A}{E}$$

(Net pft margin) (Total Ass Turnover) (Fin lvg)

• growth rate = Retention Rate x ROE

## # Valuation Ratio

	Numerator	Denominator
P/E	Price per share	Earning per share
P/CF	CF	CF per share
P/S	AD	Sales
P/BV	Market Value	Book Value
Basic EPS	We know this from IS	
Diluted EPS	chapter	
CF per share	CF from op <sup>s</sup>	wt avg no. of outstanding shares
EBITDA per share	EBITDA	" "
Divid. per share	Common div. dividend	wt avg of ordinary shares outstanding

## # Industry Specific Ratios

- No. universally accepted definition & classification of ratios
- Ratios serve as indicators of perf. & value?
- Aspects of perf which are relevant in one industry might be irrelevant in another - hence ind. specific ratios

## \* Credit Analysis

- Used for evaluation of credit risk

	Ratio	Numerator	Denominator
↑ → ↓ the credit risk	EBT int coverage	EBT	Gross interest
	EBITDA - " -	EBITDA	- " -
↓ → ↓ the credit risk	Debt to EBITDA	Total debt	EBITDA
	Total debt / (Total debt + equity)	Total debt	Total debt + equity

## \* Business & Geographic Segments

Bus. segments → subsidiary comp., operating units, operating in diff. countries

- Disclosure of ratios rep. by IFRS & US GAAP.

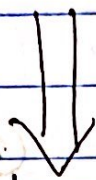
Ratio	Numer.	Denom.
Segment Margin	Seg. profit	Seg. Rev.
Seg. turnover	Seg. rev.	Seg. Assets
Seg. ROA	profit	- " -
Seg. debt ratio	- " - liab	- " -

- If any single customer repr. 10% or more of comp's total revenue, the comp must disclose that fact

Financial Forecasting

# \* Model Building & Forecasting \*

Forecasts + Expected Retros



Models to predict future earnings & CF

Eg. By forecasting sales & calc Gross Profit Margin you can predict cost of goods sold & eventually Cross Profit

•  $Growth\ rate = Retent\ rate \times ROE$

$Retent\ rate = 1 - dividend\ payout\ ratio$

$dividend\ payout\ ratio = \frac{divid.\ declared}{net\ inc\ avail\ to\ share}$

• Scenario analysis: Changes in key fin. qty that result from alternative sets of economic events.

• Sensitivity analysis: aka 'what if' analysis, shows range of possible outcomes as specific assumption are changed

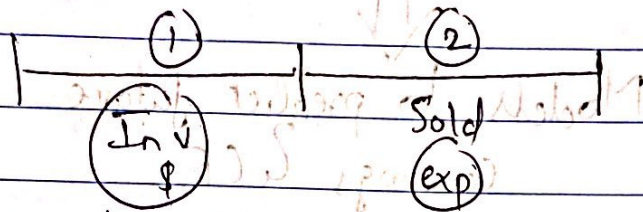


# Reading 27: Inventories

\* Introduction

- Inv. is shown as current asset on BS

\* Cost of Inventories



Let's consider company XYZ makes its inventory in the first quarter. This will be considered as asset on BS in 1<sup>st</sup> Q. Now if that inv. is sold in 2<sup>nd</sup> quarter, it will be recorded as an expense (cost of goods sold) in Q2's BS.

• Capitalized inv. cost (which relates to assets) consists of

- ↳ cost of purchases
- ↳ cost of conversion  $\left\{ \begin{array}{l} \text{Direct labor} \\ \text{Direct overhead} \end{array} \right.$
- ↳ cost necessary to bring inv. to present location & condition of sale

• Period costs are expensed in period incurred (COGS)

- consists of
- ↳ Abnormal waste of materials, labor or overheads.
  - ↳ Storage & Selling costs
  - ↳ Admin costs

## \* Inventory Valuation Methods

### # Specific Identification

- Used for inv. items that are unique in nature & not ordinarily interchangeable. This method allows for cost of sales & ending inventory costs to reflect actual costs incurred.

### # First In First Out (FIFO)

- Assumes oldest goods ~~are~~ purchased are sold first & newest goods purch. are remain in ending inventory.

Eg. In Period 1 u buy 2 pencils for \$1 each & then another 2 for \$2 each. You can sell 2 pencils in P1 & 2 pencils in P2. Complete the table using FIFO

Item.	FIFO \$
P1 COGS	\$2 i.e. 2 pens @ \$1 total = 2 x \$1
Inv at end of P1	\$4 i.e. 2 pens @ \$2
P2 COGS	\$4
Inv at end of P2	\$0

## # Last-In, First Out (LIFO)

- Assumes newest goods purchased are sold first & oldest goods purchased remain in ending inventory.
- Only allowed under US GAAP

Table w/ previous example

Item	LIFO
P1 COGS	\$4
Inv at end of P1	\$2
P2 COGS	\$2
Inv at end of P2	\$0

## # Weighted Average Cost

This method assigns avg cost of goods avail for sale during acc period to units that are sold & as well as ending inv.

$$WAC = \frac{\text{Total cost of units avail for sale}}{\text{Total units avail for sale}}$$

Table wrt prev eg.

$$WAC = \frac{2 \text{ pencils of } \$1 \text{ each} + 2 \text{ pencils of } \$2 \text{ each}}{\text{Total of 4 pencils}} = \frac{6}{4} = \underline{1.5}$$

Item	WAC \$
P1 COGS	3 (2 pencils each of wt 1.5)
Inv at end of P1	3 (2 pencils each of wt 1.5)
P2 COGS	3
Inv at end of P2	0

## # Periodic vs Perpetual Inv. System < Eg. from Kaplan >

### • Periodic System

- ↳ Comp. decides qty of inv on hand periodically;
- ↳ Necessary to maintain 'Purchases' Acct.
- ↳ Ending inv determined through physical count

$$\text{COGS} = \text{Beg. Inv} + \text{Purchases} - \text{Ending Inv}$$

### • Perpetual System

- ↳ Inv & COGS continuously updated

Specific Ident<sup>n</sup> & FIFO

Periodic & perpetual give same values for COGS & ending inv

(LIFO & WAC)  
Choice of sys affects COGS & ending inv.

# # Comparison of Inv. Valuat. Models

## Rising Prices & Inventory is Stable

	LIFO (Better for IS)	FIFO (Better for RS)
COGS	High (H)	L
Taxes	Low (L)	H
EBT & EAT	L	H
Inv. Bal	L	H
CA - CL	L	H
CF (After tax)	H	L

Wh. avg costs provide results b/w LIFO & FIFO

## Falling Prices & Stable Inv.

	LIFO	FIFO
COGS	L	H
Taxes	H	L
EBT & EAT	H	L
Inv. Balance	H	L
CA - CL	H	L
CF (After Tax)	L	H

## \* LIFO Method

- Permitted under US GAAP & not under IFRS.
- LIFO Conformity Rule!! Same method for tax & financial reporting
- Companies using LIFO inv. must disclose LIFO reserve
- LIFO reserve is difference b/w inv. reported @ FIFO & inv. reported @ LIFO

## # LIFO Reserve

- Difference b/w reported LIFO inv carrying amt & inv. amt that would have reported if FIFO had been used

$$\text{FIFO inventory} = \text{LIFO inventory} + \text{LIFO reserve} (1 - \text{Tax}) \quad \text{(BS)}$$

$$\text{FIFO COGS} = \text{LIFO COGS} - (\text{ending LIFO reserve} - \text{begin. LIFO reserve}) \quad \text{(IS)}$$

$$\text{FIFO Net Inc} = \text{LIFO Net Inc} + \Delta \text{LIFO reserve} (1 - \text{Tax}) \quad \text{(IS)}$$

$$\text{FIFO Ret. Earning} = \text{LIFO RE} + \text{LIFO reserve} (1 - \text{Tax}) \quad \text{(BS)}$$

# # LIFO Liquidat<sup>n</sup>

In periods of rising inventory, carrying amt of inv. under FIFO will exceed the carrying amt of inv. under LIFO.

LIFO reserve may ↑ for 2 reasons

↳ ↑ difference b<sup>n</sup> older costs used to val. inv. under LIFO & more recent costs used to value inv. under FIFO

↳ no. of inv. units man<sup>y</sup>. or purch. exceeds the no. of units sold.

## LIFO liquidat<sup>n</sup>

↳ No. of units sold exceed units purchases / man<sup>y</sup>.

↳ Can be used by mgmt to manipulated earnings

↳ margins

↳ LIFO reserve ↓, COGS represent old prices

↳ Accounting concern

↳ Results in ↑ pft margin, ↑ inc tax, ↓ COGS

↳ Example from Kaplan

↑ gross pft pre-tax inc & net inc

(T-I) + LIFO reserve = pretax net income

## \* Inventory Method Changes

- Very occasionally companies change inv. valuation method.

↳ Acceptable if change 'results in more reliable & relevant info'.

- Changes must be applied retrospectively: except when US GAAP comp changes to LIFO

- Carefully analyze why company is actually making the change

↳ Might be trying to ↓ taxes or ↑ NI

## \* Inventory Adjustments

NRV = Selling Price - Cost of selling that good

IFRS

10

8

US GAAP

- Lower of cost or net realizable value (NRV)

- If  $NRV < \text{Bal. sheet cost}$ , inv is "written down" & loss is recognized

- If subsequent recov. in value, the inv. can be "written up" & gain is recognized in income

• Lower of cost or mkt val

• Mkt = replacement cost

• Mkt val has upper limit of NRV & lower limit of

NRV - normal profit margin.

• If  $\text{cost} > \text{NRV}$ , inv. written down to mkt on BS &

loss is recog.



Statement but the amt of any such gain is limited to amt prev. recog. as loss. If subseq. recovery, no write up is allowed.

8 ↑ 10

(10)

## # Impact of inventory adjustments

An inventory write down reduces both profit (i.e. loss by recording ↑ COGS) & carrying amt of inv.

- Positive effect on activity ratios
- Negative effect on profitability, liquidity & solvency ratios

Companies using specific identification, wt. avg. cost or FIFO are more likely to incur write-down relative to companies using LIFO.

Inv. write down also called valuation allowance.

Reduces val. of inv. on BS

Eg. Volvo  
1. What inv. values would Volvo have reported for 2008, 2007 & 2006 if it had no allowance for industry obsolescence?

↳ So if net inv = 3000 & value allow = 500

Answer = 3500

Value after deducting val. allowance

2. Assuming changes in allow. are reflected in cost of sales, what amt would Volvo's cost of sales be for 2008 & 2007 if it had not recorded inv. write down in 2008 & 2007

↳ So if cost of sales = 2000 &  $\Delta$  value allowance = 50

Answer: COGS = 2000 - 50 = 1950

3. What amt would Volvo's profit (net inc) be for 2008 & 2007 if it had not recorded inv. write downs in 2008 & 2007. Assume tax rate of 28.5% for '08 & 30% for '07

↳ Answer: If  $\Delta$  allow = 50, profit = 50(1-T)

## \* Evaluation of Inv. Mngmt

- Eff. & effectiveness of inv. mngmt can be evaluated using following ratios

↳ Inventory turnover → Should be ↑

↳ Days of inv. on hand → ↓

↳ Gross Profit Margin → ↑

• Choice of inv. valuation method impacts several ratios

• Need to be particularly careful when comparing IFRS & USGAAP

## # Presentation & Disclosure

• IFRS req. following fin. stat. disclosures wrt inv.

↳ Accounting policies used

↳ Include total carrying amt of inv. & carrying amt in classification

↳ Carrying amt of inv. carried at fair val. less costs to sell

↳ Amt of inv. req. as expensed during period (COGS)

↳ Amt. of any reversal of write-downs or write-down req. as ↓ in COGS or as exp.

↳ Circumstances leading to reversal of write-down of inv.

Eg.

$\frac{11.2.2}{\text{Time}}$

Impact of inv. valuation method on following ratios

FIFO

WAC

LIFO

Inv. Turnover

$\frac{\text{Sales}}{\text{Inv}}$

$\frac{\downarrow}{\uparrow} \downarrow$

$\uparrow$

Days of inv.

H

L

Gross profit margin

$\frac{\text{GP}}{S}$

$\frac{\uparrow}{\downarrow} \uparrow$

$\downarrow$

Current ratio

$\frac{\text{CA}}{\text{CL}}$

$\frac{\uparrow}{\downarrow} \uparrow$

$\downarrow$

Return on Assets

$\frac{\text{NI}}{A}$

$\frac{\uparrow}{\uparrow} \uparrow$

Debt-to-equity

$\frac{D}{E}$

$\frac{\uparrow}{\downarrow} \downarrow$

## Reading 28 : Long Lived Assets

### \* Introduct<sup>n</sup>

07. Those assets which are expected to provide future economic benefit extending more than one year.

T. These assets might be tangible, intangible or financial assets.

↓ Major questions :

↳ What value must be shown on balance sheet?

↓ ↳ How should cost be allocated over life of an asset?

### \* Acquisition of Long Lived Assets :

• Upon acquisit<sup>n</sup>, long term tangible assets must be such as PP&E must be recorded on BS at cost similar to fair value.

↳ Assets cost might include expenditure in addit<sup>n</sup> to purchase price

↳ Should these costs be expensed or capitalized

• Intangible asset valuat<sup>n</sup> depends on method of valuat<sup>n</sup>

↳ Developed internally

↳ Purchased

↳ Through business acquisit<sup>n</sup>.

• Avg <sup>useful</sup> age of PPE =  $\frac{\text{Acc Depr}}{\text{Annual depr expense}}$

Average remaining useful life =  $\frac{\text{Net PPE}}{\text{Annual depr}}$

## # Property, Plant & Equipment

• At acquisition, PPE is recorded at cost (capitalized)

↳ Cost includes all expenditures necessary to get the asset ready for intended use

↳ Subsequent costs are capitalized if they are expected to provide benefit beyond one year; otherwise they are expensed.

↳ Eg. purch: cost of eq., cost to bring to factory & get it ready are capitalized while training members, repainting the floor are expensed.

• Companies might have different approach toward expensing / capitalizing costs.

• Analyst shd understand impact of exp/cap on fin. ratios & statements

• Effects of Capitalizing vs Exp.

	Capitalizing	Expense
Total Assets	H	L
Equity $E = A - L$	H	L
Inc variability	L	H

Net inc (1 <sup>st</sup> yr)	H	L
Net inc (Later)	L	H
CFO	H	L
CFI	L	H
D/E	L	H
Int. coverage (1 <sup>st</sup> yr) $\frac{EBIT}{int}$	H	L
" (Last yr)	L	H

(Eg.) Acme Inc purchased m/c for 10,000. In addition the following costs were incurred:

- 200 for delivery
- 300 for installat<sup>n</sup>
- 100 to train staff
- 1000 to reinforce floor to support m/c
- 500 to paint factory

→ Cap. cost =  $200 + 300 + 1000 + 10,000 = 11,500$

Expenses =  $100 + 500 = 600$

On BS, PPE = 11,500

IS, Expenses & Depr shown here

CF, CFI = -11,500      CFO = -600

J	H	needs total
J	H	J-A-B
H	J	plung

## # Capitalization of Interest Costs

For constructed asset, interest cost during const<sup>n</sup> are cap. as a part of asset cost.

Eg. If you borrow 100 mil @ 10% to build a house then 100 mil along w/ 10% are calculated under assets.

↳ Use rate on borrowing related to construct; if no const debt is outstanding i.e. if you issue bonds worth \$200 mil & out of that use 100 mil for house then int. rate is based on existing unrelated debt

↳ Capitalized int. rate not reported as int. expense

on IS.

↳ IFRS: int. on short term lending offsets capitalized costs (not allowed in US GAAP) (Eg. on the next page)

Capitalized interest causes

↳ Higher net inc. & greater int. coverage ratios during period of cap.

↳ Higher asset values & depreciation lead to lower net inc., EBIT & int. coverage over subseq. periods.



(Eg.) A comp. borrows 2mil @ 5% int. per year on 1 Jan to finance construct<sup>n</sup> of a factory that will have a useful life of 40yrs. Const<sup>n</sup> is completed after 2yrs, during which comp. earns 20,000 by temporarily investing loan proceeds.

Interest Capitalized under US GAAP =  $2\text{mil} \times 5\% \times 2\text{yrs} = 200,000$ .

under IFRS =  $200,000 - 20,000 = 180,000$

Initially, the cap. amt will appear on the BS as asset. After complet<sup>n</sup> of project it will appear as deprecia<sup>n</sup> on IS.

## # Intangible Assets

- Intang. assets w/ finite lives are amort over their expected useful lives
- Lack physical subst<sup>n</sup>

Eg. software, patents, copyright, cust. list

- Accounting of intang. assets depends on how it is acquired

### Acquired in business combinat<sup>n</sup>

- ↳ Recorded at fair val. ; similar to long lived asset
- ↳ Determinat<sup>n</sup> of fair val. req. judgement

higher investing cash outflow

• Purchased in situat<sup>n</sup> other than business comb<sup>n</sup>

↳ Recorded at fair value

• Developed internally

↳ IFRS: Research costs are expensed as incurred & development costs are capitalised.

higher

operating cash outflow: USGAAP: Both research & development costs are expensed as incurred.

↳ Costs incurred to develop software for sale to others are expensed until product's feasibility has been established. Subsequent costs are capitalized.

↳ IFRS: Cap. dev. cost once feasibility est.

USGAAP: Cap. all dev. cost

(Eg) Acme starts internal software dev. project on 1 Jan.

It incurs expenditures of 10,000 per month during fiscal yr. By 31 March, it is confirmed that prod is successful & will be used as intended. How are software dev. cost recorded before & after 31 March?

→ Acc IFRS, exp =  $10000 \times 3 = 30,000$

cap =  $10000 \times 9 = 90,000$

USGAAP, exp & cap =  $10,000 \times 12 = 120,000$

# \* Depreciation & Amortization of Long Lived Assets

Under cost model of reporting LLA, the capitalized cost of a tangible (intang) is expensed through a process called depreciat<sup>n</sup> (amort<sup>n</sup>).

Carrying Amt / Net Book value

- ↳ Amt @ which asset is reported on BS
- ↳ Historical cost - acc. depr.

Depreciation methods include

↳ Straight line method (SL)

↳ Accelerated method (DDB)

↳ Units of prod<sup>n</sup> method (UOP)

(Eg) Consider 3 comp. w/ names: SL inc, DDB inc & UOP inc.

Each comp purchases identical equip for \$10,000. Each makes similar assumpt<sup>n</sup>: estimated useful life = 4 yrs; residual val = 1,000; productive capacity = 1000.

Prod<sup>n</sup> over 4 yrs: 400, 300, 200, 100. Complete table for all 3 comp.

## SL Inc

$$\text{Depn. exp} = \frac{10,000 - 1,000}{4} = 2,250$$

	Beg. Net BK Val.	Depn. Exp.	Acc. Depn.	End NBV.
Yr 1	10,000	2,250	2,250	7,750
Yr 2	7,750 (10k - 2.25k)	2,250	4,500	5,500
Yr 3	5,500	2,250	6,750	3,250
Yr 4	3,250	2,250	9,000	1,000

DDB Inc : Depn. Exp = 2x SL Method = 2x 2,250 = 5,000

	Beg. NBV	Depn. Exp	Acc. Depn.	End NBV
Yr 1	10,000	5,000	5,000	5,000
Yr 2	5,000	2,500 (50% of 5,000)	7,500	2,500
Yr 3	2,500	1,250 (50% of 2,500)	8,750	1,250
Yr 4	1,250	625 (50% of 1,250)	9,375	1,000

UOP Inc : UOP Depn per unit =  $\frac{\text{Cost} - \text{Residual Val}}{\text{Prod. (units)}}$   
 $= \frac{10,000 - 1,000}{1,000} = 9$

	Beg. NBV	Depn. Exp	Acc. Depn.	End NBV
Yr 1	10,000	400 x 9 = 3,600	3,600	6,400
Yr 2	6,400	300 x 9 = 2,700	6,300	4,000
Yr 3	4,000	200 x 9 = 1,800	8,100	2,000
Yr 4	2,000	100 x 9 = 900	9,000	1,000

## # Fin. Statement Impact Summary

• For EARLY years of assets life

	Straight line	Accelerated (DDB)
Depr. Exp.	L	H
Net Inc	H	L
Assets	H	L
Equity	H	L
ROA	H	L
ROE	H	L
Asset Turnover	L	H
Operat <sup>n</sup> pft margin	H	L

• Above relat<sup>s</sup> are REVERSE for LATTER years

if firms cap exp. ↓

## # Component Method of Depreciation

IFRS → use component depr method: depr each component separately

US GAAP → allows comp method depr & but is seldom used

(Eg) A m/c has 2 major comp. Comp 1 costs \$10,000 w/ useful life of 10 yrs & Comp. 2 costs \$3,000 w/ useful life of 3 yrs

→ w/ Comp. depr method =  $\frac{10000}{10} + \frac{3000}{3} = 2000/\text{yr}$

w/o comp. depr method =  $\frac{10000 + 3000}{10} = 1300/\text{yr}$

## # Amortization & Calc of amortization exp.

- Similar concept to depr Amortization \*
- Applies to intangible assets
- Uses SL method

## \* Revaluation Model

- Allowed under IFRS & not allowed under US GAAP
- Here the assets are revalued at fair value as compared to historical cost model & depr is based on fair value
- Carrying amt = Fair value - acc. depr

(Eg.) M/c costs 10,000 @ start of P1. At the end of P1, the fair value is 12,000. At end of P2, fair val = 8,000. Show impact on fm. stat

→

	10,000	12,000	8,000	13,000
Assets	10,000	12,000	8,000	13,000
Equity:				
Reval <sup>n</sup> surplus		2,000	-2,000	3,000
IS:			-2,000	3,000

We first reverse the surplus then acct. the loss

So if there is gain BS is affected  
 loss BS & IS is affected

IS loss = -2,000  
 Gain = (8,000 - 10,000) = -2,000

## \* Impairment of Assets

- Impairment charges reflect unanticipated decline in the value of an asset

- Both IFRS & US GAAP require companies to write down the carrying amt of impaired assets

- Impairment reversals are permitted under IFRS but not under US GAAP

- IFRS req. checking for impairment at least annually. Not req by US GAAP

## # Impairment Calculation

Under IFRS

↳

$$\text{Impairment loss} = \text{Carrying Value} - \text{Recoverable amt}$$

where

$$\text{Recoverable amt} = \max \left( \begin{array}{l} \text{fair val - cost to sell} \\ \text{value in use} \end{array} \right)$$

where value in use = PV (CF from asset)

↳ If carrying val = 1000 & recover amt = 900 then

BS: 1000 → 900  
P&L: loss → 100

Under US GAAP

↳ First do recoverability test to determine whether is impaired.

↳ Asset is impaired if carrying val > Asset's future undisc CF

Impairment = Diff. b/w fair val & A

disposed value less in absence of carrying amt so

(Eg) Given the data, what is reported value under IFRS & US GAAP.

• Carrying amt = 8000

• Fair val = 7000

• Undisc future CF = 9000

• Costs to sell = 2000

• PV (exp. future CF) = 6000



Under IFRS, reversals only allowed for prev. recog. imp. losses only

IFRS: Carrying amt  $\neq$  recoverable amount

$$\text{Imp loss} = 8000 - \max(7000 - 200, 6000) = 1200$$

USGAAP: Carrying amt  $\neq$  undiscounted future CF  
So no imp loss

### Reversal of impairments of LLA

↳ Upward revaluation is allowed under IFRS but not under USGAAP

IFRS

USGAAP

### \* Derecognition

• An asset is derecognized when it is disposed of or is expected to provide no future benefits from either use or disposal.

• Disposed by selling it, exchanging it or abandoning it

• Available for sales

• Gain or loss on sales = Sales proceeds - Carry. amt



(Eg). Treatment of unrealized gains & losses

	Reported @	Reports gain under	Loss under
for Available for sale	Fair Value	Equity (BS)	Equity (BS)
for Revaluation model	Fair value	Reval. Surplus (BS)	ILs.
for Fair Value Model	F.V.	ILs	ILs

\* Leasing

A lease is a contract b/w lessor & lessee  
owner user

- Lessor grants right of use to lessee
- In exch of right to use, lessee makes periodic pmts to lessor

• Adv. of lease

- ↳ less costly financing
- ↳ less restrictive provisions
- ↳ Reduced risk of obsolescence
- ↳ Off balance sheet financing

↳ Tax reporting adv.

## # Finance vs Operating lease

### Operating lease

↳ Agreement that allows the lease lessee to use the asset for a period of time (Similar to rental)

### Finance lease

↳ Equivalent to purchase of some asset by the lessee that is directly fm. by lessor

↳ IFRS: risks & rewards are trans. to lessee

↳ US GAAP: 1. ownership of leased asset trans. to lessee at end of lease OR 2. lease contains (opt.) for lessee to purchase leased asset cheaply OR (3) lease term is

75% or more of useful life of leased asset OR (4) PV of lease pmt is 90% or more of fair value of leased asset

## # Reporting by Lessee

### Operating lease:

↳ No entry @ receipt of lease

↳ Rent exp = lease pmt recog. in income stat during lease term

• Finance lease

- ↳ At inception, PV (future lease pmt) is recog as assets & liabilities on BS
- ↳ Asset is depr & int pmt recog in IS

$\text{Interest exp} = \text{liability at beg} \times \text{int. rate}$ <p>(of previous period)</p>
---

# Fin. Stat impact of lease accounting for lessee

	Fin. Lease	Operating Lease
Assets	H	L
Liab.	H	L
NI (early yrs)	L	H
NI (later yrs)	H	L
Total NI	Same	Same
EBIT (Op. inc)	H <small>Only int exp. ↓</small>	L <small>The whole amt ↓</small>
CF	H <small>Only int exp ↓</small>	L <small>The whole amt ↓</small>
CFE	L	H
Total CF	Same	Same

... of lease acct ...  
 ... of lease acct ...

## # Ratio Impact of lease acct

	Finance lease	Operating lease
Current ratio	L	H
Working Cap	L	H
Asset turnover	L	H
ROA (early yr)	L	H
ROE (early yr)	L	H
Debt/Asset	H	L
Debt/Equity	H	L

When comp has substantial amt of operating leases, adjusted reported fin. to include impact of capitalising these leases better reflects comp's solvency positn.

## # Reporting by Lessor

- Operating lease
  - Record revenue earned
  - Report leased asset on bal. sheet
  - Depr exp. on inc statement

- Under IFRS, principal parts of fin. lease pmt may be recognized as CFR by lessee & CFI by lessor

## Finance lease

↳ Report lease receivables

↳ Reduce asset by carrying amt of asset leased

↳ USGAAP:

↳ Direct finance lease

↳ PV of lease pmt = carrying val of lease asset

↳ Lessor earns only int revenue

↳ Sales type lease

↳ PV of lease pmt > carrying val of

lease amt i.e. [Profit]

↳ Lessor earns both int rev. & profit (or loss) on sale of leased asset

- Finance lease for lessor & Operating lease for lessee are profitable

## \* Comparison of IFRS & USGAAP

because IFRS have less USGAAP

Short-term int. led on ~~balance sheet~~ ~~profit & loss~~ X

rate offset cap ~~costs~~ ~~are~~ ~~on~~ ~~the~~ ~~balance~~ ~~sheet~~

2015 2014 2013

IFRS

US GAAP

Intangible assets developed internally  
Research → Exp.  
Dev → Cap

R&D Exp.

Developing software

Exp. till ready; then cap.

Same as IFRS. Cap. from start

Component

✓

Uses seldom

method of Depri

Revaluation model

✓

X

Impairment

✓

X

Reversal

Presenter 2

More

Less

Disclosure

exhaustive

exhaustive

Estimate of amount expense

X

✓

	2015	2014	2015	2014	Revenue
Revenue	100	100	100	100	Revenue
Cap Exp	(30)	(25)	(30)	(25)	Cap Exp
Depri	(10)	(10)	(20)	(20)	Depri
Profit before tax	60	55	50	45	Profit before tax



# Reading 29: Income Taxes

## \* Difference bt Accounting profit & taxable income

- Fin. stats prepared based on accounting standards.
- These stats define computing accounting profit & tax expense
- Calc of tax payable is based on tax laws.

### Accounting principles

- SL depr.
- Rev. recog. rule
- Matching principles for exp.

### Tax Rules

- Acc. depr.
- Rev. based on cash rec.
- Expenses based on cash paid

Accounting profit is based on accounting std.

Taxable inc. based on tax laws

### Financial Reporting

	2011	2012
Revenue	100	100
Cash Exp.	(50)	(50)
Depr (SL)	(25)	(25)
Profit before tax	25	25

### Tax Reporting

	2011	2012
Revenue	100	100
Cash Exp	(50)	(50)
Depr (Acc)	(40)	(10)
Taxable inc	10	40

Lets say tax rate = 40%.  
What is inc tax expense & inc tax payable for 2011

→ Inc tax exp = 40% of 25 = 10

Inc tax payable = 40% of 10 = 4

Inc tax exp (Provision for inc tax) shown on IS.

Inc tax payable is what payable & is shown in balance sheet. Eg. If a comp can pay taxes by 15<sup>th</sup> April & it calculates inc tax payable on 10<sup>th</sup> Jan, that amt will be added to BS as a liability.

Inc tax paid is the actual amt paid.

## # Deferred Tax liabilities

Arises when income tax exp. (IS) is temporarily > Tax payable (tax return) because

↳ Revenue is recog. early cos of acc std but the cash pmt to comp has not been done.

↳ Expenses tax deductible before being recog. on inc statement

Basically, comp underpaid taxes

## Financial reporting vs Tax Reporting

	2011		2012	
Rev.	100	100	100	100
Cash Exp	(80)	(80)	(80)	(80)
Depr (SL)	(25)	(25)	(40)	(20)
Profit b4 tax	25	25	10	40
Tax Exp (40%)	(10)	(10)	(4)	(16)
Profit after tax	15	15	16	24

So overall tax to be paid is same  $10 + 10 = 4 + 16$

Here  $ITE(10) > ITP(4)$ , i.e. you had to pay 10 but cos. of not getting cash pmt you are paying 4 but you still owe  $(10 - 4 = 6)$  which is called deferred tax liability = 6 at the end of 2011. Once we pay 16 @ end of 2012, DTL is reversed.

## # Deferred Tax Assets (DTA)

- When tax payable > income tax exp: because
  - ↳ You receive pmt before providing service i.e. (Revenue taxable before recognized)
  - ↳ Expense recognized before tax deductible

Basically, comp overpaid taxes (23)

Financial Reporting vs Tax Reporting

	2011	2012		2011	2012
Revenue	100	100	Rev.	120	80
Cash Exp	(50)	(50)	Cash Exp	(50)	(50)
Pft b4 tax	50	50	Pft b4 tax	70	30
Tax Exp (40%)	(20)	(20)	Tax Exp (40%)	(28)	(12)
Pft aftr tax	30	30	Pft aftr tax	42	18

Here, DTA = 8 as you have overpaid 8, i.e. 28 - 20  
 @ end of 2011. At end of 2012, DTA reverses.

∴ ITE > ITP → DTL  
 ITP > ITE → DTA

# Tax Base of an Asset

Asset tax base

- ↳ Val. of asset according to tax rules & used to calculate tax payable
- ↳ Analogous to carrying amt (net book val)

(Eg) An asset is purchased for 50 & is depr over 2 yrs. On fin. stat the depr is 25 & 25. Acc to tax rule, depr is 40 & 10. Show carrying amt & tax base for T = 0, 1, 2

	Carry cost	Tax base
Time = 0	Asset = 50	50
1	$(50 - 25) = 25$	$50 - 40 = 10$
2	$(25 - 25) = 0$	$10 - 10 = 0$

• Link b/w DTL & Tax Base

	Fin. Rep.		Tax Rep.	
	2011	2012	2011	2012
Rev.	100	100	100	100
Cash Exp	(50)	(50)	(50)	(50)
Depr (SL, Acc)	(25)	(25)	(40)	(40)
Pft b4 tax, Taxable Inc	25	25	10	40
Tax Exp (40%)	(10)	(10)	(4)	(16)
Pft after tax	15	15	6	24

ITE (Inc Tax Exp) and ITP (Inc Tax Payable) are indicated with arrows pointing to the Tax Rep. columns.

DTL @ end of yr =  $(\text{Carrying amt} - \text{Tax Base}) \times \text{Tax Rate}$

Q6 from Kaplan Quiz

Ending 2011:  $DTL = (25-10) \times 0.4 = 6$  \*

2012:  $DTL = 0$

$ITE = ITP + \Delta \text{Net DTL} = ITP + \Delta DTL - \Delta DTA$

2011:  $ITE = 4 + (6-0) = 10$

2012:  $ITE = 16 + (0-6) = 10$

ITE also called provision

(Eg) In 2012,  $ITP = 100$ . During the year  
 $DTL \uparrow$  from 20 to 25 &  $DTA \uparrow$  from 0 to 10.

$\Rightarrow$  Provision for inc tax  $= 100 + 5 - 10 = 95$

\* (Eg) XYZ builds a fact which will be depr  
 in 10yrs according to acct rules & 5yrs accord  
 to tax rules. After XYZ will record  
 $\hookrightarrow$  DTL  
 $\hookrightarrow$  DTA  
 $\hookrightarrow$  None

$\Rightarrow$  Fin Rep. uses SL depr

Tax side uses accel. Depr so  $\uparrow$  exp so  $\downarrow$  taxable in-  
 come so  $\downarrow$  tax payable so  $ITE > ITP$

DTL

# \* Determining Tax Base of Assets & Liabilities

## # Determining tax base of asset

• Asset tax base

↳ Amt that will be deductible for tax purposes in future periods as economic benefits are realized

Item	Carry amt	Tax Base	Temp. Diff
Asset Purch. for 50; for yrl depr = 25 on 15 & 40 for tax purposes	25	10	15
Capitalized dev cost = 100 @ start of yr. During the yr 30 was amortized. Tax purposes on 25% allowed	70	75	-5
Research cost = 100; entire cost was exp. Tax rules req. cost to be spread over 4 yrs	0	80	-80
Gross acct rec = 100; Provision for doubtful debt = 10%. Tax authorities allow 20%.	90	80	10

## # Determining Tax Base of Liability

- It is the carrying amt <sup>of liab</sup> less any amts that will be deductible for tax purposes.

(Eg) Customer payments received in adv = 50. Amt is taxable

→ Carrying amt = 50 (unearned rev) Tax Base = 0

Temp diff = 50 - 0 = 50

## # Changes in Inc Tax Rates

- Measurement of deferred tax assets/liabilities based on current tax law.

- ve DTL means it's a +ve DTA

DTL of -15 means DTA = 15

↓ Tax rates → ↓ DTL & DTA

↑ Tax rates → ↑ DTL & DTA

\* (Eg) Firm A has net DTL. Gov ↓ tax rate  
Will this benefit IS re (w/in NI) & bal. sheet i.e (Equity)?

→ Tax ↓ → NI ↑ → Benefits IS

DTL ↓ → Equity ↑ → Benefits BS



## \* Temporary & Permanent Changes

### Permanent differences

↳ Diff b/w tax & fin. reporting rev (exp) that will not be reversed at some future date

↳ These diff. do not give rise to DTL's & DTA's.

↳ Ex Inc. or exp items not allowed by tax legislat<sup>n</sup>

\* Tax credits for some expenditure that directly reduce taxes. Acct. expenses not deductible for tax purp.

↳ Here effective tax rate  $\neq$  Statutory tax rate

$$\text{Reported tax rate} = \frac{\text{Int. expense}}{\text{Pretax inc}}$$

Ex. In 2012, Acme's provision for inc tax was 20 against EBT of 100. In same yr, tax payable was 25 & taxable inc was 110. What was acme's eff. tax rate.

$$\rightarrow \frac{20}{100} = 20\%$$

EBT 100 → Tax 20 → EBT 80  
 DTL 25 → EBT 105 → Tax 21 → EBT 84

## Temporary Differences

↳ Diff. arise b/w taxable & accounting profit arise from difference b/w tax base & carrying amt of assets & liabilities

↳ DTL & DTA only created if there is temporary difference which is expected to reverse in future

<u>BS Item</u>	<u>Carrying Amt (CA) vs Tax Base</u>	<u>DTL or DTA</u>	<u>Example</u>
Asset	CA > Tax Base	DTL	Stk depr for acc profit. Acc depr for taxable profit
Asset	CA < Tax Base	DTA	Research cost exp for acc profit. Amortized for tax
Liabilities	CA > Tax Base (UER)	DTA	Cash from cust b4 year recog. Cash from cust is taxed
Liability	CA < Tax Base	DTL	

Unused tax losses & tax credits that comp expects to use in future gives rise to DTA

## \* Unused Tax losses & Tax credits

### • Tax loss carry forward

↳ Occurs when comp. incurs loss in the current yr that may be used to ↓ future taxable inc

### • Tax credits

↳ Reduces the actual amt of tax owed

↳ Gov. may grant tax credit to promote specific behavior

IFRS allows recog. of unused tax losses & tax credits only to the extent it is probable that there will be profit in future.

USGAAP, DTA is recog. in full but is reduced by valuation allowance if it is unlikely that benefit will be realized.

Following criteria can be used while assessing the prob. of future profit

↳ If there is a probability uncertainty as to prob. of future taxable profits, a DTA as a result of unused tax losses or tax credits will be recog. to the extent of avail. taxable temp. diff.

↳ Assess the prob. of profit by unused tax or tax credits expire pursuant to tax rules regarding carry forward of unused tax losses.

↳ Determine if past losses were due to some specific events which is unlikely to happen again.

↳ Discovery of tax planning oppor. are avail. to entity that will result in profit.

(Eg) XYZ incurs expend. which <sup>results</sup> tax credits.

This tax credit directly reduce taxes. XYZ is likely to record:

• DTA

• DTL

✓ None ... cos it DIRECTLY affect

If we have tax credit that will benefit in future then DTA.

##

## \* Recognition & Measurement of Current & Deferred Tax

Current tax payable & revenue are based on current tax rate

Deferred taxes should be measured @ tax rate that is exp. to apply when asset is recog or liab. is settled

- All unrecog deferred tax assets & liab. must be reassessed on appropriate BS date & remeasured on probable future benefit

DTL • If DTL cannot be reversed, it must be treated like equity

If there is uncertainty about timing & amt of tax pmt then DTL should be treated neither as liab nor equity

DTA • If DTA not realized due to insufficient future taxable inc to recover the asset then DTA must be reduced

- Under US GAAP, DTA can be reduced using valuation allowance. DTA can be revalued upward by ↓ VA or ↑ earnings

$$DTA = 100$$

$$VA = (20)$$

$$NI = 80$$

(Eg) XYZ presents financial statements in accordance w/ US GAAP. In 2012, XYZ discloses DTA = 100 & Val. Allow = 10. In 2011, VA = 15 & DTA = 95. The  $\Delta$ VA most likely indicates:

- DTA  $\downarrow$  in 2012
- ✓ Expected future earning power  $\uparrow$
- " " " "  $\downarrow$

### \* Presentation & Disclosures

- DTA & DTL must be disclosed
- Under IFRS, tax assets or liab.  $\rightarrow$  non current
- US GAAP, classification based on underlying assets
- Details abt how comp. came up w/ DTA & DTL values shd be mentioned in footnotes

### \* Comparison US GAAP & IFRS

	IFRS	US GAAP
• Upward revaluation	✓	X
• Valuation allowance	X [Directly reports changed price]	✓
• Classification of assets/liab	Non-current	Current

## Reading 30: Non-current Liabilities

\* Deferred Tax Liability is a non-current liability under Bonds Payable

- Bonds are contractual promises made by comp to pay cash in future to its lenders (bondholders) in exch. for receiving cash in pmt.
- Terms of bond contract are contained in a document called indenture

# Consider an indenture

Face Value (Par Val) = 100

Issue Date = Jan 1, 2011

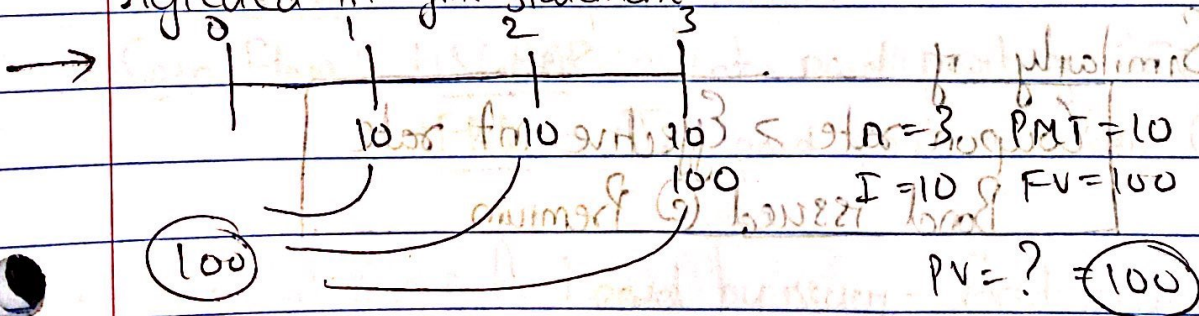
Maturity Date = Dec 31, 2013

Coupon Rate = 10% annually

<Details of issuer's obligations>

# COUPON RATE = EFFECTIVE INT. RATE

# When the bond is issued, investors require a return of 10%. What are sale proceeds? How is the issuance reflected in fin. statement?



## Company fin stat

BS: Cash ↑, Bonds payable ↓

\* CF: CFF inflow

Coupon rate = Effective int rate  
Bond issued @ face value

## # Coupon Rate < Effective int rate

When bond is issued, investors req. a return of 11%.  
What are sale proceeds & impact of issuance on fin. stats?

$$\begin{array}{c} 1 \\ | \\ 100 = \frac{10}{1.11} + \frac{10}{1.11^2} + \frac{110}{1.11^3} \\ | \\ 10 \quad 10 \quad 110 \\ \hline \\ n=3 \quad PMT=10 \quad r=11\% \quad FV=100 \\ PV=? = 97.56 \end{array}$$

Coupon rate < Effective int rate  
Bond issued @ Discount

Similarly if

Coupon rate > Effective int rate  
Bond issued @ Premium



After issuance, rate demanded by purchaser → MKT rate  
 Before issuance → Effective rate

Once the bond has been issued, the company needs to make coupon pmts. How are these pmts accounted for?

Consider when bond is issued, inv. req. rate of return is 11%. Show the following

1. Int pmts
2. Int expense
3. Reported bond value

How are these nos. reflected in fin. stats?

Amortizing a Bond Discount ↓ This how we calc. carry amt under IFRS. Under USGAAP, we first calculate PV - FV then amortize the disc or prem over the life of asset.

Year	Begin. Carry Amt	Int Exp. (11% of 97.56)	Int pmt	Amort of Disc	Carry Amt End.	Look near end of practice p. of CPA abent
2011	97.56	10.73	10	0.73	98.29	
2012	98.29	10.81	10	0.81	99.10	
2013	99.10	10.90	10	0.90	100.00	

Bal. Sheet :- Carry Amt End is shown as liability

Inc State :- Int Exp is shown

Cash Flow :- USGAAP :- Int. paid part of CFO

IFRS :- Int paid part of either CFO or CFR

Total Int Exp = Amt paid by issuer - Amt received from bondholder

Kaplan Quiz Q15

- When bonds issued @ premium, earnings of firm ↑ over life of bond as bond prem. amortized

### Issuance Cost

- ↳ Cost associated w/ issuing a bond
- ↳ Under US GAAP & IFRS, comp. usually report bonds as a liability on BS at the amt of sales proceeds net of issuance cost

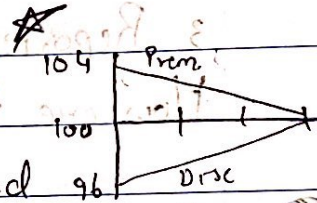
↳ Proceeds from issuing bond is recorded under CFP

- Effective int. rate does not change during the life of the bond.

★

Book value of bond ↑ for disc bond

↓ premium bond



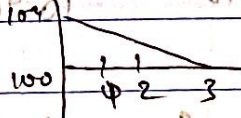
(Eg) A comp. issued 5yr 8.50% coupon bond 2yrs ago.

At the time of issuance, the effective int. rate was

8.00%. Today the int. rate is 9.00%. The book

value of the bond today is most likely:

○ Above par



○ Below par

→ This is a par premium bond so the book val. will change like this

- Discussion so far has focused reporting bonds @ historical amortized cost. This reflects mkt rates at the time bonds were issued

- When mkt rates change, the bond's fair value diverges from reported value

- Companies are given optn to report fin. liabilities @ fair value

## # Derecognit<sup>n</sup> of debt

- Once comp issue bonds, it may
  - ↳ Leave the bonds outstanding till maturity
  - ↳ Pay the <sup>OR</sup> Tins. early & redeem the bond

- Gain/loss recognized for bonds redeemed before maturity

$$\text{Loss} = \text{Redempt<sup>n</sup> price} - \text{BV of bonds liab<sup>l</sup> at reacq. date}$$

- Gain/Loss from extinguished debt is reported on a separate line in IS where amt is material

- Dealing w/ bond issuance costs

↳ US GAAP :: Unamortized bonds <sup>costs</sup> must be written off & included in gain/loss calc<sup>n</sup>

↳ IFRS + No write-offs because issuance cost is included in BV of bond liability.

## # Debt Covenants

• Restrictions on issuer that protects bondholders interests

• Reduce default risk & ↓ int. cost

• Affirmative covenants

↳ cov. that comp. WILL FOLLOW

• Negative covenants

↳ cov. that comp. WILL NOT FOLLOW

## # Technical default

↳ If any one of the covenants is not followed

• Effectiveness limited due to potential for managers to inflate earnings

## # Presentation & Disclosure

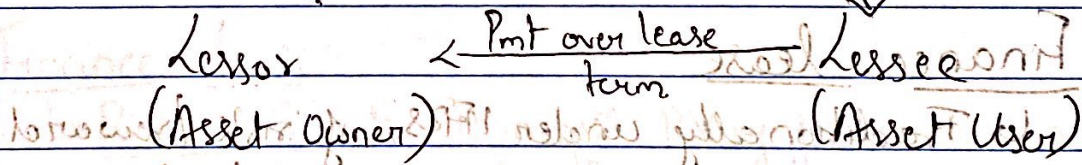
• Combine long term debt outstanding into single item

• Port of debt due within a year, shown as current liability

- Footnotes disclose more info abt long term debt
  - ↳ Nature of liab
  - ↳ Maturity dates
  - ↳ Stated & eff. int rates
  - ↳ Call provision & conversion privileges
  - ↳ Restrict<sup>n</sup> imposed by creditors
  - ↳ Assets pledged as security
  - ↳ Amt of debt mat. in next 5 yrs

• MD&A provides info abt comp. capital resources, including debt financing & off-bal sheet financing (op<sup>n</sup> lease)

## \* Leases



- A lease can be classified as:
  - ↳ Operating lease (like rental)
  - ↳ Financial (Capital) lease

## # Advantages of Operating Leases

- ↳ No depreciation expense
- ↳ No maintenance cost
- ↳ No insurance cost
- ↳ No taxes on lease payments

## Lessee Perspective

- Off Bal. sheet
- Less costly financing: No initial pmt rep.
- Pays less financing cost relative to purchasing on credit
- Reduce risk of obsolescence
- Improves leverage ratios as

assets & liab are not recorded on

BS

Tax reporting adv: Can create asset to be shown for tax purposes to ↓ reduce by ↑ depr exp.

## Lessor Perspective

- Might have tax adv by keeping asset on BS
- Possibly more efficient for lessor to maintain asset

## • Finance lease

↳ Traditionally under IFRS, risk/reward associated w/ asset was transferred to lessee, the lease would be categorized as fin. (cap) lease.

↳ IFRS 16 step: both type of lease to be recorded

↳ US GAAP: A lease must be classified as finance (capital) lease if any one of the criteria is met.

↳ Ownership transfer

↳ Bargain purchase opt<sup>n</sup>

- ↳ Lease term 75% or more than <sup>of</sup> useful life
- ↳ PV of lease pmt 90% or more of fair val of leased asset

Lessor prefers <sup>Finance</sup> Operating lease  
 Lessee prefers Operating lease

## # Reporting by Lessee

- Operating Lease
  - ↳ Balance Sheet: No entry in Off BS transact
  - ↳ Income Statement: Rent expense equal to lease pmt
  - ↳ Cash Flow Statement: Cash flow from operations

## • Finance Lease

- ↳ Balance Sheet: At incept<sup>n</sup>, PV of future lease pmt recog<sup>d</sup> as asset & as liability. Asset is deprec<sup>d</sup> & lease payable is amortized
- ↳ Income Statement:

$$\text{Interest exp} = \text{Int. rate} * \text{Liab @ beg. of period}$$

- ↳ Cash flow statement -
  - ↳ Let's say lease pmt we need to make is 100 then it consists of int pmt & principal pmt
  - ↳ Int pmt ↓ CFO
  - ↳ Rest of lease pmt ↓ CFF

Ex) You lease a m/c on Jan 1, 2011 for 4 yrs & pay 100 per year at the start of year. The fair value is 340. Relevant interest rate is 10%.

1. How should this lease be categorized?
2. What is the impact on fin. statements?

Assume SL depr

→ To check type of lease, let's calc PV of all pmt

$T = 0$

100      100      100      100

$PV = 348.685$     re  $n=3, I=10, PMT=100, FV=0$ .

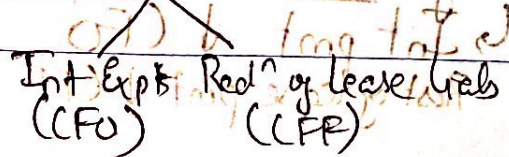
∵ we know fair val = 340 so this is an Finance lease

Year	Asset			Lease Liability					
	Carry Amt (1 Jan)	Depr Exp.	Acc Depr.	Carry Amt (31 Dec)	Lease Liab (1 Jan)	Lease Pmt (1 Jan)	Int Exp.	Red <sup>n</sup> of lease liab.	Lease Liab (31 Dec)
2011	348.685	87.17	87.17	261.52	348.685	100	0	100	248.68
2012	261.52	87.17	174.34	174.35	248.68	100	24.87	75.13	173.56
2013	174.35	87.17	261.51	87.18	173.56	100	17.36	82.64	90.91
2014	87.18	87.17	348.68	0.01	90.91	100	9.09	90.91	0.01

Balance Sheet: Asset - Liability

Income Statement: Acc Depr & Int-Exp

Cash Flow Stat: Lease Pmt





If this was an operating expense lease, then whole lease pmt would be CFO

# Total Expense

Operating lease		Fin lease		
Yr	Exp.	Yr	Depr	Interp Total
2011	100	2011	87.17	+ 24.87 = 112.04
2012	100	2012	87.17	+ 17.36 = 104.53
2013	100	2013	87.17	+ 9.09 = 96.26
2014	100	2014	87.17	+ 0 = 87.17

↑  
CFO

So early yrs, NI ↑ for operating lease as exp is lower  
 later yrs, NI ↑ for finance lease (100 vs 112.04)

Look up the impact table from Leases Reading

# Reporting by Lessor

Operating lease

- ↳ Balance Sheet: Report leased asset, record revenue
- ↳ Income Statement: Depr. Expense

Finance lease:

- ↳ Any one from the four criteria plus additional rev. recog criteria

• Either direct or sales type, balance sheet treatment is same. Income stat. treatment differs

↳ Direct finance lease (Only under US GAAP)

\*↳ PV of lease pmt (=) carrying val. of lease asset

↳ Lessor earns interest expense

↳ At inception, record lease receivable

↳ Sales type lease (Only under US GAAP)

↳ PV of lease pmt (>) carrying val. of lease asset

↳ Lessor "sells" asset to leasee

↳ Provides financing on sale

↳ Reports profit on sale & reports interest rev. on lease receivable

# Disclosure for finance & operating leases

↳ Lease disclosure shows pmts under both capital & operating leases for the next 5 yrs & after that

• Disclosure can help estimate extent of a company's off-balance-sheet lease fin. through operating leases.

## \* Pensions & other Post-Employment Benefits

- They give rise to non-current liabilities reported by many companies.

∴ Pension plans can be divided into 2 major categories:

↳ Defined Contribution: Company contributes an agreed-upon amt to the plan

Pension exp on the income stat  
Operating cash flow.

↳ Defined Benefit: Comp makes promises of future benefits to be paid to employees

• Comp. make a contrib<sup>n</sup> to pension

fund (Plan Assets); pension pmt are taken from this fund

## # Disclosures for defined benefit plans

$$\text{Funded Assets} = \text{Plan Assets} - \text{Defined Benefit Obligation}$$

↳ If +ve → overfunded or net pension asset

-ve → underfunded or net pension liability

• Net pension asset or liability reported on BS

• Each period change in net pension asset or liab. is recognized either in profit or loss or in other comprehensive income

• Under IFRS, change in net pension asset or liab. has 3 components:  
↳ Employee service cost  
↳ Net int-exp or income  
↳ Re-measurements

• Under USGAAP, the change in net pension asset or liab has 5 components!

(Eg) On 31 Dec 2012, a comp has pension oblig<sup>n</sup> of 200 & pension assets are 90. What will comp. report on BS under IFRS & USGAAP?

PO = 200

PA = 90

∴ NL = 110 show net pens. liab under IFRS & USGAAP as to

• Solvency ratios from fm. ratios chapter

•  $\frac{\text{Total debt}}{\text{Total capital}} = \frac{\text{Total debt}}{\text{debt} + \text{equity}}$

# Reading 31: Financial Reporting Quality

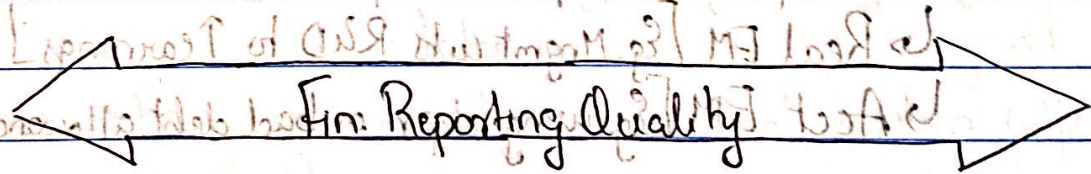
## \* Introduction

- Quality of fin reports can vary greatly
  - ↳ High quality → Info necessary for analyst to assess company's performance & prospects
  - ↳ Low quality → Inaccurate, misleading or incomplete information

## • Quality of reported results

- ↳ High quality earnings → Earnings that are sustainable & provide a good ROI.

## \* Conceptual Overview

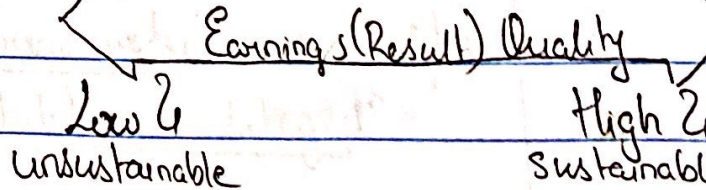


### Lowest quality reports

- Info that is pure fabrication
- Impedes assessment of Earnings quality & valuation

### High quality reports

- Info is neutral, risk free, relevant & free from error
- Enables assessment



• High <sup>reporting</sup> ~~earning~~ quality reflects high earning quality

## # Quality Spectrum of Financial Reports

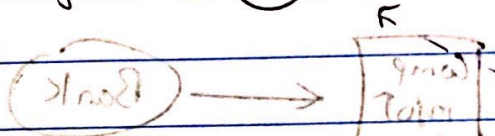
- Quality Spectrum
- GAAP, decision-useful, sustainable & adequate returns  
Quality ↑ Earning ↑ ROI ↑
  - GAAP, decision-useful, but low earnings quality  
Quality ↑ Earning ↓
  - Within GAAP, but biased choices. Possible biases are
    - ↳ Aggressive acct: Show good earnings by manipulating depr
    - ↳ Volatility: Smoothing the earnings
    - ↳ Info presented: +ve info presented properly & not -ve info
  - Within GAAP, but 'earnings mgmt' EM (deliberate act to report earnings & interpret)
    - ↳ Real EM [Eg. Mgmt cuts R&D to ↑ earnings]
    - ↳ Acct EM [Eg. using depr or bad debt allowance]

Non-compliant accounting

Fictitious transact

## # Conservative & Aggressive Accounting

- Consider our comp has made credit sales & based on the estimate of collectables we think earnings might be  $(20)$ . But it's also possible that we collect less & earnings might be  $(10)$  or we collect more & earnings be  $(30)$



- Unbiased fin. reporting is ideal, but.....
  - ↳ Investors prefer conservative approach [Like choosing 10]
  - ↳ Mngmt prefers aggressive appr [Like choosing 30]

to ↑ earnings

Aggressive acct → ↓ reported perf. & fin pos<sup>n</sup> in later years

- Conservative acct → do not typically ↓ perf. & fin pos<sup>n</sup> in later years

Associated w/ ↑ sust of earnings

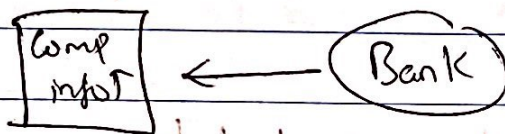
↳ Reog. revenue only when earned & when collect<sup>n</sup> are reasonably certain

↳ Reog. expenses/losses when probable

- Conceptual framework supports neutrality of info

- Many acct stds are conservatively biased stds
  - ↳ Conservatism ↓ possibility of litigation

↳ Conservatism protects contracting parties.  
Eg. If a bank gives money to comp. Comp has more info abt comp. op<sup>s</sup> so if they are conservative means they go w/ worst case then the outcome will only be better or same. It can't get worse.



Bias in application of acct. std. An analyst should understand the intent.

In 2001, a comp reported their restructuring expenses as inventory which resulted in ↓ earnings & in next yr they ↑ earnings by reducing inv which was restruct. exp. called "cookie jar reserves acct".

## \* Context for Assessing Financial Reporting Quality

### # Motivati<sup>n</sup>

- What is the motivati<sup>n</sup> for comp. to post low earnings (less sustainable) reports?
  - ↳ Hide poor performance (More likely if mgmt considers poor perf. temporary)
  - ↳ Meet or exceed earnings expectations



↳ Meet or exceed prior yr results

↳ Career concerns & incentive compensat<sup>n</sup>

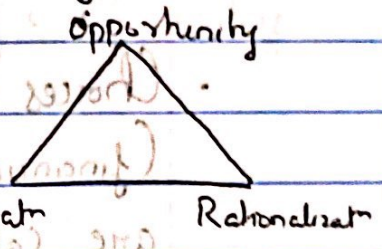
## # Conditions conducive to issuing low-quality fin. reports \*

• Opportunity

↳ Weak internal controls

↳ Ineffective board of directors

↳ Act. std. that allow range of choices



## • Motivat<sup>n</sup>

• Lower financial reporting quality

• Rationalization

↳ Justification of poor performance

## # Mechanism that discipline Financial Reporting Quality

• Mkt regulatory authorities

↳ Registrat<sup>n</sup> req.

↳ Enforcement mechanism

↳ Disclosure req.

↳ Auditing req.

↳ Mgmt commentaries

↳ Responsibility statements

↳ Regulatory review of findings

- Auditors
- Private contracting

## \* Detection of fin. reporting quality issues

- Choices exists in both, how the info is presented (financial reporting quality) & how financial results are calculated (earnings quality)
  - ↳ Choices in presentation often transparent
  - ↳ Choices in calculation of financial results are more difficult to detect

- Ways to ↑ pay & fin. posit<sup>n</sup> in current period:
  - ↳ Recognize revenue prematurely
  - ↳ Use non-recurring trans. to ↑ profits
  - ↳ Defer expenses to later periods
  - ↳ Measure & report assets (or liab) at higher (or lower) value

- Ways to ↑ pay & fin. posit<sup>n</sup> in later period:
  - ↳ Defer current inc. to later period
  - ↳ Recog. future expense in current period, setting the table for future pay.

## # Presentations Choices (IFRS) vs (non-GAAP / non-IFRS)

- Comp. may use "strange new metrics" <sup>earnings adjust earnings as reported on IS</sup>
- Comp. may present "pro forma earnings"
- Comp. may construct their own version of EBITDA by excluding

↳ Rental pmts for operating leases

↳ Equity-based compensation

↳ Acquisition-related charges

↳ Impairment charges for goodwill or other intangible assets & long lived assets

↳ Litigation costs

↳ Loss/gain debt extinguishments

IFRS step 2 definition & explanation of any non-IFRS (comp. version of EBITDA) included in firm reports

## # Accounting choices & estimates

• Earnings can be managed by using different methods

↳ By changing shipping terms

↳ Inventory by FIFO (underestimates costs & income)

↳ LIFO (highest cost)

↳ Credit Sales (By ↓ bad debt expense) #

↳ Deferred tax assets

↳ Depreciation methods

↳ Impairment estimates related to Goodwill.

## # How choices affect cash flow statement

### • Misclassification of CF

↳ Most analysts look for a good CFO as compared to CFI or CFF so mgmt can redirect cash inflow from CFI to CFO & cash outflow from CFO to CFF

### • Payables mgmt

↳ If a comp has acct. payable of 100 & then ↑ to 150 & before end of yr pays off 60 then net AP ↓. But there is a -60 cash outflow so CFO ↓. What comp. can do is they can delay paying 60 so their AP ↑ from 100 to 150 but CFO does not ↓ #

### • Interest Capitalization

### • Flexibility in classification of mt/dividends paid & received

↳ Under IFRS comp. can state int/div paid & received  
↳ int/div recd < <sup>CFI</sup> CFO so comp can state mt paid as CFF  
↳ mt recd as CFO to ↑ CFO

## Analysts should

- ↳ Examine composition of operat<sup>n</sup> segment
- ↳ Compare company's cash generat<sup>n</sup> w/ other comp in ind.
- Study relat<sup>n</sup> bt<sup>n</sup> NI & CFO

< Exhibit 21 from curriculum >

## # Major Warning Signs

### • Pay attent<sup>n</sup> to revenue

- ↳ Examine acct. policies (note for company's rev. recog. policies)
- ↳ Look at revenue recog.  $\uparrow$  DSO  $\rightarrow$  Warning
- ↳ Should look at AIR, RTO, ATO, DSO ratios

### • Pay att<sup>n</sup> to signals from inventories

- ↳ Compare growth in inv. w/ competitors - ind. benchmark.
- ↳ Calculate ITR.  $\downarrow$  ITR  $\rightarrow$  obsolescence prob.
- ↳ Comp. might use LIFO

### • Pay att<sup>n</sup> to capitalizat<sup>n</sup> policies & deferred costs

### • Pay att<sup>n</sup> to CF to NI ratio

- ↳ Shd be 1. If  $\downarrow$   $\rightarrow$  problem in comp. accrual acct  $\rightarrow$  Aggressive

- Overloading dist<sup>n</sup> channels (channel stuffing) would understate inventories
- Under IFRS, reported CFO most likely to be ↑ by classification<sup>n</sup> choice made for int exp
- Depr. methods (useful lives)
- 4<sup>th</sup> Quarter surprises
- Presence of third party related party trans
- Including non-operating inc or one-time line in revenue
- Classifying exp as "non-recurring"
- Gross/operating profit out of line (w/ competitors)
- Younger comp. showing stable records
- Mngmt adopted minimalist approach for disclosure
- Mngmt fixat<sup>n</sup> on earning report

### < Conclusion from curriculum >

Aggressive acct choices by mngmt are most likely to comply with GAAP

- Under indirect method of presenting CFO, which acts to alter the CF from op<sup>s</sup> will be most difficult → Transact w/ unconsolidated special purp entity
- Changing the estimates of salvage value of cap assets is least effective way to manage earnings during life of asset for comp who use DDB method for depr

## Reading 32: Financial Statement Analysis Application

### \* Application of Evaluating Past Financial Perf \*

• How have corporate measures of profitability, liquidity, solvency changed over the period analyzed?

• How do these measures compare w/ corresponding results of other comp in same ind.?

• What aspects of perf are critical for comp? how does it compare w/ other comp?

• What is the company's business strategy? Do the financials reflect the (strategy)?

(Eg 1) Apple's change in strategy is reflected in its fin. perf.

↳ Between 2007 & 2010, apple's prod. mix changed substantially

↳ Differentiated prod.  $\rightarrow$   $\uparrow$  prices  $\rightarrow$   $\uparrow$  gross margin does not necessarily  $\uparrow$  operating profit

(Eg 2) If there are comp. that follow diff. std. like one following US GAAP, one following Mexican GAAP & one Brazilian GAAP. You first have to bring all comp to one std. then compare retros.

## \* Application: Projecting future financial perf. \*

### Forecast Sales

- ↳ Forecast: expected GDP growth.
- ↳ Forecast incl. sales based on historical relationship w/ GDP
- ↳ Consider expected change in company's mkt share
- ↳ Forecast expected company sales

### Forecast Expense

- ↳ Use historical margins for stable firms
- ↳ Calc exp. for each item for less stable firms
- ↳ Remove non-recurring items
- ↳ Estimate int. exp (using debt rate) & tax expense (using EBT rate)

### Forecast Cash Flow

- ↳ Estimate changes in working cap
- ↳ Estimate inst exp
- ↳ Estimate divid. pmt

## \* Application: Assessing Credit Risk

Ability to meet <sup>of</sup> issuer's ability to meet int. & princ. repmt on schedule



An equity mng'r conducted a stk screen of 5000 stocks. The results of screen are:

Criteria	% of stocks meeting crit
PLS < 1.25	35
Divid > 0	42
ATC ≤ 2.5	18
Meeting all 3 crite simultaneously	10

If criteria are independent of each other, then no of stks meeting all 4 criteria =  $0.35 \times 0.42 \times 0.18 = 0.026$

Cash flow forecast = 2.6% of 5000 = 132

- Variability of cash flows
- Consider business risk & financial risk
- Analyst must see

↳ Size & Scale

↳ Total rev & Operating profit

↳ Business profile, rev sustainability & eff

↳ Financial leverage & flexibility

↳ Leverage ratios

↳ Coverage ratios

↳ Debt / EBITDA

↳ Free Cash Flow / Debt

↳ Liquidity

### \* Applications: Screening for potential equity invest

- Helps equity analyst to analyse which stocks to choose from based on their criteria which can be like  $P/E < 15$ ,  $A/E < 2$ ,  $Divid > 0$

• Types of investors

↳ Growth investors: Focused on invest in high earning growth comp (Comp having P/E ↑, successful comp)

↳ Value Inv : Focused on paying low share price in  
relat to EPS

↳ MKT Inv : Intermediate category

## • Backtesting

↳ Eval. how a portfolio based on a particular criteria  
might have perf. historically.

↳ Survivorship bias : If delisted comp. not considered

↳ Look-ahead bias : If database includes fin. data  
updated for restatements, mis match  
bt what inv would have known  
@ time of inv & info avail during  
backtest

↳ Data snooping bias : If excessive analysis is applied to

same data set

## \* Analyst Adj. to Reported Financials

• Before making adj. consider the following

↳ Importance (Don't do if inv is very less % of asset)

↳ Body of st

↳ Methods (SL vs DDL)

↳ Estimates

## # Adj. for invest, inv. & goodwill

### Investments

↳ Comp A classifies fin assets as AFS & B as trading.

### Inventory

↳  $FIFO\ Inv = LIFO\ Inv + LIFO\ reserve$

### Goodwill

↳ If comp A has grown by acq. & B has grown organically. Then  $A's\ goodwill \uparrow \rightarrow A:T \rightarrow E:T$ .

↳ Uses tangible book value when making comparison by subtracting goodwill & intangible assets

## # Est. related to PP&E

Estimate  $\frac{Acc\ depr}{Gross\ PPE}$  (Calculation)

No. of yrs of useful life passed

No. yrs of depr exp which have been recog  $\frac{Acc\ depr}{depr\ exp}$

How many yrs of useful life remain

$\frac{Net\ PPE\ (Net\ acc\ depr)}{depr\ exp}$

Avg life of assets @  $\frac{\text{Gross PPE}}{\text{Depri. Exp.}} \#$   
initiat<sup>n</sup>

What % of asset base is renewed through new capital invest  
 $\frac{\text{Capex}}{\text{Sum of gross PPE} + \text{Capex}}$

## # Analyst adj for Off-Balance Sheet Em.

### The Context

↳ Op. leases mke ratios look good

↳ Analyst might want to evaluate impact of capitalizing op leases

### The Adjustment

↳ Compute PV of operating lease pmt

↳ Add this no. to assets & liab

### The Impact

↳ What is impact on solvency ratios?  $\frac{D}{E} \uparrow$  (Bad)

Coverage ratio?  $\frac{EBIT}{\text{int}} \downarrow$  (Bad)

- Higher salvage val  $\rightarrow$   $\downarrow$  ann. depr exp  $\rightarrow$   $\uparrow$  useful life
- Accr depr  $\downarrow$  useful life

Eg

XYZ had avg rec. collect<sup>n</sup> period of 19 days in 2003 wanted to bring it to mkt level of 15 days in 2004. Credit sales in 2003 was 300mil & expected to  $\uparrow$  to 400mil in 2004. To ach. this,  $\Delta$  avg. acc. rec. bal

is

$\rightarrow$  Rec Turnover retro in 2003 =  $\frac{365}{19} = 19.2$

2004 =  $\frac{365}{15} = 24.3$

Sales / Turnover = Acc rec. bal in 2003 =  $\frac{300\text{mil}}{19.2} = 15.625\text{mil}$

2004 =  $\frac{400\text{mil}}{24.3} = 16.460\text{mil}$

$\therefore$  The diff. ( $\Delta$ ) in acc rec. bal =  $16.460 - 15.625\text{mil}$

- Credit analyst most likely to focus on Cash flows than accrual me