Fundamentals of accounting

1. Basics of accounting (for economists)

What is accounting?

Financial reporting can be thought of as a lens through which you can view a business. Accounting serves to represent the numbers and activities generated from business activity as economic activity, for decision makers of the businesses, shareholders, etc. This is done through financial statements, which are prepared using accounting principles that try best to fairly represent the business.

Managerial interests in accounting and the need for adequate disclosure

Managers have the incentive to make the company look strong in financial statements and may be motivated to engage in 'window dressing'. So, while financial statements are fair representations of the financial position and economic activities of the company, they may not describe the *typical* financial situation of the business throughout the entire period. Having more frequent financial statements helps to address this as managers are less able to window dress.

Adequate disclosure means that the users of financial statements are informed of all information necessary for the proper interpretation of financial statements.

Types of business organisations

Sole proprietorships

- A business owned by one person
- In accounting, business entity is regarded as separate from the financial activities of the owner
- Legally, they are considered as a single entity – owner is personally liable for the debts of the businesses

Partnerships

- A business owned by multiple people
- In accounting, business entity is regarded as separate from the financial activities of the owners
- Legally, they are considered as a single entity – owners are personally liable for the debts of the businesses

Corporations

- Legally, the business is separate from its owners, and they can lose no more than the amounts they have invested in the businesses – known as limited liability
- Ownership of a corporation is divided into shares, and owners are called shareholders

Private vs publicly owned companies

- The basic advantage of being publicly owned is that the corporation has the opportunity to raise large amounts of equity capital from many investors. Some publicly owned corporations have millions of shareholders, including pension funds, mutual funds, and other corporations. Private corporations are usually unable to raise the large amounts of capital available to publicly owned corporations.

- A major advantage **to the shareholders** of a publicly owned corporation is that their equity investments are highly liquid assets, immediately sold at quoted market prices.

- The primary **disadvantages** of being publicly owned are the increased governmental regulations and financial reporting requirements.

2. Assets, liabilities and equity

Assets

What is an asset?

- Resources controlled by a business from which future economic benefits are expected to flow to the business
- Can be definite and physical (e.g. cash, machinery, land)
- Can be intangible (e.g. amounts due from customers, investments in bonds, patents)

Valuation of assets: four principles

- **The cost principle**: non-liquid assets should be presented at their *historical cost* (what was paid to acquire the asset). Only liquid assets should be valued at their market or net-realisable value. The dollar amounts listed for non-liquid assets thus do not indicate prices at which they could be sold or replaced.
- **The going-concern – why we value at cost #1:** non-liquid assets are acquired for use and not resale – assuming that the business will continue (going-concern), there is no need to factor resale or replacement values in financial statements.
- **The objectivity principle = why we value at cost #2:** accounting for the value of assets is the need for a definite, factual basis. Costs (already incurred) are factual and backed by objective evidence, while estimates are subjected to personal judgement and market fluctuations.
- **Usefulness of asset valuation – the stable-dollar assumption:** a limitation of measuring assets at historical cost is that the value of the dollar is not always stable – inflation or deflation could over- or under-estimate the value of assets.

Liabilities & equity – financiers and claims to assets

Liabilities

- Financial obligations or debts that represent negative future cash flows for the enterprise
- The entity to whom the debt is owed is called a creditor
- Represent claims against borrower's assets – creditors' claims take legal priority over those of owners

Equity

- The owner's claims on the assets of the businesses
- Made up of share capital (injections from shareholders) and retained earnings (profits)
- Because liabilities have a legal priority over the claims of the owners, owners are entitled to assets that are *left over*, thus leading to the accounting equation
- Decreases or increases are from transfer of assets between the business and shareholders, or profits and losses from business operations

Business organisations and the recording of equity

The accounting equation

Assets = liabilities + equity

- Listing of assets shows us what things the business owns; listing of liabilities and equities tell us who and how much each group supplied to the business
- All assets are financed by liabilities (debts) or equity (owner's money), thus the total claims of the financiers equal the assets of the business

3. Profit, revenue and expenses: recognising economic activity

Revenue & expenses

Revenue

- The price of goods and services sold during a given accounting period
- Indicates the *gross* increase in equity resulting from the operation of businesses – ceteris paribus, the inflow of cash and receivables from operation increases assets, thus increasing equity
- Recognised when it is probable

Expenses

- Costs of the goods and services used up in the process of earning revenue
- Indicates the *gross* decrease in equity – due to a decrease in assets or increase in liabilities

When to recognise revenue and expenses: the recognition and matching principles

Revenue and expenses should be recognised at the time the goods or services are sold – because at that point, the business has completed the earnings process and the sales value of the good or service can be measured objectively.

- Revenue is recognised at the point where it is earned – independent of when a contract is signed or when cash is paid. Most often when good or service is transferred to buyer at delivery, or if probable that future economic benefits will flow to the entity and it can be reliably measured
- Expenses are incurred for the purposes of producing revenue – and so revenue should be offset by the expense it incurs on the basis of cause and effect

The critical question to decide *when* it is recognised is: at what point is the good or service rendered? And where/when does the expense help to produce that revenue?

Expenditure over more than one accounting period: purchasing an asset or an expense?

There must be objective evidence that an expenditure will produce revenue in future periods before it can be viewed as creating an asset (that is used to earn revenue). If no such evidence exists, it will be recorded as an expense.

Profit, dividends and retained earnings

Profit

Profits = change in equity (retained earnings) = revenue/income – expenses

- The increase in equity resulting from the profitable operation of a businesses
- Does not consist of cash or any specific assets – no direct relationship to the types or amounts of assets on hand
- Computation of the overall effects of businesses transactions on equity
- Causes the balance in retained earnings account to increase

Dividends

- A distribution of assets by a corporation to its shareholders
- Not an expense – does not generate revenue, but a distribution of profits to owners of a businesses
- Linked to retained earnings account

Retained earnings

Equity = share capital + retained earnings – dividends

- The total profits of corporation over entire lifetime less dividends
- Retained earnings represent the earnings retained to finance growth

Cash vs. accrual basis of accounting

Cash accounting

- Records only inflows and outflows of cash, revenue and expenses are recognised according to cash flows
- Does not accurately capture economic activity (decisions and production) within a time period

Accrual accounting

- Recognises revenue it is earned and expenses when the related goods or services are used
- Accurately captures economic activity within period of time by acknowledging timing differences in business transactions

4. Financial statements

The three primary financial statements are **statement of financial position (balance sheet)**, **income statement**, and **statement of cash flows.**

Financial statements

Statement of financial position (balance sheet)

- The balance sheet indicates where the company stands in financial terms *at a specific point in time*
- It consists of three distinct sections: assets, liabilities and equity

Income statement

- A summarisation of the company's revenue and expense transactions *over a period of time*
- Each entry is dated

Statement of cash flows

- Classifies the various cash flows *over a period of time,* each entry is dated
- Consists of three sections: operating, investing and financing cash flows, and relates them to the beginning and ending cash balances
    - Operating cash flows: cash effects of revenue and expense transactions *included in the income statement*
    - Investing cash flows: cash effects of purchasing and selling assets
    - Financing cash flows: cash effects of owners investing, creditors loaning and the repayment of either or both

Accounting period: time period covered by the income statement and statement of cash flows

Relationship between financial statements

- Balance sheet – gives a static look in financial terms of where the company stands
- Income statement and statement of cash flows help to explain the financial position on that date by showing how the revenues, expenses and cashflows have changed to result in that combination of assets, liabilities and equity
    - Income statement: specific focus on revenue and expenses; link to operating cash flows in statement of cash flows
    - Statement of cash flows: explains any changes in assets, liabilities and equity that are not explained by operating transactions of revenue and expenses

The Statement of Cash Flows reports cash receipts and cash payments of a business, from three broad categories of business activities: operating, investing, and financing – prepared on a cash basis. In comparison, the Income Statement reports revenues earned and expenses incurred during a period of time. It is prepared on an accrual basis.

The Balance Sheet reports the assets, liabilities, and equity of a business at a point in time. Consequently, the Statement of Cash Flows and related schedules indirectly report changes in the Balance Sheet by reporting operating, investing, and financing cash flows during a period of time, which caused changes in the balance sheet from one period to the next. In this way, the Statement of Cash Flows reports information to link together the financial statements from one period to the next, by explaining how operating, investing, and financing transactions caused changes in cash and other balance sheet accounts.

Accounting in practice

1. Adjusting entries: accruals and deferrals

Adjusting entries and its characteristics

The need for adjusting entries:

To sync up cash flows with revenue and expenses in accordance with the recognition and matching principles, adjustments must be made to the income and financial position statements.

Characteristics of adjusting entries:

- Every adjusting entry involves the recognition of revenue or expenses – with a corresponding change in assets or liabilities (so that profit can be reflected as a change in equity)
- Every adjustment affects both income and financial position statements

Converting assets to expenses (adjusting for pre-paid expenses)

When a business makes an expenditure that will benefit more than one accounting period, the amount is usually debited to an asset account – then at the end of each period benefiting from this expenditure an adjusting entry is made to transfer a portion of the cost from the asset to expense account. Prepaid expenses are systematically matched with revenues in two ways:

- Credit cash, debit (creation) of asset (receivables, consumables) → expense and credit of asset
- Credit cash, debit (creation) of asset (PPE, non-consumables) → debit depreciation expense, credit accumulated depreciation (contra-asset, because it has a credit balance)
    - **Book value of asset = asset cost – accumulated depreciation**

Concept of depreciation

- Depreciable assets are physical objects that wear out or become obsolete and are not physically consumed
- Depreciation is the systematic allocation of the cost of a depreciable asset to expense over the asset's useful life
- Rationale lies in the matching principle – to offset a reasonable portion of the asset's cost against revenue in each period of the useful life
- Deprecation model is only an estimate
- A non-cash expense which often represents the largest difference between profit and cash flow

Converting liabilities to revenue (adjusting for pre-paid revenue)

For accounting purposes, amounts collected in advance do not represent revenue because they have not yet been earned. Pre-paid revenue is systematically recognised by:

- Debit cash, credit (creation of) unearned revenue account (liability – owed good or service)

Accruing unpaid expenses (delaying cash payment of expenses)

This type of adjusting entry recognises expenses that will be paid in cash in future. These expenses are said to 'accrue' – grow – over time. These unpaid (but incurred from the generation of revenue) expenses are recognised by:

- Debit expense, credit payables (liabilities)
- Upon payment, credit cash (asset), debit payables (liabilities)

Accruing uncollected revenue (delaying cash collection of earned revenue)

A business may earn revenue during the current accounting period but not collect the cash until a future accounting period. To sync the financial position and income statements, this is recognised as:

- Credit revenue, debit receivables (asset)
- Upon collection of payment, debit cash (asset), credit receivables (asset)

Materiality and adjusting entries

Materiality refers to the relative importance of an item of event. If knowledge of the item or event might reasonably influence the economic decisions of the users of financial statements, it is considered material. It is a matter of professional judgement.

It can help to simplify accounting processes, such as ignoring unrecorded expenses or revenue (if they are insignificant), charging to expenses with cash flows (rather than accruing – e.g. phone bills), charging expenses directly rather than creating a depreciable asset (e.g. office supplies).

Changes after adjustments to sync financial position and income statements

Adjustments for	Income Statement			Statement of financial position		
	Revenue	Expense	Profit	Assets	Liabilities	Equity
Pre-paid expense	-	Increase	Decrease	Decrease	-	Decrease
Pre-paid revenue	Increase	-	Increase	-	Decrease	Increase
Delaying expense payment	-	Increase	Decrease	-	Increase	Decrease
Delaying collection of revenue	Increase	-	Increase	Increase	-	Increase

2. Reporting financial results

Preparing financial statements

Publicly owned companies – those with shares listed on a stock exchange – have obligations to release annual and quarterly information to their shareholders and public. To prepare these reports, the income statement is prepared first because it determines the amount of profit to be reported in the statement of changes in equity.

Income, changes in equity and financial position statements are all systematically linked.

Income statement (profit) → Statement of changes in equity (retained earnings – dividends) → Financial position (total equity)

Income statement	Statement of changes in equity	Statement of retained earnings	Statement of financial position
Records revenue, expenses and profits. But has limitations due to assumptions: 1. Expenses are influenced by estimates, such as depreciation	Equity includes share capital (total value of shares issues), retained earnings (portion of shareholder's equity created by earning profit and retaining those resources) and other equity balances. Share capital at beginning + new shares issues – repurchase of shares = Share capital at end Retained earnings at beginning + profit – dividends = retained earnings at end Equity = share capital + retained earnings		

Income statement	Statement of changes in equity
Records revenue, expenses and profits. But has limitations due to assumptions: 1. Expenses are influenced by estimates, such as depreciation	Equity includes share capital (total value of shares issues), retained earnings (portion of shareholder's equity created by earning profit and retaining those resources) and other equity balances. **Share capital at beginning + new shares issues – repurchase of shares = Share capital at end** **Retained earnings at beginning + profit – dividends = retained earnings at end** **Equity = share capital + retained earnings**
Statement of financial position	**Notes that accompany financial statements**
Records assets, liabilities and equity. Financial position subtotals Many companies group together items subtotals into distinct categories. E.g. current assets, current liabilities These are useful for evaluating a company.	To the users of financial statements, adequate disclosure is important. As a general rule, a company should disclose any facts (through the notes) that an informed user would consider necessary for the statements to be interpreted properly. These include: • Lawsuits • Scheduled closings • Significant events • Unusual transactions, conflicts of interest • …
Evaluating the business	
Measures of profitability $$\text{Profit percentage} = \frac{\text{Profit}}{\text{Total revenue}}$$ $$\text{Return on equity} = \frac{\text{Profit}}{\text{Average shareholder equity}} = \frac{\text{Profit}}{(\text{Beginning} + \text{End})/2}$$ Measures of liquidity $$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$ $$\text{Working capital } \text{current assets} - \text{current liabilities}$$	

Elements of Financial statements

1. Non-current assets

Plants, property and equipment (PPE) Assets

PPE assets

- Tangible assets that are held for use in the production or supply of goods or services, rental, administrative purposes
- Expected to be used for more than one time period.

There are 3 accountable events in the lives of PPE assets:

1. Acquisition and valuation
2. Allocation of acquisition cost to expense over useful life (depreciation)
3. Sale or disposal

Acquisition of PPE assets

When a PPE asset is acquired, the amount recognised for the PPE should be measured at its cost.

The cost of a PPE asset includes all expenditures that are *reasonable* and *necessary* for getting the asset to the desired location and ready for use.

Special considerations when measuring cost of PPE

- **Extended payment for PPE:** Charges **after** the equipment is ready for use (e.g. instalment, interest) are recorded as expenses. All charges during construction period/prior to PPE being ready is part of the asset's cost.
- **Land purchases:** all additional transaction costs and legal fees are considered part of the cost. If existing buildings are on them that are not intended for use, then the costs to tear them down are also factored in.
- **Land improvements:** Improvements to real estate (e.g. driveways, fences, parking, landscaping) have limited life and are subject to depreciation. They are recorded in a separate asset account called Land Improvements, not considered as part of the PPE asset.
- **Buildings:** If buildings are purchased with the intention of repairing them prior to use, these repairs are factored into the cost. Any subsequent repairs **after** the building is used are considered as expenses.
- **Equipment:** All costs – sales taxes, delivery, repair etc. – are considered as part of the asset's costs. Once the equipment has been placed in operation, maintenance costs (interest, insurance etc.) are treated as expenses.
- **Lump sum purchases:** Several different PPE assets may be purchased at one time in a single lump sum. The purchase price must be *allocated* among these assets separately under different accounts. The allocation is based on the relative fair market value of each asset.

Capital vs revenue expenditure

- Capital expenditure any material expenditure that will benefit several accounting periods, charged to assets.
- Revenue expenditure: any expenditure that will benefit only the current period or that is not material in amount, charged to expenses

Measurement after acquisition: depreciation

Depreciation

PPE assets are shown in the statement of financial position at their *book values*. After initial recognition, an entity is required to choose either the cost model of revaluation model as its accounting policy for measuring a class of PPE assets.

Models of measuring value of PPE assets

- Cost model:
  - In times of inflation, capital (and its expenses) are underestimated → profit is overstated
  - **Book value = historical cost – accumulated depreciation (contra-asset) – accumulated impairment losses (contra-asset)**
- Revaluation model:
  - **Book value = revalued amount (fair value at date of revaluation) – *subsequent* accumulated depreciation – subsequent accumulated impairment losses**

Depreciation

- The allocation of cost of a PPE asset to expense in the period in which *services are received from the asset* in the generation of revenue
- Depreciation is not a process of valuation, but cost allocation (to fairly represent expenses and economic acitivity)
- Think of it as allocating the value of service for which the company pre-paid

'Causes' of depreciation

- Physical deterioration
- Obsolescence

These factors change the value of the service that an asset can provide – so it must be appropriately considered in deprecation models *how* the cost should be expensed according to the value it provides in those periods of time.

Recording depreciation in the asset and expense accounts

- Asset account does not change
- At the end of financial year:
  - debit depreciation expenses, credit accumulated depreciation
  - debit impairment losses, credit

Methods of computing depreciation

Depreciation for fractional periods

When an asset is acquired in the middle of an accounting period, it is not necessary to compute depreciation expenses to the nearest day or week (which would give a misleading impression of precision, when they are estimates). Two approaches are used to account for depreciation in the first year for assets purchased in the financial year:

- **Half-year convention:** based on the assumption that the actual purchase dates will average out to approximately mid-year, so one-half year's depreciation on *all* assets acquired during the year is expensed. One-half year's depreciation is also taken in the last year of the asset's life.
- **Nearest whole month**
- **By output (following model of depreciation)**

Models of depreciation

1. Straight line method

Estimate: years of useful life, residual value

$$\textbf{annual depreciation expense} = \frac{\textbf{cost} - \textbf{residual value}}{\textbf{years of useful life}}$$

2. Declining balance method

Estimate: fixed percentage of declining balance, residual value

$$\textbf{annual depreciation expense} = \textbf{remaining book value} \times \textbf{n} \times \frac{1}{\textbf{useful life}}$$

When depreciation expense causes book value to drop below residual value, then final year expense = difference between book and residual value

3. Units of output method

Estimate: total units of useful output

$$\textbf{annual depreciation expense} = \frac{\textbf{output for the year}}{\textbf{total lifetime output}} \times (\textbf{cost} - \textbf{residual value})$$

All three methods will produce the same total depreciation over the asset's useful life, but the amount of depreciation expense and book value will differ from year to year.

Depreciation in the cost vs revaluation model

1. Cost model – just applying the depreciation models directly
2. Revaluation model – asset is revalued periodically. Balance between book value and present value is adjusted through the accumulated depreciation account. New book value is then used for future calculations until next revaluation finds discrepancy between book and market value.

Year	Computation			Depr. Expense	Accumulated Depreciation	Book Value
First	$ 340,000	×	40%	$ 136,000	$ 136,000	$ 204,000
Second						
Before	204,000	×	40%	81,600	217,600	122,400
After	340,000	-	131,400		208,600	131,400
Third	131,400	×	40%	52,560	261,160	78,840
Fourth	78,840	×	40%	31,536	292,696	47,304
Fifth	Plug year # 5			4,304	297,000	43,000
Total Depreciation				$ 306,000		

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Revision of estimates & impairment

Revision of estimates

- Revised estimates should be used for calculation of *current and future* periodic depreciation expenses
- Financial statements of past periods are not revised

Impairment

If it becomes apparent that a company cannot reasonably expect to revover the book value of PPE assets (through use or sale), the asset should be written down to its *net realisable value*. Credit impairment loss (contra-asset), debit expenses.

Disposal or sale of PPE

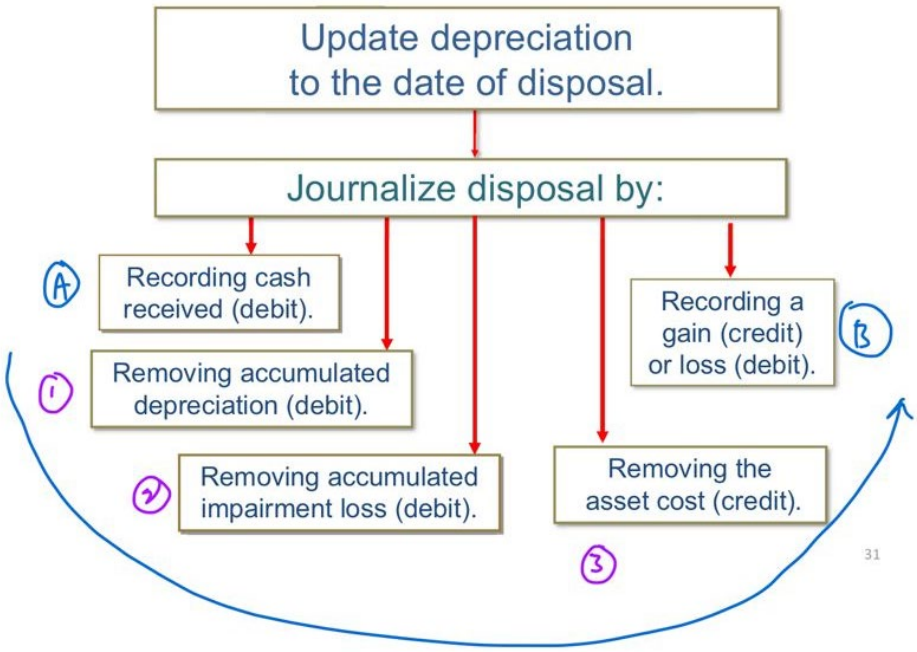
Accounting for depreciation before disposal

When depreciable assets are disposed of at any date other than the end of the accounting year, entry should be made to record depreciation for that fraction of the year before disposal.

Disposal or sale

Note that for revaluation model, updating depreciation here includes the revaluation of the asset.

Gain = what you get for asset (cash, market value of equipment)– book value of asset



Trading

1. Update depreciation to date of disposal
2. Record cash flow
3. Remove accumulated depreciation, impairment losses, asset to be traded
4. Add asset gained from trade to assets
5. Record gain or loss on disposal of PPE asset

Note that income tax rules due not recognise gains or losses on exchanges of assets that are used for similar purposes.

Watch out for in practice

- Physical inspections of fixed assets (to verify their existence, check their condition to support their book value)
- Useful life being less than actual life → impact on profit (without change in real terms)
- Changes to depreciation policy and estimates → impact on profit (without change in real terms)

Intangible Assets

Intangible assets

- Identifiable non-monetary assets without physical substance
- Controlled by the entity and will generate future economic benefit
- Appear in financial statement at cost, regardless of *value*

Classification as operating expense vs. intangible asset

- Intangible assets are only listed if significant costs are incurred in their acquisition or development
- Intangible assets recognised only if there is reasonable evidence of future economic benefits (e.g. patent vs. employee training)

Measurement after recognition & amortisation

Measurement after recognition

As in tangible PPE assets, after initial recognition an entity can choose either the cost model or revaluation model to measure an intangible asset.

- But if there is no active market for the assets, then they are by default accounted for by the cost model

Amortisation

The equivalent of depreciation, but for intangible assets.

- Note: the usual accounting entry for amortisation is debit to amortisation expense and credit to the intangible asset directly. There is no theoretical reason to credit accumulated amortisation account rather than intangible asset directly but is seldom seen in practice.

Goodwill

The amount a company has paid to acquire certain favourable intangible attributes as part of acquisition of another company.

A business has goodwill when investors will pay a *higher price* than the net identifiable assets are worth because the businesses earns *more* than the rate of return from these assets.

Goodwill is thus measured by the difference in price *paid* and value of net identifiable assets of a company.

Goodwill = price – fair market value of net identifiable assets

Recording goodwill

- There is no objective way of determing intangible qualities of a businesses unless it is sold – so internally generated goodwill is not recorded
- Goodwill can be impaired – when the amount of goodwill recorded is no longer recoverable (through a sale, for example) an impairment loss must be recorded by reducing the asset amount (credit) and a loss in the income statement (debit expense).
- Goodwill does not undergo amortisation

Trademarks, patents, copyrights

All three intangible assets undergo amortisation.

Patents

- The exclusive right granted by the government to sell or manufacture an invention
- Cost = purchase price + legal costs to defend
- Useful life for amortisation = estimated useful life or legal life (20 years)

Copyrights

- Costs of obtaining copyright are often minor, and thus charged to expense. Only when a copyright is purchased from an existing owner will it be material enough to be recognised as an intangible asset.
- Useful life = shorter of legal life (life of creator + 50 years) or years un which revenue is expected

Trademarks and trade names

- A symbol, design, logo or name associated with a business
- Internally developed trademarks have no recorded asset cost
- Purchased trademarks are recorded at cost and amortised over the shorter of legal or useful life
- If the use of the trademark is discontinued or its contribution to earnings becomes doubtful, any unamortised cost should be written off as expenses

R&D and R&D costs

- Costs: expenditure on research or the research phase of an internal project are expensed when incurred
- Intangible assets arising from R&D is only recognised as an asset I the criteria are met:
    - The technical feasibility of completing the intangible asset for use or for sale
    - The entity intends to complete the intangible asset and use or sell it
    - The entity has the ability to use or sell the intangible asset
    - The intangible asset will generate probably future economic benefits
    - There is available adequate technical, financial and other resources to complete the development and to use or sell the intangible asset
    - The entity has the ability to measure reliably the expenditure attributable to the intangible asset during its development

2. Current assets: inventories for merchandise

Merchandising companies: operating cycle and income statement

Merchandising companies

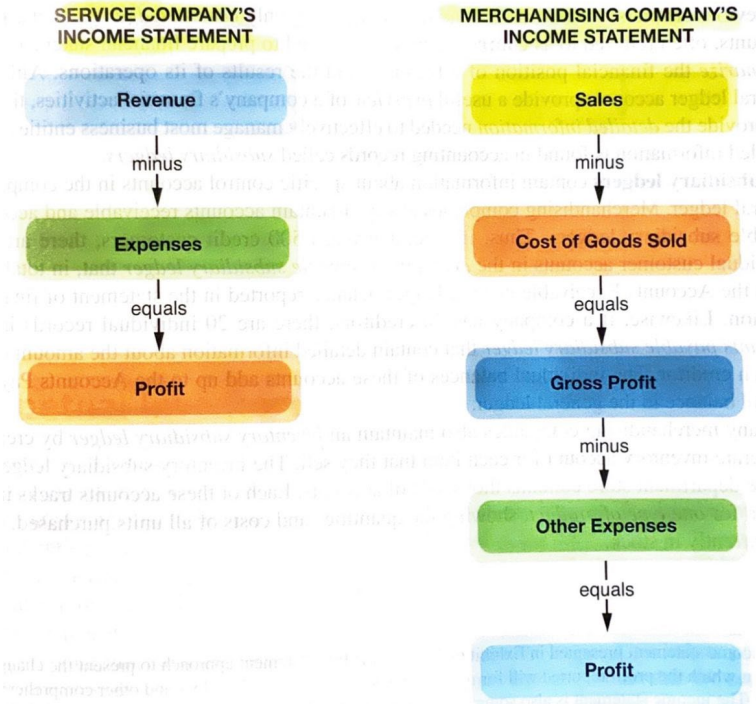
- Purchase their inventories from other businesses in a ready-to-sell condition
- Include retailers (sell directly to public) and wholesalers (buy from manufacturer and sell to retailers)

Operating cycle

1. Purchases of goods
2. Sales of goods
3. Collection of accounts receivable and payment of payables to suppliers
4. Taking physical inventories and making adjustments

Income statement

Income statements of merchandising companies differ from service organisations. There is special consideration for cost of goods sold – an especially important expense – and it is shown separately from other expenses in the company's income statement.



- Other expenses – such as good delivery to customer, wages, rent etc. are considered as business expenses and not COGS.

Determining costs of goods sold

Determining cost of good (purchase price)

- At net cost (what was paid – e.g. gross price – discount)
- All costs relating to the *acquisition* of inventory (asset) are considered part of the asset cost – so this includes transportation cost on purchases.

The flow of inventory costs

As items are sold from inventory, their costs are removed from the statement of financial position (credited from inventory) and expensed as COGS in the income statement – but how exactly do we calculate COGS? Which units were sold? There are three methods:

Specific cost identification

- Parallels physical flow, where identifiable good sold is matched to its actual purchase cost
- Logical approach when items are uniquely identifiable and unique
- COGS = sum of individual actual product costs

Weighted average cost

- Cost of each unit = average cost of all units currently in inventory, COGS = units × current average cost
- Revised after every purchase
    - In a perpetual inventory system – this becomes moving average cost.
    - In a periodic system, average cost = $\frac{\text{total cost of items aviailable for the year}}{\text{total units}}$

First in first out (FIFO)

- Assumes that first item purchased is first item sold. So COGS = units × unit cost in chronological order

Last in first out (LIFO)

- Most recently purchased units are considered to account for expenses, so COGS = units × unit cost in reverse chronological order
- Not allowed under IFRS because LIFO has the lowest inventory balance, highest COGS and lowest income arising; most recent items will have highest costs due to inflation and will overstate COGS (expenses) and understate profit

Three methods evaluated

Specific cost identification	Weighted average cost	FIFO
• Best suited for high-priced, low-volume items • Does not make sense for homogenous/identical products since they have the same intuitive value and should not be expensed differently	• Good for identical items since it considers average cost (of all items) • Conceals replacement costs of inventory as older (cheaper) costs are averaged with new costs	• Inventory will be valued at recent purchase costs and more accurately reflect its replacement cost • May overstate a company's profit as older goods are probably cheaper due to inflation, leading to lower expenses and higher profit

Inventory accounting systems and their operating cycle

For a merchandising company, the inventory system must capture the revenue and cost of goods sold (direct sales expense) and tally them with changes in assets and liabilities (financial position, cash flows).

This means having a systematic way of recording the steps of the operating cycle – purchases, sales, collection of sales. There are two predominant inventory systems – perpetual and periodic.

Perpetual inventory systems

All transactions involving cost of goods are recorded immediately as they occur. Revenue and costs of goods sold are calculated accordingly.

1. Purchases of goods: recorded at cost, directly debited to inventory (assets), credit cash or accounts payable.

Items	Debit	Credit
Inventory	xx	
Cash/Accounts Payable		xx

2. Sales of goods: revenue = sales price × units sold, credited to revenue and debited to accounts receivable/cash. The matching principle requires that the revenue be matched with the costs – so a second entry is required to record the costs of good sold and change to inventories.

Items	Debit	Credit
Sales revenue	xx	
Cash/Accounts Receivable		xx
Cost of goods sold	xx	
Inventory		xx

3. Payment of payables to suppliers, collection of receivables from customers

Items	Debit	Credit
Accounts payable (to supplier)	xx	
Cash		xx
Accounts receivable (from customers)		xx
Cash	xx	

4. Taking a physical inventory and making adjustments: physical inventories are taken to determine whether the physical count corresponds to the ledger. The inventory is then adjusted for inventory shrinkage (unrecorded decreases in inventory from theft, breakage, etc.) through debiting costs of goods sold and crediting inventories.

Items	Debit	Credit
Cost of goods sold (inventory shrinkage)	xx	
Inventory		xx

Periodic inventory systems

The inventory account and cost of goods sold accounts are not updated as transactions occur. Costs of goods sold, amounts are determined periodically through physical counts.

1. Purchases of goods: when goods are purchased, their cost is debited to purchases account rather than inventory: debited to purchases (assets), credit cash or accounts payable.

Items	Debit	Credit
Purchases	xx	
Cash/Accounts Payable		xx

2. Sales of goods: revenue = sales price × units sold, credited to revenue and debited to accounts receivable/cash.

Items	Debit	Credit
Sales revenue	xx	
Cash/Accounts Receivable		xx

3. Payment of payables to suppliers, collection of receivables from customers

Items	Debit	Credit
Accounts payable (to supplier)	xx	
Cash		xx
Accounts receivable (from customers)		xx
Cash	xx	

4. Taking a physical inventory and computing cost of goods sold (and immaterial inventory shrinkage): the year-end inventory is determined by taking a complete physical count, from which costs of goods sold (including inventory shrinkage) is calculated.

Costs of goods sold = inventory (beginning) + purchases – inventory (end of year)

5. Recording inventory and costs of goods sold: post calculation and physical inventory, the values are then recorded by:
   a. creating a cost of goods sold account, assuming all available goods were sold (beginning inventory and purchases)
   b. then adjusting inventory and COGS for what was actually sold.

Items	Debit	Credit
Cost of goods sold	xx	
Inventory (beginning of year)		xx
Purchases		xx
Inventory (end of year)	xx	
Cost of goods sold		xx

Perpetual vs. periodic inventory systems

Perpetual	Periodic
• company with professional management, wanting information bout items in inventory and their quantities • items with high per-unit cost • low-volume of sales transactions or a computerised accounting system • merchandise stored at multiple locations, or in warehouses separate from sales sites	• small companies • accounting records of inventories and sales not needed for daily operations – this information is only for annual auditing • inventory with many kinds, low-cost items • high volume of sales transactions and manual accounting system • all merchandise at sales site

LCNRV and write-downs of physical inventory

The value of inventory may decline because goods have become obsolete or unsalable for other reasons. With a lower inventory value, its book value should accordingly be written down to fairly represent a company's assets. It is handled as an expense, to Write-Down of inventory.

Inventory is adjusted to the lower of historical cost or net realisable value.

NRV = estimated selling price in the ordinary course of business – estimated costs of completion – estimated costs to make the sale

Items	Debit	Credit
Write-down of inventory	xx	
Inventory		xx

Estimating cost of goods sold and inventory

Taking a physical inventory every month would be expensive and time-consuming, and sometimes impossible. A business with a periodic inventory system preparing quarterly/interim financial statements or filing an insurance claim after damage to inventories will need to estimate the value of their inventories and COGS at that point in the year.

Gross profit method

- assumed that rate of gross profit earned in preceding year (or several years) will remain the same for the current year

$$\text{Previous year's rate of gross profit} = \frac{\text{Net sales} - \text{COGS}}{\text{Net sales}}$$

Gross profit this year = rate of gross profit × this year's net sales

COGS this year = (1 - rate of gross profit) × this year's net sales

Estimated ending inventory = opening inventory + purchases - COGS

Retail method

- Same as gross profit method, except that it requires the value of ending inventory at retail prices; so a business must keep track of goods available for sale at both cost and retail prices
- Retail value of ending inventory is then converted to cost using a cost ratio

Determine: physical count of ending inventory priced at retail

$$\text{Previous year's cost ratio} = \frac{\text{Goods available for sale at cost}}{\text{Goods avaialable for sale at retail prices}}$$

Estimated ending inventory at cost = cost ratio × ending inventory at retail price

COGS = beginning inventory + purchases – ending inventory

Errors in inventory valuation

Effects

The most important liquid assets in the statements of financial position of most companies are cash, receivables and inventory. Inventory is often the largest of these. An error in inventory will affect:

- Assets, thus affecting equity
- Expenses – COGS, thus affecting gross profit and profit, and thus income taxes
- It will carry over to the next year

Overstatement of inventory = overstatement of COGS, understatement of profit; vice versa

Errors in Measuring Inventory

	Beginning Inventory		Ending Inventory	
Effect on Income Statement	**Overstated**	**Understated**	**Overstated**	**Understated**
Goods Available for Sale	+	-	NE	NE
Cost of Goods Sold	+	-	-	+
Gross Profit	-	+	+	-
Profit for the period	-	+	+	-
Effect on Statement of Financial position				
Ending Inventory	NE	NE	+	-
Retained Earnings	-	+	+	-

An error in ending inventory in a year will result in the same error in the beginning inventory of the next year.

Self-correction after two years

Because the original error in the previous year has the exact opposite effects on the profit of the next year, inventory errors are 'self-correcting' over a two-year period.

Inventory methods: company performance

- choice of model to calculate COGS does not have real impact on company – because it is merely an allocation of costs between inventory account and COGS account – profitability differences only exist on paper
- but it does have real impact on the company through income taxes

3. Current assets: financial assets

Financial assets

Financial assets

Financial assets are a company's most liquid resources – the ability of a company to service its debts, purchase inventory, pay taxes and payroll obligations hingers on the availability of these liquid assets.

There are three main types of financial assets – cash (and its equivalents)

Valuation of assets in statement of financial position

Financial assets are shown at their current values, though how current value is measured for each financial asset is different.

Cash (and cash equivalents)	Face amount
Short-term investments (marketable securities)	Fair value, normally current market value
Receivables - Accounts Receivables - Note Receivables	Estimated collectible amount, or cost less any impairment loss (i.e. amortized cost)

Cash & its equivalents

Cash

- Defined as any item banks will accept for deposit
  - Coins, paper money, checks, money orders, traveller's checks
  - Drafts signed by customers using credit cards (so sales using bank cards are considered *cash* sales, not credit sales)

Cash equivalents

Some short-term investments are so liquid that they are termed cash equivalents.

- To qualify, an investment must be very safe, have a very stable market value and mature within three months from the date of acquisition
- Money market funds, US Treasury bills, high grade commercial paper (very short term notes payable that are issued by large, creditworthy corporations)

Restricted cash

Some bank accounts are restricted for their use, so they are not available to meet the normal operating needs of the company (e.g. an account specifically for the payment of a noncurrent liability)

Lines of credit

A line of credit means a bank has agreed *in advance* to lend the company any amount of money to a specified limit. A liability to the bank arises as soon as a portion of the credit line is used

- The *unused* portion of a line of credit is neither an asset nor a liability; it represents only the ability to borrow money quickly and easily
- Because it still increases a company's liquidity, lines of credit are disclosed in notes

Reporting Cash in the statement of financial position

- Cash and equivalents – combined under "cash and its equivalents"
- Restricted cash – under "investments and restricted funds"
- Lines of credit – disclosed in notes

How much cash should a business have?

- As little as necessary – because of opportunity cost
- In a well-managed company, daily cash receipts are deposited promptly in the bank – if these routine receipts exceed routine cash outlays, the company can meet its obligations while maintaining low balances
- Cash that is not needed in the immediate future is often invested in highly liquid short-term securities as they are more productive than cash

Short-term investments

- Consist primarily of bonds (debt securities) and shares (equity securities), traded on international stock exchanges
- They can earn a return in the form of interest, dividend and an increase in market value
- Almost as liquid as cash as they can be easily sold on stock exchanges

Stages of investments: purchase → recognition of interest or dividend revenue → adjustments to market value → sale

-

Accounting for investments in securities

Purchase

- Originally recorded at fair value (cost + transaction costs). This is known as the cost basis.
- Cost per share is calculated based on this fair value including misc. costs

Items	Debit	Credit
Investment in securities	xx	
Cash		xx

Recognition of investment revenue

Entries to recognise interest and dividend revenue involve a debit to cash and a credit to interest revenue or dividend revenue.

Items	Debit	Credit
Investment in securities	xx	
Dividend revenue		xx
Interest revenue		xx

Adjusting securities to market value

Securities classified as available for sale are presented in the statement of financial position at their fair value – current market value at the end of the reporting period. (fair value accounting)

The adjustment of securities to their fair value uses an equity account (gain or loss on fair value change of investments), because this is considered a subtraction or addition to equity (a holding loss or gain).

e.g. for a gain in value, debit asset, credit equity:

Items	Debit	Credit
Investment in securities	xx	
Gain on fair value change		xx

Sale of investments

A gain or loss on sale appears in the 'other income/expense' section of the profit statement as gain/loss on sale of investments – it is considered a contra-expense (income) or expense respectively.

Gain/loss = net sales proceeds (commission fee included) – cost basis

e.g. investment sold at a gain

Items	Debit	Credit
Cash	xx + yy	
Investment in securities		xx
Gain on sale of investments		yy

Accounts receivable

- Relatively liquid assets, usually converting into cash within 30 to 60 days
- Receivables that are based on long-term instalment plans (e.g. 12, 24, 48 months) are still considered current assets as they are part of the company's normal operating cycle
- *all* accounts receivable arising from *normal* sales activity are considered current assets even if their credit terms extend beyond a year

Uncollectible accounts

It is inevitable that some accounts receivable *from sales* will not be collected. A limited amount of uncollectible accounts from sales is not only expected – it is evidence of a sound credit policy that is not overly cautious and losing potential sales opportunities by rejecting customers with acceptable credit risks.

Allowance for impairment

In measuring income, matching principle means revenue should be offset by expenses (including losses of receivables – which are impairment losses caused by selling goods on credit). This expense is estimated and charged to the allowance of impairment first, before being deducted from it as real uncollectible occur.

- No way in advance of identifying *which* accounts payable will prove uncollectible, so not possible to directly credit those accounts for an estimate of uncollectible impairment losses
- Practical solution: (create) credit an account "allowance for impairment" – a contra-asset
- Account must be adjusted monthly based on renewing estimates and current balance in allowance for impairment
- Estimate is reflected in financial statement to reflect a more accurate profit per the matching principle

Items	Debit	Credit
Impairment loss of receivable	xx	
Allowance for impairment		xx

Estimated collectible amount = accounts receivable – allowance for impairment

Ending allowance for impairment = beginning – write-offs + uncollectibles expense

Writing off a real uncollectible receivable

When account receivable is deemed uncollectible, it no longer qualifies as an asset. So the corresponding values should be 'deleted' from assets and allowance for impairment. Notice that estimated collectible amount (and thus profit) remains the same – because it was considered beforehand via estimates.

Items	Debit	Credit
Allowance for impairment	xx	
Accounts receivable		xx

Direct write-off method

Some companies do not use any valuation allowance for accounts receivable. These companies recognise no impairment loss of receivable until they are actually determined to be worthless – making no attempt to match revenue with the expense of uncollectible accounts.

- Receivables will be listed in assets at their gross amount with no valuation allowance used
- Acceptable if company makes most of its sales for cash and receivables are a small portion of their assets

Recovery of an account receivable previously written off

Asset is reinstated alongside allowance for impairment.

Items	Debit	Credit
Accounts receivable	xx	
Allowance for impairment		xx

Monthly estimates of credit losses

Management should estimate the probably amount of uncollectible accounts monthly and adjust the allowance for impairment to this new estimate by debiting/crediting it.

Statement of financial position approach

1. Year-end Accounts Receivable is broken down into age classifications.

2. Each age grouping has a different likelihood of being uncollectible.

3. Compute a separate allowance for each age grouping.

EastCo, Inc.
Schedule of Accounts Receivable by Age
31 December 2013

Days Past Due	Accounts Receivable Balance	Estimated Bad Debts Percent	Estimated Uncollectible Amount
Current	$ 45,000	1%	$ 450
1 - 30	15,000	3%	450
31 - 60	5,000	5%	250
Over 60	2,000	10%	200
	$ 67,000		$ 1,350

This approach is based on the idea that the longer an account is past due, the greater likelihood that it will not be collected in full. So, the credit manager does an estimate for each receivable age group on the basis of past experience and combines it to give a total estimate.

Income statement approach

- On the basis of past experience, the impairment loss is estimated as some percentage of net credit sales.
- Adjusting entry is made in the *full amount* of the estimated expense, without regard for the current balance in the allowance for impairment.

Estimated uncollectible = net credit sales × %uncollectible

Approaches compared

- Advancement of computer and software allows easier usage of statement of financial position approach
- Income statement approach may not meet the requirement of IFRS
- IFRS formally requires impairment loss to be determined by using the present value of estimated future cash flows
  - Be careful in applying the approach
  - Ensure that the percentage of credit loss can reflect the requirements of IFRS

Factoring accounts receivable and credit card sales

Factoring

Factoring describes transactions in which a business sells its accounts receivables to a financial institution (a factor) for cash. This allows the company to obtain cash immediately (and transfer the risk).

Credit card sales

- By making sales through credit card companies, merchants receive cash a lot more quickly, reducing impairment loss risks
- For bank credit cards (issued by bank) because the credit card drafts are acceptable for immediate deposit, these transactions are considered a cash sale less a fee
- Non-bank credit cards are not immediately acceptable by banks for deposit, so the credit card company periodically reimburses the merchant in cash for the receivables

Factoring with and without recourse

Recourse is the understanding between the merchant and factor that the merchant must buy back (ie. take responsibility for) receivables that the factor cannot collect payment on.

With recourse, the risk lies with the merchant still – all they get is money more quickly, but the risk of uncollectible is still borne by them.

Notes receivable and interest revenue

A note is an unconditional promise in writing to pay on demand or at a future date for a definite sum of money.

- Maker: person who signs the note and thereby promises to pay
- Payee: the person to whom payment is to be made

Accounting for notes receivable and interest revenue

Interest = principal × interest rate × time (fractions of a year)

e.g. accounting on date of maturity – ie. when interest is collected (even if only paid in part in cash) – removal of note (credit) and debit assets (cash or receivables) and credit revenue

Items	Debit	Credit
Cash	xx	
Notes receivable		xx
Interest receivable	xx	
Interest revenue		xx

Defaults

If the maker of a note defaults, an entry should be made to transfer the amount due from the notes receivable to an account receivable.

Items	Debit	Credit
Accounts receivable	xx	
Notes receivable		xx
Interest receivable		xx
Interest revenue		xx

Holding debt (receivables) vs equity (securities)

Often in exchange of debt for equity arrangements. Securities are preferred as:

1. More flexibility in future cash flows – holding onto receivables risks default, whereas securities are more liquid.

4. Liabilities

Defining liabilities

Liabilities

A present obligation of the entity arising from past events – the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits. Unlike owner's equity (which also finances assets), liabilities eventually mature.

The claims of creditors (liabilities) have legal priority over those of owners.

Provisions

Provisions are a special type of liability that have uncertain timing or amount, with two basic characteristics:

1. The liability is known is to exist
2. The precise dollar amount cannot be determined until a later date (e.g. warranty obligations)

It is recognised and declared in financial report when there is a present obligation because of a past event (e.g. warranty contract), it is probably that an outflow of resources will be required to meet the obligation and a reliable estimate can be made of the amount of the obligation.

Contingent liabilities

A possible obligation that arises from past events whose existence will be confirmed only by uncertain future events not wholly in control of the entity. They differ from provisions in that they involve a greater degree of uncertainty – the liability is not known whether to exist or not (e.g. a lawsuit).

Current liabilities

Obligations that must be paid within one year or within the operating cycle, whichever is longer.

Accounts payable

Short-term obligations to suppliers for purchases of good for trading purpose (inventory).

Notes payable (current portion)

Notes payable are issued whenever loans are obtained, though they can also arise from other situations. The *current* portion of notes payable is the portion of the total amount that is due within one year or one operating cycle (whichever is longer) and classified as a current liability, while the non-current portion is considered non-current. Take note that interest payments are considered expenses rather than liabilities.

- This can often be spotted by falls in notes payable between two financial statements – this difference is the amount of note payable maturing in that year (and thus converted to an account payable if unpaid).

Accrued liabilities

Accrued liabilities arise from the recognition of expenses for which payment will be made in future. E.g. interest payable, taxes payable, accrued payroll expenses etc.

Unearned revenue

Created when a customer pays in advance. Notice that the liability for unearned revenue is met by rendering services to the creditor rather than making cash payments. They are classified as a current liability because activities involved in earning revenue are part of a business' normal operating cycle.

Non-current liabilities

Maturing obligations intended to be refinanced

If management has both the *intent* and the *ability* to refinance a soon-to-mature (in the current period) obligation on a long-term basis, these obligations are considered noncurrent liabilities – even if it will mature in the current period.

Instalment notes payable

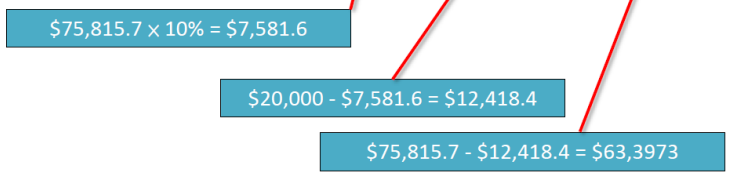
These are long-term notes that call for a series of (fixed amounts of) instalment payments.

Each payment covers interest for the period **and** a portion of the principal amount – so we will need to account for the interest (expense) and liability components of the lump sum.

Allocating instalment payments between interest and principal

1. Identify unpaid principal balance
2. Interest expense = unpaid principal × interest for the period
3. Reduction in unpair principal balance = instalment payment – interest expense
4. Compute and update new principal balance

Date	Payment	Interest Expense	Reduction in Unpaid Balance	Unpaid Balance
1 Jan. Year 1.				$ 75,815.7
31 Dec. Year 1	$ 20,000.00	$ 7,581.6	$ 12,418.4	63,397.3
31 Dec. Year 2	20,000.00	6,339.7	13,660.3	49,737.0
31 Dec. Year 3	20,000.00	4,973.7	15,026.3	34,710.7
31 Dec. Year 4	20,000.00	3,471.1	16,528.9	18,181.8
31 Dec. Year 5	20,000.00	1,818.2	18,181.8	0.00



Bonds and bonds payable

What are bonds?

The issuance of bonds payable is a technique for splitting a very large loan into many transferable units called bonds. Each bond represents a long-term interest-bearing note payable, often sold to the investing public.

The principal is often paid back as a lump sum at the end of the period.

Many bonds are *callable*, which means that the corporation reserves the right to redeem the bonds in advance of the maturity date at a *call price* (often higher than the face value of the bonds to compensate investors).

Bond interest

Bonds usually carry a stated rate of interest called the *contract rate*, and it is normally paid semi-annually.

Interest = principal × stated rate × pro-rated amount of time

Types of bonds

- **Mortgage bonds:** bonds secured by the pledge of specific assets
- **Debenture bonds:** unsecured bonds – its value rests on the general credit of the corporation
- **Convertible bonds:** a bond that may be exchanged at the option of the bondholder for a specified number of shares.
- **Junk bonds:** bonds that involve a substantially greater risk of default than normal.

Issuance of bonds payable

- When bonds are issued, the corporation usually utilises the services of an investment banking firm called an underwriter. The underwriter guarantees the issuing corporation a specific price for the entire bond issue and makes a profit by selling the bonds to the public at a higher price.
- The use of an underwriter assures the corporation that the entire bond issue will be sold without delay and that the entire amount will be available at a specific date.

Quoted market prices

Bond prices are quoted as a *percentage* of their maturity value – the amount the company must pay to redeem the bond at the date it becomes due. A $1000 bond priced at 102 would sell for $1020 in the market.

Tax advantage of bond financing

A principal advantage of raising money by issuing bonds instead of shares is that interest payments are deductible in determining profit subject to corporate income taxes. Dividends paid are not tax deductible.

Accounting for bonds payable

Issuance at discount or premium

Bonds issued at market rate

Item	Debit	Credit
Cash	xx	
Bonds payable		xx

Bonds issued between interest dates

The *investor* is required to pay the interest accrued to the date of issuance *in addition* to the stated price of the bond. This practice allows the corporation to pay a full six months' interest on all bonds outstanding at the semi-annual interest payment date (where this amount is returned to the investor).

Item	Debit	Credit
Cash	xx	
Bonds payable		xx
Interest payable (accrued interest)		xx

Bonds issued at a discount of premium

When bonds are issued, the borrower records a liability equal to the *amount received*. If the bonds are issued at a small discount or premium, then it has essentially pre-borne a cost or gain through the issuance of bonds (since the true value of the bond is determined by the market).

Stated interest rate is	The bonds sells:
Above market rate	At a *premium* (Cash received is greater than face amount)
Equal to market rate	At *face amount* (Cash received is equal to face amount)
Below market rate	At a *discount* (Cash received is less than face amount)

By the matching principle, this difference must be accounted for.

If the company has sold the bonds at a discount, then the difference in the face value of the bond (the principal amount) and the cash received (less) represents the pre-paid interest payments, and this expense should be accordingly amortised over the lifetime of the bond (as with interest payments). This discount is a contra-liability. Premium is a liability.

Conversely, if the company has sold the bonds at a premium, the difference in face value and cash represents a reduction in the cost of borrowing. So the *true* interest expense at every semi-annual payment is accordingly reduced and amortised.

e.g. bond issued below market rate

Item	Debit	Credit
Cash	xx	
Discount on bonds payable	yy	
Bonds payable		xx + yy

Item	Debit	Credit
Cash	xx + yy	
Premium on bonds payable		yy
Bonds payable		xx

Semi-annual interest payments and amortisation of discounts/premium

Amortisation will reduce the contra-liability account over the lifetime of the bond, such that at the date of maturity it no longer exists, and the maturing obligation left is the original carrying value of the bond.

Interest expense = Carrying value × **market interest rate** × time same annually irrespective, what differs is whether in cash up front (or not)

Cash payment = **face value** × **stated interest rate** × time

Amortisation = difference between expense and cash payment

Bond issued at a discount

Item	Debit	Credit
Semi-annual interest expense	xx + yy	
Discount on bonds payable		xx
Cash (interest paid)		yy

Bond issued at a premium

Item	Debit	Credit
Semi-annual interest expense	xx - yy	
Premium on bonds payable	yy	
Cash (interest paid)		xx

Retirement of bonds

Early retirement

If interest rates decline to the point that a corporation can borrow at an interest rate below that being paid on a bond issue, the corporation may benefit from retiring those bonds and issuing new bonds at a lower rate.

- If these bonds can be purchased for less than their carrying value, then a gain (revenue) must be recognised, and vice versa.

Item	Debit	Credit
Bonds payable	Xx	
Loss on early retirement of bonds	yy	
Cash		xx + yy

At maturity

Evaluating safety of creditor claims

Agency costs of debt and debt hypothesis

Principal agent problem: relates to issues associated with motivating the agent (in this case, managers) to work in the best interests of the principal (in this case, the bondholders)

Managers are predicted to adopt strategies that disadvantage creditors:

- Excessive dividend payments which leave less assets to service debt
- Investment in high-risk projects
- Organisation may take on additional debt, with new debtholders competing with original for repayment (claim dilution)

The debt hypothesis: managers with high debt-to-equity ratios will choose less conservative accounting practices than managers of firms with low ratios, and will be more likely to oppose new standards that limit their ability to do this.

Financial indicators

- Interest coverage ratio
- Debt ratio
- Altman Z-score (solvency)

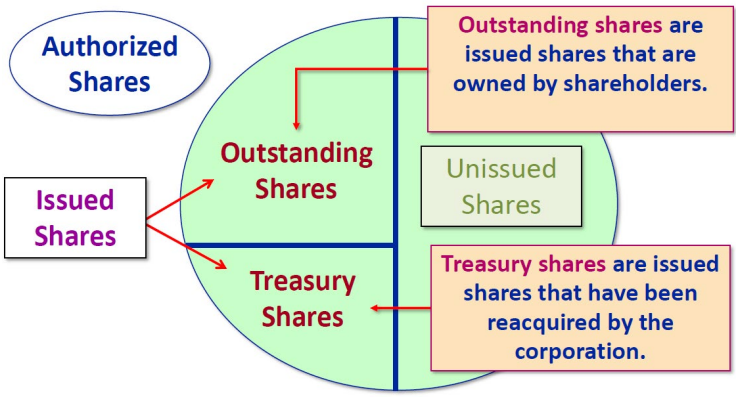
5. Equity

Shareholder's equity of a corporation

Shareholder's equity is increased in one of two ways: from contributions by investors in exchange for shares (paid capital) and from the retention of profits earned over time (retained earnings).

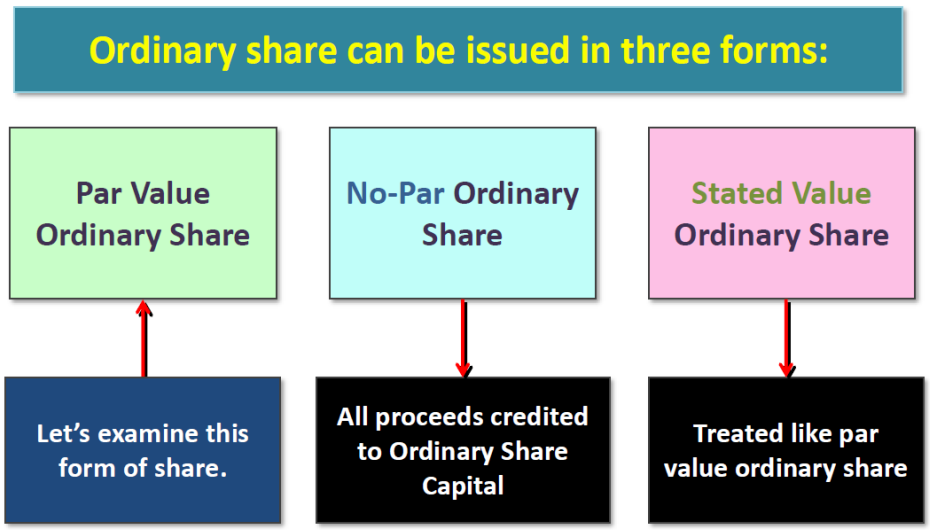
Authorisation and issuance of share capital

- Issues of share capital that will be sold to the general public must be approved by the relevant authority in the place of incorporation. Entities normally obtain authorisation for more shares than they initially plan to issue – so that if more capital is needed later, they already have the authorisation.
- Shares that are issued are called *outstanding shares*
- They are normally issued through an underwriter for a specific price, and the underwriter earns a profit by selling them at a higher price. The entity records the issuance at the net amount received from the underwriter. The use of an underwriter assures the corporation that the entire share issue will be sold without delay and the entire amount of funds raised will be available at a specific date.



Ordinary shares

Ordinary shares or common stock possess the traditional rights of ownership – voting rights, participation in dividends and a residual claim to assets in the event of liquidation.



$$\text{book value per ordinary share} = \frac{\text{total shareholder equity} - (\text{preference shares} + \text{dividends in arrears})}{\text{total number of outstanding shares}}$$

- Represents the amount of assets funded by each ordinary share

Par value shares

Par value

The legal minimum value of the share below which it cannot be traded.

Issuance of par value share

The share premium or additional paid capital does not represent a profit – it is a part of invested capital. Similarly, if shares are issued for *less* than par, the account Discount on Share Capital (contra-equity) should be debited for the difference.

1. Record the amount of cash received
2. Record in the Ordinary Share account the number of shares issued × par value per share
3. Record the remainder to share premium or discount on share capital

Item	Debit	Credit
Cash	xx + yy	
Ordinary Share	xx	
Share Premium		yy

$$\text{Book value per share} = \frac{\text{total shareholder equity} - \text{preference shares}}{\text{number of ordinary shares } outstanding}$$

No par shares

Some countries allow corporations to issue shares without designating a par value – in this case, the *entire issue price* is credited to share capital.

Preference Share

When the rights of shareholders are modified, the term preference shares or preferred stock is used to describe the type of share capital.

Typical features

- Preference over ordinary shares for dividends (i.e. paid first), often with a stated rate
- Preference over ordinary shares to assets in the event of liquidation
- Callable
- No voting rights
- (sometimes) convertible to ordinary shares at a certain price/% of par value

Item	Debit	Credit
Cash	300k	
Ordinary Share, $1 par, 100k shares		100k
Preference shares 9%, $10 par, 10000 shares		100k
Share Premium		100k

Preference share dividends

Preference dividend = rate × par value/flat amount × number of preference shares

- If no par value, then no preference dividend

Cumulative vs. non-cumulative preference shares

If a preference share is cumulative, then if all or any part of the regular dividend on the preference share is omitted in a given year, the amount is said to be in *arrears* and must be paid in a subsequent year before any dividend can be paid on ordinary shares.

So, if x amount is declared for dividends, preference shares are first paid in full, then ordinary shareholders. If the amount is insufficient to cover the former, then it is owed till the next dividend declaration and paid out, only after which ordinary shareholders will be paid.

	Preference	Ordinary
If Preference Share is Noncumulative:		
Year 2012 $5,000 dividends declared	$ 5,000	$ -
Year 2013		
Step 1: Current preference dividend	$ 9,000	
Step 2: Remainder to ordinary shareholders		$ 33,000
If Preference Share is Cumulative:		
Year 2012 $5,000 dividends declared	$ 5,000	$ -
Year 2013		
Step 1: Dividends in arrears	$ 4,000	
Step 2: Current preference dividend	9,000	
Step 3: Remainder to ordinary shareholders		$ 29,000
Totals	$ 13,000	$ 29,000

Market value of shares

Accounting by the issuer

Recorded at issue price, since from the company's viewpoint outstanding shares represent an amount invested in the company by its owners at a particular date – which remains unchanged. The balances in the share capital account remains unchanged unless more shares are issued or retired.

Accounting by the investor

Considered as financial assets – so recorded at market value (securities).

Market price of shares

Factors affecting price of ordinary share:

- Investor's expectations of future profitability
- Risk that this level of profitability will not be achieved

Factors affecting price of preference share:

- Dividend rate
- Risk
- Level of interest rates – because they're basically competing products

Book value and market price

- Book value can be used in evaluating the reasonableness of the market price of a share. Book value is a historical concept, representing the amounts invested by shareholders in the past plus gthe amount retained by the corporation.
- If a share is selling at a price above book value, then investors believe that management has created a business worth more than the historical cost of the resources entrusted to its care. The converse is also true.
- So, the relationship between book value and market price is one measure of investors' confidence in a company's management.

Share splits

Over time, the market price of a company's ordinary shares may increase in value so much that they become too expensive for investors. A corporation may split its shares by increasing the number of outstanding ordinary shares.

- Par value is decreased proportionately
- No change in balance of accounts, only number of shares outstanding

Treasury shares

- Shares that have been issued and later re-acquired by the issuing company but that have nobeen cancelled or retired
- May be held indefinitely or issued again at any time
- Shares held in treasury are not entitled to receive dividends, vote or to share in assets upon dissolution of the company

Motivation

- **Providing share options for management:** share option plans are often an important part of employee compensation, where they are permitted to purchase shares at a lower price – treasury share purchases are one means by which the company can have available the shares needed without increasing the total number of shares and diluting ownership of each share
- **Opportunity for profit:** if shares are being undervalued, it may be worthy to purchase them and re-issue them.

Accounting for treasury shares

Item	Debit	Credit
Buyback, 3000 @$55		
Treasury shares, 3000 shares at $55 per share Cash	165k	 165k
Reissuance, 1000 @ $75, bought at $55k		
Cash Treasury share Share premium: treasury share	75k	 55k 20k

In reissuance, you don't need to change the number of ordinary shares because that has not changed – the number of issued and outstanding shares were unchanged but simply held in the treasury. The fact that they're not out in the market is accounted for by the fact that treasury shares is a contra-equity account.

Cash dividends

- Declared by the board of directors
- Not legally required
- Creates a liability (accounts payable) at declaration
- Paid in cash and funded by retained earnings

Dividend dates

- Date of declaration: on the day the dividend is declared, a liability to make the payment comes into existence
- Ex-dividend date: a few business days before the day of record. To permit the compilation of the list of shareholders for cash payment, a person who owns the shares before the ex-dividend date will receive the dividend, and vice versa.
- Date of record: often follows 2-3 weeks after declaration; to be eligible to receive the dividend a person must be listed in the corporations' records as the owner of the shares on this date
- Date of payment

Journal entries are only required on the dates of declaration and payment.

Agency costs of equity holders and Bonus Plan hypothesis

Principal agent problem:
Relates to issues associated with motivating the agent (management) to work in the best interests of the principal (here, the shareholders).

Managers are predicted to adopt strategies to disadvantage the shareholders:

- Not working hard
- Excessive expenditure

Bonus plan hypothesis:
Managers of firms with bonus plans are more likely to use accounting methods that increase current period reported income.

Different compensation schemes

- Fixed basis, salary independent of performance:
- Salary plus performance bonus, often tied to profits, sales or return on assets (all outputs based on accounting systems)
- Share options

The decision to reward managers based on profits might be introduced to raise efficiency (motivates them to work in a way that also benefits the principals) but it may also induce them to manipulate accounting numbers.

- Bonus based on profits cause short-term rather than long-term focus

Ways to manage conflict of interest

- Conservative accounting methods: Conflicts of interest are better managed when conservative accounting methods are used as they restrict the ability of managers to use income and net asset increasing via accounting methods
- Market-based bonus schemes: may be more appropriate to renumerate managers in terms of market value of firm's securities when accounting earnings fluctuate greatly (e.g. high technology R&D firms)
    - Cash bonus based on share price increases
    - Shares and share options

Debt vs equity financing

Debt financing is often preferred. This is because:

- No change in stockholder control with debt. Additional issuance of stock dilutes control of existing stockholders.
- Interest expense is tax deductible while dividends are not.
- Debt is often cheaper than equity
- Debt issuance may be faster than share issuance, since share issuance requires regulatory approval.

However, equity financing does mean:

- No mandatory payments (of principal, or dividends), as compared to debt – which typically requires periodic payment of interest until mandatory repayment of principal at maturity

Evaluation of firms through financial statements

Standards of comparison

In using dollar and percentage changes, trend percentages, component percentages and ratios, we require standards of comparison to judge whether the relationships they have found are favourable or not. Two common standards are:

Past performance of the company – year on year growth, x-year average of change/absolute numbers

- Known as horizontal analysis
- Does not give basis of comparison in *absolute* terms, only *relative* terms – e.g. if profit was 2% last year, 3% this year, but *should* be at 7%, unfavourable in both years

Performance of other companies in the same industry

- Conclusions now have a fair basis for comparison
- Conclusive only if companies used for comparison are *reasonably* comparable in their core businesses and skills

Methods of analysis:

- Ratios
- Trend percentages
- Absolute values
- Averages
- Percentage compositions

Qualitative considerations in analysis

Quality of earnings	In assessing the prospects of a company, we are interested not only in the amount of earnings, but also the rate, stability and source of earnings. Breakdown of sales and earnings by major product lines is a useful method of organising the business before proceeding with quantitative analysis. • Satisfactory earnings indicate company's long term ability to pay its debts and dividends
Quality of assets and amount of debt	Aside from satisfactory earnings and performance, one must also look at: • Composition condition and liquidity of assets • Timing of repayment of liabilities, total liabilities e.g. company may be profitable now, but with PPE deteriorating, patens expiring etc. losses may be imminent
Industry information & annual reports	Indicates company's past performance, summaries of key financial data and management's discussion and analysis. Could be insightful.
Accounting methods	In judging the quality of assets and earnings, the analyst should consider the impacts of the accounting methods used when proceeding with quantitative analysis – the meaning of the numbers depends on these assumptions. There is always a risk of window dressing. • Inventory methods • Depreciation methods • Valuing financial assets Other considerations • Unused lines of credit • Concentration of credit risks

Quantitative indicators		
Measurement	**Computation**	**Significance**
Short-term liquidity		
Short-term creditors have the same interest as shareholders and bondholders in the profitability and long-run stability of the businesses. Their primary interest, however, is the current position of the company and its ability to generate sufficient funds (working capital) to meet the current operating needs and to pay debts promptly.		
Stability		
Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$	• Measures short-term debt paying ability. • Higher, more liquid; but whether that's good or bad depends on the quality of current assets. • >1.0, generally acceptable E.g. high current ratios due to slow turnover in receivables and inventory
Quick Ratio	$\frac{\text{Quick assets}}{\text{Current liabilities}}$	Quick assets: the most liquid assets (cash and its equivalents, some receivables) • Especially useful in evaluating liquidity of companies with slow inventory turnover or large inventories
Working capital	Current assets – Current liabilities	Measures a company's potential excess sources of cash over its upcoming uses of cash. Hence liquidity and size of 'cushion' over the amount expected to bee needed in the near future to satisfy maturing obligations
Debt ratio	$\frac{\text{Total liabilities}}{\text{Total assets}}$	Measures the proportion of total assets financed by creditors distinguished from shareholders
Quality of assets		
% composition receivables less impairment losses	Found in statement of financial position	Indicates types of assets to explain potential changes in other indicators
% composition non-current assets		
% composition quick assets		
Types of liabilities		
% composition unearned revenue	Found in statement of financial position	Indicates types of liabilities to explain potential changes in other indicators
% composition current liabilities		
Non-current liabilities		

Quality of working capital		
Accounts receivable turnover rate	$\frac{\text{Net sales}}{\text{Average balance of net receivables}}$	Indicates how fast a company converts its receivables into cash. >30, not ideal
Days required to accounts receivable	$\frac{365}{\text{Accounts receivable turnover rate}}$	
Inventory turnover rate	$\frac{\text{COGS}}{\text{Average balance of inventory}}$	• Indicates how fast a company can clear its inventory • Especially important for companies with small gross profit margins (e.g. dollar store vs jewellery)
Days required to sell inventory	$\frac{365}{\text{Inventory turnover rate}}$	
Payables turnover rate	$\frac{\text{COGS}}{\text{Average balance of payables}}$	
Days required to pay payables	$\frac{365}{\text{Payables turnover rate}}$	
Operating cycle	Days to turnover inventory + days to collect receivables	How quickly inventory sells and converts into cash
Cash flow analysis		
Net cash from operating activities	In cash flow statement	Indicates cash flow from operating activity after allowing for cash payment of expenses and operating liabilities
Cash conversion cycle	Days to collect accounts receivable + sell inventories – pay back payables	Indicates company's ability to generate cash and return to a stable state
Free cash flow	Net cash from operating activities – cash used for investing activities and dividends	Indicates excess of operating cash flow over basic needs
Cashflow from operations to current liabilities	$\frac{\text{Cash flow from operations}}{\text{Current liabilities}}$	Indicates company's ability to cover maturing liabilities from normal operations
Long-term credit risk		
Long-term creditors are primarily interested in three factors: rate of return, firm's ability to meet its interests requirements and the firm's ability to repay the principal of the debt.		
Yield rate on bonds	Bond interest rate	Yield rate = bond interest rate, which varies inversely with changes in market price of the bond
Interest coverage ratio	$\frac{\text{Operating profit}}{\text{Annual interest expense}}$	Measure's company's ability to cover its annual interest obligations
Trend in net cash from operating activities	Appears in comparative statement of cash flows	Indicator of company's long term ability to generate cash for obligations

Profitability & adequacy of profit		
Investors normally consider two factors in evaluating profitability: the trend and the amount of current earnings relative to the amount of resources needed to produce the earnings.		
Gross profit	Net sales – COGS	Indicates profitability of merchandising operations
Profit margin	Gross profit/sales	
Operating expenses: sales	Found in income statement	Indicates expenses managed by management
Operating expenses: administrative		
Non-operating expenses: interest		Indicates expenses faced by company
Non-operating expenses: taxes		
Profit		Measures management's ability to control expenses and retain a reasonable portion of revenue as profit Measures management
Profit as a percentage of sales	$\frac{\text{Profit}}{\text{Net sales}}$	
Return on investment	$\frac{\text{Returns}}{\text{Average amount invested}}$	Measures efficiency with which financial resources are employed to generate earnings
Return on assets	$\frac{\text{Operating profit}}{\text{Assets}}$	• To evaluate whether management has earned a reasonable return with the assets under its control. • Return is defined as operating profit since interest expense and income taxes are determined by factors other than the manner in which the assets are used. • If a company is well managed, it should be able to earn a return on assets higher than the company's cost of borrowing
Return on equity	$\frac{\text{Profit}}{\text{Total average equity}}$	Return earned by management on shareholder investments - equity
Percentage changes in net sales	Found in annual report	Growth rate
Percentage changes in net income		
Operating expense ratio	$\frac{\text{Operating expenses}}{\text{Net sales}}$	Measures management's ability to manage resources to generate income
Operating income	Gross profit – operating expenses	
Altman Z-score	$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$. X_1 = working capital / total assets. Measures liquid assets in relation to the size of the company. X_2 = retained earnings / total assets. Measures profitability that reflects the company's age and earning power. X_3 = earnings before interest and taxes / total assets. Measures operating efficiency apart from tax and leveraging factors. It recognizes operating earnings as being important to long-term viability. X_4 = market value of equity / book value of total liabilities. Adds market dimension that can show up security price fluctuation as a possible red flag. X_5 = sales / total assets. Standard measure for total asset turnover (varies greatly from industry to industry).	
3-part DuPont analysis of return on equity	$\text{RoE} = \frac{\text{Net income}}{\text{Revenue}} \times \frac{\text{Revenue}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$ $= \text{Net profit margin} \times \text{Asset turnover} \times \text{leverage ratio}$	Explains reasons for return on equity

	Net profit margin: a measure of the firm's operating efficiency – how well it controls costs. Asset turnover: a measure of the firm's asset use efficiency – how well it manages its assets. Leverage: a measure of the firms' financial leverage.	
5-part DuPont analysis	$\text{RoE} = \frac{\text{Net income}}{EBT} \times \frac{\text{EBT}}{EBIT} \times \frac{\text{EBIT}}{Revenue} \times \frac{\text{Revenue}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$ $= \text{Tax burden} \times \text{Interest burden} \times \text{EBIT margin} \times \text{Asset turnover} \times \text{leverage ratio}$	
Evaluating shares		
Market value	-	Indicates investors expectations and market conditions
Dividend yield	$\frac{\text{Annual dividend}}{\text{current share price}}$	
Earnings per share	$\frac{\text{Profit}}{\text{Shares}}$	Indicates profit applicable to each share
Price-earnings ratio	Market price per share/annual earnings per share $\frac{\text{Market price per share}}{\text{Annual earnings per share}}$	• Indicates investors' expectations concerning a company's future performance. The more optimistic, the higher the ratio • Generally, >20, earnings expected to climb. <10, decline. >30, over-valued • Note: if earnings decline to very low levels, price of shares usually don't follow the earnings all the way down – so a company in bad shape may have a high p/e ratio even if expectations are poor

Financing given ratio requirements

Consider:

- Paying off current liabilities (improves debt ratio)
- Loans
- Selling non-current assets
- Financing from retained earnings
- Share issuance

Evaluating a firm: points

- Earnings may be enough to look at if areas that are subjected to accounting manipulation are not a significant part (e.g. LIFO FIFO, but inventory not a big part of earnings)
- Repayment of debt can reduce long term leverage

Cash flow statements

Purpose of the statement

The cash flow statement provides information about cash receipts and payments during the accounting period, thus helping investors to assess:

- Ability to generate positive cash flows
- Ability to meet obligations and pay dividends
- Need for external financing
- Reasons for difference between profit and related cash operations
- Cash and noncash aspects in investment and financing activities

Cash and equivalents

The cash considered in the statement considers cash *and its equivalents.*

Cash vs. accrual information

Notice that the flows in the statement of cash flows do not correspond to specific ledger accounts. The statement is managed on the *cash* basis, while the ledger on the accrual basis. So when you consider the difference in cash and income flows, remember that one is purely about the *economic* substance and the other about the time and date of cash flows.

Cash flows and financial position

The first asset appearing in the balance sheet is cash and equivalents. The last three lines in cash flow statements reconcile the two balance sheets – net increase (decrease) in cash, cash (beginning of year), cash (end of year).

Classification of cash flows

Operating activities		Investing activities		Financing activities	
This section shows he cash effects of revenue and expense transactions related to core businesses – sustainable cash streams.		Cash flows relating to transactions involving PPE, intangible assets and investments – cash related to increasing resources in the long run.		Debt and equity financing related cash transactions.	
Inflows	Outflows	Inflows	Outflows	Inflows	Outflows
Sales to customers	Payments to suppliers, services and employees, government taxes	Collection of principals on loans	Making loans	Short- and long-term borrowing from lender	Repayment of loan principals
Interest and dividends received	Interest payments to lenders	Sales of PPE and intangible assets	Purchasing PPE assets and intangible assets	From issuing shares	Payments to owners, such as dividends

Preparing a statement of cash flows – in (+), out (-)

From income statement (accrual basis):

1. Look at changes in account from previous year to current year
2. Discount noncash revenues and expenses (depreciation, amortisation)
3. Account for accrued liabilities and assets (payables, receivables, prepaid etc.)

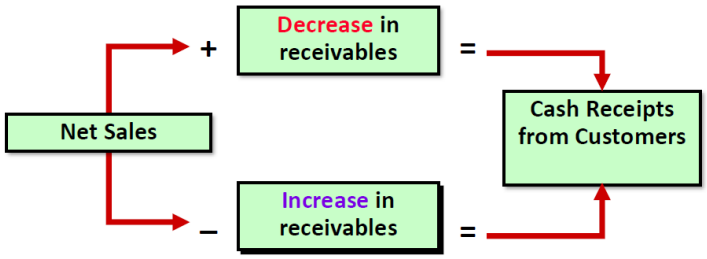
Direct method – converting accrual income balances to cash balances

Informs reader of the nature and dollar amounts of the specific cash inflows and outflows comprising the activities of the business.

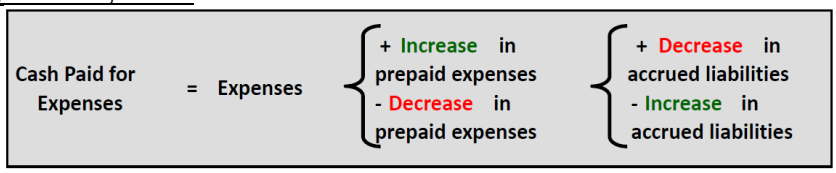
Cash from operating activities

- Cash receipts from customers
- Cash paid to employees
- Cash paid for inventory
- Cash paid for interest
- Cash paid for taxes
- Cash paid to other sources

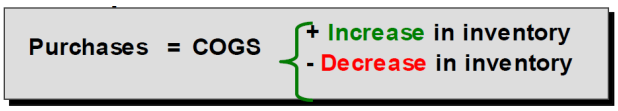
Cash receipts from customers



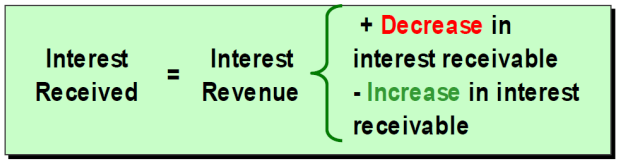
Cash paid to employees, interest, taxes

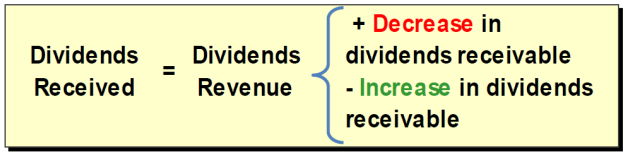


Cash paid for inventory



Other operating cash flows (add interest and dividends received, less other operating expenses)





Cash from investing activities

- Purchases of securities
- Proceeds from sales of securities
- Loans made to borrowers
- Collection on loans

1. Look at changes in assets in balance sheet
2. Look at gains/losses due to their transactions in income statement
3. Adjust for accrual of payments out or in

Cash from financing activities

- Proceeds from borrowing
- Payments to settle debts
- Proceeds from issuing bonds payable
- Proceeds from issuing share capital
- Dividends paid

1. Look at debit and credit changes recorded in liability and equity accounts
2. Adjust for accrual of payments out or in

Indirect method

Explains why net cash from operating activities differ from a measure of performance – profit for the year.

Profit for the year
Add back:

- Non-cash expenses (depreciation)
- Accrued expenses (increase in payables)
- Pre-paid expenses (decrease in inventories, other pre-paid expenses)
- Collection of receivables (decrease in receivables)
- Non-operating losses

Deduct:

- Payments on liabilities (decrease in payables)
- Pre-paid expenses (increase in inventories, other pre-paid expenses)
- Non-cash earnings (increase in receivables)
- Non-operating gains

Net cash from (used in) operating activities

Supplementary notes

Discloses non-cash aspects of company's investing and financing activities. Required when aspects of company's investing and financing activities do not coincide with cash flows.

Purchases of PPE – 200k
Less: portion financed through issuance of long-term debt – 40k
Cash paid to acquire PPE: 160k

Managing cash flows

Cash budgets

A cash budget is a forecast of future cash receipts and payments used by management. It:

- Forces management to coordinate activities
- Provide managers with advance notice of available resources
- Provides targets useful in evaluating performance
- Provides advance warnings of potential cash shortages

One-time

- Collection of receivables
- Reduce the size of inventory (don't purchase more)
- Invest idle cash

Short-term

- Reducing expenditure on R&D

Long-term

- Deferring income taxes e.g. changing depreciation method
- Peak pricing
- Developing an effective product mix

Evaluating the statement of cash flows

Advantages

- Assist users in making judgments on the amount, timing and degree of certainty of future cash flows
- Gives an indication of the relationship between profitability and cash generating ability – quality of profit earned
- Cannot be manipulated easily and not affected by judgement or accounting policies

Disadvantages

- Based on historical information, do not provide complete information
- Still some scope for manipulation (delaying payments, rushing sales of assets)
- Cash is necessary for survival in the short run, but in the long run business must be profitable

Interpreting changes in cash flows

Decrease is not always a bad thing, increase is not always a good thing. It depends entirely on where the change came from.

*add tutorial table here

Financial accounting in the global economy

Globalisation

Stages of globalisation

Globalisation typically progresses through a series of stages that include exporting, joint ventures, wholly owned subsidiaries and finally global sourcing.

- Exporting: selling a good or service to a foreign customer
- International licensing: giving up some control for monetary return; a contractual agreement between a company and foreign party allowing the use of trademarks, patents, technology, designs, processes, intellectual property or other proprietary advantage
- International joint venture: company owned by two or more companies from different countries
- Wholly owned internal subsidiary: created when a company uses its own funds to construct or purchases 100% equity control of a foreign subsidiary
- Global sourcing: close coordination of R&D, manufacturing and marketing across national boundaries and often includes all of the above in various cross-border operations

Environmental forces shaping globalisation

- Political and legal systems
- Culture
- Technology and infrastructure
- Economic systems

Harmonising financial standards

Global variation in accounting practices

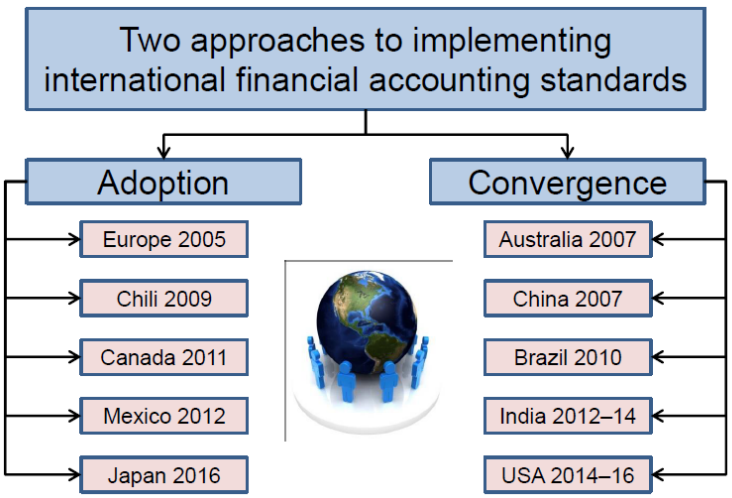
Global Variation in Accounting Practices

Country GAAP	Auditors per 100,000	Fixed Asset Revaluation Allowed	LIFO Allowed	Goodwill Impairment Test or Amortize	Depreciation Basis	Segment Diclosure Required
IFRS		Yes	No	Impairment	Economic	Yes
United States	93	No	Yes	Impairment	Economic	Yes
United Kingdom	211	Yes	No	Impairment	Economic	Yes
Japan	16	No	Yes	Amortize (20 yrs.)	Tax	Yes
Germany	15	No	No	Amortize (4 yrs.)	Tax	Limited
China	15	No	Yes	Impairment	Economic/tax	No
Brazil	1	No	Yes	Impairment	Economic	No
Russia	?	No	Yes	Amortize (20 yrs.)	Tax	No

Approaches to implementing international standards

International Accounting Standards Board has developed and pushed for International Financial Reporting Standards to harmonise accounting standards globally.

1. Convergence: changing the countries' existing standards so they will produce IFRS equivalent reports
2. Adoption: abandoning the countries' current financial reporting standards and replacing them with IFRS



Foreign currencies and exchange rates

Exchange rates

- The amount it costs to purchase one unit of currency with another currency – the 'price' of buying one unit of foreign currency in terms of domestic currency

Impacts of currency fluctuations on business operations

- Change in competitiveness of exports
- Influence on financial statements and non-cash adjustments

Accounting for foreign currency transactions

If transaction is stated in terms of foreign currency, company encounters two problems:

1. As company's accounting records are maintained in local currency, the transaction price must be translated into local currency before the transaction can be recorded
2. If the purchase or sale is made *on account,* then the exchange rate *changes* between the date of transaction and payments will cause the company to gain or lose – and these must be accounted for.

If currency appreciate w.r.t. buyer's currency, domestic buyer gains since less cash can pay for equivalent amount due. Domestic seller loses since foreign currency is now able to buy less domestic currency.

Credit purchases (if cash, just no added step of converting accruals to cash)

1. Recognition of purchase (say, 10,000 pounds, exchange rate is 1.63)

Item	Debit	Credit
Inventory	16.3k	
Payables (exchange rate is 1.63 USD per pound)		16.3k

2. Payment of payables (say, exchange rate changes to 1.61)

Item	Debit	Credit
Payables	16.3k	
Cash		16.1k
Gain on fluctuations in foreign currency		0.2k

Credit sales

1. Recognition of sale (say, 10,000 pounds, exchange rate is 1.63)

Item	Debit	Credit
Receivables	16.3k	
Asset		16.3k

2. Collection of receivables (say, exchange rate changes to 1.61)

Item	Debit	Credit
Cash	16.1k	
Loss on fluctuations in foreign currency	0.2k	
Receivables		16.3k

Hedging against fluctuations in exchange rate

Principle: to take offsetting positions so that your gains and losses tend to offset one another.

- **Using payables and receivables:** A company that has similar payables and receivables will automatically have a hedged position, as the gains in one will offset the losses in another

- **Futures:** the right to receive a future quantity of foreign currency at a future date – accounts receivable in foreign currency. A company with foreign accounts payable will hedge by purchasing a similar amount in futures. If exchange rate rises, any potential losses on the payables will be offset by a gain in the value of futures, and a loss in the same way. if no currency change, then the futures is sold for no effect.
    - Any gain or loss is recognised is reported in other comprehensive income, rather than revenue and expenses in the case of normal transactions.

Translation of foreign currency financial statements

• Income statement:
  ○ Revenue, expenses, profit etc. all using average exchange rate for the year
• Balance sheet:
  ○ Assets and liabilities – using exchange rate at date of publication of financial statement
  ○ Ordinary share – using historical exchange rate at the date of issue
  ○ Dividends – using historical rate on the date of dividend payment
  ○ Retained earnings = original sum + translated profit – translated dividends, adjustment to balance balance sheet with assets and liabilities, ordinary shares as constraints. Adjustment is recorded in other comprehensive income in statement of financial position.

Monetary policy and accounting

External finance premium

- The difference between cost of raising funds externally and opportunity cost of using internal funds.
- Because of information asymmetry, external finance is virtually always more expensive than internal finance because of the costs external lenders incur to evaluate borrower's prospects and monitor their actions.
- So external finance premium is predicted to depend inversely on strength of borrower's financial position – measured by net worth, liquidity, etc. This is because a financially strong borrower has greater incentives to make well-informed investment choices and take actions needed to ensure good outcomes, since they have more to lose.

This dependence on financial position for external finance creates a channel through which monetary policy acts, and allows otherwise short-lived economic shocks through MP to have long-lasting effects.

Long-run monetary policy impact through the balance sheet channel

- Increasing interest expenses

Interest rate change → change in interest expenses (for floating interest rate agreements) → change net cash flows → strengthen/weaken borrower's financial position → strengthen/inhibit ability to borrow and spend on long-term projects → affect *future* performance

- Decreasing asset prices

Change in interest rates, change in spending → change in demand for assets → change in asset prices → change in value of collateral and ability to borrow and spend on long-term projects → affect *future* performance

- Change in financing gap

Fall in revenue in short run, but costs remain unchanged → financing gap erodes firm's net worth and creditworthiness over time → higher interest payments in *future*

Flight to quality

Effects of cash squeeze by monetary policy depends on firm's ability to smooth drop in cash flow by borrowing – so large firms may be less affected, while small firms with limited credit access may be forced to cut production.

Measurement

Definition of value and income

Income

The maximum amount that can be consumed during the period, while still expecting to be as *well-off* at the end of the period as at the beginning of the period.

Defining well-off-ness

- Financial capital maintenance – perspective taken by historical cost accounting; profit only earned if money capital at the end of period is more than money capital at beginning of period
- Purchasing power maintenance – historical cost accounts adjusted for changes in the purchasing power of the dollar
- Physical operating capital maintenance – profit earned if operating capacity at the end of period is greater than operating capacity at beginning

Historical cost accounting

- Assets recorded at the amount of cash (and equivalents paid at the time of acquisition
- Liabilities recorded at the amount of proceeds received in exchange for the obligation at the time

Limitations of historical cost in times of changing prices

Assumes money holds constant purchasing power – which may not be true due to specific price level changes (shifts in demand e.g. preference or supply e.g. technology), general price level changes (inflation), fluctuation in exchange rates

Problems:

- Relevance in assessing financial health – current value different from historical cost
- Additivity – adding together assets bought at different times
- Overstate/understate profits → leads to decisions made based on them which may not be good (eg. giving out dividends when real operating capacity did not change)

Support for historical cost accounting

- Legacy reasons: inventory, PPE, intangible assets etc. all still recorded largely in historical cost → large sweeping changes can destabilise systems

Current purchasing power accounting

- Based on the view that in times of rising prices, if an entity were to distribute *unadjusted* profits based on historical costs, in real terms the entity could be distributing part of its capital

Mechanism

- Uses a price index – a weighted average of the current prices of goods and services to a weighted average of prices in a prior base period (e.g. CPI)
- All adjustments performed at the end of the period, applied to historical cost account
- Monetary and non-monetary assets considered separately; often applied only to non-monetary assets as values of monetary assets (e.g. intangibles, liabilities) do not change as a result of inflation – so their 'purchasing power' doesn't either

Effects

- In times of inflation, holders of monetary assets will lose in real terms as assets will have less purchasing power at end of period compared to beginning
- In times of inflation, holders of monetary liabilities will gain, as the amount they have to pay in real terms is less then at the beginning
- In times of inflation, holders of non-monetary assets will have no change in purchasing power as they are restated to current purchasing power

Advantages

- Relies on data already available under historical cost account
- No need to incur additional cost or effort to collect data about current asset value, index data often readily available

Disadvantages

- Movements in prices in *general* may not reflect *specific* price changes in different industries
- Information generated may be confusing to users of financial statements
- In practice, not much change in terms of decision usefulness

Fair value accounting

- The price that would be received to sell an asset or paid to transfer a liability in an *orderly* transaction between *market participants* at the measurement date
    - Orderly transaction: a transaction that assumes *exposure to the market for a period before the measurement* to allow for marketing activities that are *usual and customary* for transactions involving such assets or liabilities; it is not a forced transaction e.g. distress sale or forced liquidation
    - Market participants: buyers and sellers are independent of each other, are knowledgeable, having a reasonable understanding about the asset or liability and the transaction using all available information, and are willing and able to enter into a transaction

Determining fair value

- Mark-to-market: techniques that rely on observable market values (market prices)
- Mark-to-model: techniques that rely on valuation models, requiring identification of an accepted model and the inputs required by the model to arrive at a valuation

Fair value valuation: hierarchy based on inputs

- Level 1: **mark-to-market situations** where inputs are *quoted prices* (unadjusted) in *active markets* for identical assets or liabilities that the entity can access at the measurement date e.g. share prices
- Level 2: **mark-to-market situations** with directly observable inputs other than level 1 market prices – such as market prices for *similar* assets or liabilities, or market prices for identical assets in less active markets
- Level 3: **mark to model situations** where observable inputs are not available and risk-adjusted valuation models need to be used instead

Fair values and its relationship to volatility and procyclicality

Fair values tend to increase when the overall economy is growing, and fall when the economy is declining – this is because of the principle of price at the time of measurement date that fair value is based on.

Fair value vs. historical cost

- Fair value considered more relevant to intended users of financial reports
- More subjective measurement *if an active market does not exist for the item* – because assumptions are made, especially when a valuation model is used
- Determining fair value can be difficult when markets are volatile

The impact of measurement: 2009 GFC as a case study

Procyclicality of fair value accounting creating bubbles and exacerbating crashes

- Booming markets → asset values shown at value increase → increase capital reserves → increase bank lending ability → fuel demand further → cyclically raising demand and lending ability → create an upward spiral in lending and prices that becomes increasingly disconnected from the underlying rea economic values of assets in these markets
- Crash → fall in asset prices decreases capital reserves and lending ability → decrease demand + downward pressure on asset prices as banks have to sell assets to release liquidity → downward spiral

But fair value hierarchy and necessity of fair value reporting in itself could control for these effects

- If banks did not mark to market, uncertainty in asset values would stop investors from recapitalising troubled entities, making it more difficult to clean up the mess
- Failure to provide fair values during downturn could *in itself* cause markets to overreact
- Where markets are crashing, they are considered non-orderly as they may operate inefficiently → use of level 2 and level 3 fair value actually insulates financial statements from those effects e.g. during GFC, most banks moved to level 2 and 3, which damped the speed of any procyclical effects

Recommendation: unlink accounting and capital requirements

- Bank's POV: Fair value accounting can drive banks to insolvency by eroding their capital base due to procyclical effects. It is arguably an artificial reduction in asset values that are likely to rebound after the crisis subsides.
- Investor POV: nothing is more artificial than proclaiming an asset is worth a price no one is willing to pay. Typical investor is less confident that decrease in market value of assets are temporary results of trading illiquidity rather than lasting result of defaults.
- Compromise: accounting information is needed to evaluate health of company, which is not directly related to lending capability → we could unlink capital requirements from accounting numbers

Example financial statements

1. Statement of changes in equity

Chase Corporation Statement of Changes in Equity 31 December 2018					
	Share Capital – Ordinary	Share Premium – Ordinary	Retained Earnings	Treasury Shares	Total Equity
Balance, 31 December, 2017	$200,000	$250,000	$500,000	$(20,000)	$930,000
Net Profit			75,000		75,000
Issuance of ordinary shares	30,000	36,000			66,000
Reissuance of treasury shares				10,000	10,000
Cash dividend*			(11,000)		(11,000)
Balance, 31 December 2018	$230,000	$286,000	$564,000	$(10,000)	$1,070,000

2. Statement of financial position (balance sheet)

The Milan Company
Balance Sheet
31 December 2018

	2018	2017	Change	Reason for change
Cash	$11,500	$10,000	+1,500	Net increase in cash
Accounts Receivable	10,000	5,000	+5,000	$13,000 (sales) − $8,000 (collections)
Inventory	9,000	12,000	−3,000	Cost of goods sold
PPE	25,000	20,000	+5,000	$10,000 (land bought) − $5,000 (sold)
	$55,500	$47,000		
Accounts Payable	$5,000	$10,000	−5,000	−$5,500 (AP paid) + $500 (expenses)
Note Payable, LT	4,000	5,000	−1,000	(principal paid)
Common Stock	30,000	20,000	+10,000	Issuance of stock for cash
Retained Earnings	16,500	12,000	+4,500	$5,500 (net income) − $1,000 (cash dividends)
	$55,500	$47,000		

3. Statement of cashflows

1. Cash Flows from Operating Activities : Indirect Method

Rutherford Corporation.		
Partial Statement of Cash Flows		
For the Year Ended 31 December 2014		
Cash flows from operating activities (indirect method):		
Profit for the year		$ 840,000
Add: Depreciation expense	$ 170,000	
Amortization	30,000	
Decrease in prepaid expenses	5,000	
Increase in accounts payable	30,000	235,000
Subtotal		$ 1,075,000
Less: Increase in accounts receivable	$ 30,000	
Increase in inventory	40,000	
Increase in short-term prepayments	10,000	
Non-operating gain	110,000	(190,000)
Net cash from operating activities		$ 885,000

Direct method

Champion Company		
Statement of Cash Flows		
For the Year Ended 31 December 2014		
Cash flows from operating activities:		
Cash receipts from customers	$ 936,000	
Interest received	16,000	
Cash from operating activities		$ 952,000
Cash paid to suppliers	$ (289,000)	
Interest paid	(10,500)	
Tax paid	(28,000)	
Cash disbursed for operating activities		(327,500)
Net cash from operating activities		$ 624,500
Cash flows from investing activities:		
Collections of loans	$ 17,000	
Loans to borrowers	(29,000)	
Purchases of equipment	(58,000)	
Proceeds from sales of equipment	24,000	
Net cash used in investing activities:		(46,000)
Cash flows from financing activities:		
Proceeds from long-term borrowing	$ 116,000	
Proceeds from issuing ordinary shares	81,000	
Dividends paid	(4,600)	
Net cash from financing activities		192,400
Net increase (decrease) in cash and cash equivalents		$ 770,900
Cash and cash equivalents, 1 January 2014		1,781,000
Cash and cash equivalents, 31 December 2014		$ 2,551,900

4. **Income statement**

Income Statement	
For the Year Ended 31 March 2018	
Sales Revenue	$100,000
Expenses	
Fuel Expense	15,000
Rent Expense	20,000
Advertising Expense	5,000
Wage Expense	20,000
Total Expenses	60,000
Net Income	$ 40,000

Notes

1. When accounting for shares and dividends, be sure to 'ignore' dividends for treasury shares