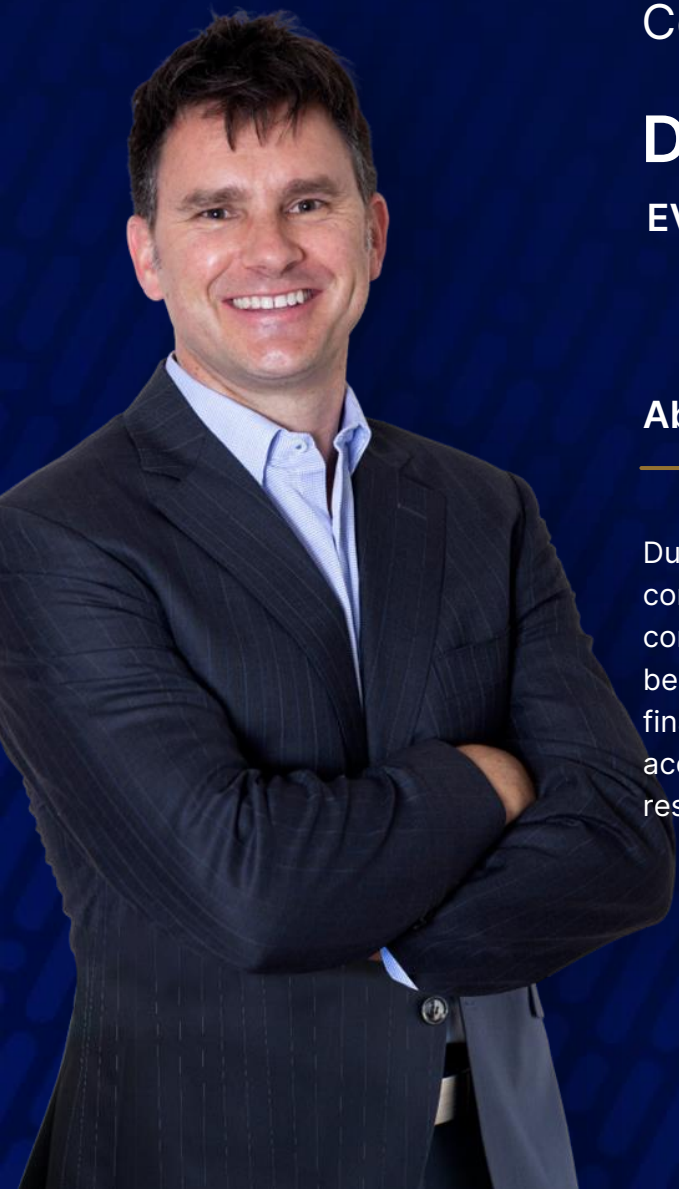


# Corporate Finance Fundamentals



# Learning Objectives

<b>01</b>	Understand what capital investment is and why it increases a company's assets.	<b>02</b>	Learn common metrics used by companies to evaluate various investments.	<b>03</b>	Learn the business life cycle and how it impacts the funding life cycle.
<b>04</b>	Understand the types & sources of equity & debt available to companies.	<b>05</b>	Learn how to minimize a company's weighted average cost of capital (WACC).	<b>06</b>	Understand the advantages & disadvantages of the different ways a company can return capital.



Course Instructor

**Duncan McKeen, CFA, FMVA®**

EVP, Financial Modeling

### About Duncan

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Duncan has extensive experience providing consulting services on financial modeling to large corporations and institutions. Since 2014, he has been focused on designing courses and teaching financial modeling to employees working in accounting, valuation, investment banking, equity research, and private equity.

### Experience

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Prior to transitioning over to teaching, Duncan held senior equity research positions with top banks & brokerages using financial models to form opinions and guide institutional investors with capital allocation. Since 2015, he has also been an Adjunct Faculty member teaching financial modeling courses at the Smith School of Business at Queen's University.





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# Course Introduction

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# 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 Investment

- 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



## Capital Return

- Decide how and when to return capital to investors

# Type of Transactions

01

Initial Public Offering (IPO)

02

Follow-on Offering

03

Private Placement

04

Mergers & Acquisitions (M&A)

05

Leveraged Buyout (LBO)

05

Divestiture

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# Capital Investment - Overview

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# 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 Investment

- Decide what projects / businesses to invest in
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## Capital Financing

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



## Capital Return

Decide how and when to return capital to investors



# Mergers and Acquisitions (M&A)

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



## Benefits

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



## Potential Drawbacks

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

# Strategic versus financial buyers



## Strategic Buyers

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



## Financial Buyers

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

# 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.



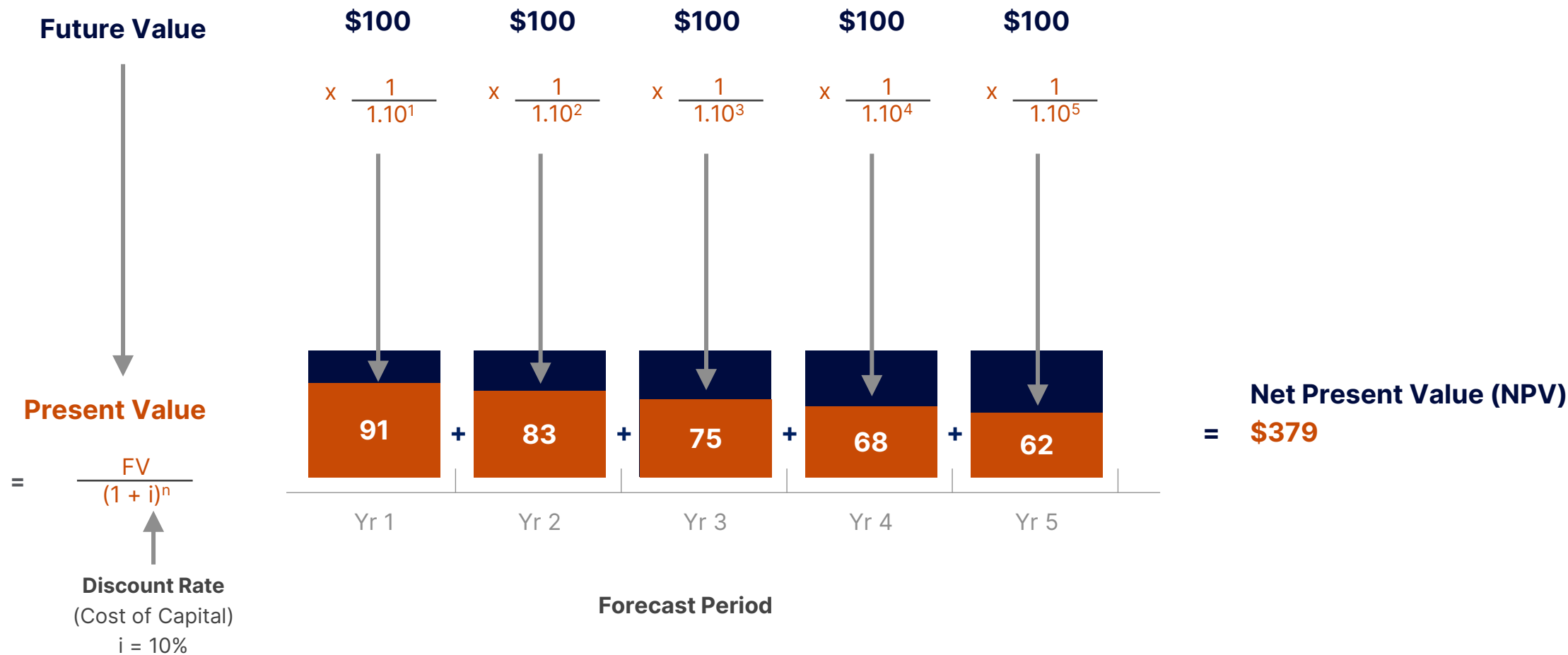
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# Capital Investment - Metrics

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# Calculating Present Value



# Using Payback Period

## Payback Period

This technique measures how long it takes the company to recover the capital invested in a project.

## Discounted Payback Period

This is the same as the Payback Period, but it accounts for the time value of money.

The issue with these techniques is that they do not measure what happens after the payback period.



# Using NPV and IRR Functions

## 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.

Projects with a positive NPV can add value to a company.

## Internal Rate of Return (IRR)

The expected compound annual rate of return that will be earned on a project or investment.

If the IRR is greater than the company's cost of capital, the project will add value for the company.



# Using XNPV and XIRR Functions

## XNPV Function

This function is similar to the NPV function in Excel, but it allows the user to input specific dates.

## XIRR Function

This function is similar to the IRR function in Excel, but it allows the user to input specific dates.

The XIRR and XNPV functions are ideal for uneven or unusual dates.



# Using Profitability Index

## Profitability Index

This technique improves on the NPV by comparing the NPV to the amount of capital that needs to be invested.

$$\text{Profitability Index} = \frac{\text{NPV} + \text{Initial Investment}}{\text{Initial Investment}}$$

If the PI is greater than 1, the project will create value for the company.

If the PI is less than 1, the project destroys value for the company.





# Most Common Capital Allocation Metrics

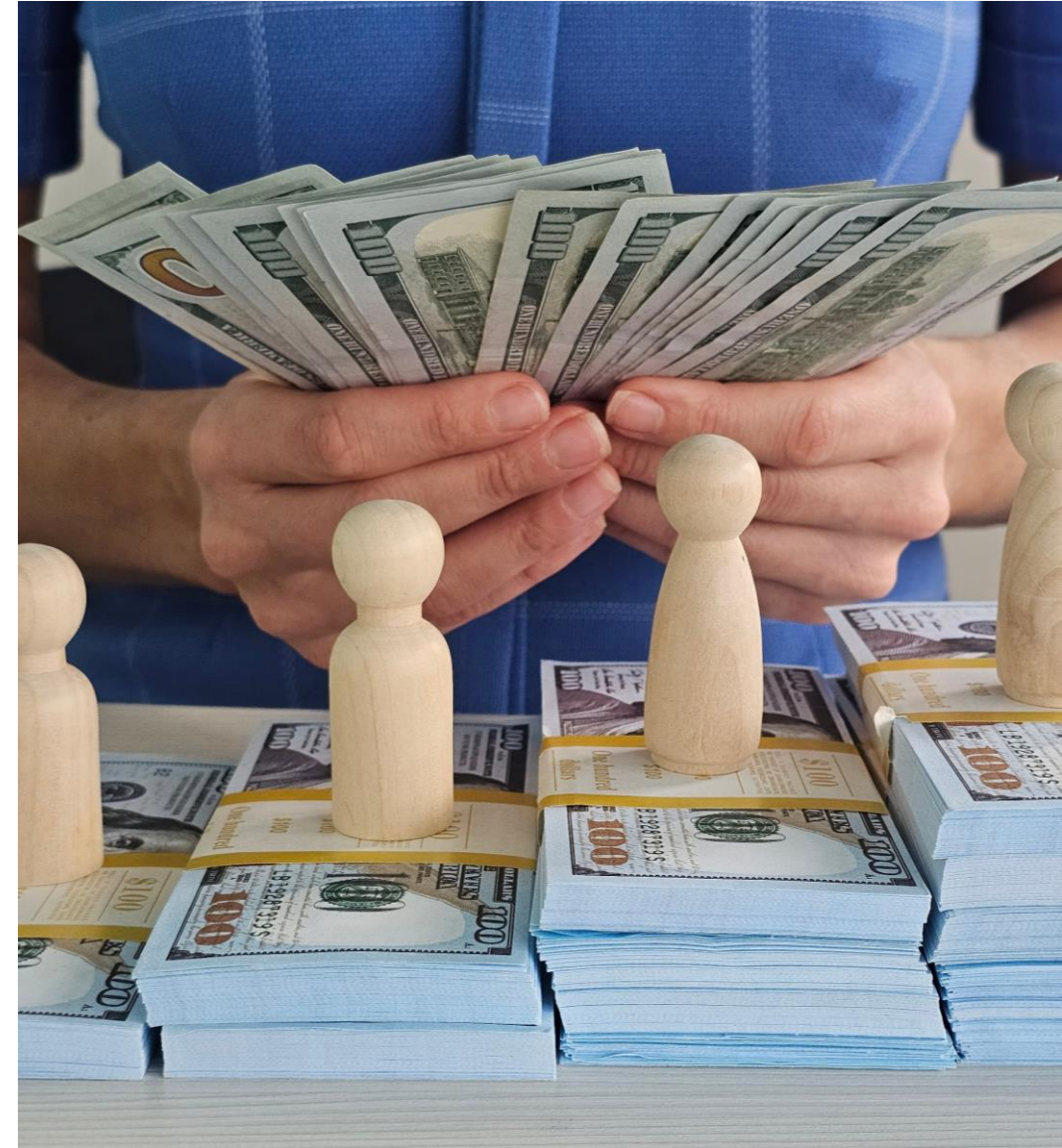
## Net Present value (NPV)

The NPV is the most used metric for companies to select projects. This can be done by either using the NPV or XNPV Functions in Excel.

## Profitability Index

The PI can be added to analysis to improve on the NPV metric. Together, the NPV and the PI can be used by companies to make informed decisions about capital allocation.

Many companies also include other metrics like the internal rate of return (IRR), payback period, and discounted payback period.



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# Capital Financing - Overview

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# 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 Investment

- 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



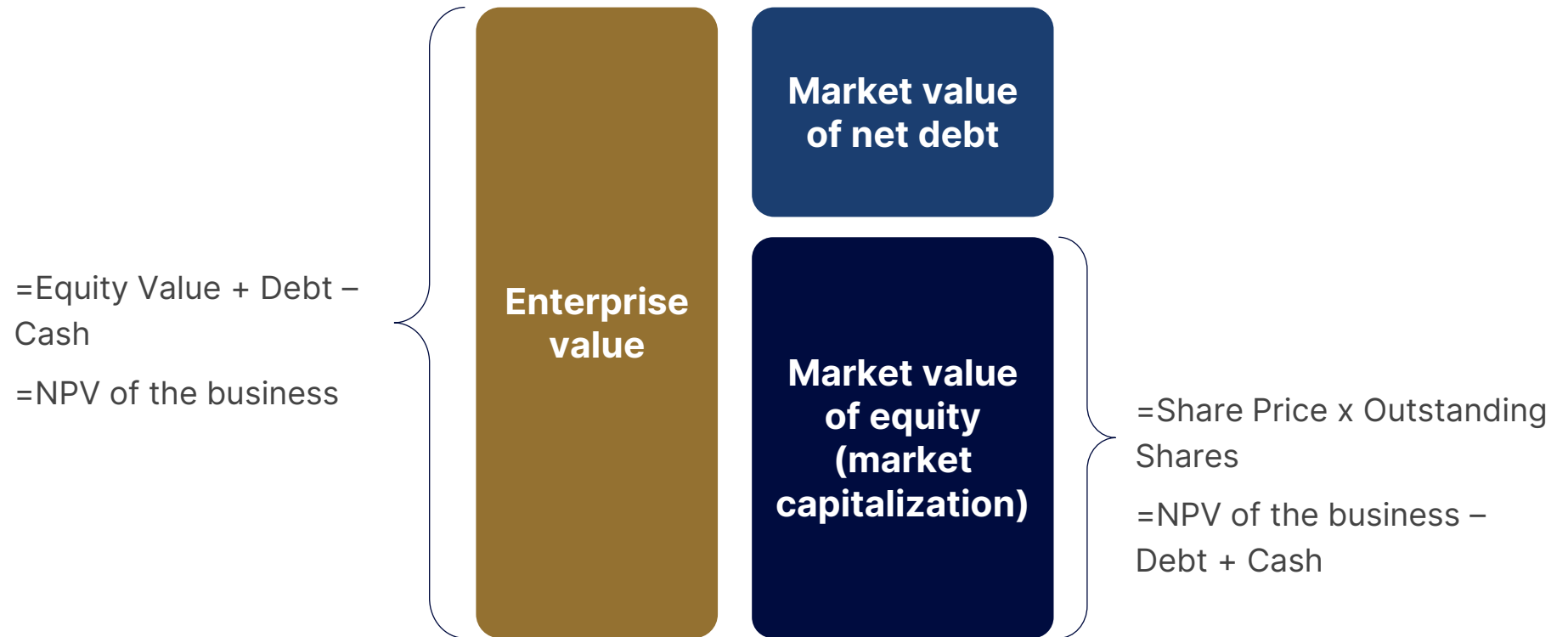
## Capital Return

- Decide how and when to return capital to investors

# 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.



# Capital Financing

Any type of funding 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)



**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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(where the money  
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# Capital Financing

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

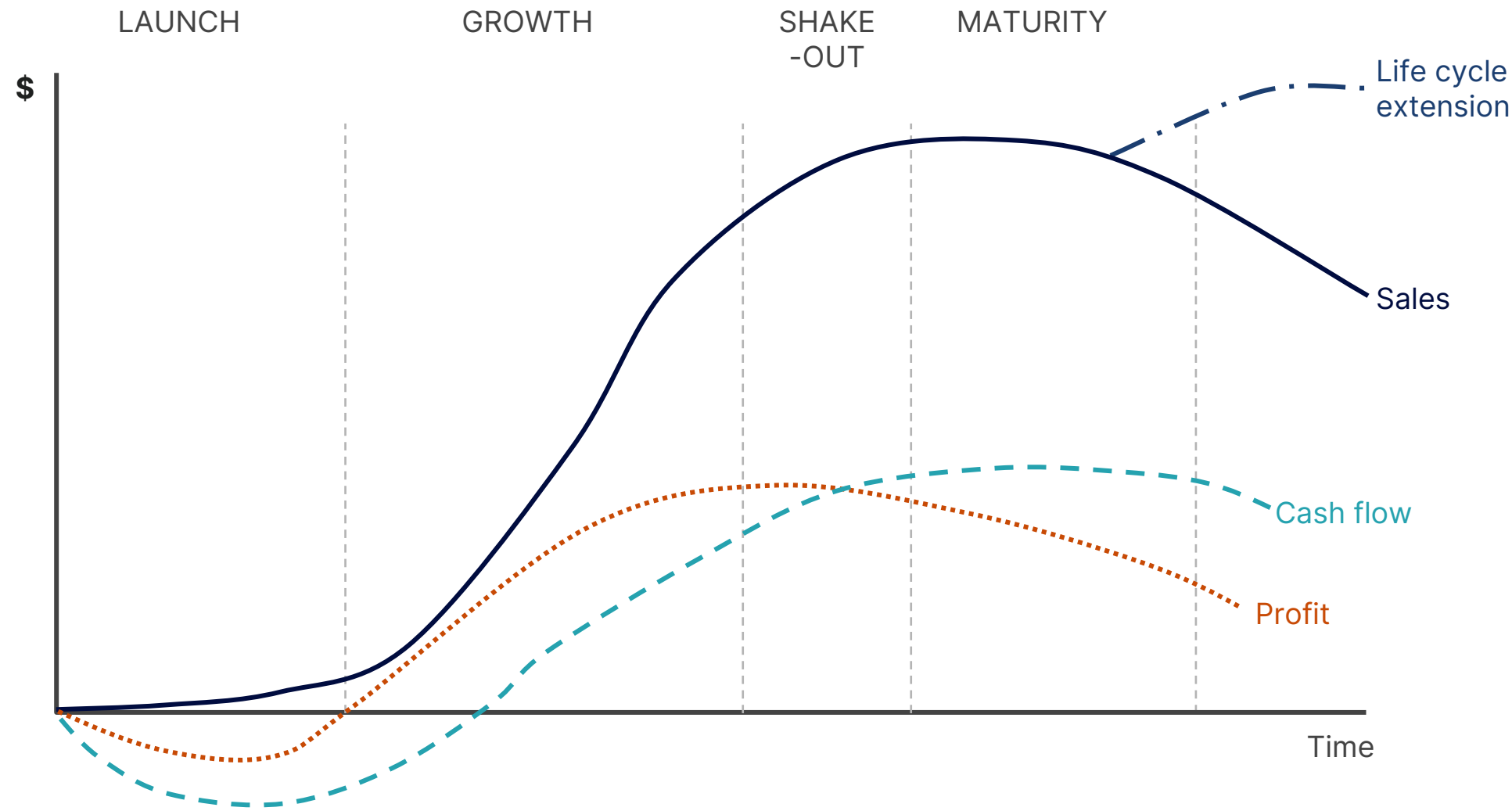
**Capital investment**  
(spending money to  
purchase assets)



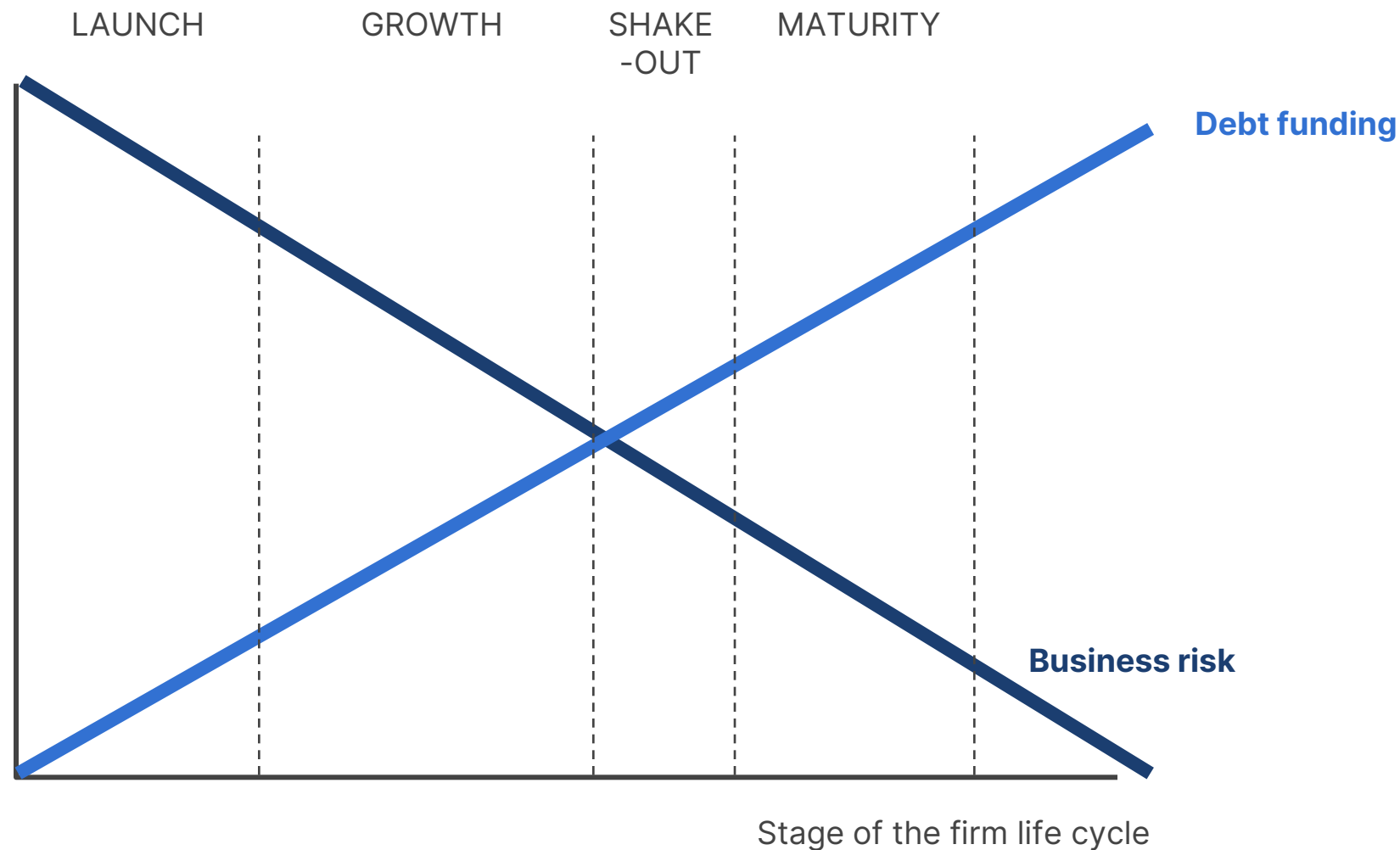
**Capital financing**  
(where the money  
comes from)



# The Business Life Cycle



# The Business Life Cycle



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# Capital Financing – Equity

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# Capital Stack

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

Senior Debt

Subordinated Debt

Equity



# Types of Equity

Senior Debt

Subordinated Debt

Equity

Pref. Shares

Higher liquidation and higher dividend priority (vs Common)

Common Shares

Last liquidation position and last dividend position

# Sources of Equity

## Private Markets

- Founders
- Venture Capital
- Private Equity

## Public Markets

- Retail
- Institutional



# Sources of Equity

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**:

## 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

## 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

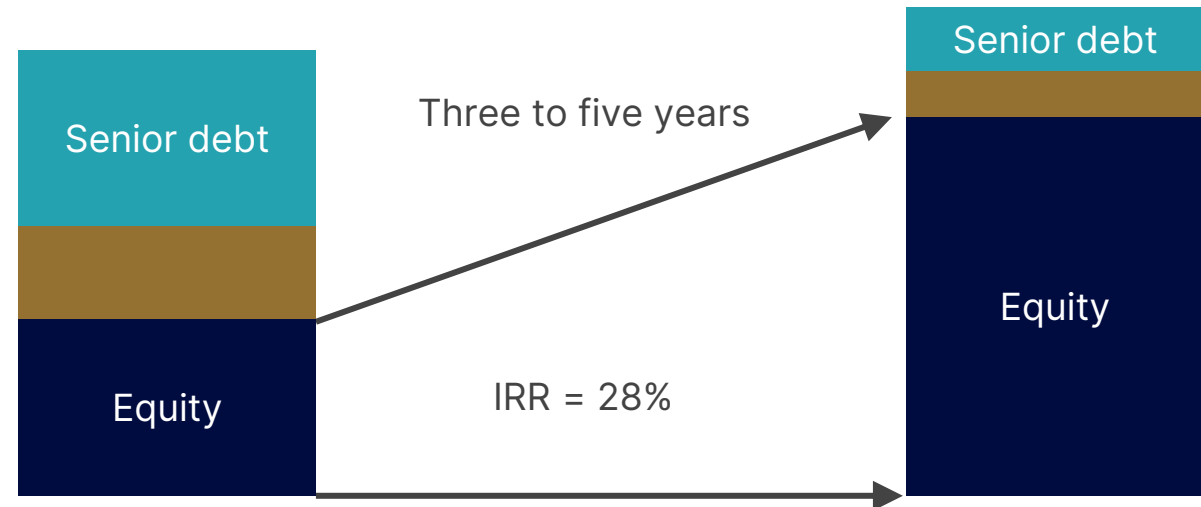
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# Capital Financing – Debt

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# Why Use Debt

**Investor** to increase their equity return.





# Accessing Debt Capacity

01

## General Measures

- Level of EBITDA
- Volatility and hence stability of EBITDA
- Capital expenditure
- Cyclicalities
- Risk
- Competition

02

## Balance Sheet Measures

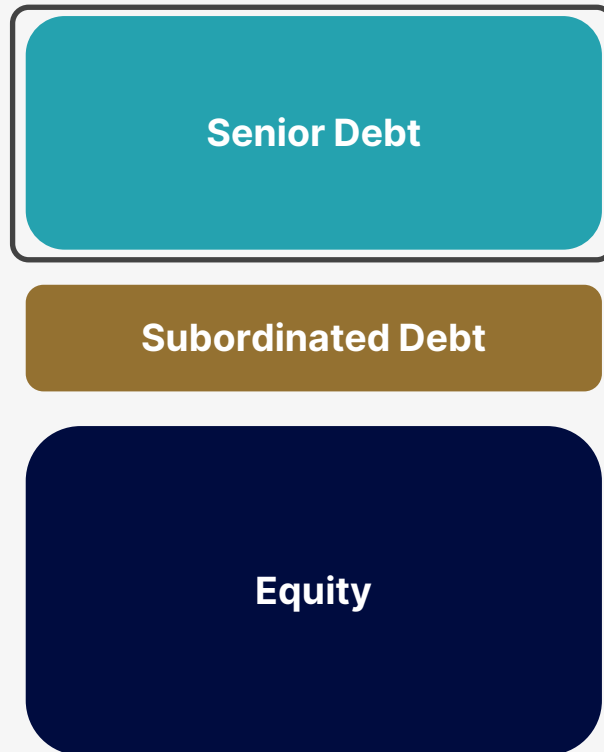
- Debt to equity
- Debt to capital
- Debt to assets, etc.

03

## Cash Flow Measures

- Total debt / EBITDA
- Senior debt / EBITDA
- Net debt / EBITDA
- $(\text{EBITDA} - \text{Capex}) / \text{Interest}$

# Senior Debt Overview



## Revolver

Revolving line of credit facility from a bank.

## Term Loans

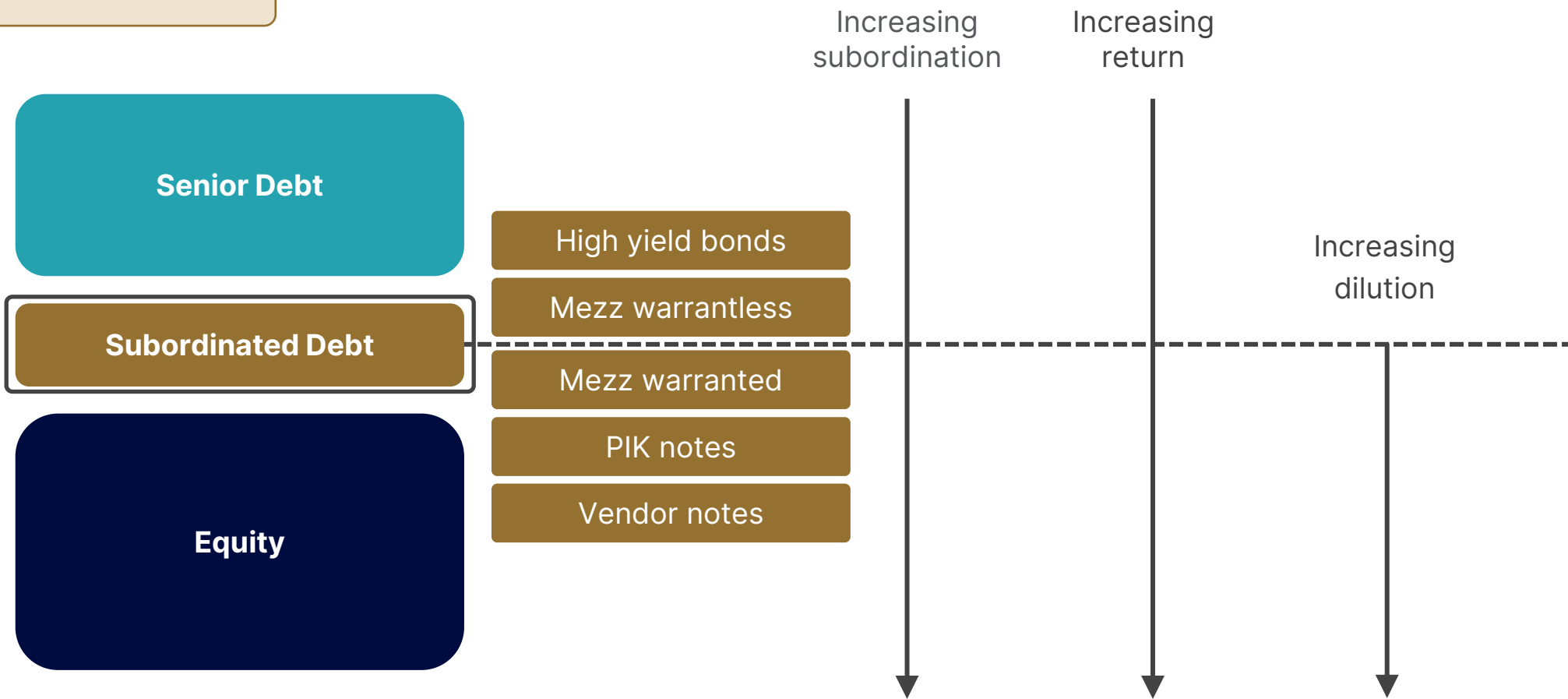
- They have a fixed schedule where they repay or are amortized and have a final principal repayment.
- Can be stacked.

## 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

**i** Subordinated debt is used to fill the funding gap.



# Credit Ratings

**Investment grade**

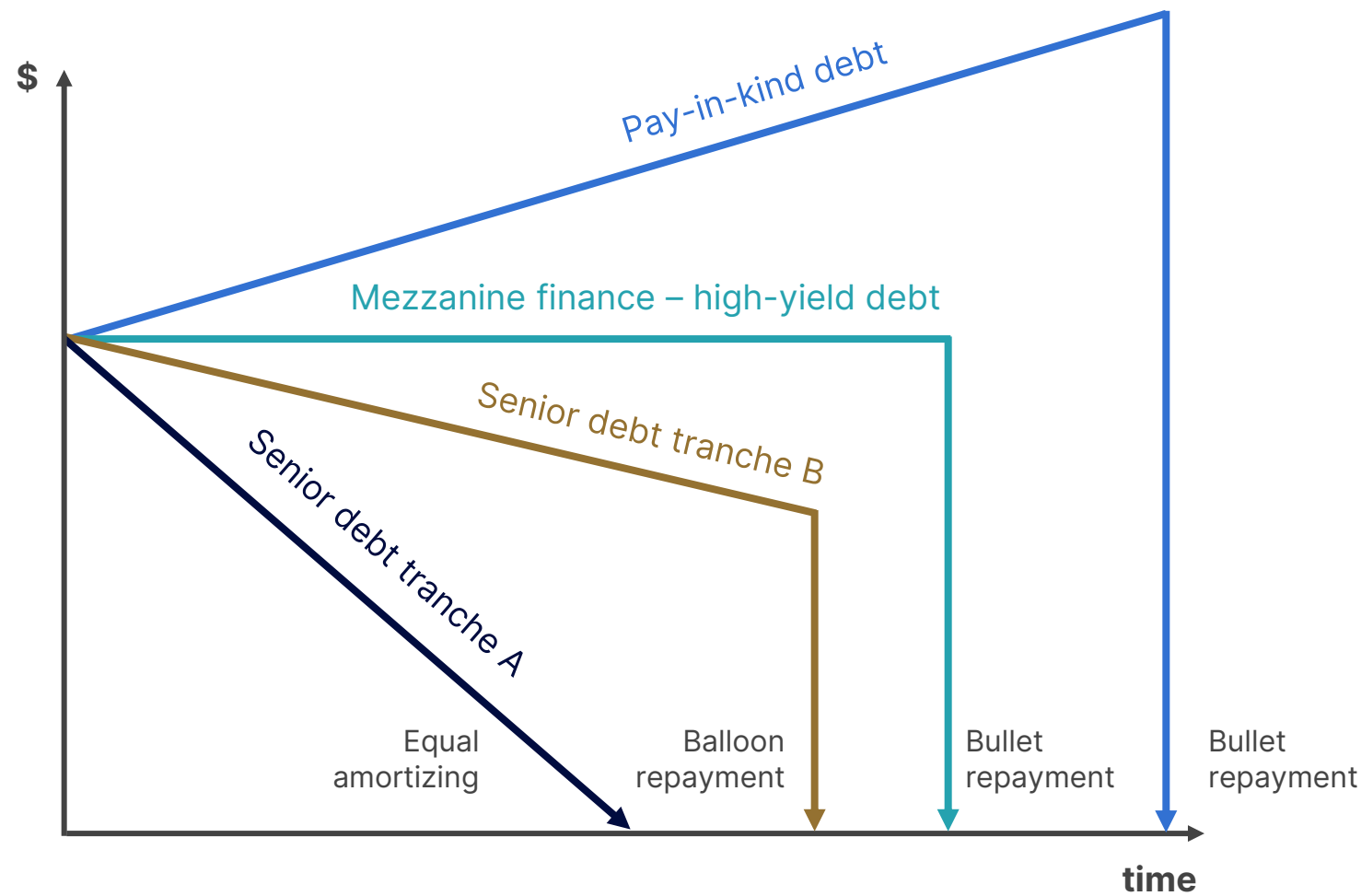
- Low risk
- Low return
- Low fees

**High yield**

- High risk
- High return
- High fees

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

# Debt Repayment Profiles



# Trade-offs Between Debt and Equity

	Equity	Debt
Pros	<ul style="list-style-type: none"><li>• No maturity dates (no capital repayment)</li><li>• Lender has ownership and a degree of control over the business</li><li>• Has voting rights (typically)</li><li>• No interest payments or mandatory fixed payments</li><li>• Provides maximum operational flexibility</li></ul>	<ul style="list-style-type: none"><li>• Has interest payments (typically)</li><li>• Often has a fixed repayment schedule</li><li>• Prevents dilution of equity</li><li>• Has a lower cost than equity</li><li>• Has first claim on the firm's assets in the event of liquidation</li></ul>
Cons	<ul style="list-style-type: none"><li>• Has a high implied cost of capital</li><li>• Expects a high rate of return (dividends and capital appreciation)</li><li>• Has last claim on the firm's assets in the event of liquidation</li></ul>	<ul style="list-style-type: none"><li>• Requires covenants and financial performance metrics that must be met</li><li>• Contains restrictions on operational flexibility</li><li>• Can push a company into default / bankruptcy</li></ul>



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# Capital Financing – Optimal Structure

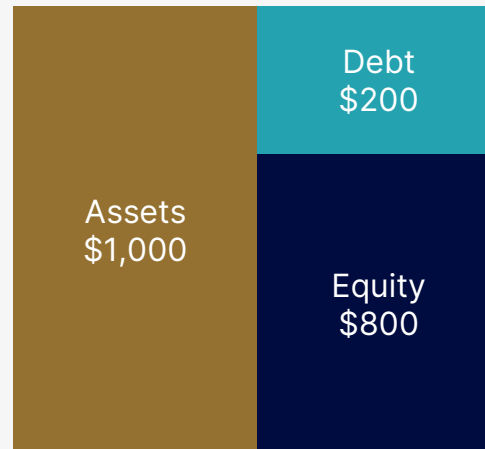
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# Capital Structure

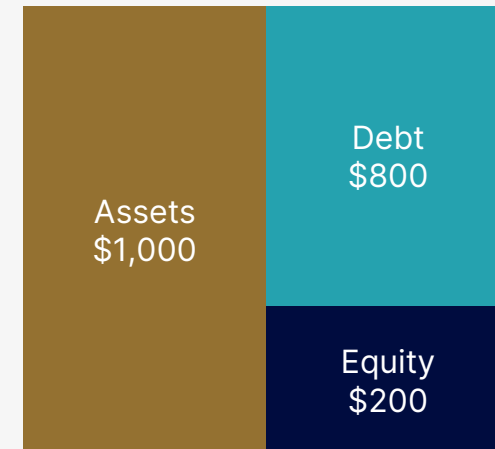
The amount of debt and/or equity a firm employs to fund its operations and finance its assets.

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



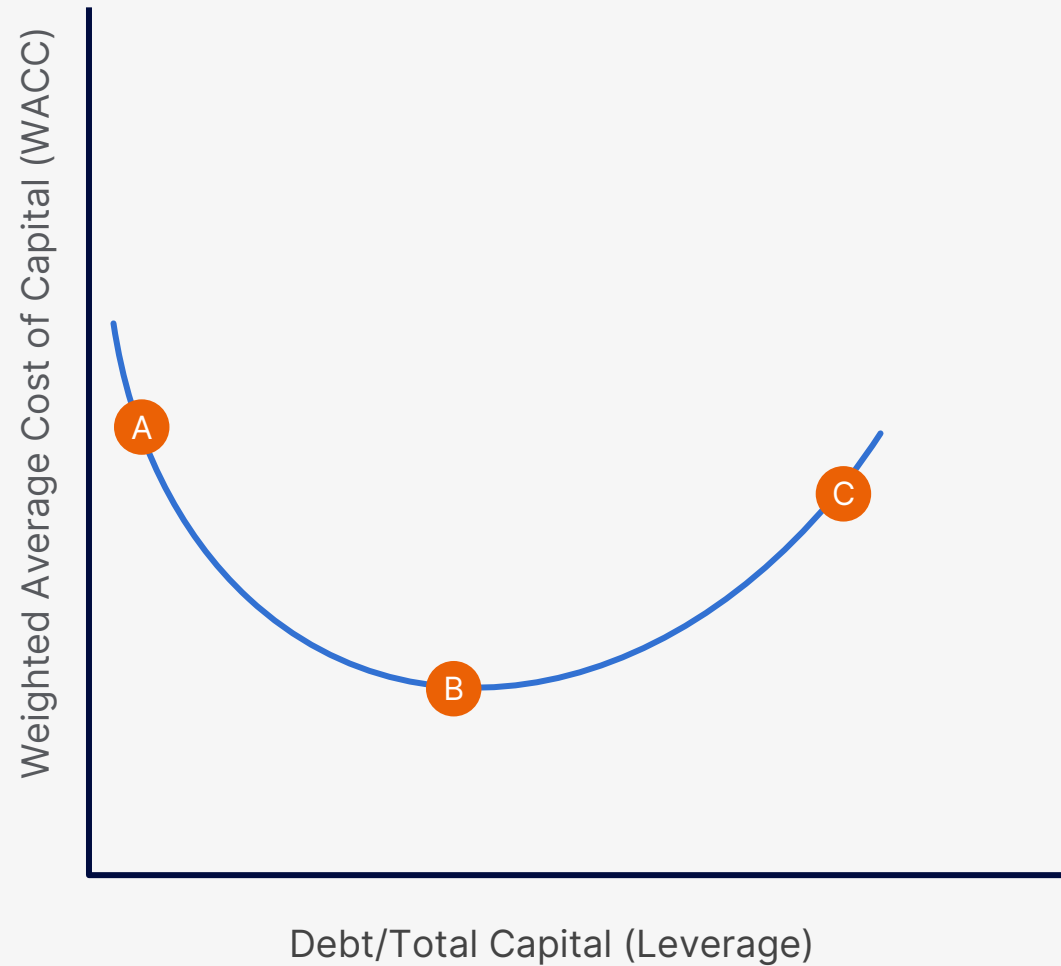
The business' life cycle stage

- **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.

This optimal capital structure occurs at the **minimum** weighted average cost of capital (WACC).



# 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

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



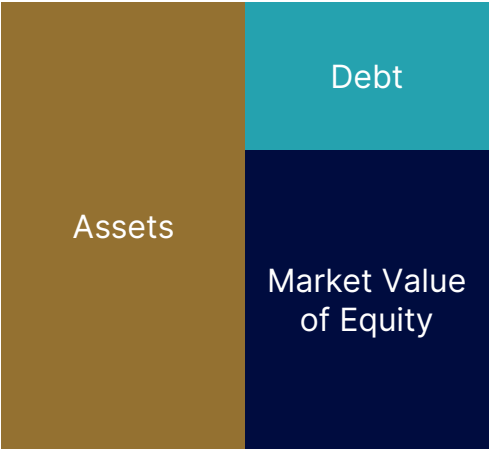
## Cost of Debt

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**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 results in **the lowest weighted average cost of capital (WACC)** for the firm.

# WACC Formula

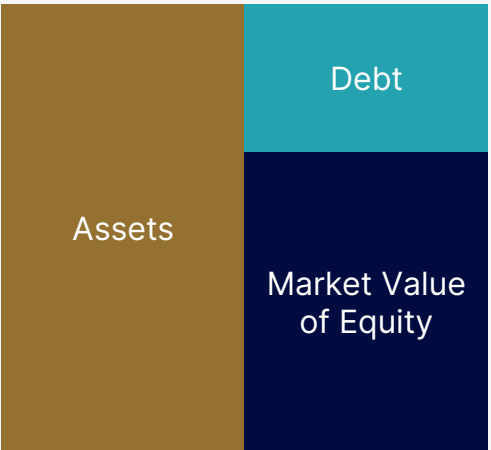


**% net debt      x      Cost of debt      =      Contribution**

**% equity      x      Cost of equity      =      Contribution**

**Cost of capital**

## Example



**14%      x      3.5%      =      0.5%**

**86%      x      9.0%      =      7.7%**

**8.2%**



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# Capital Return

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# 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 Investment

- 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



## Capital Return

- Decide how and when to return capital to investors

# Return of Capital

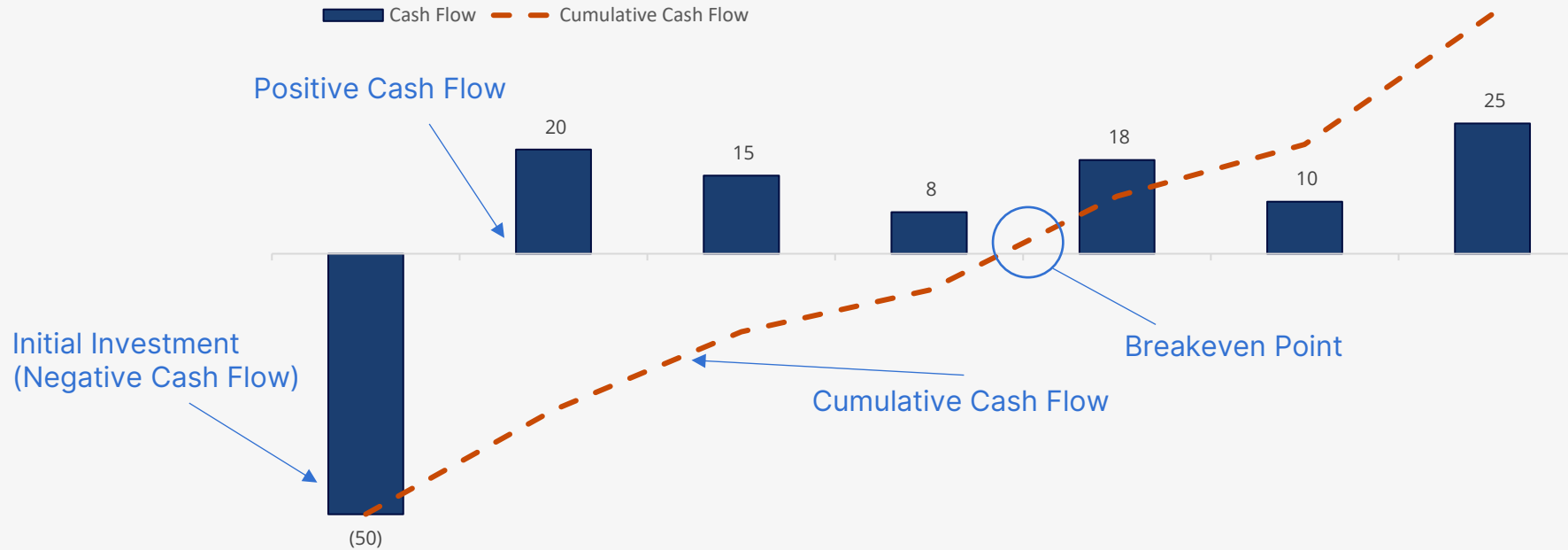
Corporate managers need to decide to:

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

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



# Internal Rate of Return



**Internal Rate of Return**

**IRR = 22%**

# Weighted Average Cost of Capital (WACC)



% net debt    **x**    Cost of debt    =    **Contribution**

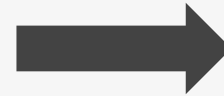
% equity    **x**    Cost of equity    =    **Contribution**

**Weighted Average Cost of Capital**  
**WACC = 28%**

# Decision

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

**Weighted Average Cost of Capital**  
**WACC = 28%**



**Return Capital**  
**(Dividend or Buyback)**

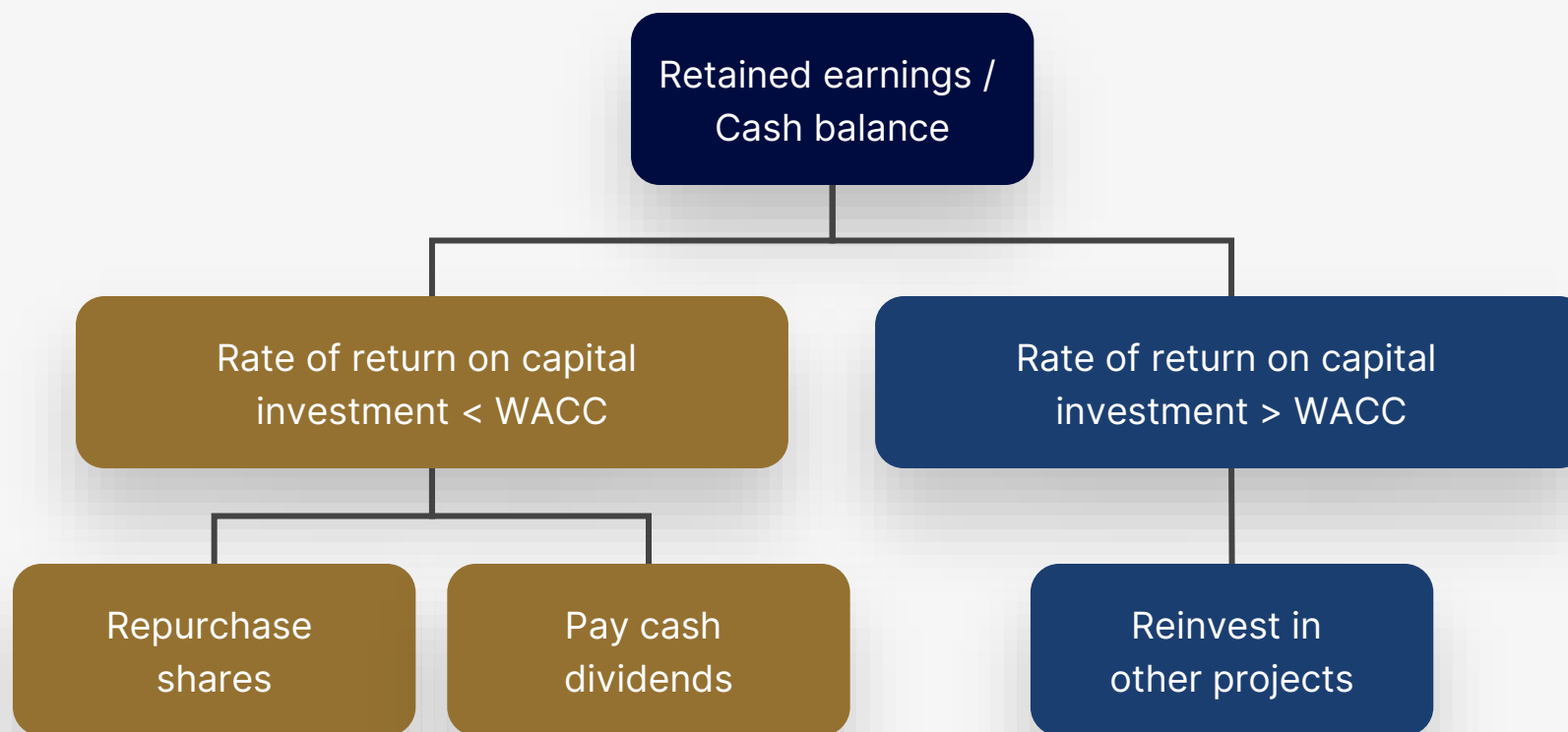
# Retained Earnings and Excess Cash

## Balance Sheet

All figures in USD thousands unless stated

	Year -2	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>ASSETS</b>								
Cash	12,847	9,365	8,410	4,385	11,496	21,001	32,951	47,622
Accounts Receivable	5,708	6,333	6,624	7,447	8,211	8,881	9,605	10,389
Inventories	1,792	1,923	2,009	1,851	1,929	2,005	2,076	2,149
Total Current Assets	20,347	17,621	17,043	13,683	21,636	31,887	44,632	60,160
Property Plant & Equipment	59,192	67,729	75,407	85,319	86,145	86,794	87,407	87,966
Total Assets	79,539	85,350	92,450	99,002	107,781	118,681	132,038	148,126
<b>LIABILITIES</b>								
Accounts Payable	3,024	3,205	3,319	2,962	3,086	3,209	3,321	3,438
Revolving Credit Line	-	-	-	-	-	-	-	-
Total Current Liabilities	3,024	3,205	3,319	2,962	3,086	3,209	3,321	3,438
Deferred Taxes	4,155	7,016	10,028	11,401	11,983	12,420	12,727	12,916
Long-Term Debt	28,000	24,000	20,000	16,000	12,000	8,000	4,000	-
Total Liabilities	35,179	34,221	33,347	30,363	27,069	23,629	20,048	16,354
<b>EQUITY</b>								
Common Equity	38,670	38,670	38,670	37,670	36,670	35,670	34,670	33,670
Retained Earnings	5,690	12,459	20,433	30,970	44,042	59,383	77,321	98,103
Total Shareholders' Equity	44,360	51,129	59,103	68,639	80,712	95,052	111,990	131,772
Total Liabilities & Equity	79,539	85,350	92,450	99,002	107,781	118,681	132,038	148,126
Check	-	-	-	-	-	-	-	-

# Retained Earnings and Excess Cash Decision Flowchart





# Dividends vs. Share Buybacks



## Dividend

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

**Share buybacks are often preferable to dividends.**

- This is partly because dividends are considered more permanent for the company.
- Also, dividends can not be turned down by the investor.
- Finally, dividends can create an additional tax burden for the investor.



## Buyback (Repurchase)

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- Reduces the number of shares outstanding
- Increases EPS from the reduction of shares outstanding

**Share buybacks are generally seen as a positive market signal.**

- This is due to the implication that the company considers the shares undervalued.
- A share buyback can also be used to alter the capital structure (less equity & thus more debt).
- A share buyback also offset the dilution caused by the issuance of stock options.

# Declaration Date

The declaration date is the date on which the board of directors announces and approves the payment of a dividend.



## Declaration Date

The declaration includes the size of the dividend being issued and outlines the Record Date and the Payment Date.

# Ex-Dividend Date

This is the first day that a stock trades without a dividend. The company does not set the ex-dividend date. It is set by the stock exchange where the company's stock is traded.



## Declaration Date

The declaration includes the size of the dividend being issued and outlines the Record Date and the Payment Date.

## Ex-Dividend Date

The ex-dividend date typically occurs up to three days before the Record Date. Purchasers of shares on or after the Ex-Dividend Date are not entitled to a dividend.

# Record Date

This is the date on which the investor must be on the company's books to receive a dividend. The record date is set by the company. When an investor purchases a stock on an exchange, it takes time for the investor's information to be updated on the company's books.



## Declaration Date

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## Ex-Dividend Date

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## Record Date

In North America, it takes about 2 business days for a trade to settle

# Payment Date

The payment date is the date on which the dividend is paid to shareholders.



## Declaration Date

The declaration includes the size of the dividend being issued and outlines the Record Date and the Payment Date.

## Ex-Dividend Date

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## Record Date

In North America, it takes about 2 business days for a trade to settle

## Payment Date

Dividend payments may be either mailed or electronically transferred to the accounts of shareholders.



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# Course Summary

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# Summary



Understand what capital investment is and why it increases a company's assets.



Learn common metrics used by companies to evaluate various investments.



Learn the business life cycle and how it impacts the funding life cycle.



Understand the types & sources of equity & debt available to companies.



Learn how to minimize a company's weighted average cost of capital (WACC).



Understand the advantages & disadvantages of the different ways a company can return capital.