



# Corporate Finance **Fundamentals**

# Learning objectives

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By the end of this course, you will be able to:



**Discuss the main capital investment activities and valuation techniques**



**Explain the process of mergers and acquisitions, and key considerations for the deal**



**Compare debt financing with equity financing and explain the optimal capital structure**



**Outline the capital raising process**



**Explore various career paths in corporate finance**



# Introduction

# Corporate finance overview

The ultimate purpose of corporate finance is to maximize the value of a business through planning and implementing management resources while balancing risk and profitability.



## Capital Investments

- Decide what projects / businesses to invest in
- Earn the highest possible risk-adjusted return



## Capital Financing

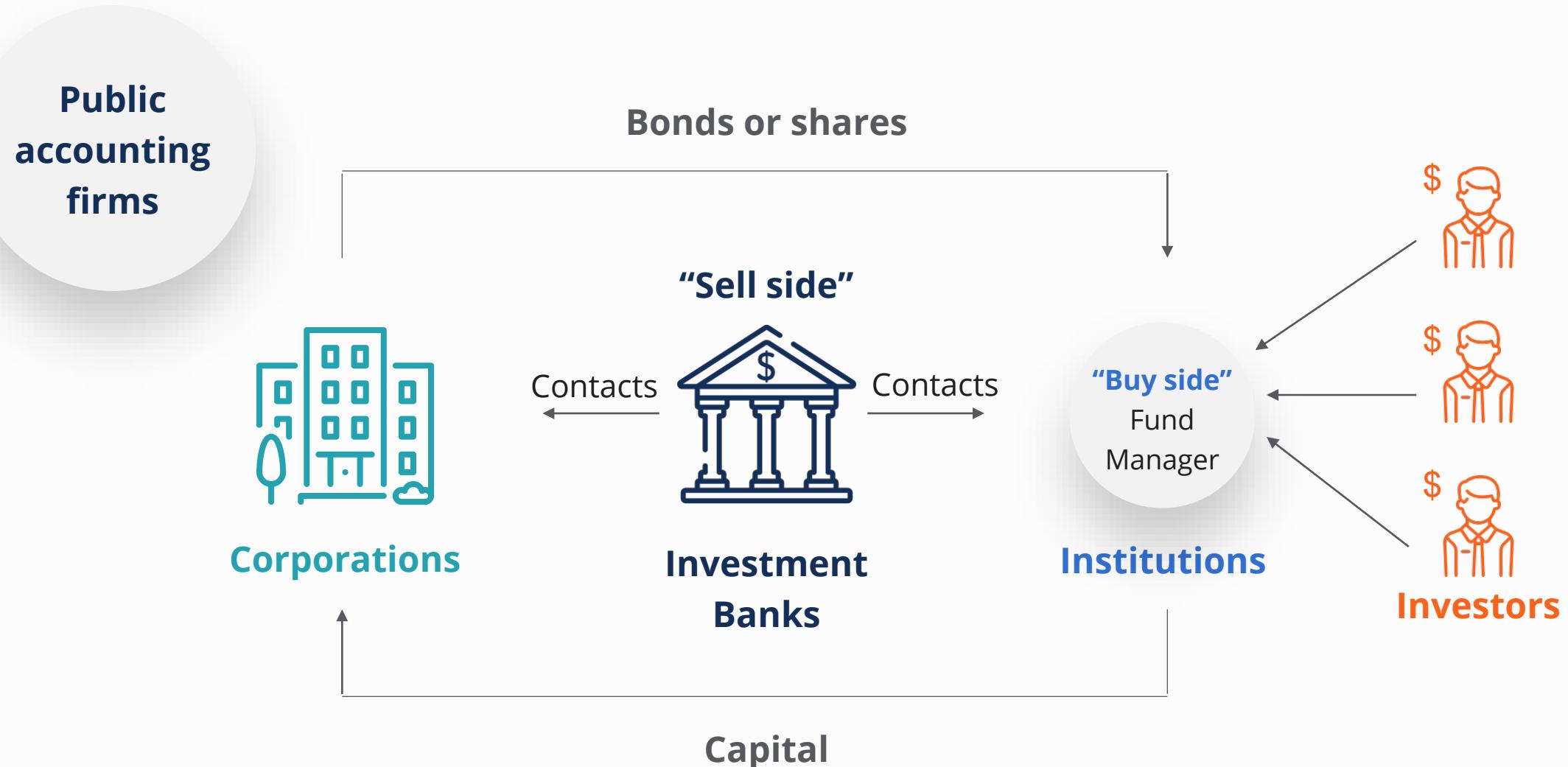
- Determine how to fund capital investments
- Optimize the firm's capital structure



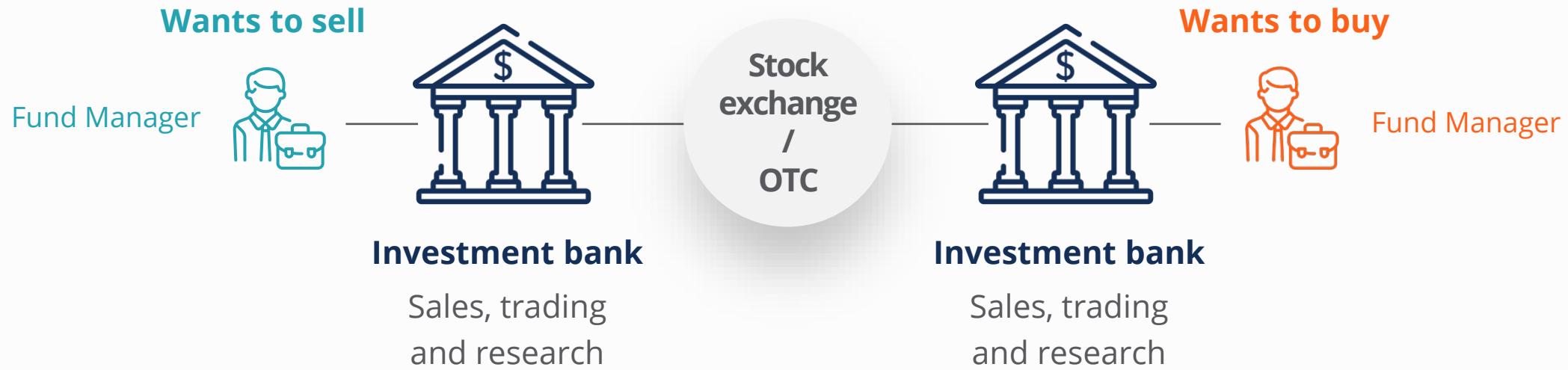
## Dividends & Return of Capital

- Decide how and when to return capital to investors

# Players in corporate finance – primary market



# Players in corporate finance – secondary market



# Types of participants

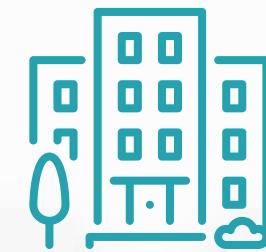


Retail

Investors

Institutional

- High net worth individuals
- Mutual funds
- Pension funds
- Private equity firms
- Venture capital firms
- Seed / angel investors



Public

Corporations

Private

- Traded on stock exchanges
- Owned and traded by a few private investors

# Types of transactions



Initial public offering (IPO)



Follow-on offering



Private placement



Mergers & acquisitions (M&A)



Leverage buyout (LBO)



Divestiture

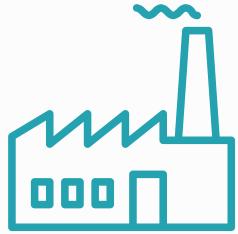




# Capital Investments

# What is a capital investment?

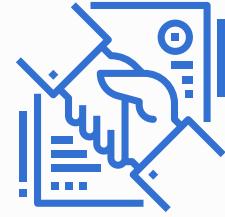
Any investment for which the economic benefit is greater than one year.



**Opening a new factory**



**Entering a new market**



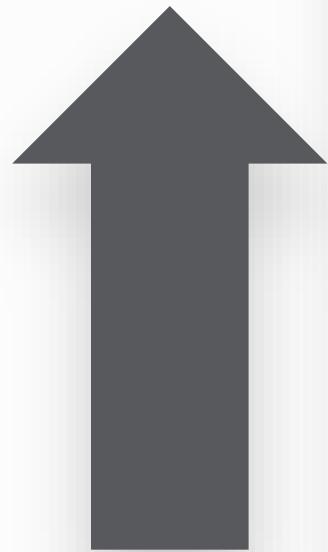
**Acquiring another business**



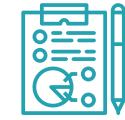
**Research and development of new products**

# Capital investment

Capital investments will **increase the assets** of a company.



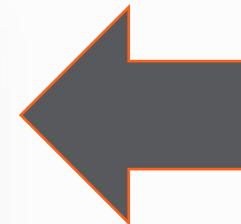
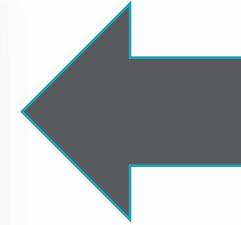
**Assets**



**Debt**



**Equity**



# Techniques for valuing an investment

Whether such investments are worthwhile depends on the approach that the company uses to evaluate them. A company may value the projects based on:



**Net Present Value (NPV):** The value of all future cash flows (positive and negative) over the entire life of an investment discounted to the present.



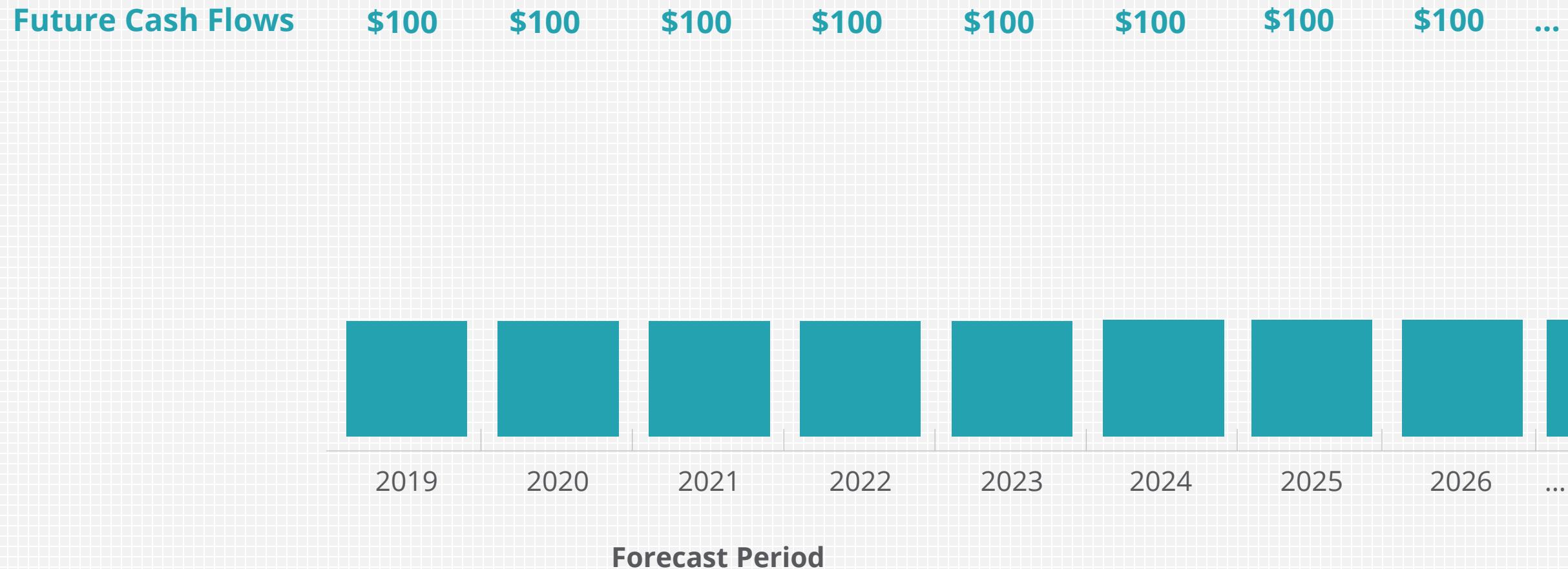
**Internal Rate of Return (IRR):** The expected compound annual rate of return that will be earned on a project or investment.



# Net Present Value (NPV)

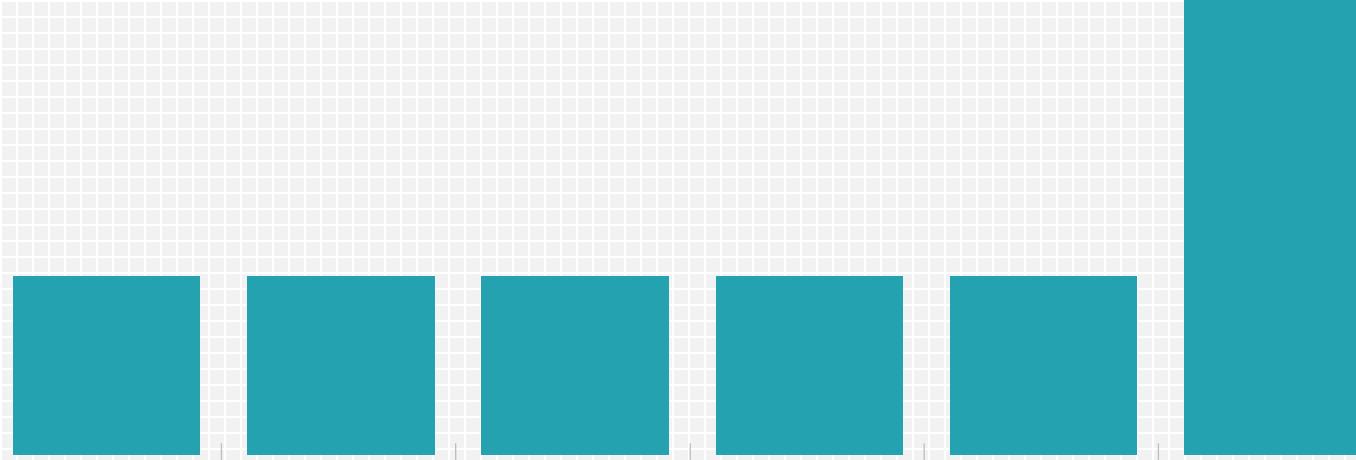
Future Cash Flows	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	...
	2019	2020	2021	2022	2023	2024	2025	2026	...

# Net Present Value (NPV)



# Net Present Value (NPV)

Future Cash Flows      \$100      \$100      \$100      \$100      \$100      \$1,200



2019

2020

2021

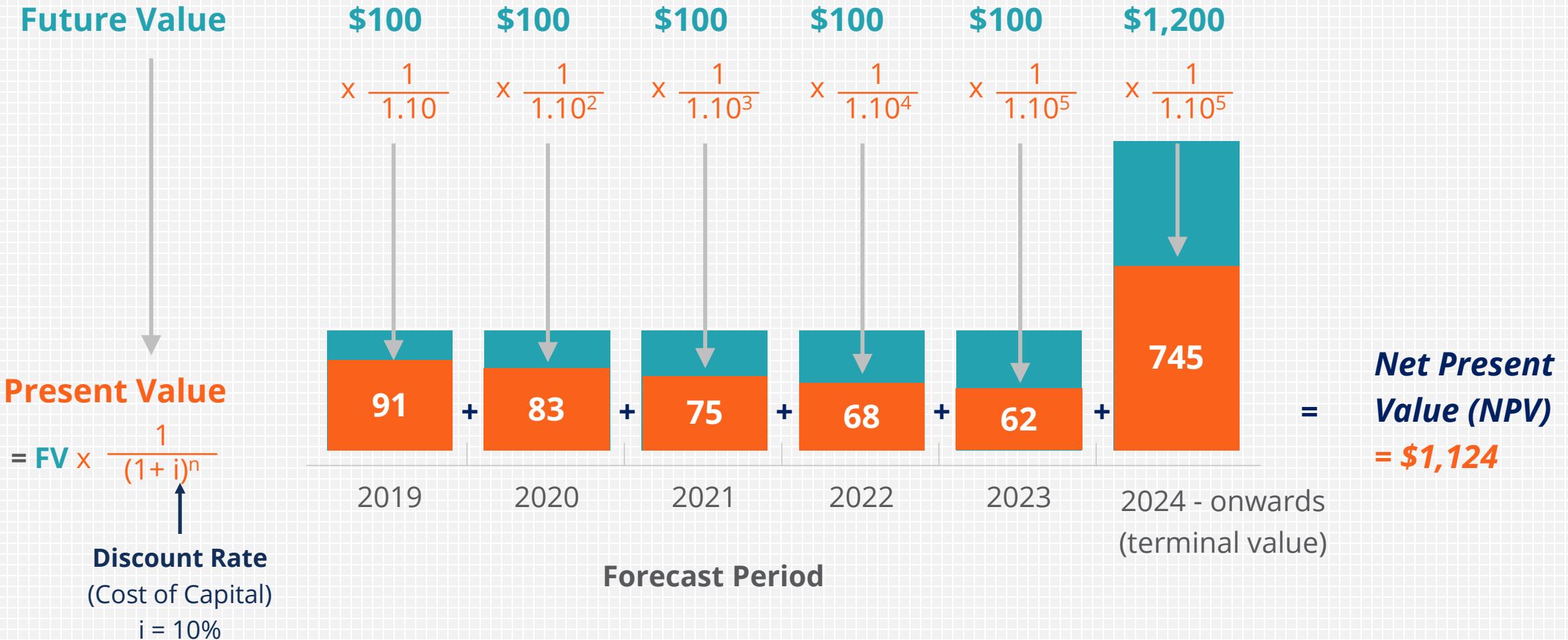
2022

2023

2024 - onwards  
(terminal value)

Forecast Period

# Net Present Value (NPV)



# Terminal value

**Terminal Value:** Value of free cash flow beyond the forecast period

## Growing perpetuity formula

Terminal value

=

$$\frac{\text{Free cash flow} \times (1 + \text{growth})}{\text{Cost of capital} - \text{growth}}$$

## Exit multiple formula

Terminal value

=

Financial Metric (i.e. Earnings,  
EBITDA, Revenue) x Multiple

# Terminal value

Terminal value

Perpetual growth

=

$\$100 \times (1 + 1.54\%)$

$10.00\% - 1.54\%$

=

\$1,200

Terminal value

Exit multiple

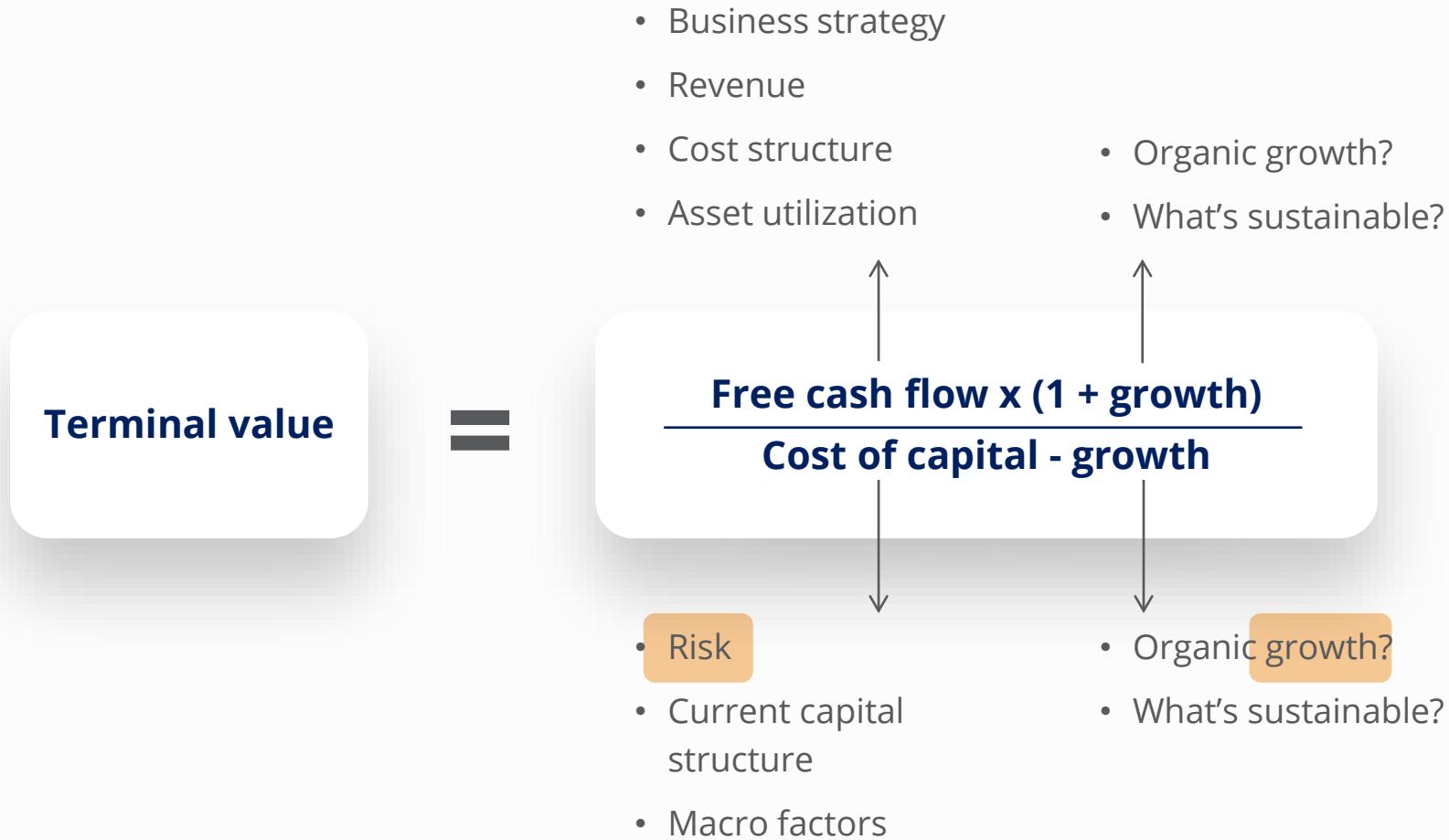
=

$12 \times \$100$

=

\$1,200

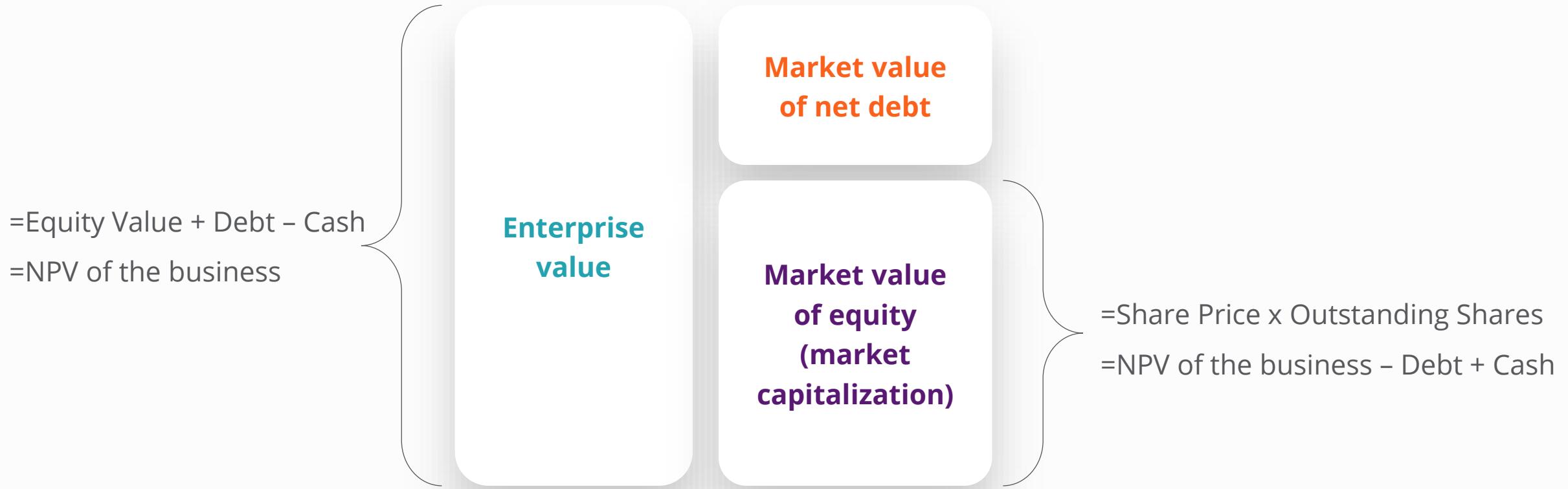
# Unlocking the drivers of value



# Enterprise value vs. equity value

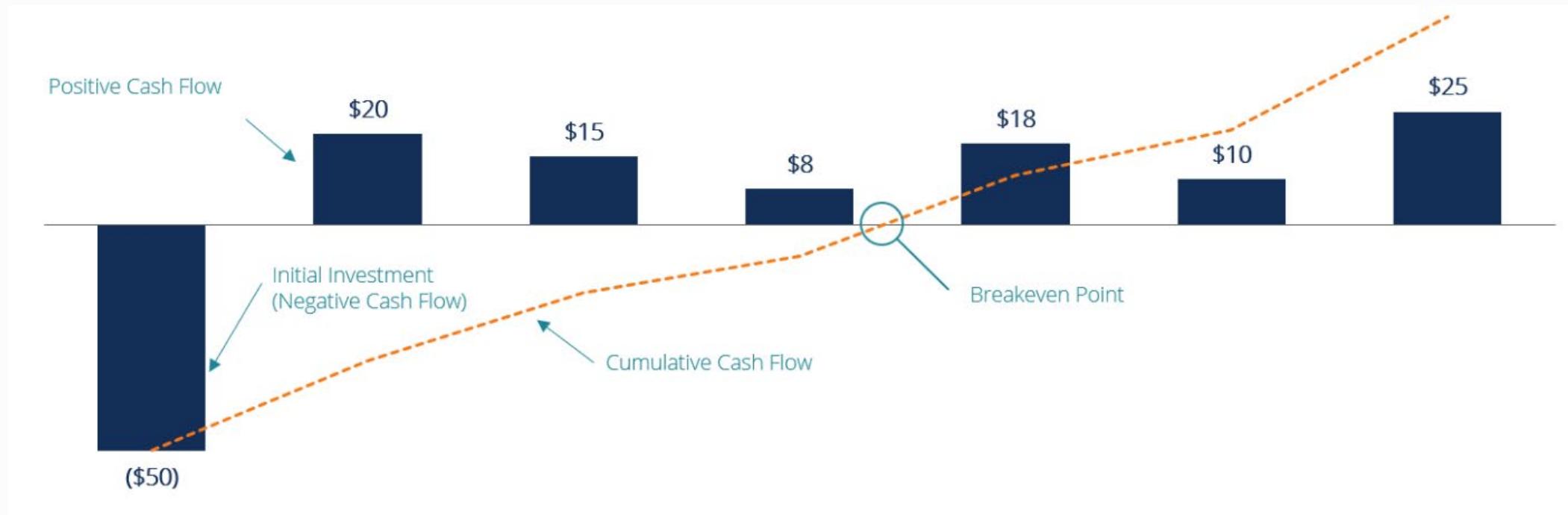
**Enterprise value** is the value of the entire business.

**Equity value** is the value shareholders would receive if the company is sold.



# Internal Rate of Return (IRR)

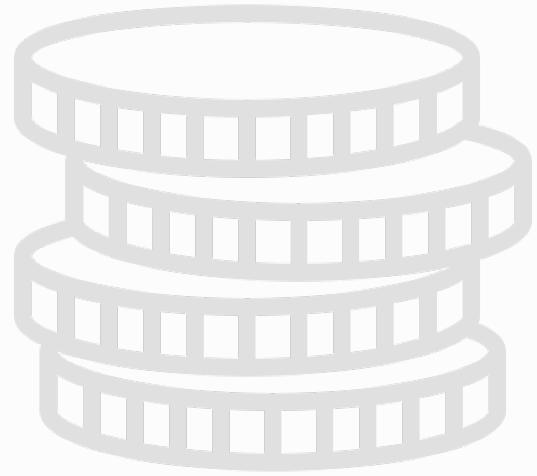
**Internal Rate of Return**  
**IRR = 22%**



22% IRR is economically equivalent to earning a 22% compound annual growth rate.

# Mergers and Acquisitions (M&A)

Mergers and acquisitions is the process of companies **buying, selling, or combining businesses.**



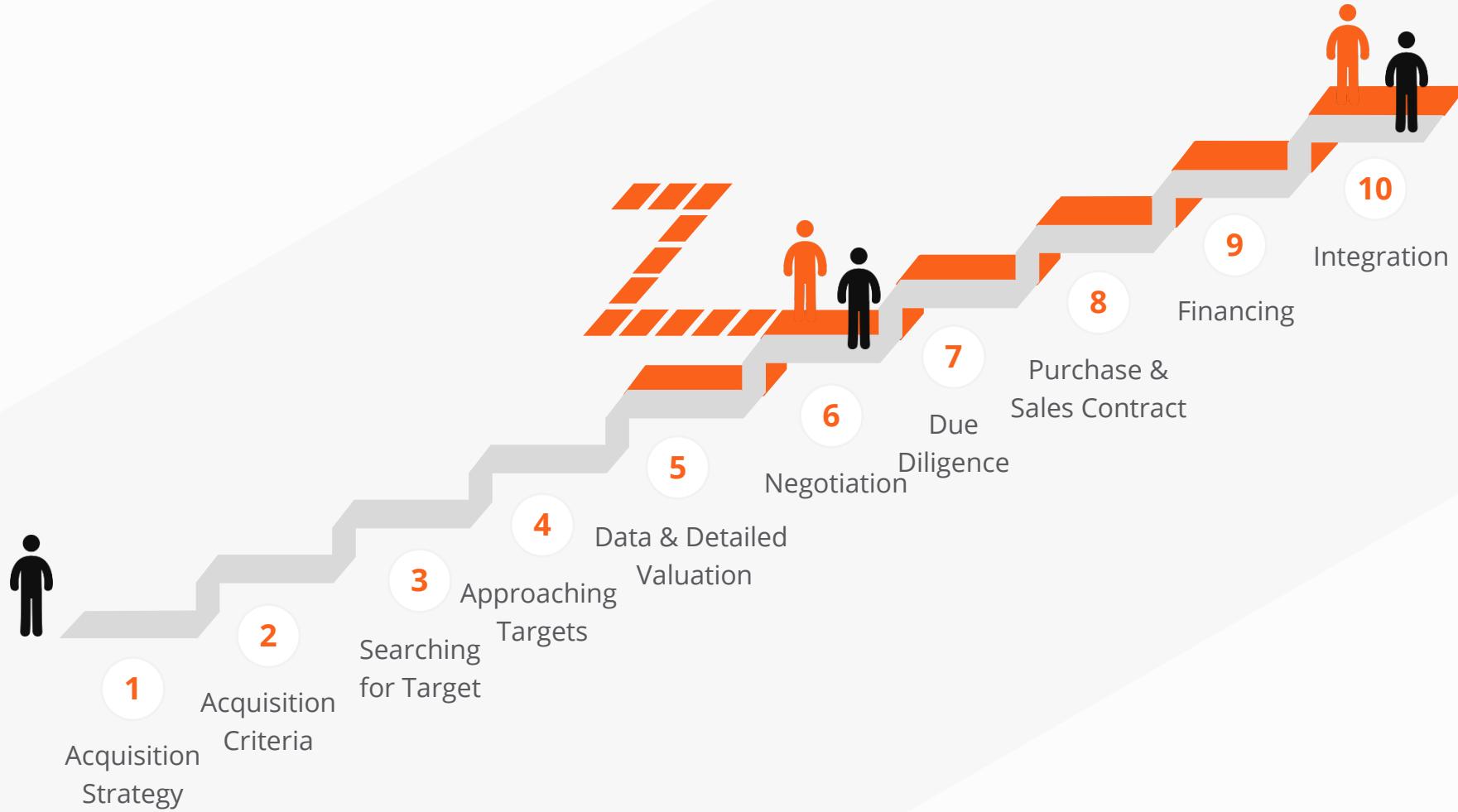
## Benefits:

- Cost savings
- Revenue enhancements
- Increase market share
- Enhance financial resources

## Potential drawbacks:

- Overpaying
- Large expenses associated with the investment
- Negative reaction to the merger or acquisition

# 10 step acquisition process



# Strategic versus financial buyers

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## Strategic buyers

- Operating businesses
- Horizontal or vertical expansions
- Involves identifying and delivering operating synergies

VS



## Financial buyers

- Private equity (financial sponsor)
- Professional investor (non-operator)
- Leverage for maximum equity returns

# Rival bidders

The vast majority of acquisitions are competitive or potentially competitive.

- Companies normally have to offer more than rival bidders
- To pay more than rival bidders, the buyer may:
  - Be able to “do more” with the acquisition
  - Accept a lower expected return
  - Have a different view or forecast for the future



# Acquisition valuation process

Strategic Buyer Scenario:

## 1. Value the target as stand-alone

### Enterprise value

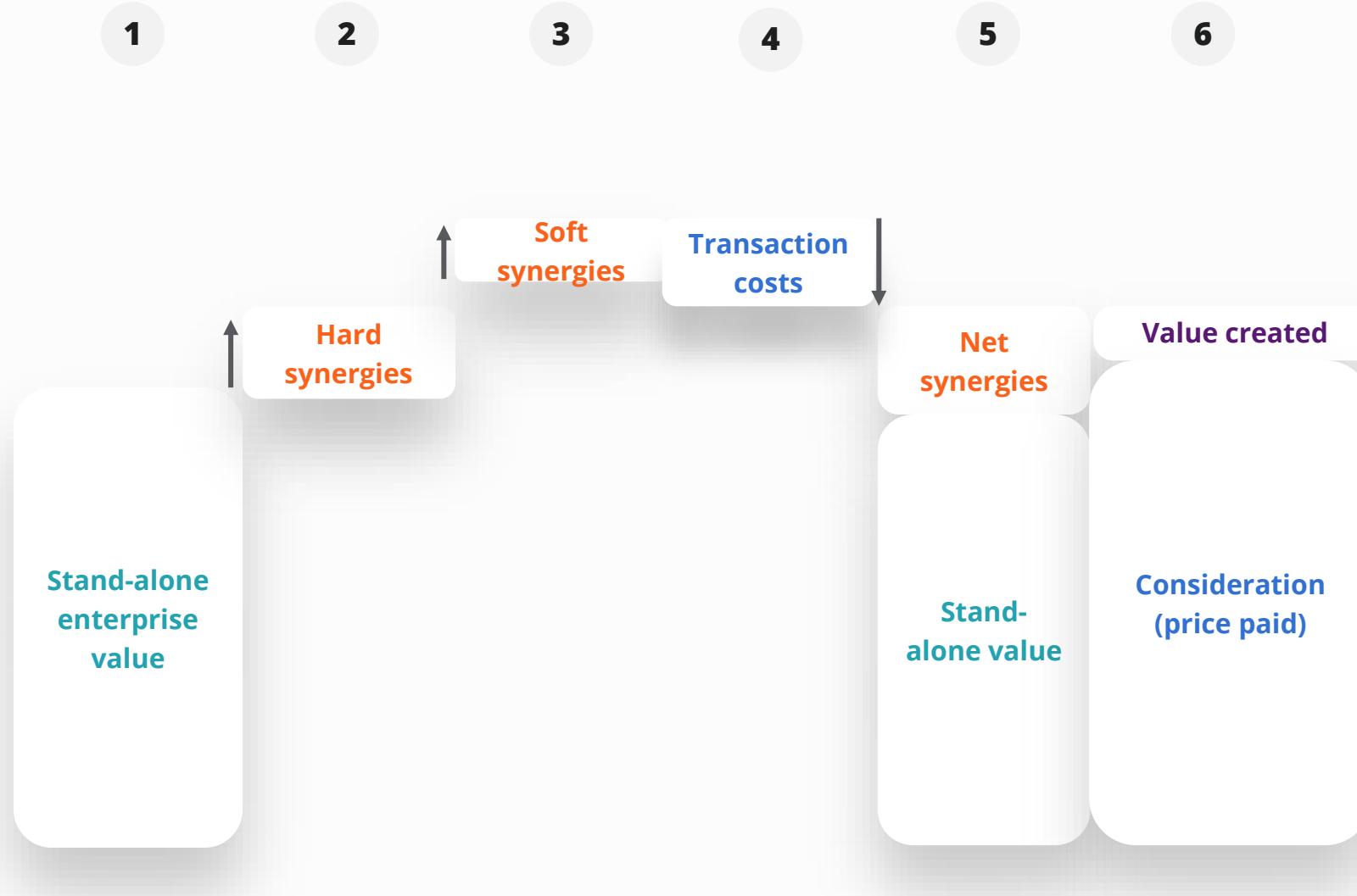
- Sales growth
- EBIT margin
- Operating tax
- Working capital requirements
- Capital expenditures

## 2. Value synergies

### Hard (cost savings) and soft (revenue enhancements)

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>• Sales (volume &amp; price)</li><li>• EBIT margin<ul style="list-style-type: none"><li>• Product mix</li><li>• Overhead reductions</li></ul></li><li>• Operating tax<ul style="list-style-type: none"><li>• Tax efficiency</li><li>• Tax losses</li></ul></li></ul> | <ul style="list-style-type: none"><li>• Working capital</li><li>• Vendor relationships</li><li>• Capital expenditures</li><li>• Efficiencies</li></ul> |
|--|--|

# Best practice acquisition analysis



# Issues to consider when structuring a deal



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## Capital Financing

- Determine how to fund capital investments
- Optimize the firm's capital structure



## Dividends & Return of Capital

- Decide how and when to return capital to investors



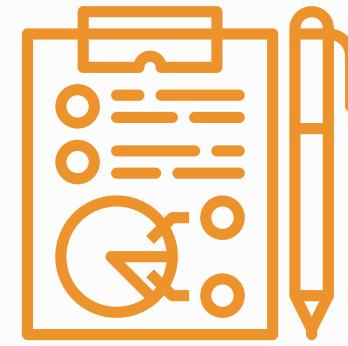
# Capital Financing

# What is capital financing?

Any type of funding that is used to finance the purchase of an asset/project (an investment).



**Equity**



**Debt**

# Capital financing

Capital financing will **increase the liabilities and/or equity** of a company.

**Capital investment**  
(spending money to purchase assets)



**Assets**



**Debt**



**Equity**

**Capital financing**  
(where the money comes from)

# Capital financing

Capital financing will **increase the liabilities and/or equity** of a company.

**Capital investment**  
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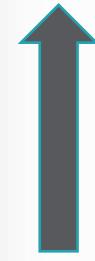
**Assets**



**Debt**



**Equity**



**Capital financing**  
(where the money comes from)

# Capital financing

Capital financing will **increase the liabilities and/or equity** of a company.

**Capital investment**  
(spending money to purchase assets)



**Assets**



**Debt**

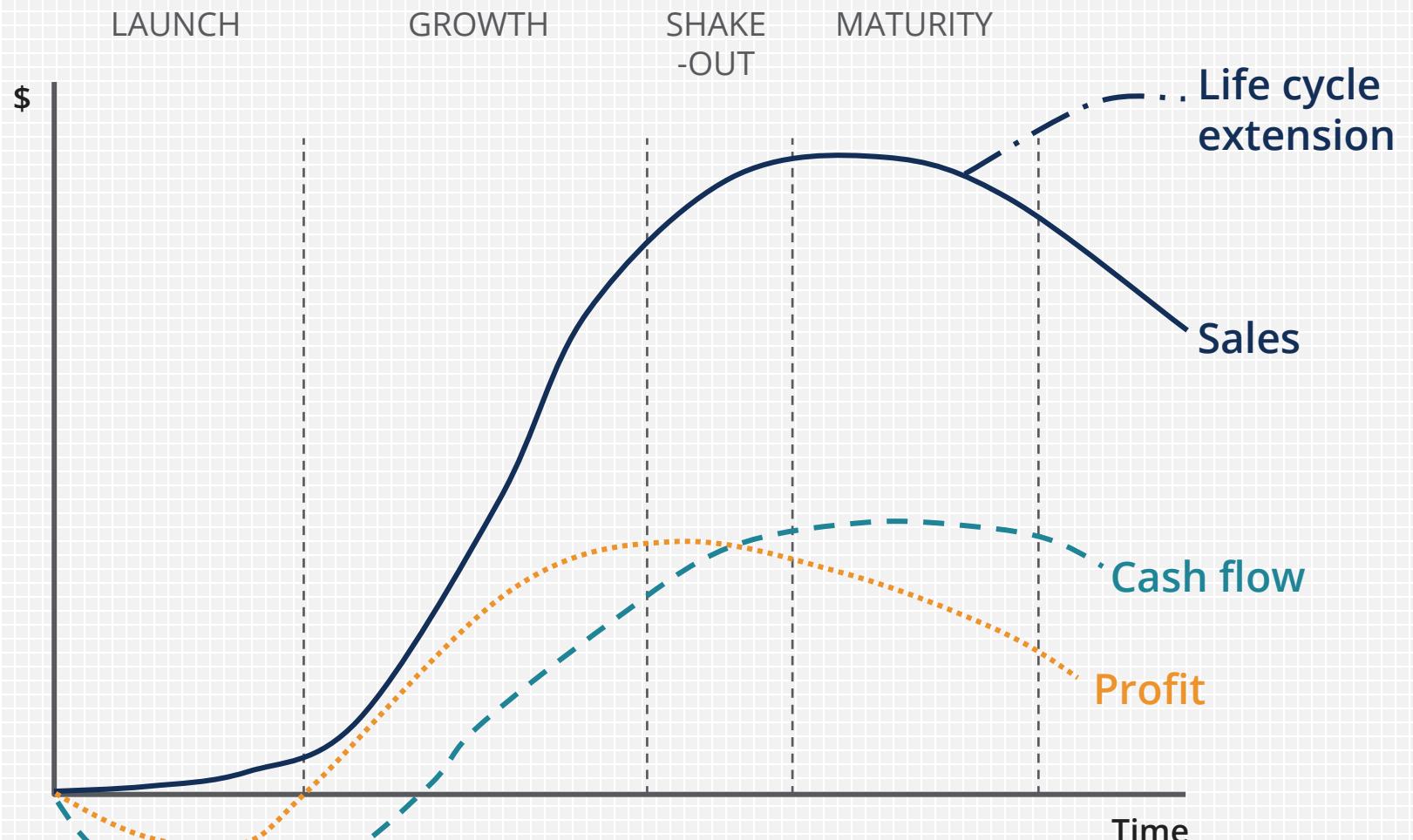


**Equity**

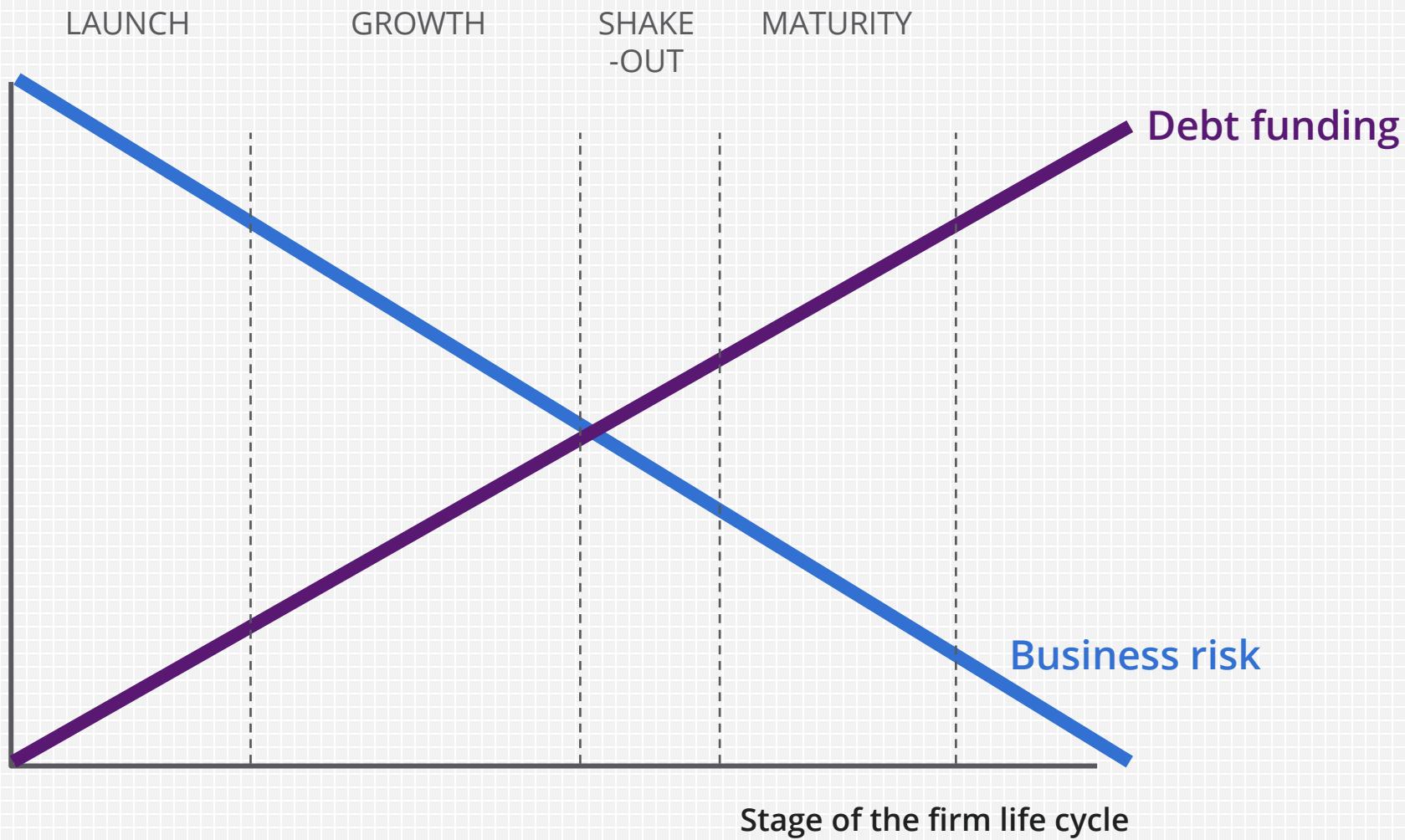


**Capital financing**  
(where the money comes from)

# The business life cycle



# The corporate funding life-cycle



# Capital structure

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**Capital Structure:** the amount of debt and/or equity employed by a firm to fund its operations and finance its assets. In order to optimize the structure, a firm will decide if it needs more debt or equity and can issue whichever it requires.

Low Leverage



High Leverage



# Optimal capital structure

The equity versus debt decision relies **on a large number of factors:**

 **The current economic climate**

 **The business' existing capital structure**

 **The business' life cycle stage**

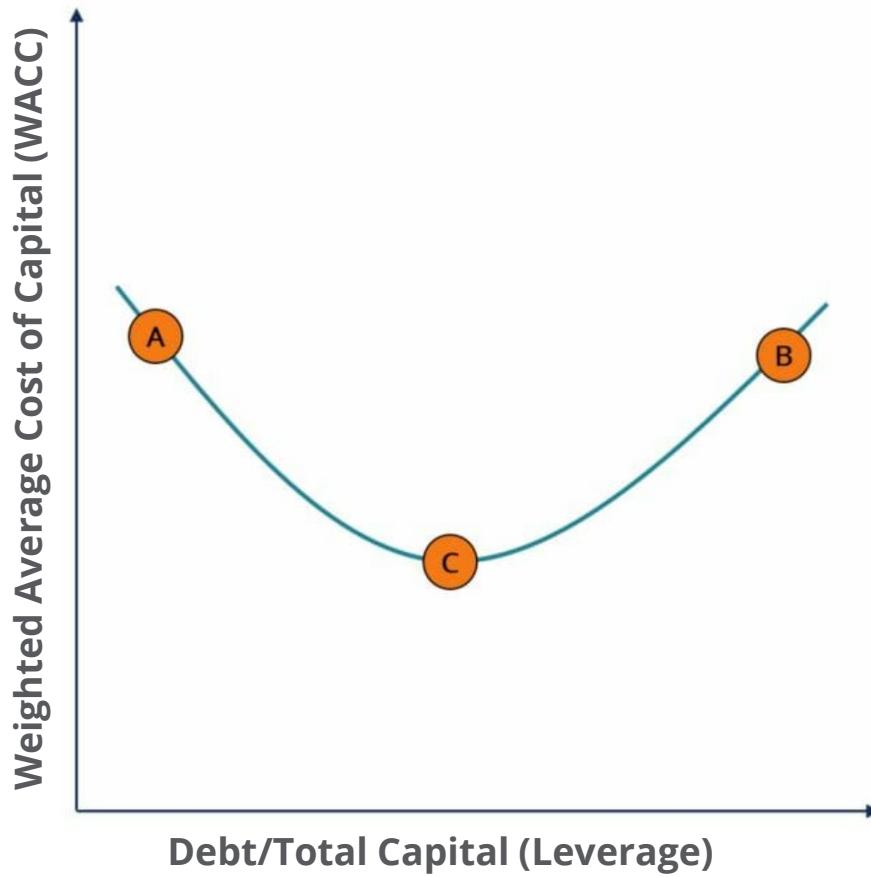
**Having too much debt** may increase the risk of default in repayment.

**Depending too heavily on equity** may dilute earnings and value for original investors.



# Optimal capital structure

Companies are usually looking for the **optimal combination of debt and equity** to minimize the cost of capital.



# Weighted Average Cost of Capital (WACC)

**Weighted Average Cost of Capital (WACC)** is the proportion of debt and equity a firm has, multiplied by their respective costs.



## Cost of Equity:

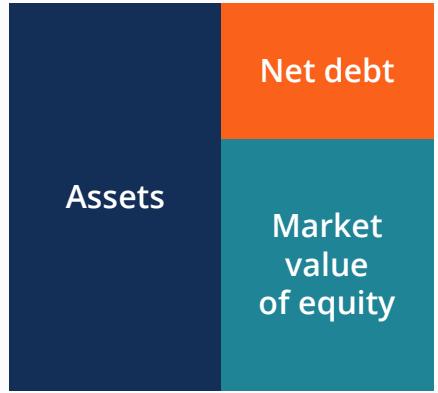
The **rate of return** a shareholder requires for investing equity into a business

## Cost of Debt:

The **rate of return** that a lender requires given the risk of the business

The optimal capital structure of a firm is often defined as the proportion of debt and equity that result in **the lowest weighted average cost of capital (WACC)** for the firm.

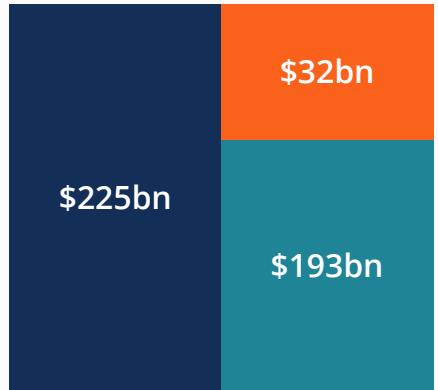
# WACC formula



$$\% \text{ net debt} \times \text{Cost of debt} = \text{Contribution}$$

$$\% \text{ equity} \times \text{Cost of equity} = \frac{\text{Contribution}}{\text{Cost of capital}}$$

## Example



$$14\%* \times 3.5\% = 0.5\%$$

$$86\%* \times 9.0\% = 7.7\%$$

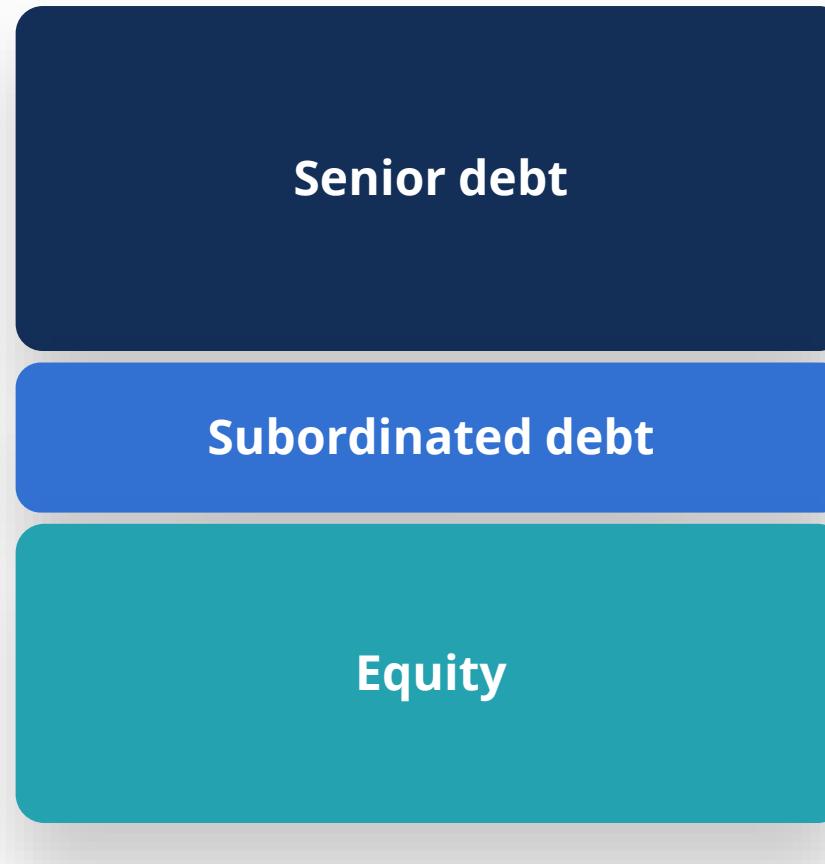
$$\underline{\underline{8.2\%}}$$

\*Rounded for ease of calculation.

# Capital stack

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How to optimally finance the capital investments through the  
**business' equity, debt, or a mix of both?**



# Types of equity

Senior debt

Subordinated debt

**Equity**

S/holder loans

Pref. shares

Common shares

Higher liquidation position; no dividend but pays interest

Higher liquidation and higher dividend priority (vs Common)

Last liquidation position and last dividend position

# Sources of equity

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Private Markets

Public Markets

Founders

Institutional

Venture Capital

Retail

Private Equity

# Private equity and venture capital firms

Private equity firms manage funds or pools of capital that invest in companies that represent an opportunity for a high rate of return.

Private equity funds invest for limited time periods. Exit strategies include IPOs, selling to another private equity firm, etc.

Private equity funds are typically split **into two categories:**

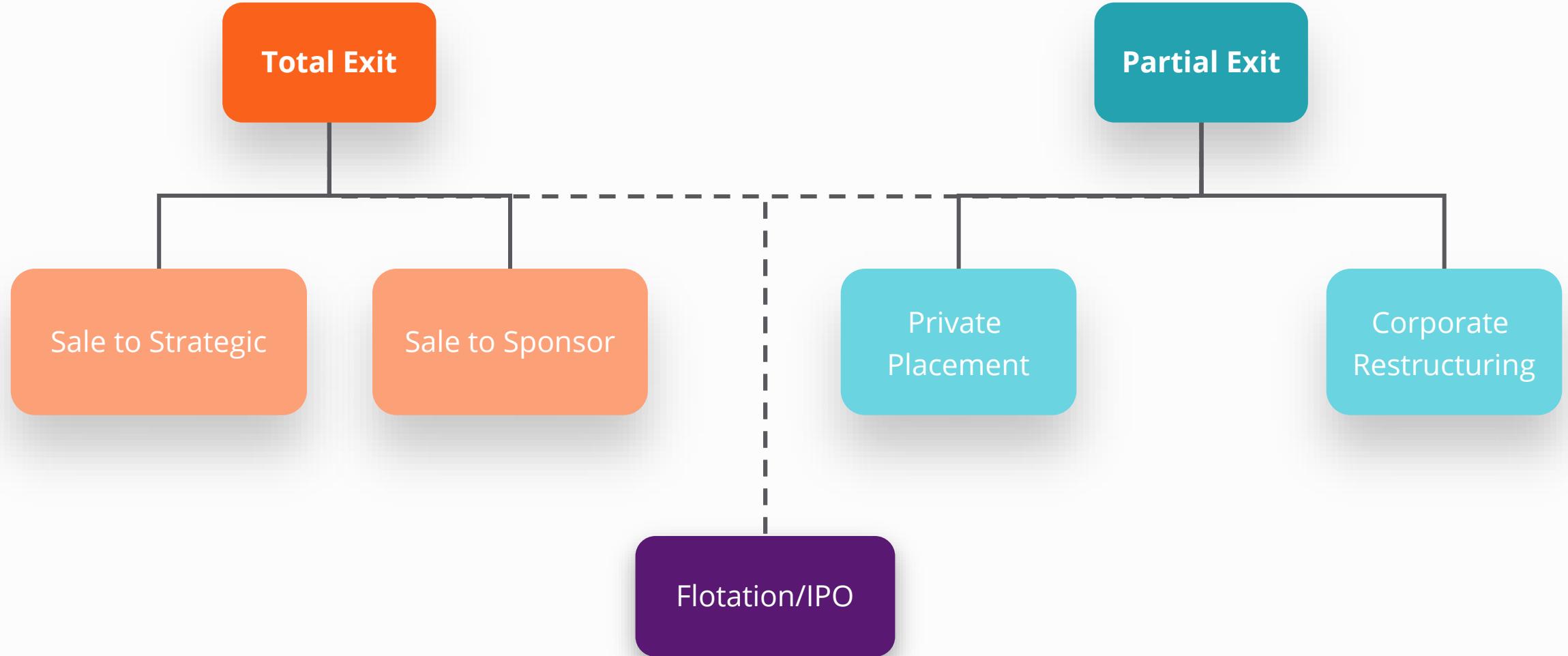
**1** **Venture capital funds typically invest** in early stage or expanding businesses that have limited access to other forms of financing.

- Sequoia Capital
- Y Combinator
- Andreessen Horowitz

**2** **Buyout or LBO funds typically invest** in more mature businesses, usually taking a controlling interest and leveraging the equity investment with a substantial amount of external debt. Buyout funds tend to be significantly larger than venture capital funds.

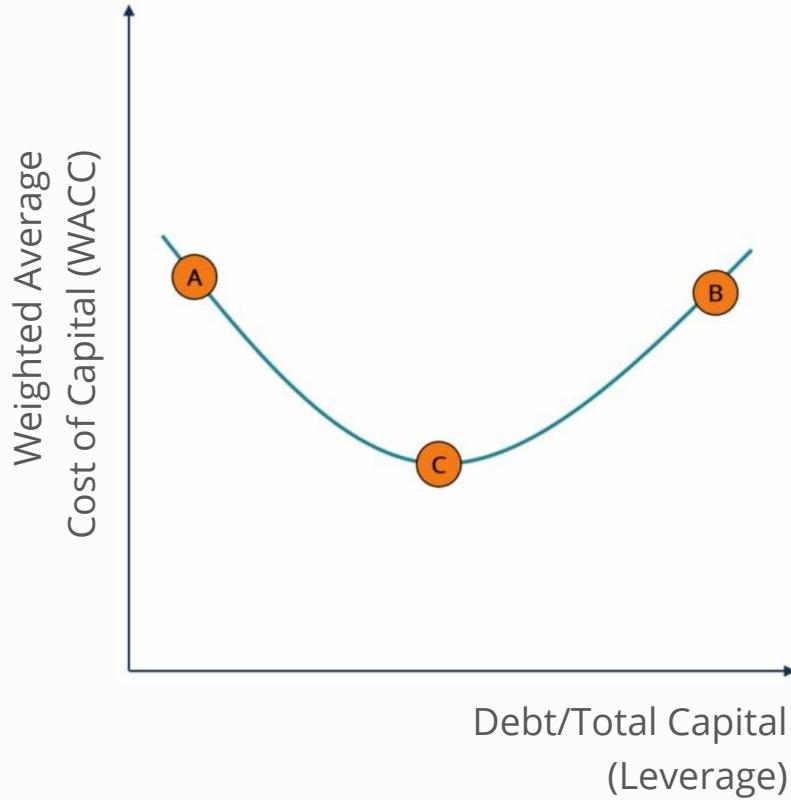
- Blackstone
- KKR
- Carlyle Group

# Typical exit routes for private equity

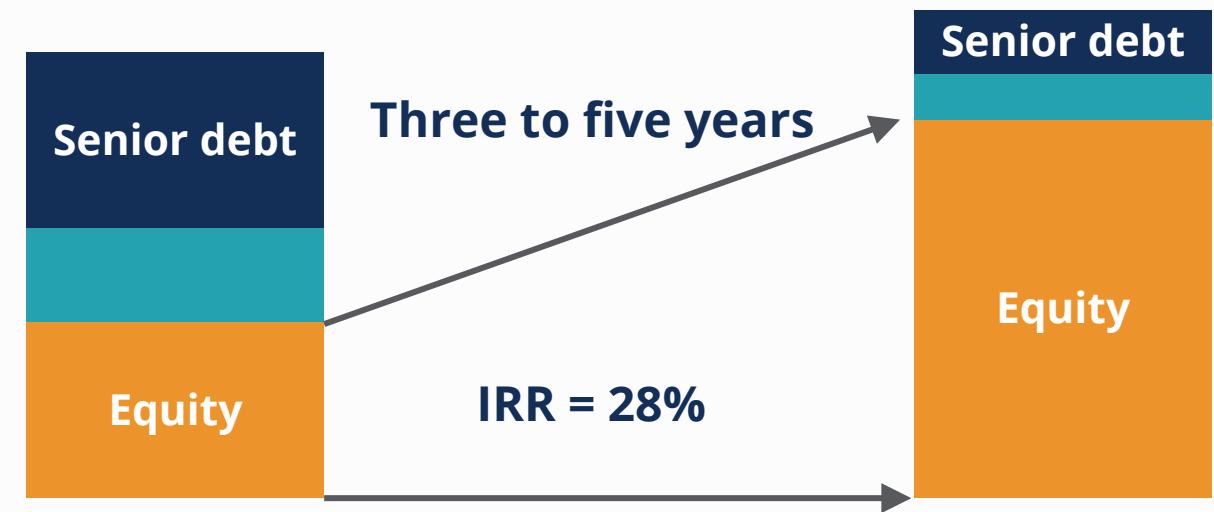


# Why use debt

**Corporation:** (1) to lower the cost of capital, and (2) avoid equity dilution



**Investor:** to increase their equity return



# Assessing debt capacity



## General measures

- Level of EBITDA
- Volatility and hence stability of EBITDA
- Capital expenditures
- Cyclical
- Risk
- Competition



## Balance sheet measures

- Debt to equity
- Debt to capital
- Debt to assets
- Etc.



## Cash flow measures

- Total debt / EBITDA
- Senior debt / EBITDA
- Net debt / EBITDA
- Cash interest cover
- EBITDA-Capex / interest

# Senior debt overview

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Senior debt

Subordinated  
debt

Equity

**Revolver:** Revolving line of credit facility from a bank

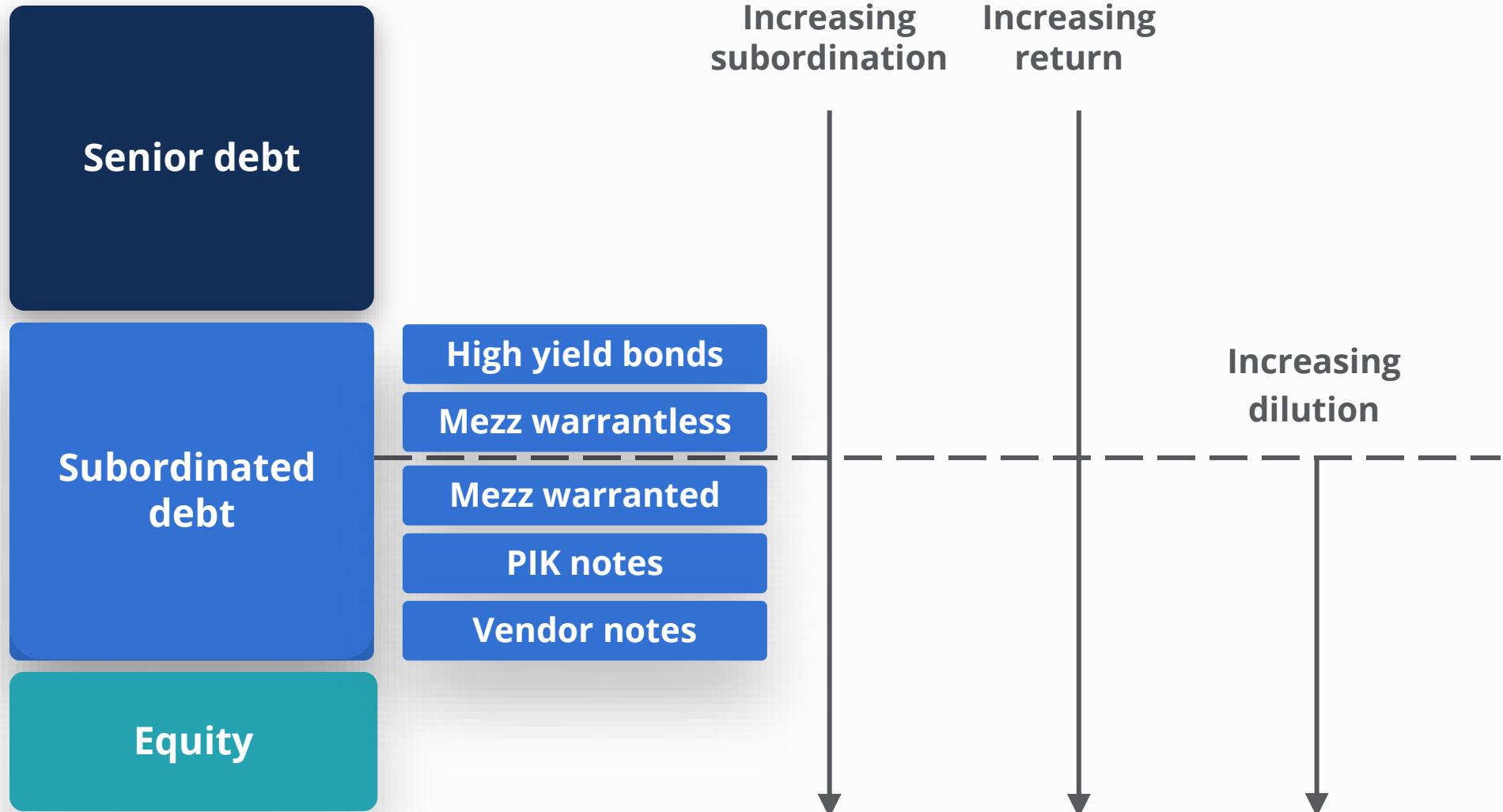
**Term loans:** have a fixed schedule where they repay or are amortized, and have a final principal repayment. Can be stacked.

## Senior Debt Capacity:

- Provide 2x to 3x EBITDA
- Require 2x interest coverage
- Typically provided by: commercial banks, credit companies, insurance companies

# Types of subordinated debt

Subordinated debt is used to fill the funding gap.



# How much subordinated debt?

Subordinated debt holders **will only supply so much debt.**



**Total debt / EBITDA ~ 5 to 6 times**



**xEBITDA / Cash interest ~ 2 times**



**Equity funding ~ 30% to 35%.**

The appropriate financial structure has to be constructed within these constraints.



# Credit ratings and high yield debt

## Investment grade

- Low risk
- Low return
- Low fees

## High yield

- High risk
- High return
- High fees

	Moody's	S&P	Fitch	DBRS
Aaa	AAA	AAA	AAA	AAA
Aa1	AA+	AA+	AA+	AA (high)
Aa2	AA	AA	AA	AA
Aa3	AA-	AA-	AA-	AA (low)
A1	A+	A+	A+	A (high)
A2	A	A	A	A
A3	A-	A-	A-	A (low)
Baa1	BBB+	BBB+	BBB+	BBB (high)
Baa2	BBB	BBB	BBB	BBB
Baa3	BBB-	BBB-	BBB-	BBB (low)
-----				
Ba1	BB+	BB+	BB+	BB (high)
Ba2	BB	BB	BB	BB
Ba3	BB-	BB-	BB-	BB (low)
B1	B+	B+	B+	B (high)
B2	B	B	B	B
B3	B-	B-	B-	B (low)
Caa1	CCC+	CCC+	CCC+	CCC (high)
Caa2	CCC	CCC	CCC	CCC
Caa3	CCC-	CCC-	CCC-	CCC (low)
-	D	D	D	D

# Mezzanine debt characteristics

## Mezzanine debt:

- Non-traded
- Subordinated to senior debt
- Repaid as a bullet (not amortized)
- Combination of cash and accrued interest built into return
- Can have equity warrants attached
- Debt with warrants, convertible loan stock, convertible preferred shares

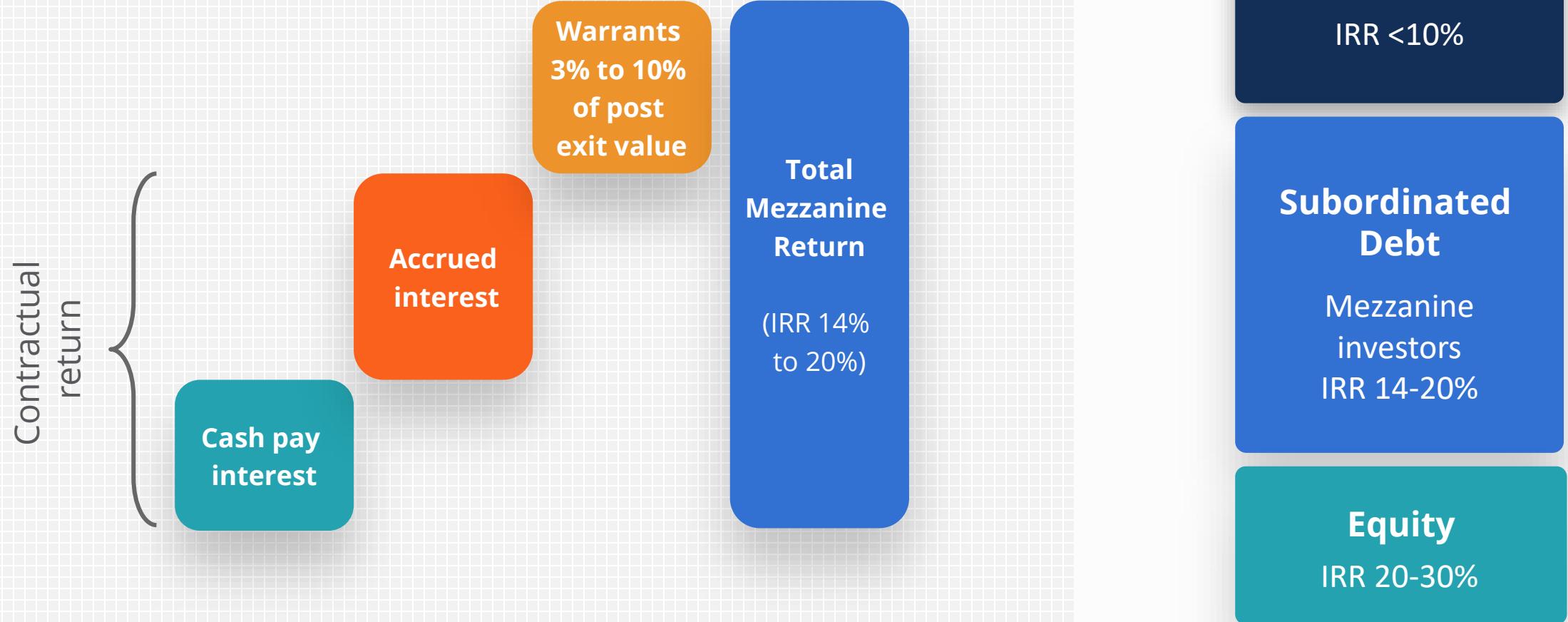


# Mezzanine returns

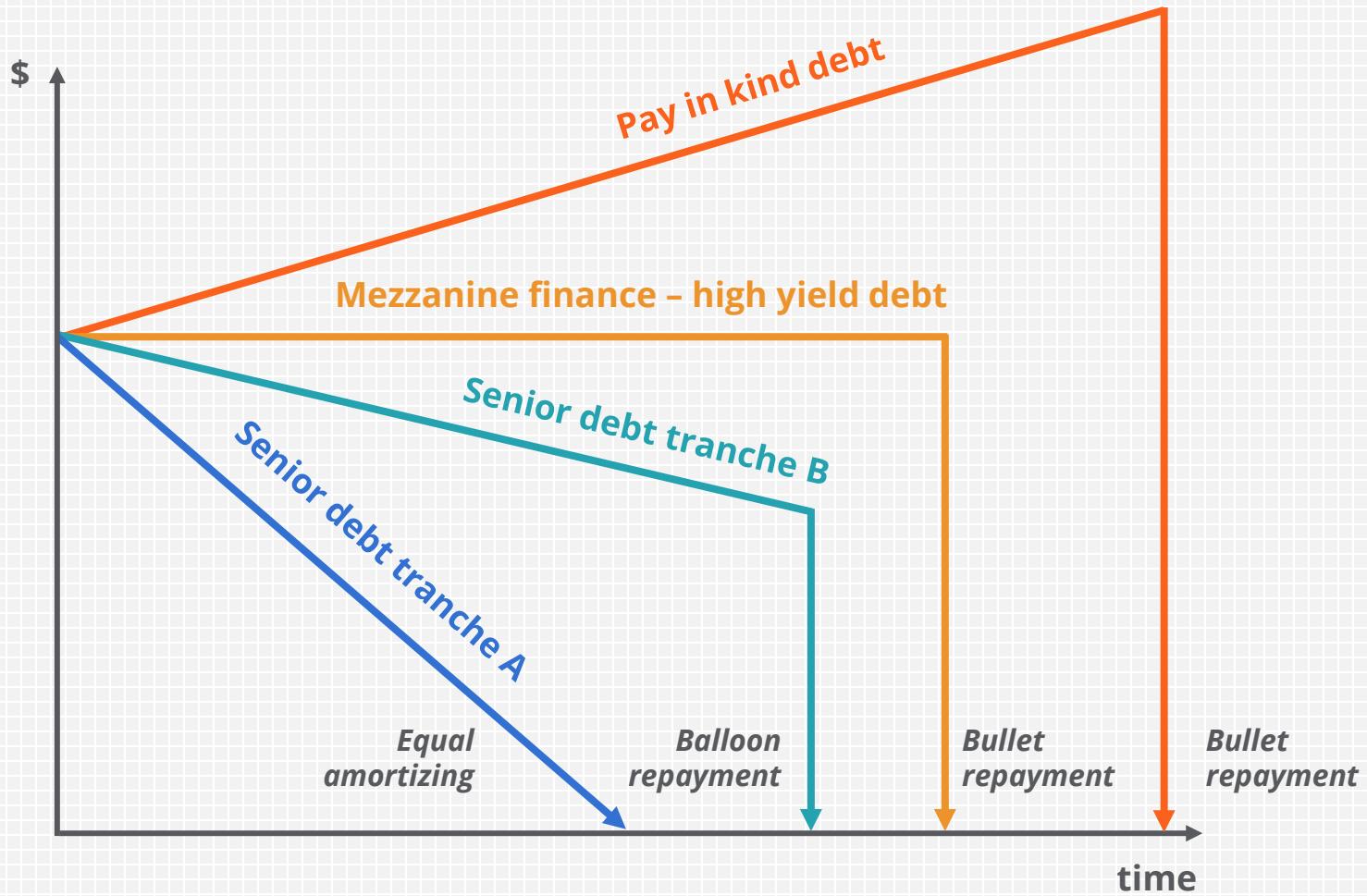
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# Mezzanine returns



# Debt repayment profiles



# Tradeoffs between debt and equity

Equity	Debt
No interest payments or mandatory fixed payments	Has interest payments (typically)
No maturity dates (no capital repayment)	Has a fixed repayment schedule
Lender has ownership and a degree of control over the business	Prevents dilution of equity
Has voting rights (typically)	Requires covenants and financial performance metrics that must be met
Has a high implied cost of capital	Has a lower cost than equity
Expects a high rate of return (dividends and capital appreciation)	Expects a lower rate of return than equity
Has last claim on the firm's assets in the event of liquidation	Has first claim on the firm's assets in the event of liquidation
Provides maximum operational flexibility	Contains restrictions on operational flexibility
	Can push a company into default / bankruptcy



# Capital Raising Process

Ciência e a Tecnologia, Conselho Directivo, à data de 27 de Junho de 2012.

# Underwriting

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**The process where a bank raises capital** for a corporation, or institution from investors in the form of equity or debt securities.

**Underwriting involves** conducting research, financial modeling, valuation, and marketing and a deal.



# Types of underwriting

## Types of underwriting commitment:



### Firm Commitment

The underwriter agrees to buy the entire issue and assume full financial responsibility for any unsold shares.



### Best Efforts

Underwriter commits to selling as much of the issue as possible at the agreed-on offering price, but can return any unsold shares to the issuer without financial responsibility.

# Underwriting advisory services



## Planning

- Identify investor themes
- Investment rationale
- Financial modeling & valuation
- Is IPO the best option?
- Size of float and lock-up issues
- Preliminary view on investor demand



## Issue Structure

- Domestic or international
- Institutional investor focus
- Retail investor focus
- Offer for sale
- Intermediaries offer
- Introduction

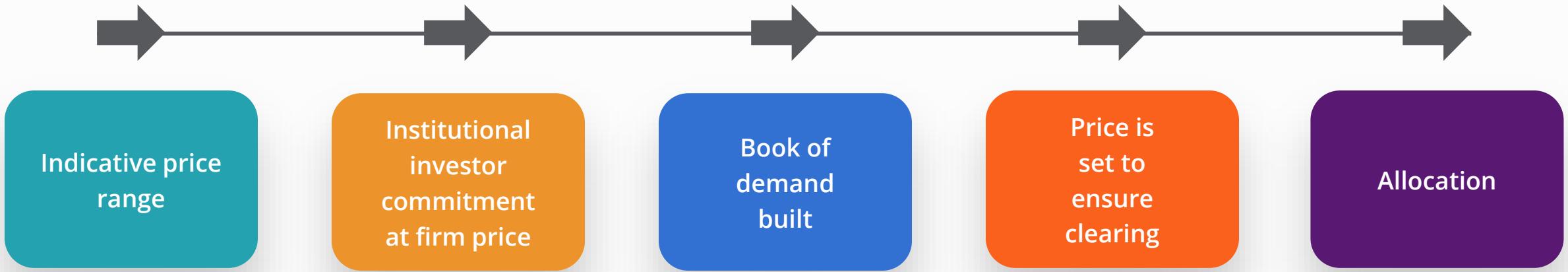


## Timing and Demand

- Hot or cold issue market
- Supported by positive news-flow
- Investor appetite
- Precedents and benchmark offerings
- Pricing

# Underwriting - the book building process

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# Underwriting - the road show

The roadshow is an opportunity for management to convince investors of the strength of the business cases.

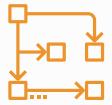
## Areas that are critical include:



**Management structure,  
governance and quality**



**A thorough analysis of  
the industry/sector**



**Strategy, both tactical  
and long-term**



**Key risks**



**Funding requirements and purpose:  
Cash in versus cash out**

# Pricing the issue

## Key issues in pricing



Price stability



Buoyant after market

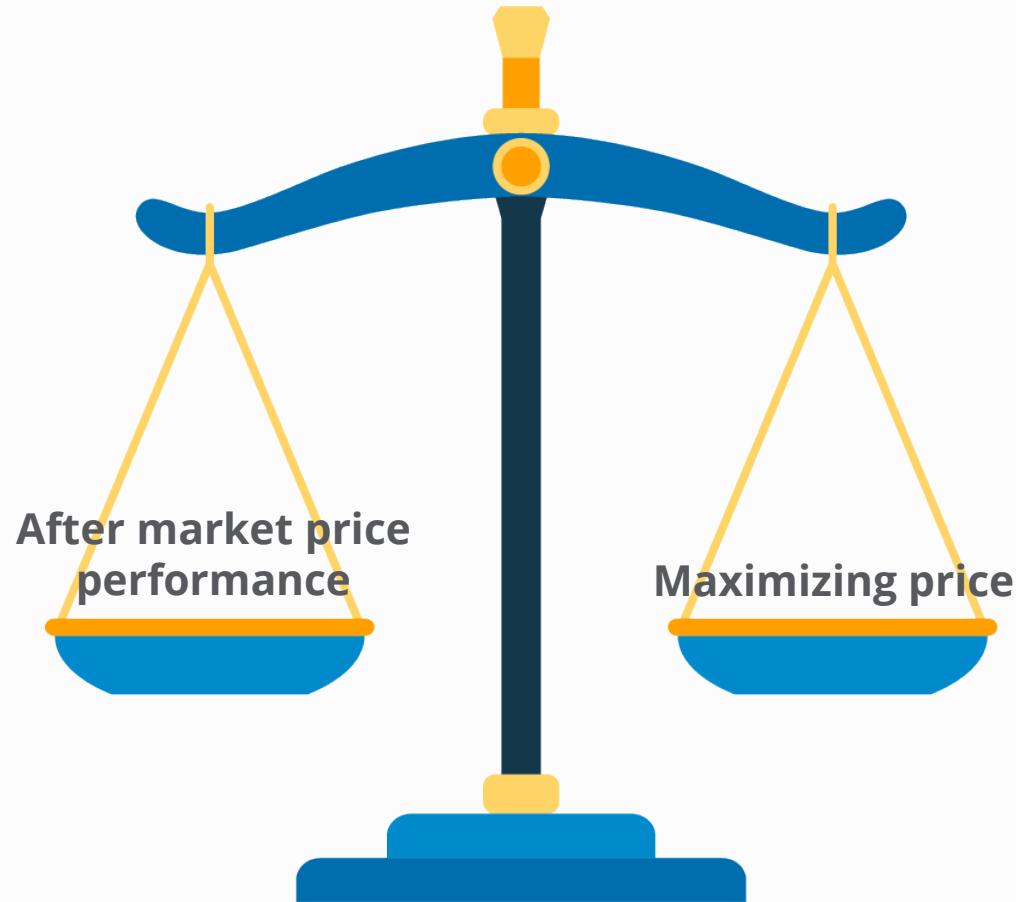


Depth of investor base



# Pricing the issue

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# Under-pricing

**There are two costs associated with a flotation:**

- Direct cost / Fees
- Indirect cost / Under-pricing

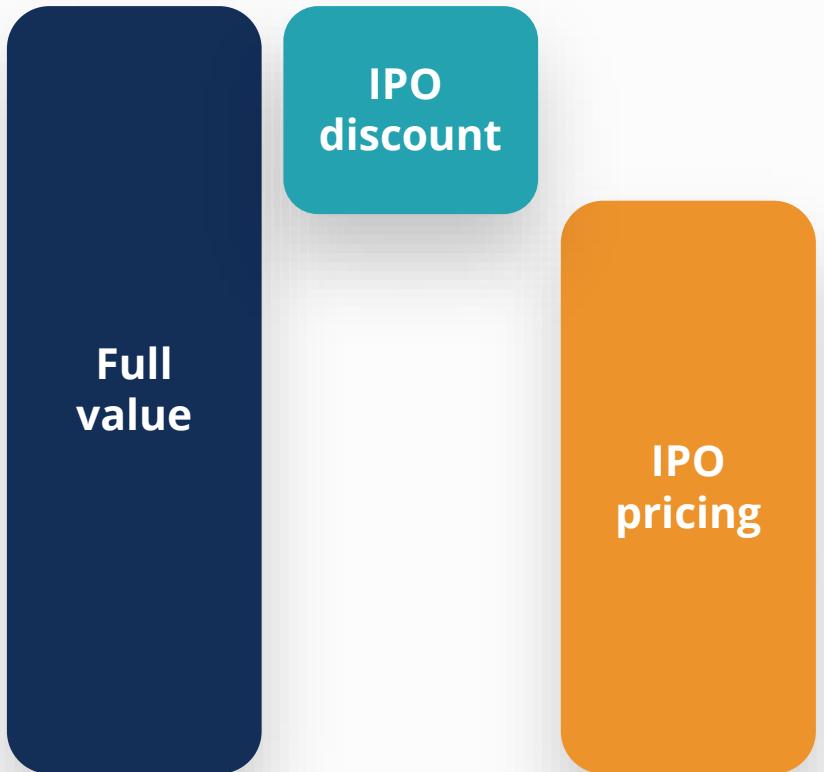
**There is a temptation for the advising bank to underprice the issue — why?**

- Reduces the risk of equity overhang
- Ensures after market is buoyant
- BUT this fails to make the best possible returns for the current owners and could lead to profit-taking and hence volatility

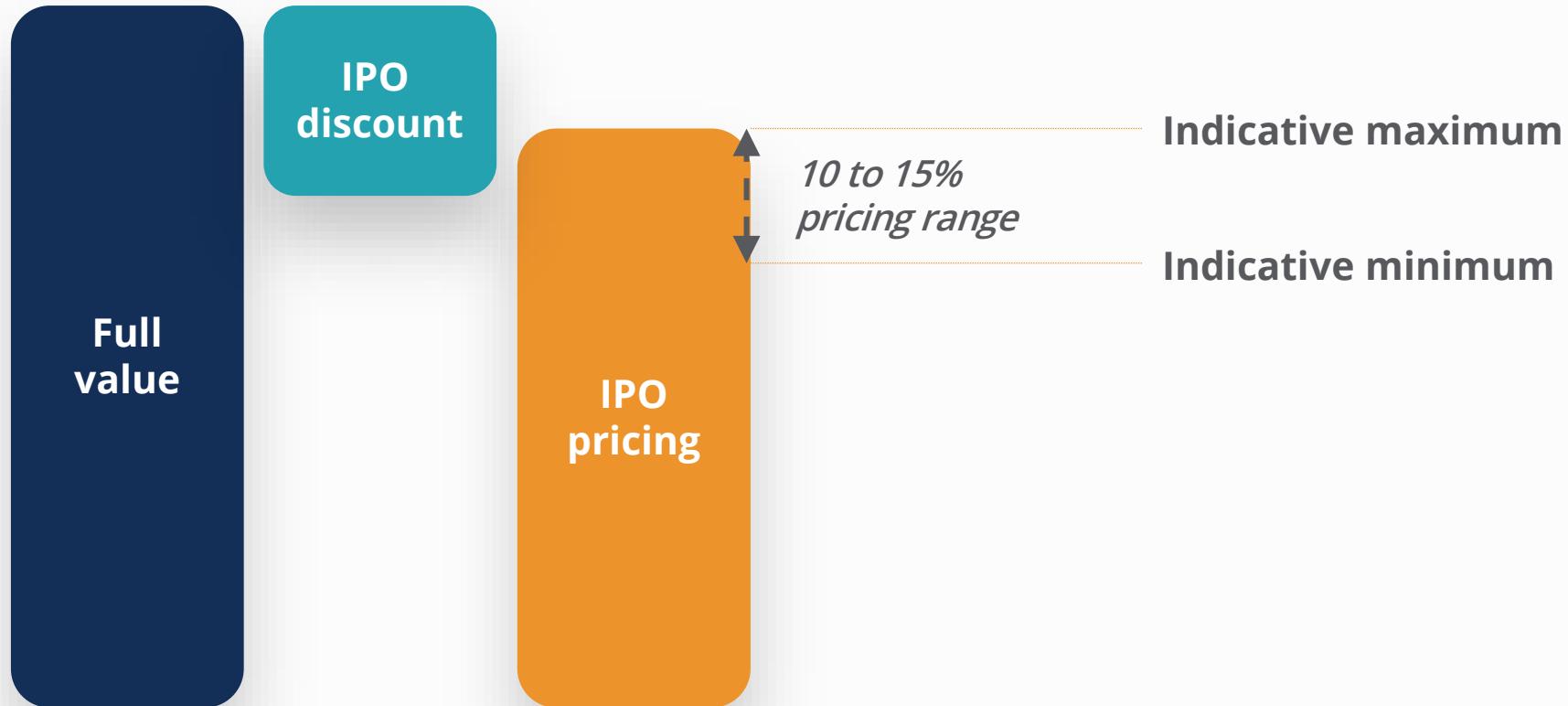


# The IPO pricing process

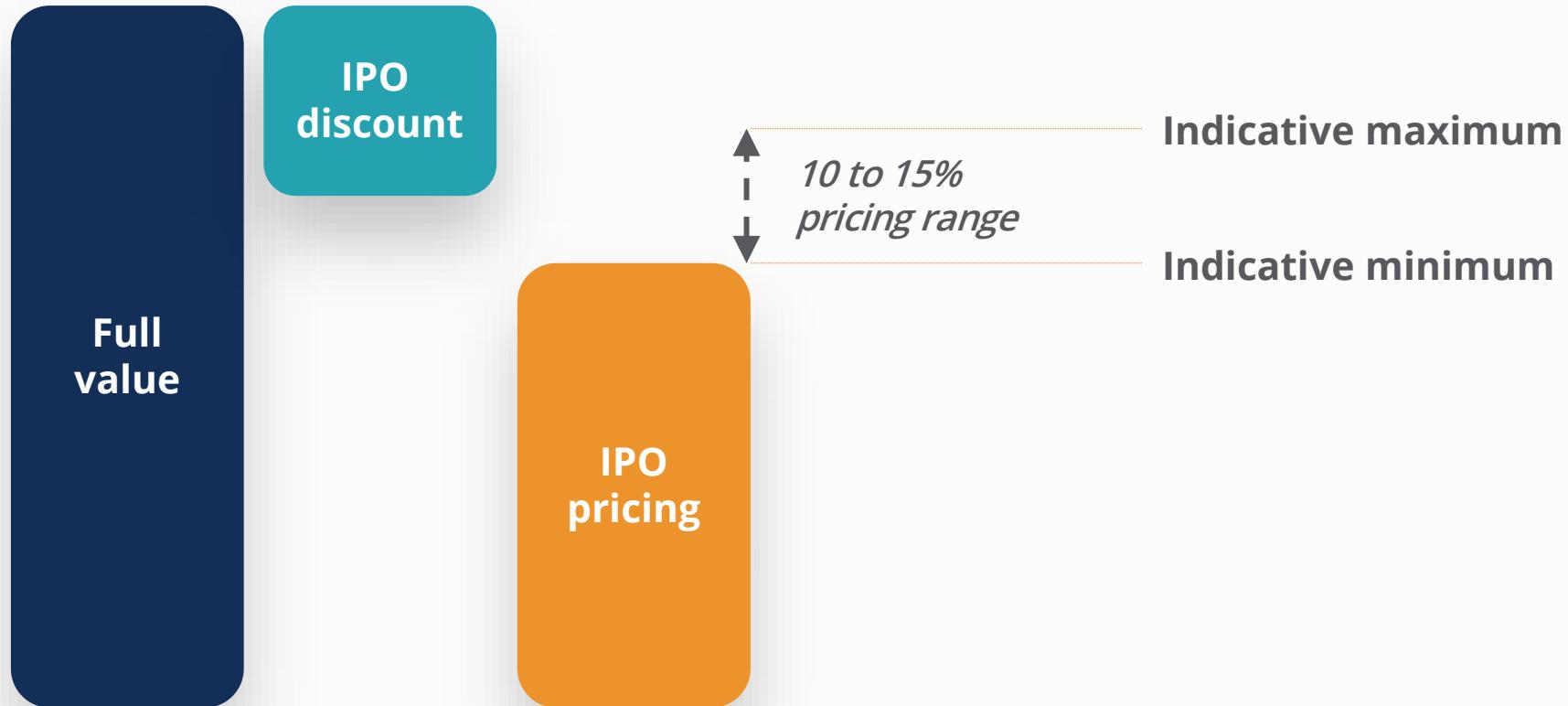
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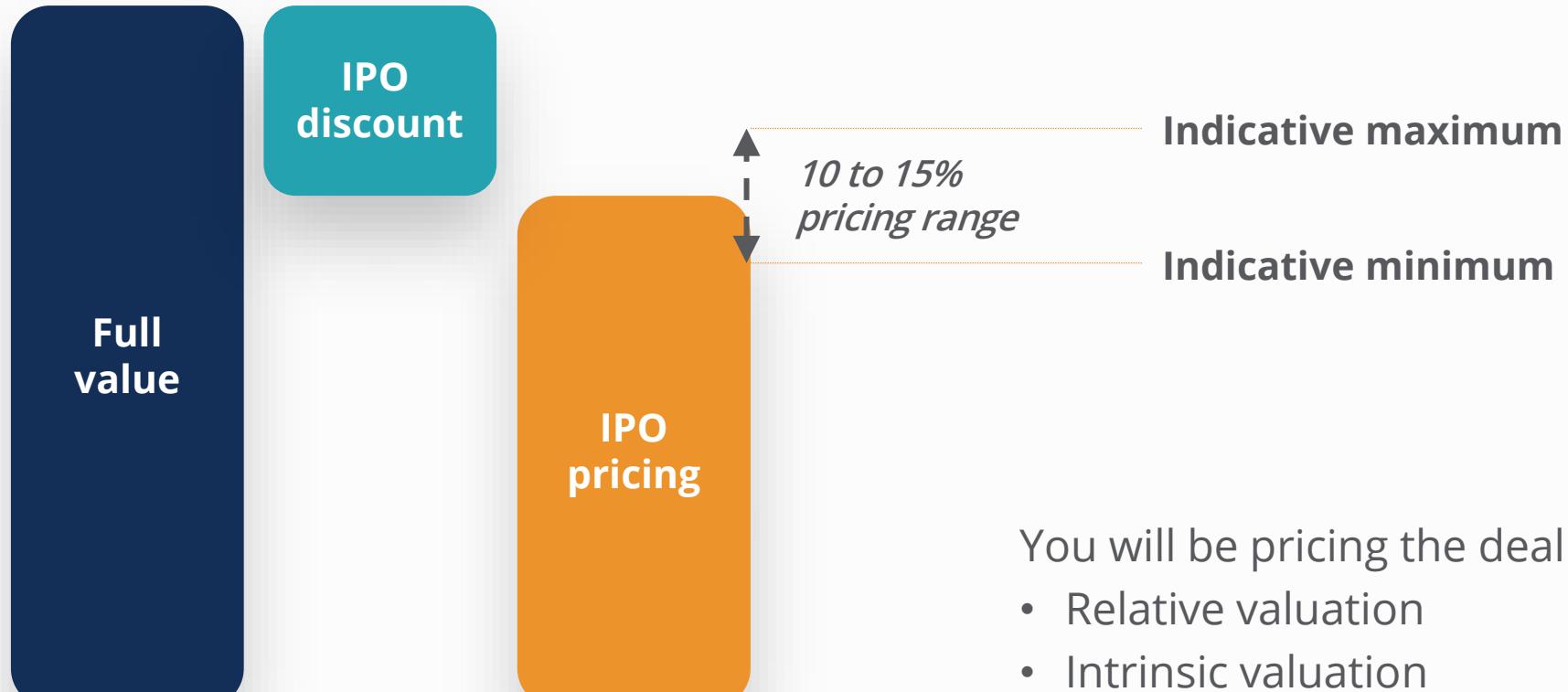
# The IPO pricing process



# The IPO pricing process



# The IPO pricing process



You will be pricing the deal based on:

- Relative valuation
- Intrinsic valuation



# Dividends and Return of Capital

# Corporate finance overview

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# Dividends and return of capital

Corporate managers need to decide to:



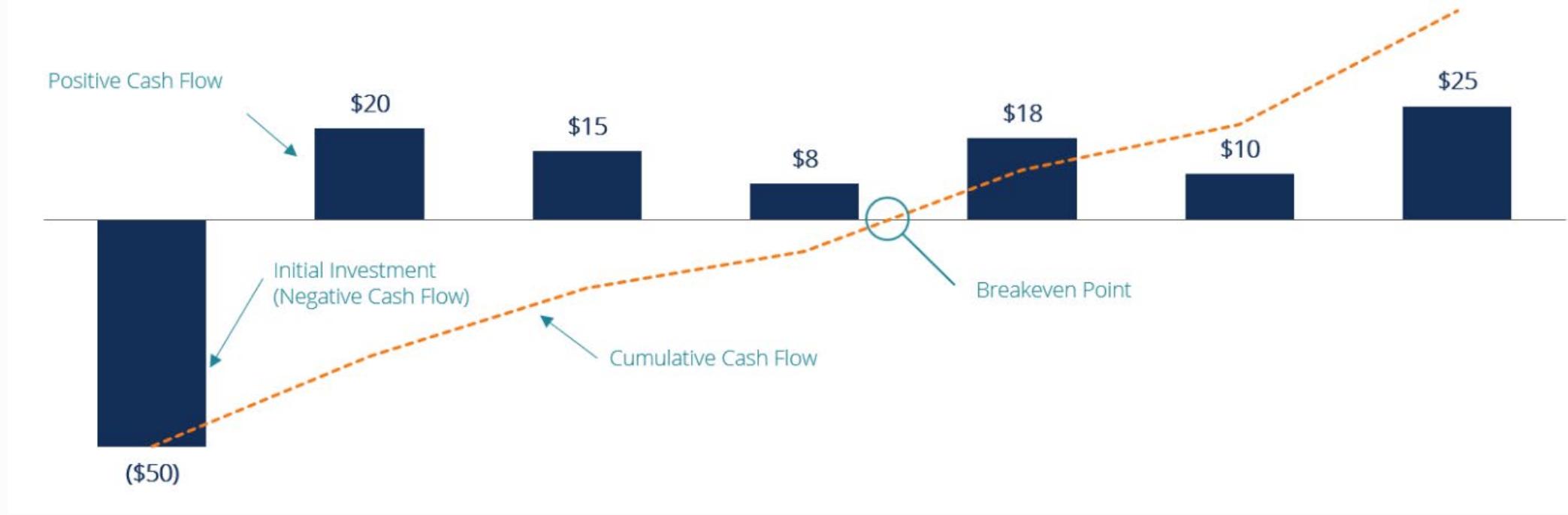
**Distribute** the earnings to shareholders in the form of dividends or share buybacks, OR



**Retain** the excess earnings for future investments and operational requirements



# Internal Rate of Return (IRR)



## Internal Rate of Return

**IRR = 22%** (based on cash flows)



% net debt  $\times$  Cost of debt = Contribution

% equity  $\times$  Cost of equity = Contribution

## Weighted Average Cost of Capital

**WACC = 28%**

**Internal Rate of Return**  
= 22%

**Cost of Capital**  
= 28%



**Return Capital  
(Dividend or Buyback)**

# Retained earnings and excess cash

## Balance Sheet

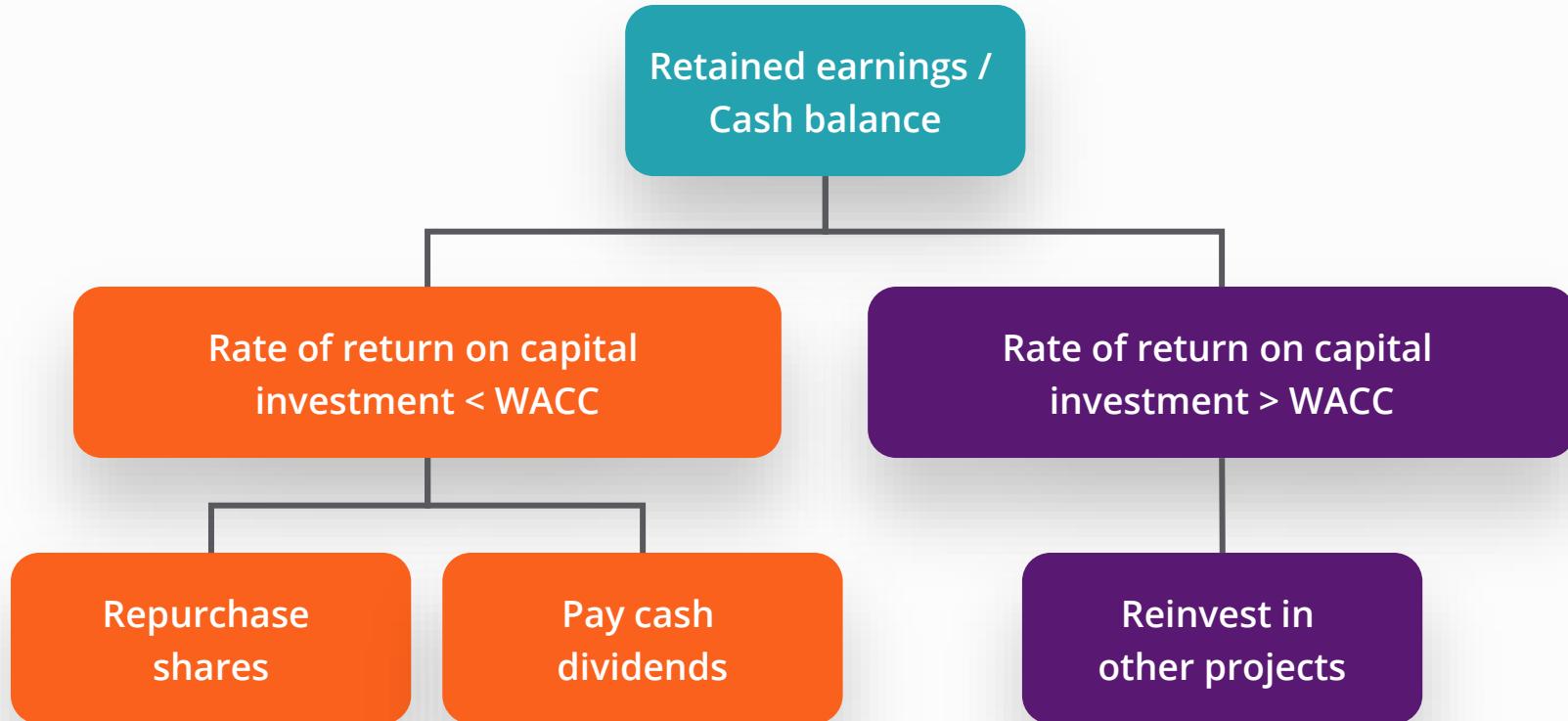
### Assets

Cash	67,971	81,210	83,715	111,069	139,550
Accounts Receivable	5,100	5,904	6,567	7,117	7,539
Inventory	7,805	9,601	9,825	10,531	11,342
Property & Equipment	45,500	42,350	40,145	38,602	37,521
<b>Total Assets</b>	<b>126,376</b>	<b>139,065</b>	<b>140,252</b>	<b>167,319</b>	<b>195,951</b>

### Liabilities

Accounts Payable	3,902	4,800	4,912	5,265	5,671
Debt	50,000	50,000	30,000	30,000	30,000
<b>Total Liabilities</b>	<b>53,902</b>	<b>54,800</b>	<b>34,912</b>	<b>35,265</b>	<b>35,671</b>
<b>Shareholder's Equity</b>					
Equity Capital	70,000	70,000	70,000	70,000	70,000
Retained Earnings	2,474	14,265	35,340	62,053	90,280
<b>Shareholder's Equity</b>	<b>72,474</b>	<b>84,265</b>	<b>105,340</b>	<b>132,053</b>	<b>160,280</b>
<b>Total Liabilities &amp; Shareholder's Equity</b>	<b>126,376</b>	<b>139,065</b>	<b>140,252</b>	<b>167,319</b>	<b>195,951</b>

# Retained earnings / excess cash decision flowchart



# Dividend vs Share Buyback



## Dividend

- Can be one-time or ongoing
- Contribute to the “yield” on a stock if ongoing regular dividends
- No impact on shares outstanding or EPS



## Buyback (Repurchase)

- Reduces the number of shares outstanding
- Increases EPS

# Corporate finance overview

The ultimate purpose of corporate finance is to maximize the value of a business through planning and implementing management resources while balancing risk and profitability.



## Capital Investments

- Decide what projects / businesses to invest in
- Earn the highest possible risk-adjusted return



## Capital Financing

- Determine how to fund capital investments
- Optimize the firm's capital structure



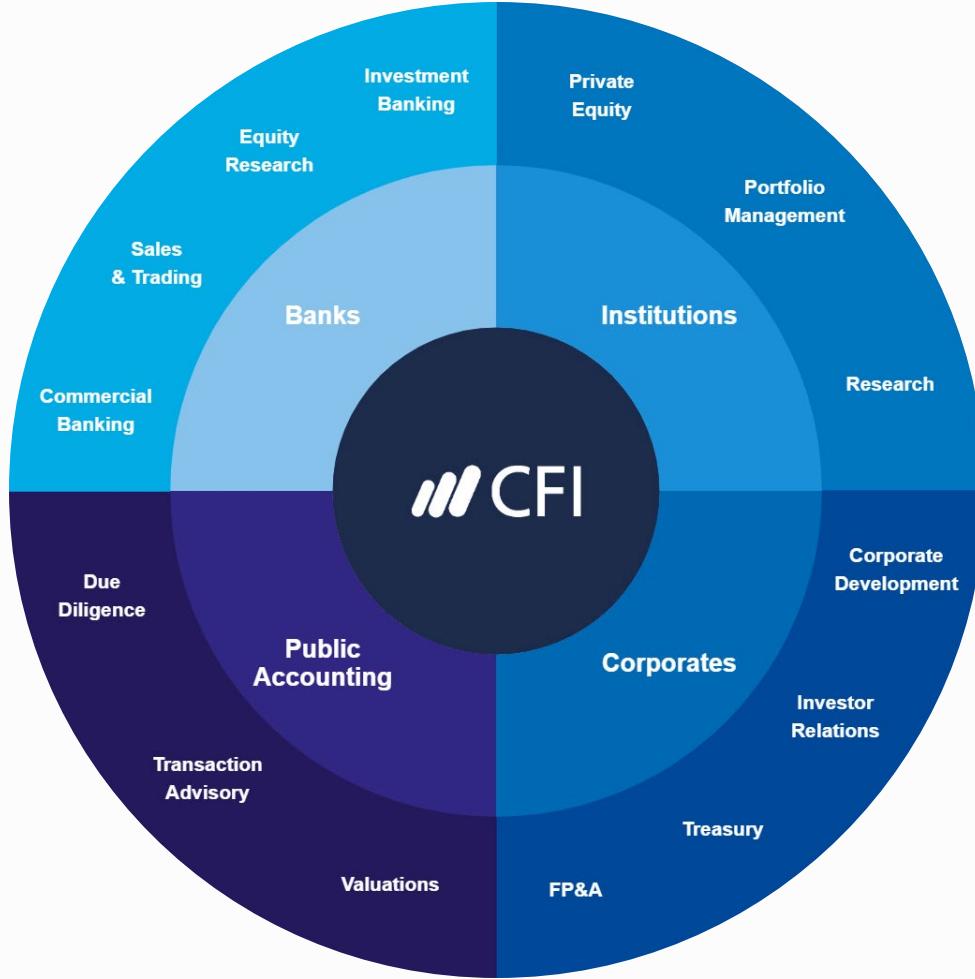
## Dividends & Return of Capital

- Decide how and when to return capital to investors



# Corporate Finance Careers

# Career map



# Roles in corporate finance



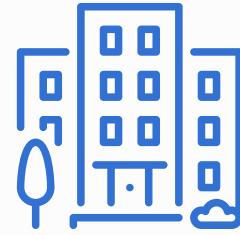
## Banks ('Sell side')

- Client facing / sales component
- Capital Markets hire from schools
- Retail hires at various points
- Long hours
- Competitive
- Quick career progression



## Public Accounting

- Mix of client or inward focus
- Hire from schools or from other accounting firms
- Long / medium hours
- Competitive
- Clear career path



## Institutions ('Buy side')

- More internally focused
- Hire from banks
- Hire grad school students
- Long hours
- Competitive
- Quick career progression



## Corporates

- Internally focused
- Hire from banks, accounting firms, institutions and schools
- Hire across all entry points
- Hours vary
- Competitiveness varies by company
- Career progression varies