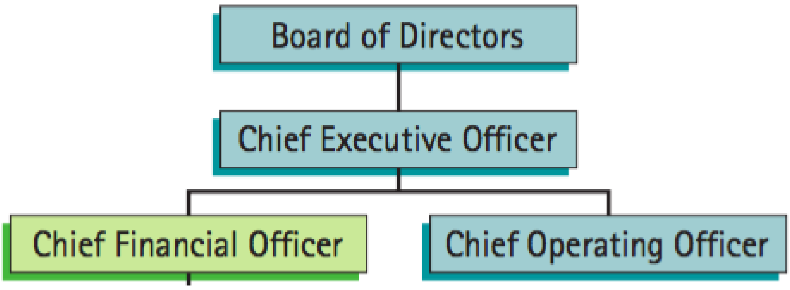
FINS1613 – Business Finance

Introduction

Definitions

- Ownership: the right to share in a firm's profits
- Control: the right to directly manage or elect management of a firm
- Personal liability: the responsibility to pay a firm's financial obligations using personal assets when the firm cannot
- Limited liability: a limit that the owner can only lose the value of their investment when the firm cannot pay its financial obligations
- Sole trader – businesses cease existence with death or withdrawal of the sole trader
- Partnership – businesses cease to exist with death or withdrawal of a single general partner unless other provisions are made
- Limited liability partnership – a partnership without a general partner
- Corporations – is its own legal entity (distinct from the owners) i.e. separation between ownership and management
    - Agency costs: when an employee takes an action that serves their own interests instead of maximising firm value



    - Board of directors
        - Elected by the firm's owners
        - Monitors firm and sets high level strategy
        - Hires the CEO
    - CEO
        - Everyday manager of firm
        - Implements rules and policies set by board of directors
        - Advised by high level executives
    - CFO
        - Evaluates investment decisions e.g. choosing which projects to pursue
        - Evaluates financing decisions e.g. raising capital and distributing profits

Corporations vs. partnerships and sole traders

Advantages	Disadvantages
• Limited liability for the owners • Business continues operation when ownership changes	• Agency costs between owners and management • Taxation

A comparison of ownerships

Type of owner	Sole trader / proprietorships	Partnership – general partner	Limited partnership – general partner	Limited partnership – limited partner	Corporation shareholder
Number	1	Several	1 or more	Several	Many
Control	Yes	Yes	Yes	No	Yes
Liability	Personal	Personal	Personal	Limited	Limited
Taxation	Personal	Personal	Personal	Personal	Corporate/personal (dependent on tax system)

Financial Mathematics

Time Value of Money

Definitions

- Time value of money: the difference in value between money today and money in the future
- Compounding: calculating the equivalent future value of a cash flow
    - Assumption: interest is always kept in the account
- Discounting: calculating the present value of a cash flow in the future

Net Present Value, Interest Rates

Interest rates

- Annual Percentage Rate (APR): a simplified way to quote interest rate i.e. simple interest
- Effective Annual Rate (EAR): the total amount of interest that will be earned at the end of one year with compounding

Valuating a stream of cash flows

- Sequential approach: move cash flows one period at a time, computing the total value of cash flows already considered
- Reference time approach: compute the value of each individual cash flow at the reference time. Add these together to get the total value
- Time-t value: a value found by moving all cash flows to time t and taking the sum
- Present value: the value found at the implied reference point of a problem, time t=0

Annuities (discount rate *r* is +ve)

- Annuity: a <u>stream of cash flows</u> arriving at <u>regular intervals</u> over a <u>specified time period</u>
- Constant annuity: a stream of <u>specified number</u> of <u>equal</u> cash flows that occurs at regular intervals
- Growing annuity: a stream of specified number of equal cash flows that occurs at regular intervals. The initial cash flow is C and all subsequent cash flows <u>grow at a rate g per period</u>

Perpetuities (discount rate *r* is +ve, g<r)

- Perpetuity: a stream of cash flows that occur at <u>regular intervals</u> and <u>makes payments forever</u>

- Constant perpetuity: a stream of equal cash flows that occurs at regular intervals and lasts forever
- Growing perpetuity: a stream of cash flows that occurs at regular intervals and lasts forever. The initial cash flow is C and all subsequent cash flows grow at a rate g per period

The Law of One Price

- If equivalent investment opportunities trade simultaneously in different competitive markets, then they must trade for the same price in both markets
- Prices respond to supply and demand (↑D, ↑P)
- Arbitrage: an opportunity to make a profit without taking any risks
- Arbitrages cannot exist in financial markets for long periods of time
- Key implications when valuing cash flows
    - Scaling cash flows
    - Adding/subtracting cash flows
    - Delaying/accelerating cash flows

Valuing Firms & Projects

Capital Structure

Capital structure (V=D+E)

- The relative proportions of debt, equity and other securities that a firm has outstanding
- Common types of securities
    - Bonds (debt)
    - Ordinary shares (equity)
    - Preference shares (equity)

Debt

- When a corporation (or govt) wishes to borrow money from the public on a long term basis (>1 year), it usually does so by selling bonds
- Govt bonds (Aus Treasury) – considered "risk free"
- Corporate bonds – considered risky → the greater the default risk, the higher the interest rate

Equity

- Equity financing includes ordinary shares (common stock) and preference shares (preferred stock)
- Ordinary shares: equity without priority for dividends; in bankruptcy it has a residual claim on the assets of the firm e.g. WOW
- Preference shares: share with dividend priority over ordinary shares, normally with a fixed dividend rate, sometimes without voting rates e.g. ANZPA

Bonds

Definitions

- Coupon: the promised interest payments of a bond, paid periodically until the maturity date of the bond