1 Accounting in Business

in the aggregate accumulate transactions of the same type over a certain period and report the data as one amount in the company's financial statements

accounting the entire process of identifying, recording, and communicating economic events (bookkeeping is part of recording only)

Who uses accounting data?

- **Internal users**
  Managerial accounting provides internal reports to help users make decisions about their companies
  - Management
  - Employees
- **External users** (investors and creditors, etc.)
  Financial accounting provides economic and financial information for investors, creditors, and other external users
  - Lenders
  - Investors
  - Competitors
  - Government agencies
    IRS: SEC:
  - The press

Measurement principles (used by IFRS)

- **[IMPT]** Follow trade-offs between **relevance** (makes a difference in decision making) and **faithful representation** (factual and accurate)
- **[IMPT]** Enhancing qualitative characteristics (**Comparability, Verifiability, Timeliness, Understandability**)
- **Historical cost** principle: record assets at their initial cost when it was purchased
- **Fair value** principle: assets and liabilities should be reported at fair value (price received to sell an asset or settle a liability)
  - Only used when asses are actively traded, otherwise rarely used
  - Also used when market value info is available for certain assets

Accounting assumptions

- **Monetary unit** assumption: include only data that can be expressed in money terms
- **Economic entity** assumption: activities of the entity are separate and distinct from the activities of its owner and all other economic entities
  - Proprietorship
    * owned by **one** person
    * the owner receives any profits and suffers any losses
    * the owner has **unlimited liability** (liable for all debts of business)
    * **no legal distinction** between the business as an economic unit and the owner
    * Accounting records of the business activities are kept **separate** from owner's personal records
  - Partnership
    * owned by **two or more** persons associated as partners
    * each owner has **unlimited personal liability**
    * for accounting purposes, partnership transactions are kept **separate** from personal activities
  - Corporation
    * **separate legal identity** under corporation law
    * ownership is divided into **transferable shares**: shareholders may transfer part or all of their ownership shares to other investors at any time
    * holders of shares enjoy **limited liability**
    * **Unlimited life**; ownership can be transferred without dissolving the corporation
    * **Double taxation**: company's income is taxed, and then dividends to stockholders are taxed again :(
    * Need government regulation

1.1 The Basic Accounting Equation

$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

Assets: A resource controlled by the entity in the *present* due to *past* event that will give rise to *future* benefits

- Cash
- Accounts Receivable
- Supplies
- Equipment

Liabilities: A *present* obligation arising from *past* event that is expected to lead to a *future* outflow of resources upon settlement

- accounts payable: purchase commodities/equipment on credit from suppliers
- note payable: money borrowed
- salaries/wages payable
- sales and real estate taxes payable
- **[IMPT]** Example: claim from an employee due to workplace accident which is highly likely to be settled in the future

Equity: the ownership claim on a company (residual equity after creditors' claims are satisfied)

- **Share capital-ordinary**: paid in by shareholders in exchange for the ordinary shares they purchase
- **Retained earnings**
  - Revenues
  - Expenses
  - Dividends: increase in net assets, available to distribute to shareholders

1.2 Financial Statements

1. **Income statement (IS)** presents the revenues and expenses and resulting net income or net loss for a specifi c period of time.
2. **Retained earnings statement** summarizes the changes in retained earnings for a specific period of time.
3. **Statement of financial position (SFP)** (sometimes referred to as a balance sheet) reports the assets, liabilities, and equity of a company at a specific date.

- Current and noncurrent assets/liabilities (can be turned into cash/settled within 1 year?)
- Preferably sorted from higher liquidity to lower
- **[IMPT]** Assets recorded at **cost/book value**, not market value
- **[IMPT]** Revenue vs Loss/Gain
- **[IMPT]** Notes Payable vs Accounts Payable
  Notes: usually cash
  Accounts: usually owed to suppliers

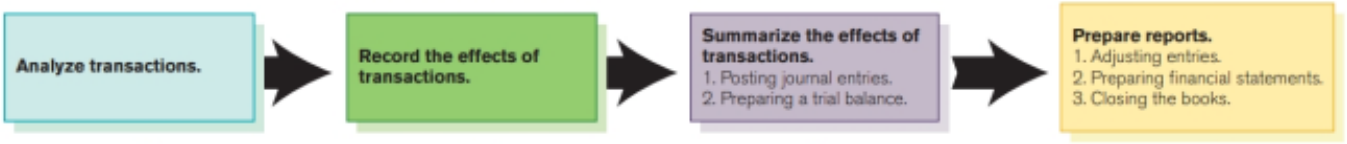
4. **Statement of cash flows (SCF)** summarizes information about the cash inflows (receipts) and outflows (payments) for a specific period of time.

$$\Delta Cash = CFO + CFI + CFF$$

5. **Statement of comprehensive income (SCI)** presents other comprehensive income items that are not included in the determination of net income

2 The Mechanics of Accounting

- **[IMPT] Prepaid rent** is an **asset**!
  The benefits are not going to happen now; but will happen in the future
- **[IMPT] Unearned revenue** is a **liability**
  Has to be settled in the future



	Assets	=	Liabilities	Equity		
				Revenues	Expenses	Dividends
↑	Dr.	=	Cr.	Cr.	Dr.	Dr.
↓	Cr.	=	Dr.	Dr.	Cr.	Cr.

	Assets	=	Liabilities	Equity		
				Rev.	Exp.	Div.
Unrecorded Receivables	Dr.	=		Cr.		
Unrecorded Liabilities		=	Cr.		Dr.	
Prepaid Expenses	Cr.	=			Dr.	
Unearned Revenues		=	Dr.	Cr.		

3 Adjusting Accounts

Accrual Accounting can capture the value of the firm much better due to timeliness
Adjusting entries made at the end of a period do not involve cash
Each adjusting entry involves a balance sheet account and an account on the IS/SCI;

- **Unrecorded Receivables**: Amount that has not been paid but the work has been done/should be recognized (*e.g.* billing every 3 months)
- **Unrecorded Liabilities**: Expenses being incurred prior to being paid or recorded (*e.g.* interest payable, wages payable) in other words parts of expense is actually incurred due to the use of resources but it has not been paid
- **Prepaid Assets**: Payments that a company makes in advance for items charged to expense (*e.g.* insurance premium payment) and the asset slowly loses its value
- **Unearned Revenues**: Amounts received before the actual recognition of revenues, and work is slowly being done over time which decreases liability and increases revenue

Accumulated Depreciation: is a *Contra-asset* with normal balance of credit

- Note that for depreciation of PPE, PPE balance is not directly credited but instead Accumulated depreciation is credited (Less)

Allowance for bad debt: contra-asset for accounts receivable

Steps to preparing Financial Statements

- Adjust journal entries
- Adjust trial balance (book not closed yet)
- Prepare financial statements
  1. IS → to calculate NI
  2. SCE → to calculate ΔRE

$$\text{RE}_1 + \text{NI} - \text{Dividends} = \text{RE}_2$$

  3. SFP (Classified)
- Close book
  - Transfer nominal accounts to RE
- Post-closing trial balance

4 Problems in Financial Statements

1. Errors (unintentional mistakes)
   not entering/forgot to enter, entering wrong info/amount, entering wrong accounts
2. Disagreements on judgment
   Different parties have different judgments/estimates abt revenue accounts
3. Frauds ⇒ intentional in order to manipulate FS!
   - **Corruption**: misusing one's position for personal gains
   - **Asset Misappropriation**: Theft/embezzlement of company resources

- **Financial Statements Fraud**: misreporting amounts to portray more favourable results

4.1 Fraud

The Fraud Triangle (Why people commit fraud)

1. Pressure
   pressure to meet financial/personal goals/attract investors
2. Opportunity
   Weak internal control/adequate means to commit fraud
3. Rationalization
   Justify action as unavoidable/necessary

4.2 Internal control System

Objectives:

- Ensure **reliable** and accurate financial records
- Properly account and **protect** assets
- Promotes **efficient** operations
- Adherence to company policies
- Compliance with laws and regulations

Internal Control Structure: the policies and procedures established to provide reasonable assurance that specific entity objectives will be achieved, some categories:

- The control environment - clear organizational structure establishes clear lines of authority and responsibility
- **Monitoring** - independent oversight of management through Board of Directors (BOD) & internal and external auditors
- Risk assessment
- Information and communication
- Control activities - used by management to meet objectives

Principles of Internal control (Control Activities/Procedures)

- **Preventive controls**: prevent problems from occurring
  - **Establish responsibilities** and **segregate duties** (do not make one party/department responsible for all/conflicting parts of the process)
  - Proper procedures for **authorizations** (different levels of authority)
  - **Separate recordkeeping** from **custody** of assets
- **Detective controls**: help catch problems that are occurring before problems become large
  - Maintain adequate records
    E.g. paying supplies using prenumbered checks
  - Regular and independent reviews
    evaluate effectiveness and promotes adherence

Limitations of internal control

- Human error/human fraud
- Costs must not exceed benefits (*e.g.* if internal control is too inefficient/high costs then it might not be good)

4.3 Auditors

Role of internal auditors

- Monitor operating results and financial records
- Evaluate internal controls
- Assist with increasing efficiency and effectiveness of operations
- Make sure that regulations are complied
- Detect fraud

Role of external auditors

- examine organisations' FS to determine if they are prepared and presented in accordance with accounting standards and free from misstatement
- Can only provide **reasonable assurance** that FS are presented fairly

4.4 Earnings Management

Objectives

- To meet internal targets
  motivate managers to increase revenues and figures
- To meet external expectations
  assurance for suppliers that they will receive payments, customers need to make sure that the company will be able to fulfill warranty obligations
- Income smoothing: to smooth out earnings / appear more stable
- Window dressing to appear more stable for bank loans or Initial Public Offering (IPO)

5 Cash

Definitions

- **Cash**: Currency, coins, and amount of deposit in bank accounts, checking accounts, and some savings accounts. Also includes items such as customer checks, cashier checks, certified checks, and money orders
- **Cash equivalents**: Short term, highly liquid investments that are:
  1. Readily convertible to known amounts of cash
  2. Subject to an insignificant *risk of changes* in value

Major activities of a business

- Operating activities: selling products or services, buying inventory for resale, and incurring and paying for necessary expenses associated with the primary activities of the business
  - Financed by Current Assets & Current Liabilities
- Investing activities: purchase of assets for use in the business (occur less frequently and amounts involved are quite large)
  - Under Noncurrent Assets
- Financing activities: raising money to finance a business by means other than operations (debt and equity financing)
  - Under Noncurrent Liabilities + Equities

Internal Control of Cash

- Separating duties in handling of cash and accounting for cash
- Cash receipts are deposited daily in banks to prevent accumulation of cash in hand
- Except for small-amount payments, all payments are made with prenumbered checks
- Prepare a bank reconciliation periodically: to compare with the cash balance in the company's accounting records

Effective Cash management:

- Some goals:
  1. Plan cash receipts to meet cash payments when due
  2. Keep a minimum level of cash necessary to operate
- Cash management principles
  - Encourage collection of receivables
  - Delay payment of liabilities
  - Keep only necessary levels of assets
  - Plan expenditure
  - Invest excess cash

5.1 Cash Disbursement for Operating Activities

Purchases Discounts: x/10, n/30 means if the customer pays in 10 days, they will get x% discount but no discount when the customer pays in 30 days

Journal entries

- If firm pays full amount of payables and gets discount:

  Accounts Payable
  Inventory
  Cash

- If customer pays full amount of receivables and gets discount:

  Cash
  Sales discount
  Receivables

- **Purchase returns**: if firm returns merchandise to supplier
- **Sales returns**: if customer returns merchandise to firm
  - Need to take into account COGS and Sales returns (same as reversing sales entries)

    Sales Returns
    Accounts Receivable
    Inventory
    COGS

Contra-revenue accounts

- **Sales Discounts & Returns** are contra-revenue accounts
- To track negative adjustments to sale, and reduces revenue
- Has normal debit balance
- **[IMPT]** On IS, Deducted from gross revenue to get Net Sales Revenue (Less: Sales Discounts & Returns)

5.1.1 Petty Cash Funds

Establishing the funds

- Petty Cash is an asset

Making payments from the fund

- No entry is recorded in the journal, but receipts are kept
- In general, Petty funds account in the ledger is not affected unless funds are established/size is increased

Replenishing the funds: Dr. expenses and Cr. cash

Cash Short and Over: to be adjusted in Dr. or Cr. depending on the discrepancy so that

$$\text{Cash} - \text{Expenses} = \text{Cash Over and Short}$$

5.2 Controls from Bank Procedures

Benefit of banks for businesses to control cash:

- Restrict access
- Documenting procedures
- Independently verifying

5.2.1 Bank Reconciliation

Definition: internal report prepared to verify the accuracy of both the bank statement and the cash accounts of a business or individual

Why bank statement balance is not equal to cash account?

- Your bank might not know about:
  - **Errors** made by bank
  - **Time lag** differences:
    Deposit in transit and **Outstanding Checks**: both were made by user but not processed by bank
- You may not know about:
  - **Bank Credits**: additions by bank to your account (*e.g.* interest)
  - **Bank Debits**: deductions by bank (bank service fees + charges)
  - **Direct Deposits**: deposits made directly to your account
  - **NSF Checks**: customer checks you deposited for which the customer has insufficient funds
  - Errors made by you

Adjustment on the Bank Side	*Adjustment on the Book Side*
Bank Statement balance	**Book balance**
+ Deposits in transit	+ Interest paid by the bank
– Outstanding checks	+ Direct deposits
+/– Bank errors	– Service charges
	– NSF checks
	– Bank transfer
	+/– Accounting errors
Adjusted **Bank** Balance	Adjusted **Book** Balance

Account is reconciled when both the adjusted balances are equal.

5.2.2 Adjusting entries for the Books

- **Collection Expense**: expense due to bank
- **Interest Revenue**
- **Miscellaneous Expense**: Bank expenses
- To reverse NSF: same as reversing Cash to Accounts Receivable

6 Receivables

6.1 Accounts Receivable

Subsidiary accounts Individual accounts of customers under accounts receivable
e.g. *Accounts Receivable - Customer Name*

Expected Credit Loss is an expense; Alternative names:
- Bad Debt Expense
- Accounts Receivable Impairment Loss
- Uncollectible Account Expense

Allowance for Bad Debts/Loss Allowance a Contra-asset (XA)
Allowance method is preferred under Accrual Accounting Principle as it accounts receivable can be paid by customers in 5 years? 10 years? which might be uncertain

$$\text{AR} - \text{Loss Allowance} = \text{Net AR}$$

ending balance for loss allowance account in a given year must be equal to the expected loss allowance from probability stuff (need to adjust using ECL)

How to estimate ending balance for Loss Allowance?
- Individual assessment → for customers with known credit problems
- Group assessment (*Provision matrix*)
  - **Provision matrix**
  - Aging accounts receivable → accounts who have not been paid for longer should have higher probability of not being paid
- Result is the ending balance of Loss Allowance Account

[IMPT] Journal entries

- At the end of FY:

  Expected Credit Loss
    Loss Allowance

- To write-off uncollectible AR:

  Loss Allowance
    Accounts Receivable

- To reinstate AR:

  Accounts Receivable
    Loss Allowance

6.2 Notes Receivable

- **Maturity date**: due date; when it is expressed in terms of month, will include the date of issuance, but when expressed in terms of day, will not include the date of issuance but start counting for the day after
- **Interest Revenue**

  $$\text{Interest Revenue} = \text{Face value} \times \text{Annual I/R} \times \text{time period (term)}$$

- To record customers who want to pay by notes, we record Dr. Notes Receivable and Cr. Accounts Receivable
- When customer makes payment: Dr. Cash and Cr. Notes Receivable + Interest Revenue
- To record **dishonored note receivable**: Dr. Accounts Receivable and Cr. Notes Receivable + Interest Revenue
  - Overall effect is an increase in Revenue by the amount equal to Interest Revenue

6.3 Foreign Currency Transaction

Might happen if transaction is conducted in different currencies (exchange rates fluctuate daily)
Foreign exchange loss/gain: A revenue/expense account that is adjusted according to exchange rates
How to avoid this?
- Denominate price in own currency (US Dollars) and the risk of exchange rate changes would have fallen on the Korean Company
- Locked in the price of foreign currency by entering into a forward contract with a foreign currency broker (Derivative contract)

6.4 Variable Consideration

Some examples
- Discounted price for all goods bought if the customer buys a specified quantity
- Return policy, but we do not know if the customer will return or not

Hence, it is estimated at the start and is periodically reassessed using expected value/most likely amount for estimation
- Use most likely amount if the outcome is yes/no
- Use estimation if there are different outcomes with probabilities

7 Liabilities

Some recap:
- **Currency**:
  - Current if < 1 yr
  - Non-current if > 1 yr
- **3 Major Uncertainties in Liabilities**
  - Whom to pay
  - When to pay
  - How much to pay
- **Types of Liabilities**
  - Known Liabilities: little uncertainty, who, when and how much is determinable
  - Estimated Liabilities: a known obligation of an uncertain amount, but one that can be reliably estimated
  - Contingent Liabilities: potential obligation created as a result of a past event, but which is not yet an effective liability until some future event happens

7.1 Current Liabilities

Current Liabilities:
- GST Payable

- Payroll Liabilities: CPF
  Employers incur expenses and liabilities from having employees (payroll expenses)
  - **20% contribution by employee**

    Salaries Expense x
    Salaries Payable - to employee $80\%x$
    CPF Payable - employee contribution

  - **17% contribution by employer**

    Payroll Expense - CPF $17\%x$
    CPF Payable - employer contribution $17\%x$

- Unearned Revenues
- Short-Term (ST) Notes Payable
  [IMPT] use 360 days for daily I/R
  - Entry to record:

    Cash
    Notes Payable - Company Name

  - When note is repaid + interest:

    Notes Payable - Company Name
    Interest Expense (i/r% × amt × days/360)
    Cash

  - End-of-period Adjustments: Not payable untul the following accounting period, so need to adjust entry at year-end to record the accrued interest expense

    Interest Expense (i/r% × amt × days/360)
    Interest Payable

- Estimated liabilities: a known obligation of an uncertain amount, but can be **reliably estimated**
  - Warranty Liabilities: to comply with **full disclosure** and **matching principles**, the seller reports **Expected warranty expense** in the period when revenue from the sale is reported
    To record warranty:

    Warranty Expense ($x\%$×Sales)
    Warranty Provision

    To record returned items:

    Warranty Provision
    Inventory

- Contingent liabilities: potential liabilities that are created as a result of a past event. It is not an effective liability until some future event happens (*e.g.* lawsuits and litigation/legal claims, debt guarantees)

	probable	reasonably possible	remote
estimable	**record as liability**	disclose in notes	No disclosure needed
non-estimable	disclose in notes	disclose in notes	No disclosure needed

  - **Probable**: chance that the future event/events will occur is high (>50% for IFRS, >70% for GAAP)
  - **Reasonably possible**: more than remote but less than likely
  - **Remote**: chance of occurring is slight

8 Inventory

Definition: Merchandise inventory includes all goods that a company owns and holds for sale, regardless of where the goods are located when inventory is counted

- Goods in Transit:
  - FOB Shipping Point: goods change ownership at shipping point (goods in transit reported as part of buyer's inventory)
  - FOB Destination
- Goods on Consignment:
  - Goods the seller (**consignor**) owns but are on display for sale at another place of business (**consignee**)

8.1 Costs of Inventory

Cost includes **all expenditures necessary** to bring an item to a sellable **condition** and **location**

- Invoice cost
- Freight/transport cost
- Insurance cost
- Storage cost
- Import taxes
- Less any purchase discounts/returns

Note that costs incurred after inventory is ready for use is not included (*e.g.* marketing, salesperson salaries, financing cost, **Warehouse costs**, **retail store costs**)

8.2 Perpetual vs Periodic

Perpetual characteristics:

- Up-to-date record maintained
- purchases/returns/discounts are directly added to Inventory account
- Transaction-by-transaction records
- Information on COGS and ending inventory is available on a continuous basis

Periodic characteristics:

- No p-to-date records during accounting period
- purchases/returns/discounts are recorded in a temporary account (**NOT** Inventory)
- Actual physical count of inventory is done at the end of the period
- COGS is then calculated indirectly using the COGS equation

8.2.1 Periodic Inventory

$$\text{Beg. Inventory} + \text{Net Purchases} = \text{COGS} + \text{End Inventory}$$

Types of temporary accounts:

- Purchases
- Freight-in: to take into account transport costs, because COGS is unknown
- Purchase returns
- Purchase discounts: might happen when the company pays invoice before the due date and gets discount

Steps to take at the end of the period:
- Temporary accounts will all be closed to the inventory account at the end of the period
- COGS will be computed after physical count and using other COGS method, and debit COGS and credit Inventory

8.2.2 Perpetual Inventory

What happens if there's inventory shrinkage (**loss of merchandise**)?
- Debit COGS and Credit Inventory (since we don't know what happens to the lost goods, we just assume that they're sold)

Advantage of perpetual system:
- up-to-date count helps to confirm the amount in the accounting system or highlight shortages of inventory

8.3 Inventory Costing Methods

8.3.1 Specific Identification Method

- When specific units are sold, the specific cost of that unit is recorded as COGS.
- Impractical for large quantities of similar items being sold (e.g. toothpaste, clothing etc. . .)
- Typically used when dealing with expensive unique items (e.g. houses, expensive fine jewelry, unique custom made cars etc. . .) where costs can be easily tracked to specific item

8.3.2 FIFO

Advantage:
- Ending inventory approximates current replacement cost

8.3.3 LIFO

Advantage:
- Better matches current costs in COGS with revenues

8.3.4 Average Cost Method

- When a unit is sold, the avg cost per unit is assigned to COGS

$$\text{Avg Cost} = \frac{\text{Cost of Goods available for Sale}}{\text{Number of units available for sale}}$$

Advantage:
- Smooth out price changes

8.4 Net Realizable Value (NRV)

- Ending inventory has to be reported at the **lower of cost or market value**
- Meaning that if the replacement cost of the same goods in inventory is lower than the inventory cost, it has to report the market value instead.
- NRV can be applied in two ways:
  - Separately to each individual item
  - To major categories of assets

What happens if NRV $<$ Initial cost? Need to make a journal entry to change Net Inventory

Cost of Goods Sold
  Allowance for Inventory Write Down

Where the above is a **XA** account to Inventory

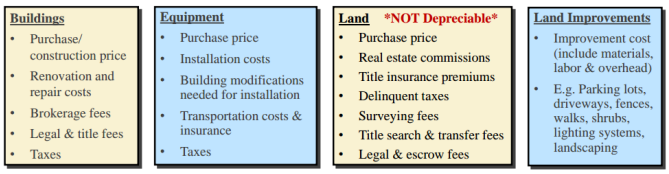
Net Inventory = Inventory−Less: Allowance for Write-Down

9 PPE

Types of Assets:
- Tangible: PPE (Fixed assets such as land, building, equipment) + Natural resources (mineral deposits, oil fields)
- Intangible:
  - Definite life: patents, copyright, franchises, licenses
  - Indefinite life: trademarks, goodwill

9.1 Acquiring PPE

PPE (tangible assets actively used in operations that will give future benefits) are initially recorded at **COST [IMPT]**
- Including the purchase price and all expenditures needed to prepar for its intended use.



- **Lump-sum purchase**: buying different assets at a combined cost, usually in total smaller than buying individual assets
  - total cost of a combined purchase is separated on the basis of the **relative fair market values** of each asset component

9.2 Depreciation

- Use Depreciation Expense and Accumulated Depreciation (XA) Accounts
- **Net Book Value** (**carrying amount**) is the 'current' value of the asset

$$\text{NBV} = \text{Acquisition Cost} - \text{Accumulated Depreciation}$$

Some depreciation methods: to calculate Depreciation Expense
- Straight-line method
- Unit-of-production method (used for depletion of natural resources also, but this one need to estimate the usable value of all the natural resources)
- Double-Declining Balance (DDB): usually use multiplier=2

$$\text{Depreciation Expense} = \text{Current NBV} \times \frac{\text{Multiplier}}{\text{Useful life in yrs}}$$

[IMPT] Partial-Year Depreciation: Note that if we buy an equipment in the middle of the year, the depreciation expense for the year is only a proportion of annual depreciation expense

- in the last year, the depreciation would be also a portion of the annual dep. expense since the PPE is supposed to end its life in the middle of the year

Changes in Depreciation estimate:

- Need to estimate **Residual Value** and **Useful Life**, but this may change
- **[IMPT]** If it changes, it does not affect past years' depreciation expense, only affects future years!

9.3 Capitalize or Expense?

- **R&D**: Research cost are expensed. Development cost after technological feasibility is established can be capitalized. (IFRS)
- **PPE:** If we capitalize, there would be less expense and this would boost income (WorldCom scandal where revenues were boosted and assets were inflated)

Types of Expenditures	Capitalize or Expense?	Identifying Characteristics
1) **Revenue Expenditures** – ordinary repairs & maintenance	Expense (Dr Expense)	▪ Maintains normal operating condition ▪ Does not increase productivity ▪ Does not extend life beyond original estimate ▪ Recurring in nature and involve small amounts of money at each occurrence
2) **Capital Expenditures** – additions & improvements	Capitalize (Dr LT Asset)	▪ Major overhauls or partial replacements ▪ Usually occur infrequently ▪ Increases efficiency ▪ Extends useful life beyond original estimate ▪ Involve large amounts of money

9.4 Impairment of PPE

Definition:An impairment is the amount by which the **carrying amount** of an asset exceeds its **recoverable amount**.

- Journal entry:

  Impairment loss on Equipment
  Accumulated Impairment Loss

- Impairment loss: classified under equity and included under IS
- Accumulated Impairment Loss: classified under XA

9.5 Disposal of PPE

Steps to record Disposal

- Need to update depreciation expense and add to the accumulated depreciation account first
- Journal entry if there is gain from selling

  Cash
  Accumulated Depreciation
  PPE
  Gain on Sale of Asset

- Note that Disposal is usually classified under Accumulated Depreciation and Impairment
- Note that Gain on Disposal is usually classified under Operating Profit

9.6 Intangible Assets

Types:

- **Definite Life**: Amortise over its estimated useful life. Usually assumed to have 0 salvage value (use straight-line method, similar to depreciation but use **Amortisation expense** and **Accumulated Amortisation**)
  - **Patents**: granted by the government for an invention, exclusive right for owner to use, manufacture and sell the product of the patent
  - **Copyrights**: exclusive rights to publish, use and sell literary, musical or artistic work.
  - **Franchises**: contractual right to sell certain products or services, use certain trademarks, or perform activities in a certain region
- **Indefinite Life**: Not amortised, but tested at least annually for possible impairment, and book value is reduced to fair value if impaired.
  - **Trademarks**: exclusive legal right to use a distinctive name, image or slogan.
  - **Goodwill**: when one company buys another company, the *excess* of the purchase price over the fair market value of acquired net assets is goodwill. (Note that only purchased goodwill is an intangible asset!)

[IMPT] "Intangibles" that are NOT acquired through an exchange is NOT recorded in the company's books!

10 Equity

Capital Structure!: Debt vs Equity

- How much of the company's funds are coming from debts vs equity
- Loans (Debt Financing): Company is obligated to repay the principal amount
- Investment (Equity Financing): Company is not obligated to repay the principal amount

10.1 Ownership of a corporation

Rights as shareholders/stockholders:

- Vote at shareholders' meetings
- Purchase additional shares/ sell shares
- Receive dividends (dividends rights): proportionate share on the distribution of profits
- Residual claims
  - Can get proportionate share on the distributions of remaining assets upon liquidation of the company
  - Note that creditors are paid before shareholders in the event of liquidation or bankruptcy

Composition of a company's shares

$$\text{Authorized Shares} = \text{Outstanding} + \text{Treasury} + \text{Unissued}$$

- Authorized = max number of shares that can be sold to the public (stated in corporate charter)
- Outstanding = issued shares that are owned by stockholders
- Treasury = issued shares that have been reacquired by the corporation

- Issued = authorized shares of stocks that have been sold (Outstanding + Treasury)
- Unissued = authorized shares that have never been sold

What is par value?

- Par-value: is an arbitrary amount assigned to each stock when it is authorized
- **Premium**: When par-value stock sells for above par
- No-par-value: no arbitrary amount is assigned (SG uses no par value)

IPO& SEO

1. **Initial Public Offering (IPO)**: the first time a corporation sells share to the public
2. **Secondary/Seasoned Equity Offering (SEO)**: subsequent sales of new shares to the public
3. Once the initial sale of shares is done, investors can sell their shares to other investors in secondary markets (NYSE, SGX, HKSE)

10.1.1 Ordinary shares

Par value shares

- Issuance for cash at premium

  Cash (amt × mkt value)
  Common Stock (amt × par value)
  Paid-in capital in excess of par

- Issuance for acquisition of asset: based on market value of shares if the mkt value of the asset cannot be determined

  Land (amt × mkt value)
  Common Stock (amt × par value)
  Paid-in capital in excess of par

No par shares

- Issuance for cash

  Cash
  Common Stock (ordinary no par shares)

- Issuance for acquisition of asset: based on market value of asset

  Equipment
  Common Stock (ordinary no par shares)

- Issuance of stated value shares: if market value > stated value, premium = market value - stated value

  Cash
  Common Stock - ordinary no par shares
  Common Stock Premium - ordinary

10.1.2 Preferred Shares

Reasons for issuing preference shares:

- Raise capital without sacrificing control
- Boost the return earned by ordinary shareholders through financial leverage
- To appeal to investors who may believe the ordinary shares are too risky or that the expected return on ordinary shares is too low

Types of preferred shares:

- Convertible: can be converted to ordinary shares
- Redeemable: company can buy back the shares
- Cumulative: require all dividends in arrears (outstanding unpaid dividends from past years) to be fully paid before ordinary dividends can be paid out
- Participating: receive additional dividend based on predetermined condition

Issuance of no par preferred shares:

Cash
Preferred Stock - Class E

Issuance of par value preferred shares:

Cash
Preferred Stock - Class E
Paid-in Capital in Excess of par, preferred

10.1.3 Treasury Shares

Reasons companies may want to buy back its shares from existing shareholders

- Use their shares to acquire other companies
- Avoid a hostile takeover
- Reissue to employees as compensation
- Show management's confidence in the current price (stimulate trading??)
- Give cash back to shareholders?
- Increase reported earnings per share (EPS) by reducing number of shares outstanding (refer to FSA)

[IMPT] Note that treasury shares is recorded at cost, and it is a **Contra-Equity Account**

Treasury Shares
Equity

Reissuance of Treasury Shares

- At cost

  Cash
  Treasury Shares

- Higher than cost

  Cash
  Treasury Shares
  Premium on Treasury shares

- Lower than cost (sufficient balance in 'Treasury share premium' account): need to deduct premium account

  Cash
  Premium on treasury shares
  Treasury shares

- Lower than cost (insufficient balance in 'Treasury share premium' account): will need to deduct RE and premium accounts

  Cash
  Premium on treasury shares
  Retained Earnings
  Treasury shares

10.2 Dividends

- **Types of dividends**: Cash and Stock
- **Requirements to declare and pay dividends**

  - Sufficient balance in RE
  - Sufficient cash to pay for cash dividends

10.2.1 Cash Dividends

Three important dates

- **Declaration date**: board declares the dividends, company records a liability

  Dividends - Ordinary Shares
    Dividends Payables

- **Date of record**: Stockholders holding shares on this date will receive the dividend
- **Payment date**: Company pays the dividends

  Dividends Payables
    Cash

[IMPT] Note that Dividends are temporary accounts so need to be closed at the end of FY to RE

Distribution of preferred dividends

- **Current-Dividend Preference**
  - Preferred are prioritized first before common receive dividends
- **Cumulative-Dividend Preference**
  - Preferred stockholders paid dividends in arrears and current dividends before common stockholders receive any if at all
  - **Dividends in arrears**: unpaid dividends from past years
  - Dividends in arrears do not represent actual liabilities, so not recorded in accounts, but is *recorded in notes to FS*
  - Example: if dividend in arrears is 5% cumulative and the total value of preferred stocks is \$30,000 and the company has not paid dividends in arrears in 2 years, then the total dividend in arrears is $5\% \times 30,000 \times 2 = 3,000$ and this is prioritized over dividends for common stocks

10.2.2 Stock Dividends

Definition: issue new shares to its shareholders without receiving cash (There is no total change in Equity since Dividends is closed to RE at the end of FY)

- Small dividends (<20-25% of issued shares): assign fair value because at the end of FY it won't affect RE much
- Large dividends (>25% of issued shares): assign par value because if fair value was used it would increase RE greatly

Issuance of small stock dividends: fair value

- **Declaration date**:

  Stock Dividends (amt $\times$ fair value)
    Stock Dividends Distributable
    Paid-in Capital in Excess of Par

- **Distribution date**:

  Stock Dividends Distributable
    Common Stock

- **Closing at the end of FY**: Move everything to RE

Issuance of large stock dividends: par value

- **Declaration date**:

  Stock Dividends (amt $\times$ par value)
    Stock Dividends Distributable

- **Distribution date**:

  Stock Dividends Distributable
    Common Stock

- **Closing at the end of FY**: Move everything to RE

[IMPT] Stock Split: increasing number of shares outstanding in the same proportion that par or stated value per share decreases such that equity remains unchanged

[IMPT] Both Stock Split and Stock Dividends will increase total shares outstanding $\Rightarrow$ will decrease market value/price

11 Statement of Cash Flow (SCF)

Importance of positive cash flow?

- Drives daily operations
- Increases purchasing power
- Allows for expansion and new investment opportunities
- Greater protection against creditors
- Gives greater flexibility to respond to critical situations (protection in the future)
- Allows company to pay dividends to owners

Cash includes:

- Currency
- Cash equivalents: short-term highly liquid investments that are readily converted into cash, usually with extremely short maturity dates (less than 3 months) such that there's little to no risk of value changing due to i/r changes

Classification of activities

- **Operating**: related to earnings from normal operations (the principal revenue-producing activities)
  - Customers
  - Royalties, fees, commision, other revenue
  - Purchase of goods and services from suppliers
  - Salaries and wages
  - Income taxes
  - Other operating expenses (rent, utilities)
- **Investing**: related to the acquisition and disposal of long-term assets and other investments
  - Purchase/Sale/Disposal of PPE & other Long-term Assets
  - Purchase/Sale or maturity or investments in securities
  - Cash received from repayment of loans made to other parties
  - Cash paid for loans made to other parties
- **Financing**: related to external sources of financing (owners and creditors)
  - Cash received from borrowings on loans, notes, bonds
  - Cash received from issuing shares to owners
  - Cash paid for repayment of principal to creditors
  - Cash paid for repurchasing shares to shareholders
  - Dividends to owners

- IFRS allow reporting entities a choice in where they want to classify interest & dividends in their SCF (as long as it is consistent):

	Operating	Investing	Financing
Interest received	Yes	Yes	
Dividends received	Yes	Yes	
Interest paid	Yes		Yes
Dividends paid	Yes		Yes

Unless otherwise stated, in this module we will assume that all interest and dividends are treated as operating cash flows, except for **dividends paid** which is part of financing cash flow!

Information needed to prepare SCF:
1. Comparative Balance Sheets/SFPs
2. Current IS
3. Additional Details concerning selected accounts

11.1 Cash Flows from Operating Activities (CFO)

Two Methods:
- **Indirect method**: start with accrual profit before tax and deduct/add components if they overstate/understate cash flows

$$\text{Net Income} + / - \text{Adjustments} = \text{CFO Cash Flow}$$

Note that this is possible because

$$\begin{aligned}\text{Assets} &= \text{Liabilities} + \text{Equity}\\ \text{Cash} &= \text{Liabilities} + \text{Equity} - \text{Non-Cash Assets}\\ \Delta\text{Cash} &= \Delta\text{Liabilities} + \Delta\text{Equity} - \Delta\text{Non-cash assets}\end{aligned}$$

Δ Cash = Net income (Profit before tax – Income taxes) + Depreciation
- Gain + Loss - Δ Non-cash current assets + Δ Current Liabilities } **Operating**
- Purchase of PPE/investment + Sale of PPE/investment } **Investing**
+ Issue new long-term debt – Pay old long-term debt
+ Sales of new shares – Repurchase of shares – Dividend } **Financing**

- **Direct method**: rarely used,

$$\text{Cash Sales} - \text{Cash Expenses} = \text{CFO Cash Flows}$$

11.1.1 Indirect Approach

1. Start with **Profit Before Tax**
2. + Depreciation/Amortization expenses
   - No cash involved in these expenses, so we add it back
3. Decrease (Increase) in Non-cash Current Assets
4. Increase (Decrease) in Current Liabilities
5. -Gain / +Loss on disposal of long-term assets
   - This is reported under the CFI (Investing Activities) section and so is a non-operating activity, so we have to adjust them to avoid double counting
6. +Interest Expense
7. -Interest Income
8. -Dividend Income
9. **Calculate** Cash generated from operations
10. +Interest Income received
    - actually received in cash (after taking into account receivables)
11. -Income taxes paid
    - actually paid in cash (after taking into account payables)
12. **Calculate** Net cash from operating activities

11.1.2 How to analyze CFO

CFO measures firm's ability to generate cash internally through operations and its management of current assets and current liabilities
- **Investors** will not invest in a company if they do not believe that cash generated from operations will be available to pay them dividends or expand the company
- **Creditors** will not lend money if they do not believe that cash generated from operations will be available to pay back the loan
- Accounts Receivable: Sometimes managers want to boost sales by extending credit terms $\Rightarrow \uparrow$ Accounts Receivable but Cash flow stays approximately constant
  - Net Income will outpace cash flows
- Inventory changes
  - $\uparrow$Inventory can indicate a planned sales growth that did not materialize
  - $\downarrow$Inventory can be a sign that the company is anticipating lower sales in the next quarter

11.2 Cash Flows from Investing Activities (CFI)

Steps:
1. Use Comparative SFP to calculate accounts changes for CFI items in the SFP
2. Use additional information (*e.g.* purchase/sale of fixed assets, purchase/sale of investments)

11.3 Cash Flows from Financing Activities (CFF)

Steps:
1. Use Comparative SFP to calculate accounts changes for CFF items in the SFP
2. Use additional information (*e.g.* sale/repurchase of stock, divident payments, borrowings)

$$\Delta\text{Cash} = \text{CFO} + \text{CFI} + \text{CFF}$$

$$\text{Ending Cash (SFP)} = \text{Beg. Cash} + \Delta\text{Cash}$$

12 Ratios

General areas of FSA:
- **Liquidity and efficiency**: able to meet short term obligations and efficiently generate revenues
- **Solvency**: able to meet long term obligations and generate future revenues
- **Profitability**: rewards for investors
- **Cash Flow**: manage cash inflow and outflow
- **Market Prospects**: generate positive market expectations

12.1 Profitability

12.1.1 Return on Equity (ROE)

$$\text{ROE} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Average Ordinary Shareholders' Equity}}$$

$$\text{ROE} = \frac{\text{Net Income}}{\text{Average Total Equity}}$$

Measures **profitability**: how much income is earned per dollar investment made by ordinary shareholders

12.1.2 Return on Assets (ROA)

$$\text{ROA} = \frac{\text{Net profit}}{\text{Avg total assets}}$$

Measures *profitability*

12.1.3 Profit Margin/Return on Sales

$$\text{Profit Margin} = \frac{\text{Net Income/Profit}}{\text{Net Sales}}$$

Profitability?: How much profit is generated every one dollar of sales?

- Measures future growth of the company
- Start-ups will usually have negative growth, but if it's decreasing in magnitude it's good

12.1.4 Earnings per Share (EPS)

$$\text{EPS} = \frac{\text{Net Profit} - \text{Preferred Dividends}}{\text{Weighted-average Ordinary Shares Outstanding}}$$

[IMPT] Measures profitability: ability to produce income for each ordinary share outstanding

- Required to disclose on the IS!
- **Diluted EPS**: EPS but assumes that all convertible securities are converted into ordinary shares

12.2 Liquidity & Efficiency

12.2.1 Current Ratio

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Measures ability of a company to pay its short-term obligations with short-term assets (*liquidity*)
liquidity: how easily an asset can be converted to cash
But too high ratio can indicate the firm might not be using resources efficiently

12.2.2 Acid-Test Ratio (Quick Ratio)

$$\text{Acid-Test Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

$$\begin{aligned}\text{Quick Assets} =& \text{Cash} + \text{Short-Term Investments} \\ &+ \text{Current Trade Receivables}\end{aligned}$$

Measures a company's ability to quickly pay its short-term obligations using liquid assets (exclude inventory, prepaid, and other current assets)
Useful to assess if the company will face *near-term liquidity problems*

- If Quick Ratio ≥ 1.0 then near-term liquidity problems are unlikely, and vice-versa

12.2.3 Accounts Receivable Turnover

$$\text{Accounts Receivable Turnover} = \frac{\text{Net Sales Revenue}}{\text{Average Accounts Receivable}}$$

Measures how well an organization is managing its accounts receivable (collecting receivables/cash, paying short-term loans to cover cash shortage)

$$\text{Average Collection Period} = \frac{365}{\text{Accounts Receivable Turnover}}$$

12.2.4 Inventory Turnover

$$\text{Inventory Turnover} = \frac{\text{COGS}}{\text{Average Inventory}}$$

Measures how many times a company turns over (sells) its inventory Measures liquidity (if the company is controlling inventory well)

$$\text{Days' Sales in Inventory} = \frac{365}{\text{inventory Turnover}}$$

Estimates *how many days on average it will take to convert inventory to cash/AR*

12.2.5 Operating Cycle of a Company

$$\begin{aligned}\text{Operating Cycle Length} =& \text{Avg Collection Period} \\ &+ \text{Days in Inventory}\end{aligned}$$

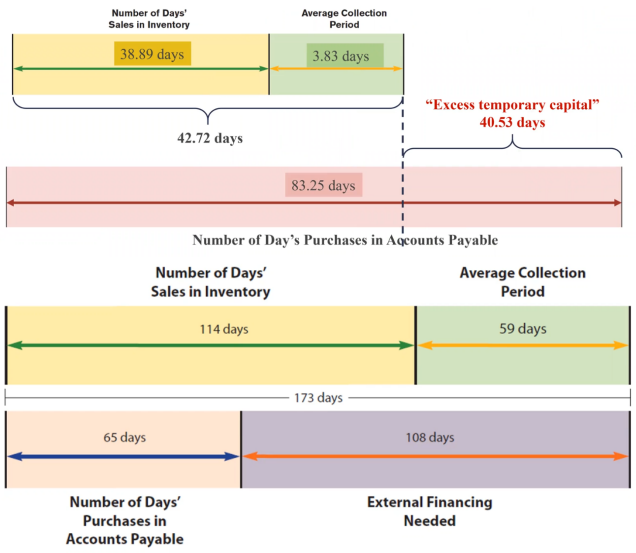
Measures: *how much time it takes* from the point inventory is purchased to cash collection from customer

12.2.6 Number of Days' Purchases in Accounts Payable

$$\text{Days' Purchases in AP} = \frac{365}{\frac{\text{Purchases}}{\text{Avg Accounts Payable}}}$$

Measures how many days' worth of inventory does the company have in accounts payable

- Avg. length of time between **purchases** of inventory (on credit) and **cash payment for that inventory**
- Useful to assess **how fast** a company is in paying its suppliers



- Does the company need to rely on **external financing** for cash to support its operating activities

12.2.7 Fixed Assets Turnover (PPE Turnover Ratio)

$$\text{FA Turnover} = \frac{\text{Net Sales}}{\text{Average Fixed Assets}}$$

$$\text{Avg. Fixed Assets} = \text{Avg. PPE}$$

Measures how efficient a company is in using its fixed assets to generate sales (Profitability)

- How much sales is generated per each dollar (unit) of PPE?

12.2.8 Total Assets Turnover

$$\text{TA Turnover} = \frac{\text{Net Sales}}{\text{Average Assets}}$$

Measures how efficient a company is in using its assets as a whole to generate sales (Profitability)

12.2.9 Working Capital

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

Measures **liquidity**: represents current assets that do not require near-term repayment

- more working capital suggests a strong liquidity position and an ability to meet current obligations

12.3 Solvency

12.3.1 Times Interest Earned

$$\text{Times Interest Earned} = \frac{\text{EBIT}}{\text{Interest Expense}}$$

- Indicates how many times a company is able to pay its interest with its income before its interest and tax
- EBITDA: earnings before interest, taxes, depreciation, and amortization

$$\text{EBITDA} = E + I + T + D + A$$

where E =Net income, I=interest, T =taxes, D=depreciation, A=amortization

12.3.2 Debt Ratio

$$\text{Debt Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Measures *solvency* and financial leverage (higher financial leverage ⇒ higher risk)

12.3.3 Debt-to-Equity Ratio

$$\text{Debt-to-Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

Measures how much liabilities a company has relative to its equity

12.4 Market Prospects

12.4.1 Price-Earnings (PE) Ratios

$$\text{PE Ratio} = \frac{\text{Mkt value (price) per share}}{EPS}$$

Assessing **Market expectations**: Measures what the market is willing to pay for the company current earnings stream

- High ratio means that a company is overpriced (too high expectations for low earnings)

12.4.2 Dividend Payout Ratio

$$\text{Dividend Payout Ratio} = \frac{\text{Cash Dividends}}{\text{Net Income}}$$

Measures the percentage of net income paid out during the year in the form of cash dividends (for Net Income use profit for the year/profit attributable to owners of the company)

- **Income shares**: companies that consistently pay large dividends
- **Growth shares**: companies that distribute little to no dividends, because usually profits are reinvested back to generate bigger revenues for the company

12.4.3 Dividend Yield Ratio

$$\text{Dividend Yield} = \frac{\text{Dividends per share}}{\text{Mkt price per share}}$$

Measures the amount of cash dividends distributed to ordinary shares **relative** to market value

- Assess an investor's ROI based on dividends, need to compare performance on different investment alternatives

12.5 Cash Flow

What

12.5.1 SCF Analysis

	CF from Operating	CF from Investing	CF from Financing	General Explanation
#1	+	+	+	Company is using cash generated from operations, from sale of assets, and from financing to build up a pile of cash—very liquid company—possibly looking for acquisition.
#2	+	–	–	Company is using cash flows generated from operations to buy fixed assets and to pay down debt or pay owners.
#3	+	+	–	Company is using cash from operations and from sale of fixed assets to pay down debt or pay owners.
#4	+	–	+	Company is using cash from operations and from borrowing (or from owner investment) to expand.
#5	–	+	+	Company's operating cash flow problems are covered by sale of fixed assets, by borrowing, or by stockholder contributions. The negative cash flow from operations could cause long-term problems if it persists.
#6	–	–	+	Company is growing rapidly, but has shortfalls in cash flows from operations and from purchase of fixed assets financed by long-term debt or new investment.
#7	–	+	–	Company is financing operating cash flow shortages and payments to creditors and/or stockholders via sale of fixed assets.
#8	–	–	–	Company is using cash reserves to finance operation shortfall and pay long-term creditors and/or investors.

12.5.2 Cash Flow to Net Income

$$\text{CF to NI} = \frac{\text{Cash Flow from Operations}}{\text{Net Income}}$$

Reflects the extent to which accrual accounting assumptions and adjustments have been included in computing net income

12.5.3 Cash Flow Adequacy

$$\text{CF Adequacy} = \frac{\text{Cash Flow from Operations}}{\text{Cash paid for CAPEX}}$$

Assess if a company is generating enough cash flow from operations (CFO) to pay for its **capital expenditures (CAPEX)** and still have cash left over to be used for paying liabilities or for its stockholders

- A business that generates excess cash from its operations is referred to as a cash cow

13 Financial Statement Analysis (FSA)

- Help users make better economic decisions [External parties and Internal (Management)]
- Purpose of FSA
  - Diagnostic purposes: helps users to evaluate and identify problems in a company
  - Prognostic purposes: helps users predict future performance of a company based on its past performance
- **Standards for comparison**: need to be compared to appropriate benchmarks/standards
  - Intracompany: time series analysis
  - Comparison with competitors: relative performance
  - Industry benchmarks: industry statistics (Dun & Bradstreet, Standard & Poor's, Moody's)

13.1 Vertical Analysis

Common-size statements express each item on the financial statement as a percentage of a single base amount

- For balance sheet, the base amount is total assets
- For the IS, the base amount is net sales revenue

Some questions

- Profit margin growth over time?
- Comparison of capital structure between companies

13.2 Horizontal Analysis

- Dollar change
- Percent change
- Trend percent

13.3 Ratio Analysis (DuPont Framework)

$$\text{ROE} = \text{Profitability} \times \text{Efficiency} \times \text{Leverage}$$

- Profitability is measured using Return on Sales

$$\text{Return on sales} = \frac{\text{Net income}}{\text{Net sales}}$$

- Efficiency is measured using Asset Turnover

$$\text{Asset turnover} = \frac{\text{Net sales}}{\text{Average total assets}}$$

- Leverage is measured using Assets-to-Equity Ratio (Leverage Ratio?)

$$\text{Assets-to-equity ratio} = \frac{\text{Average total assets}}{\text{Average total equity}}$$

14 Exam stuff

- Record transactions: prepare journal entries
- prepare ledger: draw T-accounts
- on credit = on account
- Property Plant and Equipment: it's very broad and if we want to record in journal entry usually need specific accounts
- Write "not included in journal" when there's no exchange of goods/cash