INVE3001 Portfolio Management

Mid Semester Exam and Final Exam Notes

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<u>Sources</u>

Text book: Principles of Investment

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Chapter 1 – Elements of Investment

Real vs Financial Assets

Investment: commitment of current resources in the expectation of deriving greater resources in the future

- Real asset: assets used to produce goods and services. E.g. land, buildings, equipment and knowledge
- Financial asset: claims on real assets or the income generated by them. E.g. shares and bonds

Types of Financial Assets

1. Debt/Fixed Income Securities: a financial asset that pays a specified cash flow over a specific period
    a. Bonds
2. Equity: ownership share in a corporation
    a. Ordinary shares
    b. Preference shares
3. Derivative Securities: securities providing payoffs that depend on the values of other assets
    a. Options
    b. Futures
    c. Forwards

Role of Financial Markets in the Economy

1. Capital allocation: investors choose where to put their money – performing companies
2. Consumption timing: when earning a higher wage you can invest spare funds, if short on cash can sell those assets
3. Allocation of risk: investors that are more tolerant to risk will invest in riskier assets.
4. Separation of ownership and management: large firms require it. Want to avoid agency problems: conflicts of interest between managers and shareholders.

Investment Process

Asset allocation: allocation of an investment portfolio across broad asset classes

Security selection: choice of specific securities within each asset class

Higher risk means a potential higher return

Main Participants

1. Firms: net borrowers, raise capital to pay for investments, income returned to investors.
2. Householders: net savers, purchase securities issued by firms.
3. Governments: borrowers or lenders depending on government spending/saving.

Financial Intermediaries

- Institutions that connect borrowers and lenders by accepting funds from lenders and loaning funds to borrowers.

- Investment managers: firms that invest funds for individual investors
- Investment bankers: firms specialising in the sale of new securities to the public, usually by underwriting the issue

Chapter 2 – Asset Classes and Financial Instruments

Money Market

- A subsector of debt market.
- Includes short term, highly liquid and relatively low risk debt instruments
- Instruments that trad in the money market:
  1. Certificates of deposit: a term deposit with a bank
  2. Bank accepted bills: a short term debt instrument guaranteed by a bank
  3. Commercial paper: short term unsecured debt issued by large corporations
  4. Treasury notes: short term government securities issued at a discount from face value
  5. Repos and reverses: short term sales of high grade securities with an agreement to repurchase the securities at a higher price
  6. Libor market rate: lending rate among banks in the London market

Bond Market (more covered in Ch 9)

- Long term debt securities bought and sold by large institutions.
- Coupon: fixed, periodic payment from a bond
- Types of bonds:
  1. Government bond (treasury bond): debt obligations of the Australian government with varying original maturities
  2. International bond
  3. Corporate bond: long term debt issued by private corporations typically paying semi-annual coupons and returning the face value of the bond at maturity
  4. Mortgages and mortgage backed securities

Equity Market

Types of shares:

1. Ordinary shares: ownership shares in a publicly listed corporation. Shareholders have voting rights and may receive dividends.
2. Preferred shares: shares in a corporation usually paying a fixed stream of dividends

Derivative Markets

Types of derivatives:

1. Options:
   - Call option: right to buy an asset at a specified price on or before a specified expiration date
   - Put option: right to sell an asset at a specified price on or before a specified expiration date
2. Futures: standardised agreement to buy or sell an asset at a specified time and price in the future
3. Contracts for difference: derivative that can be bought or sold by small investors

Chapter 3 - Securities markets

Issuing Securities

1. Primary market
   - Creating and selling new securities
   - Issued to the public/limited number investors (depending on public/private company)
   - Company issuing securities receives proceeds from sale
2. Secondary market
   - Resale of shares issued in the primary market
   - Issuing company does not receive proceeds and is not involved
3. Private Placement
   - Raising capital by offering shares to specific investors
   - Few regulatory requirements (e.g. may not require prospectus)
   - Potential for ownership dilution
   - Dominated by institutions
   - Active market for debt securities, not active for share offerings
4. Initial public offerings
   - First sale of stock by a formerly private company
   - Prospectus issued – a description of the firm and the security it is issuing.

Trading Securities

Functions of financial markets:

- Purpose: facilitate low cost investment
- Bring together buyers and sellers at low cost
- Provide liquidity by minimising time and cost
- Set and update prices of financial assets
- Reduce information costs associated with investing

Types of secondary markets

1. Dealer market: markets in which traders specialise in particular assets, buy and sell for their own accounts
   - When trading activity increases for a particular type of asset, dealer market increases because the dealers specialise in various assets then purchase these assets and sell them later at a profit. Profit equals difference between bid and ask price. Over The Counter (OTC) markets e.g. money market is an example of dealer market.
2. Auction market: a market where all traders meet at one place to buy or sell an asset
   - All traders converge at one place (physically/electronically) to buy or sell an asset. ASX is example of auction market. Beneficial over dealer market because do not need to search for best price.

Types of Orders

When transacting in the secondary market (buying and selling securities), participants have two methods for executing an order, they are:

1. Market orders: execute immediately at the best current market price

2. Price contingent orders: order to buy or sell at specified price or better
    a. Stop loss order: order to sell when price decreases to a certain amount. To avoid further losses.
    b. Stop buy order: order that a stock should be bought when its price rises above a limit.

Transaction Costs

- Total costs when buying/selling financial assets.
- Can affect return on investment
- Types of costs:
    - Implicit: less transparent, difficult to know in advance, e.g. bid/ask spread, market impact (when large transaction moves the price of a financial asset).
    - Explicit: transparent, known in advance, e.g. brokerage costs.

Margin Trading

- When an investor does not have enough cash
- Investor borrows money through line of credit and invests cash in large amount of shares, called margin loan.
- Uses leverage to make gains
- Margin = amount contributed by the investor to purchase the investment
- Margin changes daily as value of investment changes because shares are collateral on line of credit
- Margin call = request to a borrower to increase the amount of collateral/equity held against a margin loan
- Example:

Initial conditions

X Corp Share price = $70
50% Initial margin
40% Maintenance margin
1000 Shares purchased

Initial position			
Share	$70 000 *($70 x 1,000)*	Borrowed	$35 000 *(70,000 * .5)*
		Equity	$35 000 *(70,000 * .5)*

Share price falls to $60 per share

New Position			
Share	$60 000 *($60 x 1,000)*	Borrowed	$35 000
		Equity	$25 000

- Now, shares worth $60,000 and borrowed amount still $35 000 therefore equity total is now $25 000
- Also means, margin% = $25 000 equity / $60 000 total = **41.67%**

Question: How far can the stock price fall before a margin call? (Minimum Maintenance Margin = 40%)

Market value = Borrowed / (1 – Maintenance Margin)

- Therefore, market value = $35 000 / (1 – 0.40) = $58 333
- With 1000 shares, the stock price at which we receive a margin call is $58 333 / 1000 = $58.33 per share.

New position			
Stock	$60 000	Borrowed	$35 000
		Equity	$23 333 *(58,333 – 35,000)*

Equity of $23 333 is obtained by, $58 333 new market value – borrowed amount of $35 000

- Therefore, % Margin = $23 333 / $58 333 = 40%

Question: How much cash must you put up to restore the Initial Margin Rate?

Equity = 0.50 x $58,333 = $29,167
Already have equity of $23,333; therefore need to add $5,834 to total $29,167.

Short Sales

- Instead of buying, then selling, people can do the opposite with short sale.
- Investor sells a borrowed asset, then purchases a cheaper asset to replace the asset originally borrowed
- Allows investors to profit from a decline in a security's price. Only makes profit if the price of the security falls as anticipated.
- When buying back the asset, the dividends paid also go to the lender