Nature of assets (real vs financial)

- Investment decisions involve management of REAL assets
- Financial and dividend involve management of FINANCIAL assets
- Assets can be divided into
  - Real assets: can be put to productive use to generate a return (e.g. machinery, equipment) - tangible or intangible
  - Financial assets: represent a claim to a series of cash flows against an economic unit

Market value balance sheet

From accounting: $A = D + E$

where,

A is market value of firm's assets

D is market value of firm's debts

E is market value of equity (known as ***market capitalisation***)

NOTE: Typically LHS is focused on REAL assets and RHS is focused on FINANCIAL assets

$\implies$ financial manager (particularly CFO) needs to determine best way to make corporate finance decisions; needs a goal

Corporate objective of a public company

- Goal of financial manager: ***maximise shareholder wealth*** → maximise the ***market value*** of company's existing shares
- Shareholder wealth is current market value of shareholder's investment in the firm - the ***equity***
- WHY? Shareholders are owners of public companies and provide risk capital
- Shareholders are arguably the most vulnerable stakeholder: they are "residual claimers"
  - e.g. in bankruptcy, shareholders are last to be repaid

Maximising shareholder's wealth

What financial managers do to max shareholder value?

objective + valuation ⇒ decisions

- Objective: use every opportunity to increase shareholder wealth
- Valuation: only invest in a project when the project's return > minimum return required by investors in financial markets
- Stock price should increase if the proposed project offers higher return than what shareholders can earn elsewhere in the financial market (i.e. minimum return required by investors)

📌 ***Maximising profit $\neq$ maximising shareholder wealth***
Profit is an accounting concept: revenue - cost

- Usually measured over short term (e.g. annual, semi-annual, quarterly)
- Profits are subject to manipulation or opinions
  - Methods for depreciation
  - Expenditure vs capitalisation could have an impact on accounting figures but not necessarily on cash flows
  - Earnings management

Agency problem

- Management has little incentive to work in the best interests of shareholders
  - For large companies, ownership of firm is spread over many shareholders - who are not necessarily manager
  - Managers control working capital (i.e. day-to-day decisions) of the firm
  - Implies, owners have little control over management
  - Known as ***separation of ownership and control***
- ***Agency problem*** **-** when managers (agents) act in their own self-interest rather than best interest of shareholders (principal)
- ***Agency costs*** - cost of conflict of interest between owners and management

📌 **EXAMPLE: Agency problem**

- Reduction of managerial effort
- Inefficient investment policies
  - Over-investment
  - Under-investment
- Extraction of resources:
  - Excessive monetary rewards & perks
- Earnings manipulation/"creative" accounting

Minimising agency costs

Corporate governance practices can help mitigate agency conflicts:

1. ***Aligning interests*** of management and shareholders
   - BOD represents shareholders' interest in major company decisions (e.g. board can hire/fire CEO)
2. ***Management compensation*** can be tied to firm performance (e.g. stocks, bonus)
   - However, can lead to undue risk and illegal behaviours by managers
3. ***Managerial labour market pressure***: poor managers may find it difficult to find another job

4. Managers inside the firm compete for promotion
5. ***Large shareholders to actively monitor the firm***
6. ***Shareholder approval***: target shareholders must approve many major actions taken by board
7. ***Hostile takeover***
    - Low stock prices may entice a ***corporate raider*** to buy enough stock to have enough control to replace current management
    - Stock price will rise after new management team "fixes" the company
8. Regulations Sarbanes-Oxley (US) and Corporate Law Economic Reform Program (Audit Reform and Corporate Disclosure) Act 2004 (CLERP 9)
    - Created in response to major corporate scandals (Enron, WorldCom)
    - Set of requirements for company boards, management and public accounting firms
    - Require greater board and auditor independence
    - Firms must establish internal accounting controls
    - Promote ethical and responsible decision-making
    - Expand audit committee's oversight powers
    - Enhanced disclosure and accountability to shareholders
9. Other monitors
    - Security analysts - produce independent valuations of the firm's they monitor to provide buy and sell recommendations to clients
    - Lenders - monitor whether they are able to meet obligations
        - however, interests are not aligned with stockholders because lenders aim to primarily minimise risk (even at expense of positive NPV projects)
    - SEC - protects investors against fraud and stock price manipulation
    - Employees within the firm itself
        - likely to detect due to inside knowledge
        - however, may not report due to fear of retribution from "blowing the whistle"

Risk averaging occurs when two perfectly positively correlated securities are combined

Risk reduction occurs by combining securities whose returns are less than perfectly positively correlated

7.3 Types of risk and diversification

Types of risk

Total risk = unsystematic risk + systematic risk

Unsystematic risk

- Unsystematic risk, also known as 'diversifiable risk', can be eliminated to a large extent through portfolio diversification
- This is the firm-specific risk due to such factors as management's actions, supply of raw materials, employee relations, regulations, etc
- more investment in a portfolio → reduces unsystematic risk

Systematic risk

- Also known as 'undiversifiable risk' or 'market risk' because it cannot be reduced through the inclusion of more securities in a portfolio
- That part of the variance is caused by factors influencing the market. Examples of such factors are changes in GNP, interest rates, consumer expectations, purchasing power, etc
  - recession is a systematic risk shock → affects all stocks to an extent
- systematic risk is measured by β - beta

Common versus independent risk

Diversification: *averaging or reducing risk by creating portfolio that includes multiple investments*

- reduces unsystematic risks

What RISK does diversification reduce?

- ***Independent risk*** *is about risks that share no correlation*
  - e.g. each risk of theft is independent
- ***Common risk*** *is risk that is perfectly correlated*
  - e.g. insurance policies on homes in the same area for an earthquake
  - cannot eliminate this risk

Limits to diversification

General principles

- As the number of assets in the portfolio increases, the portfolio variance will decrease
- In a portfolio of many assets, the risk of the portfolio depends upon the covariance between each pair of assets and not on the variances of each individual asset $\implies$ thus, risk reduction benefits of diversification are maximised by constructing portfolios from assets that have the ***lowest possible pairwise correlation***
- However, it does not decrease down to zero - there is some risk that cannot be diversified away

- Market participants base their expectations on information
- Prices respond to ***changes in expectations*** → arise from ***new*** information
    - Asset prices change as new information arrives

The Efficient Market Hypothesis (EMH)

Nobel Laureate Eugene Fama defines EMH as follows:

> ***'In an efficient market, security prices fully reflect all available information'***

Two components:

- ***Informational efficiency*** *- the degree of informational efficiency depends on*
    1. the type of information reflected
    2. the speed with which new information is reflected
- ***Market rationality***

Types of information

Historical *trading data (e.g. past prices and volumes)*

Publicly *available information*

- financial statements, announcements, news

Private *information*

- ***private assessment*** *of public information but not known to the public*
    - e.g. analyst reports, private research
- ***inside information*** *known to people working for a company but not yet made public*
    - e.g. auditor's knowledge of a company's most recent earnings report that has not yet been released to the public

Market efficiency - how?

Investors analyse and uncover information related to assets that they follow and forecast the future CFs and value of these assets

Information gathering is motivated by the ***desire for higher investment returns***

The act of trading on the basis of this information and analysis has two important consequences:

1. First investors to trade make a profit
2. Trading process causes security prices to reflect the information uncovered by market participants

Investors' trading activities cause prices to be efficient

12.3 Forms of market efficiency

Forms of market efficiency

Fama (1970) identified three broad levels of market efficiency based on the **type of information** that is impounded in prices

The most common test of semi-strong form efficiency is an ***event study*** which examines the behaviour of prices around information events or announcements

- purpose - to analyse how quickly news information is reflected in share prices and the returns possible to an investors

A large number of academic studies find that the equity market in the US is ***semi-strong form efficient***

Tests of strong form efficiency

Is it possible to trade on private information and generate a ***systematic profit?***

If a market is ***strong form efficient***, even inside trading will not yield any abnormal returns as this ***private information*** would already be reflected in share prices:

a. fund managers or individuals are unable to consistently outperform
b. corporate insides are unable to consistently make trading profits

Insider trading *where trader unfairly benefits from nonpublic info is illegal in Australia*

It has been suggested that some professional fund managers have access to better (or private) information and may be able to profit by trading on this information before it becomes public

If a market is ***strong form efficient***: all information is already reflected in current asset prices

Impossible to consistent outperform the market and earn long-term abnormal returns

12.5 Market anomalies and behavioural finance

EMH and passive investing

EMH: market prices reflect all available information

- Difficult to make systematic trading profits using information to “beat the market” in the long term

EMH supports the passive investing approach: investors should hold a well-diversified market portfolio based on the portfolio and CAPM theory

- index funds are passively-managed funds that track and invest in a particular benchmark index

Market anomalies

Although most studies have concluded that the ASX is at least semi-strong form efficient, a substantial body of academic literature suggest otherwise

The existence of these ***“anomalies”*** is contrary to the EMH - these studies are based on repeated patterns or behaviour in stock price movements

Anomalies allow the prediction of future returns using these known patterns

Other anomalies uncovered in markets include:

- ‘Day-of-the-week’ effect: returns on Mondays are often lower than other days of the same week
- ‘January’ effect: higher stock prices in January than other months of the year
- Size effect: buy small stocks and sell large stocks
- Book-to-market effect: buy stocks with high B/M ratio and sell stocks with low B/M ratio