**CFA 3 Corporate Issuers**

**3.1 Organizational Forms, Corporate Issuer Features, and Ownership**

**Organisational forms**

Key features of organisational forms

* If business is separate legal entity from owner
* If owners operate business
* If owners have limited or unlimited liability for the business
* Tax treatment of profits and losses
* Access to additional capital

1) Sole proprietorship

* Owned and operated by individual
* Unlimited liability
* Receives all profits and losses, taxed as personal income
* Usually small scale

2) General partnership

* Partnership agreement specifies each partners responsibilities and share of profits/losses
* Unlimited liability, profits taxed as personal income

3) Limited partnership

* Has 2 levels of partners – general partners have unlimited liability, limited partners have limited liability and claims to profits proportional to investments
* Profits taxed as personal income to partners

4) Corporation/Limited company

* Key difference from others: Is a separate legal entity from its owners
* All shareholders have limited liability
* Corporations have access to debt and equity
* Separation of owners and managers: Owners appoint a board of directors who hire managers
* Public corporation is public traded, Private corporation has restrictions on share transfers
* May face double taxation depending on the country: On earnings and dividends

**Key features of corporate issuers**

Need to file Articles of incorporation with a regulatory body to form separate legal entity

Shareholders have voting rights to elect Board of Directors

Post double taxation effective tax rate is given by:

**Public vs private**

Most public companies are listed

* Shares on an exchange, which has price and volume transparency
* Limited company shares are not on an exchange – value hard to read, transfer is difficult

Actively traded shares are the free float

* Not held by insiders, strategic investors, or sponsors

Public companies have compliance and reporting requirements

* E.g., Quarterly reports, disclose material changes in ownership
* Private companies have fewer requirements

Private companies can raise equity capital through private placements of securities

* Typically restricted to accredited investors

Private companies can become public in 3 ways

1. IPO – investment bank underwrites issue, raises capital
2. Direct listing – doesn’t raise any capital, no need for underwriter, existing shares are listed on an exchange
3. SPAC – SPAC raises money through IPO, and puts the funds in a trust, which is later used for an acquisition in a specified time

**3.2 Investors and other stakeholders**

**Financial claims**

Debt-holders have a legal contractual claim

Equity-holders have a residual claim

* Debt is less costly than capital as it is less risky

Equity-holders have unlimited upside, whereas debt is limited to the interest and principal payments

Higher leverage can increase Return on Equity if the expected rate of return > cost of debt

Debt-holders and Equity-holders may have different goals

* Debt-holders want to avoid risk as their return is capped anyways
* Debt-holders can limit borrowers actions through Covenants – contractual provisions such as max leverage or min interest coverage ratio

**Stakeholder groups**

Shareholder theory: Primary focus of governance is the interest of the firm’s shareholders

* Maximise value of equity

Stakeholder theory is broader

Lenders can be public (bondholders) or private (private debtholders e.g., banks)

* Private debtholders may have non-public info and may also hold equity
* Bondholders have only public info and have no influence over operations

Board of directors

* Responsible for protecting shareholder interest, managing management, setting strategic direction, monitoring financial performance
* Can include inside directors (e.g., senior execs, founders), and independent directors (no relationship with company)
* Inside directors may have conflicts of interest with shareholders

Board structure

* One-tier – inside directors and independent directors all on a single board
* Two-tier – independent directors on supervisory board, inside directors on management board

Board elections

* Staggered board: Only a fraction of the board is elected each year, reduces shareholder power for major board overhaul
* Full board: Full board elected

Senior managers

* Receive salary and bonus (tied to performance)
* Interested in continued employment and maximising compensation

Human capital (employees)

* Interested in pay, career advancement, training, working conditions

Suppliers

* Interested in preserving relationship, increasing profits, firm’s solvency (they are typically short term creditors)

Customers

* Interested in quality, price, support

Government

* Interested in tax revenue, economic growth, employment, social welfare, compliance

**ESG**

ESG is important because:

* Gov stakeholders increasingly prioritise climate and social policy
* Can impact customer good will
* Fines and judgements
* Prevent senior managers exploiting shareholders
* Many young investors manage their money with ESG in mind

Environmental

* Physical risk: Effects on assets and operations from weather
* Transition risk: Gov regulations and consumer choices demand it
* Stranded assets – assets that become unviable from these changes

Social

* E.g., Protecting customer privacy, employee satisfaction, D&I, community relations
* Can increase employee productivity, lower turnover, increased customer loyalty, less litigation risk

Governance

* E.g., Compositive of the board, Internal audit committee, executive compensation, corruption, political contributions, lobbying
* Need to make sure managers act ethically, lawfully, and in shareholder interest

**3.3 Corporate Governance**

**Principal-agent**

Principal-agent: When one party hires another to do a task

Principal-agent problem: Agent’s interests may not coincide with the principal’s interests

* Agency costs are the costs created (e.g., hiring someone to monitor agent)

Conflicts can arise from information asymmetry between shareholders and managers

* Managers have more info about the functioning of the firm

Common problems

* Managers put in insufficient effort
* Managers with option grants may want to increase risk as options have no downside risk, managers who are cash compensated may avoid risk
* Manager compensation through company size may lead to empire building (unnecessary M&A)
* Managers may undertake self-dealing

**Conflicts between shareholders**

Controlling shareholders can act against the interests of minority shareholders

* E.g., May prefer diversification while minority shareholders prefer specification

Dual class structure: Some shareholders have more voting power

* Can let one group further their interests at the expense of other groups

**Conflicts between creditors and shareholders**

Shareholders prefer more business risk than creditors

* Creditors have limited upside from good results

**Managing stakeholder relationships**

Corporate governance: System of internal controls by which companies are managed

* Defines the rights and responsibilities of various groups within an organisation
* Objective: Minimise conflicts of interest

Stakeholder management: Managing company relations with stakeholders

* E.g., Annual reports, proxy statements
* Includes info about financial performance, executive renumeration, governance structure, etc

**Shareholder mechanisms**

Annual General Meeting: Held after fiscal year

* Management presents financial statements, answers shareholder questions

Shareholders can vote by proxy if they don’t attend

* Assigns right to vote for someone else
* Ordinary resolutions require a majority of votes

Extraordinary general meetings can be called at any time something requires a vote

* E.g., M&A, liquidation

Activist shareholders: Pressure companies in which they hold significant shares for changes they believe will increase shareholder value

* May initiate Proxy contest (seek proxies of other shareholders)
* May make Tender offer to gain control

Threat of Hostile takeover can be incentive for management to act in the interests of shareholders

* However pay cause management to use takeover defences instead (e.g., staggered board elections, poison pill provisions)

**Creditor mechanisms**

Bond indenture: Legal document that specifies the rights of bondholders and company obligations

* Covenants: May be included in bond indentures that require the company to take or restrict certain actions

Collateral may be used to back the bond

Creditor committees: May form among bondholders to protect interests if issuer faces financial distress

**Board of directors and management mechanisms**

Typically has committees made up of board members with particular expertise which reports to the board

* Audit committee: Oversight of financial reporting, internal audit, finding external auditor
* Nominating/Governance committee: Oversight of board elections, laws and regulations, compliance
* Compensation/Renumeration committee: Oversight of renumeration for directors and senior management
* These ones specifically are often all nonexec/independent

**Employee, customer, supplier mechanisms**

Labour laws, employment contracts, and unions are the main employee mechanisms

Employee Stock Ownership Plans – May align company and employee interests

Customers and suppliers typically use contracts as mechanisms

**Risks of poor governance**

When governance is weak, audits and board oversight is weak as well

* E.g., Accounting fraud
* Some stakeholders may gain an advantage from other stakeholders

Managers may choose sub-optimal levels of risk

Managers may pursue own benefit at the expense of the shareholders

Can lead to legal and reputational risks

Can increase default risk

**3.4 Working Capital and Liquidity**

**Cash conversion cycle**

Cash conversion cycle: Efficiency of a company’s cash flow management

Represents the time it takes to convert inventory into cash inflows from sales

* I.e., How quickly it can convert investments into cash and cash into new opportunities

Days of inventory on hand: Days it takes to sell inventory

Days sales outstanding: Days it takes to collect payment from customers

Days payable outstanding: Days it takes to pay suppliers

Lower CCC is better – less capital is in working capital

**Increasing and decreasing CCC**

CCC can be decreased by reducing inventory and receivables or increasing payables

Potential disadvantages to decreasing CCC:

* Reduced inventory of raw materials can create bottlenecks
* Reduced inventory of finished goods can lead to inability to meet demand
* Reduced credit to customers may mean lost sales

Accounts payable is an implicit source of credit from suppliers

Suppliers offer payment terms in

* Firms get a discount of if they pay in days, otherwise full payment is due in days

Forgoing the discount essentially is borrowing money from the supplier for days at an effective annual rate of:

May be more cost effective to borrow money instead of forgoing the discount

**Working capital**

Net WC is linked to CCC:

**Liquidity**

For assets, liquidity is nearness to cash

For liabilities, liquidity is nearness to settlement

For a corporate issuer, liquidity is whether cash and other liquid assets can meet short term obligations

Primary liquidity sources: Cash, marketable securities, bank borrowings

Secondary liquidity sources: Cash saved by suspending dividends, delayed capex, selling assets, issuing new equity, restructuring debt, bankruptcy filing protection

* Sends negative signals and is higher cost

Cost of liquidity is the % you lose from fair value from converting to cash quickly

Drag on liquidity: When cash inflows lag

* Excess inventory build-up, DOH increases

Pull on liquidity: When cash outflows accelerate

* Suppliers demand faster payments, DPO decreases

**Liquidity ratios**

Current ratio shows if current assets can meet current liabilities:

* > 1 means it can meet

Quick ratio takes into account how liquid the current assets are

* More stringent measure

Cash ratio is the most stringent measure of liquidity:

**Working capital management**

Holding short term assets ensure liquidity but offer lower rates of return

Risk of not being able to roll over short term debt at reasonable cost

Conservative approach: Hold a higher proportion of short term assets, and finance working capital from longer term sources

* Benefit: High liquidity, more stable
* Cost: Higher costs, lower profitability

Aggressive approach: Hold a higher proportion of long term assets, and finance working capital from shorter term sources

Moderate approach: Permanent current assets funded using longer term capital, variable current assets funded through short term sources

**Short term liquidity sources**

Factors that affect approach to short term funding:

* Company size – smaller have limited options
* Creditworthiness – affects interest rate
* Legal systems – protections for lenders
* Regulatory concerns – some industries have restrictions on funding sources
* Underlying assets – collateral

**3.5 Capital Investments and Capital Allocation**

**Capital investment types**

4 types of capital investment

1) Going concern projects

* May be need to maintain the business or reduce costs
* Does not require detailed analysis, just if operations should continue
* Match funding – to reduce financing risk, finance projects with capital sources consistent with the project life
* Can be similar to the depreciation expense

2) Regulatory/Compliance projects

* May be required by gov agency or insurance company
* Typically generate little to no revenue

3) Expansion projects

* Grow the business – entering new markets, or introducing new products
* Requires forecasting

4) Other projects

* Investments outside existing line of business
* Can be similar to start ups, or M&A

**Capital allocation process**

Capital allocation process: Identifying and evaluating capital projects

* Involves the purchase of long term assets

4 steps:

1. Idea generation – generate good project ideas
2. Analysing project proposals – make cash flow forecast for expected profitability
3. Create capital budget – pick profitable projects which align with company resources and strategy
4. Monitor and post-audit – compare actual results with projected results, see if forecasting can be improved

**Net Present Value**

NPV: The sum of the present values of all cash flows, adjusted for the risk level of the project

is the initial investment (negative cash flow)

is the required rate of return

* Usually the cost of capital

For independent projects, accept anything with a positive NPV

Conventional cash flow pattern: Signs on cash flows only change once

Unconventional cash flow pattern: More than one sign change or inconsistent time intervals

**IRR**

IRR: The discount rate that makes the PV of cash inflows equal the cost of the project

If IRR > required rate of return, accept the project

Hurdle rate: Minimum IRR for a project to be accepted

**Advantages and disadvantages of NPV and IRR**

Advantage of NPV:

* Direct measure of expected value increase for a firm

Advantage of IRR:

* Measures profitability as a percentage

Disadvantages of IRR

* Not reasonable to assume cash flows are reinvested at the IRR (more realistic to assume reinvested at the required rate of return)
* For multiple sign changes, there are multiple IRRs which is hard to interpret

**Return on invested capital**

Return on invested capital is given by:

NOPAT is net income + after tax interest expense

Average invested capital includes long term debt and equity, but excludes working capital

ROIC can also be written as:

is operating margin after tax

is asset turnover

If ROIC is greater than the required rate, the firm is adding value

Advantages of ROIC

* Based on accounting data
* NPV and IRR are project specific, ROIC is for firm as a whole

Disadvantages of ROIC

* Accounting treatments may differ between companies
* ROIC is backward looking
* Profitable projects may mask unprofitable ones as it is for whole company

**Principles of capital allocation**

1) Decisions are based on after-tax cash flows, not accounting income which is accrual based

2) Incremental cash flows only

* Incremental cash flows are those that change if the project is undertaken
* Should include impact on cash flows of other parts of business – e.g., cannibalisation
* Sunk costs are costs that cannot be avoided even if the project is not undertaken – these costs are not affected by the accept/reject decision, so are not included

3) Timing of cash flows are important

Common mistakes:

* Cognitive errors (calc errors) and Biases (judgement errors)

**Cognitive errors**

1) Poor forecasting (e.g., Incorrect overhead costs, or neglecting competitors

2) Not considering the cost of internal funds

* Cost of internally generated funds should be the same as cost of equity, because it would be paid as dividends if not for the project

3) Incorrectly accounting for inflation

* Need to use real discount rate for real cash flows

**Behavioural biases**

1) Pet projects of senior management

* May be overly optimistic and not scrutinised properly

2) Inertia in setting the entire capital budget

* This year’s allocation may be anchored to the previous years allocation

3) Basing investment on EPS or ROE

* May avoid long term positive NPV projects which reduce short term EPS or ROE

4) Failure to generate alternative investment ideas

* Once a good idea is generated, many stop looking for better ideas

**Real options to capital investments**

Real options: Actions that a firm can take, given that they invest in a project today

* Can be added to NPV
* Real options cannot have a negative value

Timing options: Allows a firm to delay an investment because it expects to have better info in the future

Abandonment options: Allows abandonment if PV of abandoning > PV of continuing it

Expansion options: Allows additional investments in future projects

Flexibility options: Gives choices regarding operational aspects of the project

* Price setting options (can change price of product, e.g., raise prices if demand is high)
* Production flexibility options (e.g., pay workers overtime, different input materials)

Fundamental options: Projects that are options themselves as payoffs depend on the price of an underlying asset

* E.g., Payoff for copper mine depends on the market price of copper

**3.6 Capital Structure**

**WACC**

WACC is given by:

Cost of debt is typically lower than Cost of equity

Weights can be target weights or market value weights

* Target weights: Based on book value of debt and equity
* Market value weights: Reflect current market conditions

**Factors affecting capital structure**

Company characteristics that influence the proportion of debt:

* Growth and stability of revenue – growth and stability means you can service debt
* Growth and predictability of cash flow
* Business risk
* Amount and liquidity of company assets – can be used as collateral, better if tangible and liquid
* Cost and availability of debt financing

Types of companies:

* Noncyclical companies can support more debt
* Companies with low operating leverage (fixed costs as a proportion of total costs) can support more debt
* Companies with subscription based revenue models can support more debt

Stage of company life:

* Start up: Low sales, potentially negative cash flow, high business risk, low assets, financed almost entirely with equity
* Growth stage: More debt can be used
* Mature stage: Lots of debt, at relatively low cost

Cost of capital is influenced by top down factors too

* Any factors that affect the benchmark interest rate and credit spreads
* During downturns, investors demand greater yield spreads to benchmark bonds from corporate bonds

**MM Proposition 1**

Under certain conditions, the value of a firm is unaffected by capital structure

Assumptions:

* Perfectly competitive capital markets
* Investors have homogenous expectations about cash flows
* Riskless borrowing and lending
* No principal agent costs
* Investment decisions unaffected by financing decisions

MM1: The value of a firm does not depend on how the claims to its earnings are divided

* The amount of pie does not depend on how it is sliced
* WACC is the same regardless

**MM Proposition 2**

Uses the same assumptions as MM1

MM2: The cost of equity increases linearly as a company increases its proportion of debt financing, as the risk of cash flows to equity holders increases

* WACC is the same regardless of the cap structure

The cash flows to bondholders have priority over equity

* The greater the debt, the more uncertain the residual cash flows to equity holders

Any decrease in financing costs from using more lower-cost debt is offset by the increase in the cost of equity

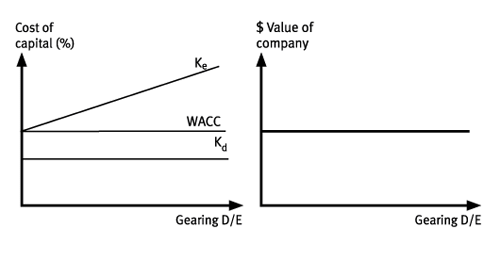
* Results in no change in WACC

MM2 equation is given by:

is the cost of equity

is the cost of equity with no debt

is the cost of debt



**MM2 with no taxes**

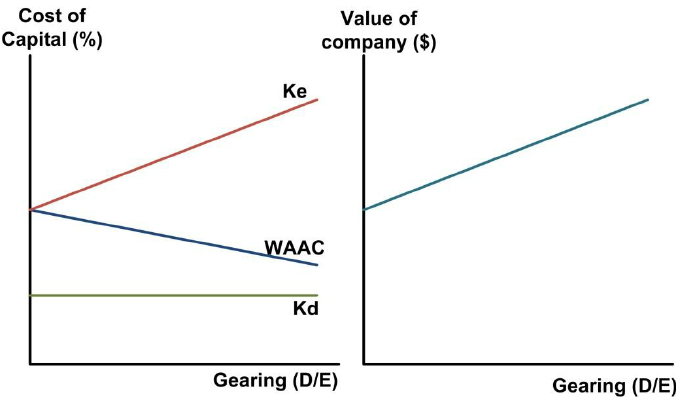
New assumption: Earnings are taxed, and interest payments to debtholders are tax deductible

Debt provides a tax shield that adds value to the company

* Encourages debt financing
* The value of the levered firm is equal to the value of the unlevered firm + the value of the tax shield

MM2 with taxes is given by:

is the tax rate



MM says the optimal amount of debt is 100% debt

* Different investor tax rates on dividends and interest could explain capital structure differences
* This is not seen in reality

**Financial distress - Debt costs not considered by MM**

There are also other debt financing costs not considered by MM

* Costs of financial distress are higher at higher debt levels

Financial distress: When cash flows can’t meet interest payments

1) Can be direct and indirect

* Direct: Cash expenses
* Indirect: Foregone investment opportunities, losing trust, conflicts of interest between managers and debtholders (agency costs of debt)

2) Probability of financial distress

* Higher leverage increases the probability of distress

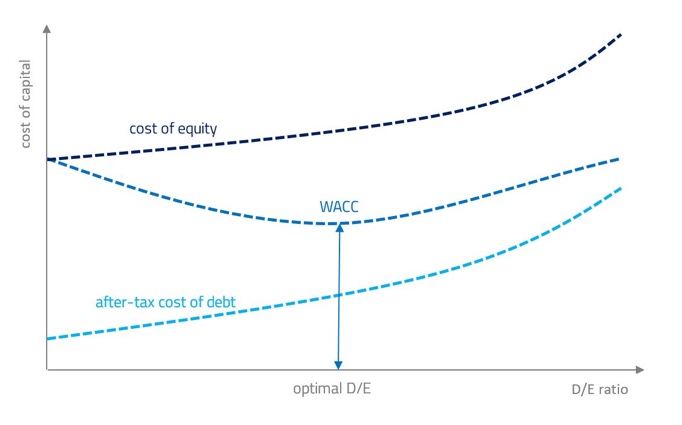
High expected costs of financial distress discourage companies from using lots of debt

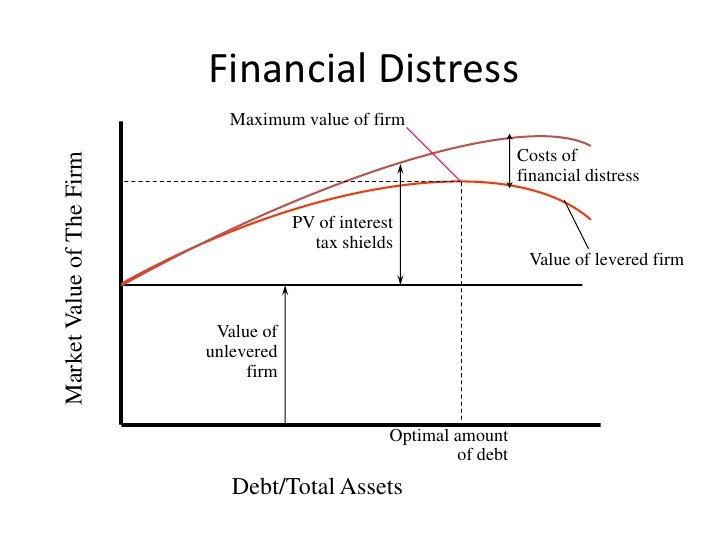
**Static trade-off theory**

Static trade-off theory: Balance the costs of financial distress with the tax shield benefits from using debt

* Gives the Optimal capital structure 🡪 WACC is minimised

The value of a levered firm is given by:





**Target capital structure**

Target capital structure is what a firm seeks to achieve on average over time

For analysis, the weights for WACC should be based on target capital structure

* Since management don’t provide these, an analyst must estimate this themselves – can use existing marker value, trends, or industry average

Company managers often focus on book values of debt and equity instead of market value

* Market values fluctuate and do not reflect appropriate levels of debt
* Credit agencies use book values

Market fluctuations make the actual capital structure fluctuate around the target

* Management may be opportunistic for when they raise capital – e.g., raise equity when the stock is high

**Asymmetric information**

Managers have more info about a company’s future performance than creditors

* If managers take commitment to pay interest, then it signals they are confident in future ability to pay debt
* If managers issue equity, it can be a negative signal as managers think stock is overvalued

**Agency costs of equity**

Shareholders try to reduce the principal agent problem

Net agency cost of equity: The cost of reducing the principal agent problem

3 components

* Monitoring costs – supervising managers, reporting to shareholders
* Bonding costs – make sure managers are working in the best interest of shareholders (e.g., premiums for performance)
* Residual losses – losses that occur anyways

**Free cash flow hypothesis**

FCF hypothesis: Use of debt forces management to be disciplined with cash spending, as they have less FCF for their own benefit

**Pecking order theory**

Pecking order theory: Due to informational asymmetry managers prefer to make financing choices that are least likely to send negative signals to investors

* Internally generated capital is most preferred
* Debt is next
* External equity is last

**3.7 Business Models**

**Key features of business models**

Business model: How we provide it, sell it, and make a profit

1) Who: Identify the potential customers

* How to acquire, cost of acquisition, what they want

2) How: Key assets and suppliers of the firm

3) What: Firm’s product or service

* How it meets customer needs, how it differentiates from competitors

4) Where: How will the firm sell

* AKA Channel strategy

5) How much: Pricing strategy

**Pricing strategies**

Commodity producers are price takers as they have undifferentiated products

* Need differentiated products for pricing power

Price discrimination examples:

* Tiered pricing: Based on volume
* Dynamic pricing: Depending on demand levels
* Value pricing: Pricing on quality
* Auction pricing

Pricing models for multiple products

* Bundling – when products are complementary
* Razors and blades – sell a piece of equipment for a low price, and make profits from a consumable used with it
* Add-on pricing – add-ons after the product has been purchased already

Other pricing models

* Penetration pricing – offer product cheap to gain share and accelerate growth
* Freemium – free product with unlocks for a cost
* Hidden revenue – free content, but with ads

Models with no outright purchases

* Subscriptions
* Licensing and franchising

**Value proposition and Value chain**

Value proposition: How customers will value the product/service given competing products and their prices

Value chain: Comprises the assets of the firm and how it adds value and exploits competitive advantage

* Includes the product quality, functionality, service that is included, sale process, pricing relative to competition

**Other business models**

Private label manufacturers/Contract manufacturers

* Produce products for others to market under their own brand name

Licensing agreements

* Company’s brand is used by another on its products for a fee

Value-added resellers

* E.g., installation, service, support, customisation for custom equipment

Network effects

* Increase in value of the network as user base grows

Crowdsourcing

* Benefit from user contributions