

# FINS1612

## Week 1

### Financial system

- encourages accumulated savings that are then available for investment within an economy
- a modern financial system comprises *financial institutions*, *financial instruments* and *markets*

### A financial system has:

**Money** - a medium of exchange

**Markets** - facilitate exchange of goods and services

**Surplus units(come in)** - (provide of funds) savers of funds available for lending

**Deficit units(out)** - Users/borrowers of funds for capital investment and consumption

### Financial instrument

- issued by a party raising funds, acknowledging a financial commitment and entitling the holder to specified future cash flows
- incorporate attributes of risk, return(yield), liquidity and time pattern of cash flows
- Savers are able to satisfy their own personal preferences by choosing various combinations of these attributes

**Flow of funds** - movement of fund through the financial system between savers and borrowers

*A stable financial system is characterised by the smooth flow of funds.*

### Global financial crisis (GFC)

#### 3 key points:

1.American    2.2007-2008    3.Housing sector

- GFC had a significant effect on *financial systems and the real economies of many countries* and *highlighted the interconnectedness* of the world's financial market

### Financial Institution categories:

#### 1. Depository institutions 委托公司

- e.g. commercial banks, building societies, credit unions
- specialise in gathering savings in the form of deposits and using those funds in the provision of loans to customers.

#### 2. Investment banks

- specialise in the provision of advisory services 咨询服务 to clients
- (e.g. merger and acquisition advice)

#### 3. Contractual savings institutions 契约性机构

- e.g. *insurance offices* 保险 and *superannuation funds* 养老金
- enter into contracts in which they receive funds on the undertaking that they will pay a policy holder, or member of a fund, a specified sum when a nominated event occurs.

#### 4. Finance companies

- sell debt instruments directly to surplus entities (savers) and then use those funds to provide loans and lease financing to borrowers.

#### 5. Unit trusts 信托基金

- sell units in a trust
- The accumulated funds in the trust are pooled and invested in asset classes specified within the trust deed.
- 其实就是由一间公司(通常是银行或金融机构,如: Public Mutual)收集民众投资者的钱,然后由专业的基金经理进行投资
- *Commercial banks dominate in terms of their share of the assets of financial institutions.*

### The major reason for us to consider “Time pattern of cash flows”:

- Inflation (purchasing power)

### Financial Instrument

- central to any financial relationship between two parties
  - represented in paper or electronic form
1. **Equity (Shares)** - where the saver acquires an ownership claim on the deficit entity (borrowers, corporation)
  2. **Debt (bond, notes)** - where the relationship is a loan
  3. **Hybrid(混合的)** - incorporates the characteristics of both debt and equity
  4. **Derivatives** - main use in the management of commodity and financial risks (not used to raised funds. e.g. futures, forwards, options and swaps)

### What’s the major difference between equity and debt?

- Voting rights (If you’re a shareholder)
- Dividend/You can take share for future profit
- (Shareholder) may also have tax benefit
- Capital gain (the difference between two prices), for debt, when you lend money to someone and you get interest

### Flow of funds

- Financial markets and instruments allow borrowers to meet the requirements of the “**Matching principle**”:

- short-term assets should be funded by short-term liabilities and long-term assets should be funded by long-term liabilities and equity
- (major reason for the happen of GFC)

### Primary market

- new financial asset (debt and equity securities) are issued

### Secondary market

- the sale and transfer of existing financial assets/previously issued securities (e.g. stock exchange)
- serve the most important function of adding liquidity to financial instruments
- “Security” has an active secondary market

**Direct finance** - surplus entities(saver/lender) may acquire assets directly from the issuers

### Financial intermediary

- the surplus entity establishes a financial relationship with the intermediary
- attract savers because the intermediary provides a range of financial attributes

## Finance Intermediation Advantages

1. **Asset transformation** - becomes deposit to loan. e.g. home loan & your income

- **资产转换**，是通过打破单一的信用放款，创造丰富的金融工具，来实现金融商品的供给对需求的有效性

2. **Maturity transformation** - decrease or increase the maturity by changing the maturity time **期限转换**，借短债放长贷

3. **Credit risk diversification & transformation**

- bank transform the risk (spend money in different product)
- diversified because your money may go to anyone (1 cents), decrease the risk
- **信用转换**最初用来描述银行以其信用替代了借款人的信用。具言之，商业银行从存款人处吸收存款，再将其放贷给借款人，无论借款人是否按期偿还债务，存款人都可以要求银行偿还本金和利息。

4. **Liquidity transformation**

- “The bank can change the liquidity by issuing the bonds” - Right!!
- ease to take money
- If the bank release more bonds, people will buy more, less cash in the hand
- 从银行的资产负债表来看，在负债端，银行从存款人处吸收短期存款，存款人可以随时提现。在资产端，银行向借款人发放的是长期贷款，银行只有在债务到期时才可以要求借款人偿还本金和利息。
- **流动性转换**则是期限转换的结果，利用流动性好的短期存款发放流动性差的长期贷款。

5. **Economic of scale (e.g. ATM)**

## Financial Market

## Money market 货币市场

- issue short-term (generally discount) securities,  $\leq 1$  yr, high security, low risk, low return (Treasury securities market 国库券)
- e.g. central bank transaction, inter-bank market, bills market, commercial paper market, government securities

## Capital market 资本市场

- issue longer-term securities,  $> 1$  yr, high risk, high return
- e.g. equity market, corporate debt market, government debt market, foreign exchange market, derivatives market

## Wholesale market (institutional investors) & Retail market

### Two rules to judge “Financial asset”(debt & equity)

1. you will have some future cash flow without selling this asset
2. the value of this assets depends on economic factors (e.g. interest rate, inflation)

(for example, physical asset, a paper or a building is not a financial asset)

### “Financial security”

- if there is a formal secondary market where the asset may be bought or sold, the investors are willing to buy the assets in primary market

## Week 2 Banks

**LP1: Commercial banks** - provide a full range of financial services (e.g. credit card, net banking, help company to fund or do equity)

### LP2:

#### Asset management (passive)

- Loans portfolio is tailored(订做) to match the available deposit base
- a bank only giving loans (assets) when it had sufficient deposits, asset growth is managed and constrained by, the bank's deposit base.

#### Liability management (Deregulation)

- Deposit base and other funding sources are managed to meet loan demand
- (what we use now, bank borrows to lend, normal practice today)
- banks actively raising funds (liability) in the capital markets sufficient to meet future loan demand (assets).
- Off-balance-sheet (OBS) business

### LP3: Sources of funds

### Where does the bank obtain/get the funds?

- **Sources of funds** appear on the balance sheet either as **liabilities** that the bank will eventually repay or as equity funds provided by shareholders.

#### **Main sources of commercial bank funds:**

##### 1. **Current account deposit:** 银行账户现钱

- *Highly liquid funds* held in a *cheque account*, may be *interest or non-interest bearing*

##### 2. **Call or demand deposit:** 活期存款 (e.g. Net bank saver)

- no obligation, *have interest*, funds held in a savings account that *can be withdrawn anytime on demand*

##### 3. **Term deposit:** 定期存款 (e.g. Short-term bond, 1 month - 5 years, get interest, not will get money out)

- fund lodged in an account for a predetermined period and at a specified *fixed interest rate*

- *less liquidity owing to fixed maturity*, higher interest rate than 1&2

##### 4. **Negotiable certificate of deposit(CDs):** 可转让定期存单

- short term (30-180days) **discount security** issued by a bank

- specifies repayment of the face value of the CD at maturity

- highly negotiable(流通) security

##### 5. **Bill acceptance liabilities:** 票据承兑负债

- **Bill** is a **discount security**, it is issued today and sold at a price that is less than the face value

- **Acceptance** is a bank put its name on a bill issued by a third party, the bank will get money by charging service fees.

- Bank accepts primary liability to repay face value of bill to holder. The bank will not issue by itself.

##### 6. **Debt liabilities, Debenture and Unsecured note**

- are bonds(debt instruments) issued by corporations including banks.

- The periodic rate can be fixed or floating, medium to long-term bond, the bank issue the bond directly (different with acceptance).

- **Debentures**(similar to bond):**公司债券** bonds with a form of security attached

- **Unsecured note:****非担保证券** bonds with no security attached

7. **Foreign currency liability:****外币负债** debt instruments issued into the international capital markets that are dominated in another currency.

##### 8. **Loan capital (借贷资本) and shareholders' equity**

- Sources of funds that **have characteristics of both debt and equity** (e.g. subordinated debentures and subordinated notes)

- Subordinated means the holder of the security has a claim on interest payments or the assets of the issuer, after all other creditors have been paid (excluding ordinary shareholders)

## LP4: Uses of funds

- Uses of funds appear in the Balance sheet as **assets**
- The majority of banks assets are loans that create an entitlement to **future cash flows** (e.g. interest and repayment of principle)
  
- Banks use their money in the following ways:
  1. **Personal and housing lending (largest portion to lend)**
    - the largest form of bank lending is for owner-occupied housing
    - (1) **Housing finance**
      - Mortgage 抵押/按揭贷款(only for house!!!)(How can u finance a car? short-term or long-term loan)
      - Amortised loan 分期
    - (2) **Investment property 投资财产/地产**
    - (3) **Fixed-term loan**
    - (4) **Credit card**
  2. **Commercial lending**
    - invested in the business sector, lend money to other bank or to other financial institutions
    - (all the bonds, bills are future cash flows)
    - (1) **Fixed-term loan**: a loan with negotiated terms and conditions, fixed or variable rates set to a specified reference rate
    - (2) **Overdraft 透支**: a facilities allowing a business to take its operating account into debit up to an agreed limit
    - (3) **Bills of exchange**:
      - *Bank bills held*: Bills of exchange accepted and discounted by a bank and held as assets
      - *Commercial bills*: Bills of exchange issued directly by business to raise finance
      - *Rollover facility*: Bank agrees to discount new bills over a specified period as existing bills mature 交易双方当合约到期时以新的合约取代已到期合约
    - (4) **Leasing finance 租赁给公司**
  3. **Lending to government**
    - Commercial bank lend to govt directly by investing in govt-issued securities, such as treasury notes/bonds, low risk, low return
    - (1) Treasury notes: Short-term **discount securities**
    - (2) Treasury bonds: Medium- to longer-term securities, pay a specified interest coupon stream
    - (3) State government debt securities
  4. **Other bank asset** (e.g. electronic network infrastructure and shares in controlled entities)

## LP5: Off-balance-sheet

(on-balance-sheet: borrow or lend)

中间业务：银行纯粹是中介人，向客户提供服务，成本低，风险小

表外业务：银行对客户的某种承诺或是其他潜在的，可能转化为银行资产和负债的业务项目

- if one transaction **have some uncertainty**, that is **off-balance-sheet**
- (e.g. the interest of your mortgage is not off-balance because that is your obligation to pay that, so no uncertainty)

### 1. Direct credit substitutes 直接信贷的替代

- The bank does not provide the finance from its own balance sheet, just ensure that the client can raise fund from the market
- support a client's financial obligations, e.g. stand-by letter credit or a financial guarantee

### 2. Trade and performance related item

- support a bank client's non-financial contractual obligations, promising financial compensation for non-performance of commercial contract. (e.g. the agreement to provide good and service)
- documentary letters of credit 备用信用证/ performance guarantees

### 3. Commitment (not yet a official customer)

- yet-to-be-completed financial agreements made by a bank to its customers (provide a loan in the future)
- bank undertakes (承诺) to advance funds or make a purchase of assets at some time in the future (e.g. forward purchase, underwriting担保)

### 4. Foreign exchange, interest rate and other market-rate-related contract

- derivative contracts, such as futures, used to manage risk exposure (foreign exchange risk, interest rate risk, equity price risk and commodity risk)

## LP6: Regulation structure & Capital Adequacy standard

### Reasons for regulation of banks

- Importance of the banking sector for *health of the economy*

### Prudential supervision 审慎监管

- Imposition and monitoring of standards designed to ensure the soundness and *stability of a financial system* 化解银行危险为目的，制定经营规则

### Australian regulatory structure

1. *Reserve bank of Australia (RBA)* - system stability and payments system
  2. *Australian Prudential Regulation Authority (APRA)*
- Prudential regulation and supervision of deposit-taking institutions

3. *Australian Securities and Investments Commission (ASIC)* - market integrity and consumer protection
4. Australian Competition and Consumer Commission (ACCC)

- The capital held by financial institutions serves as the “buffer” against such losses
- If capital is inadequate, a financial institution may face insolvency (破产)
- **Capital adequacy standards** set down in **Basel II and Basel III** (agreement, all the banks need to hold some capital), define the **minimum capital adequacy** for a bank
- The standards are designed to **promote stability within the financial system**
- having capital is safe, avoid troubles,
- keep the profit of shares or dividend to attract more customers

#### Functions of capital:

1. Sources of equity fund
2. Demonstrates shareholders' commitment to the organisation
3. Provides funding for growth and source of future profits
4. Write-off periodic abnormal business losses (major reason)

#### Basel I (1988) capital accord

#### Basel II (2008) capital adequacy guidelines

- Basel II increased sensitivity to different levels of asset and OBS business risk
- Minimum capital adequacy requirement applies to commercial banks and other institutions specified by prudential regulator

#### Main elements of Basel II

- **Credit risk** of banks' assets and OBS business
- **Market risks** of banks' trading activities
- **Operational risks** of banks' business operations
- **Form and quality of capital** held to support these exposures
- Risk identification, measurement and management processes adopted
- Transparency透明性 through accumulation and reporting of information

Minimum risk-based capital ratio of 8%

- Minimum 4% held as **Tier 1 capital**
- Reminder(4%) can be held as **Tier 2 (supplementary) capital**

**Tier 1 capital:** highest quality, core capital

- (The quality means “how fast we can transfer capital to cash”)
- 1. provide a permanent永久的 and unrestricted commitment to fund

2. freely available to absorb loss
3. do not impose any unavoidable servicing charge against earning
4. in the event of winding-up, rank behind the claims of depositors and other creditors

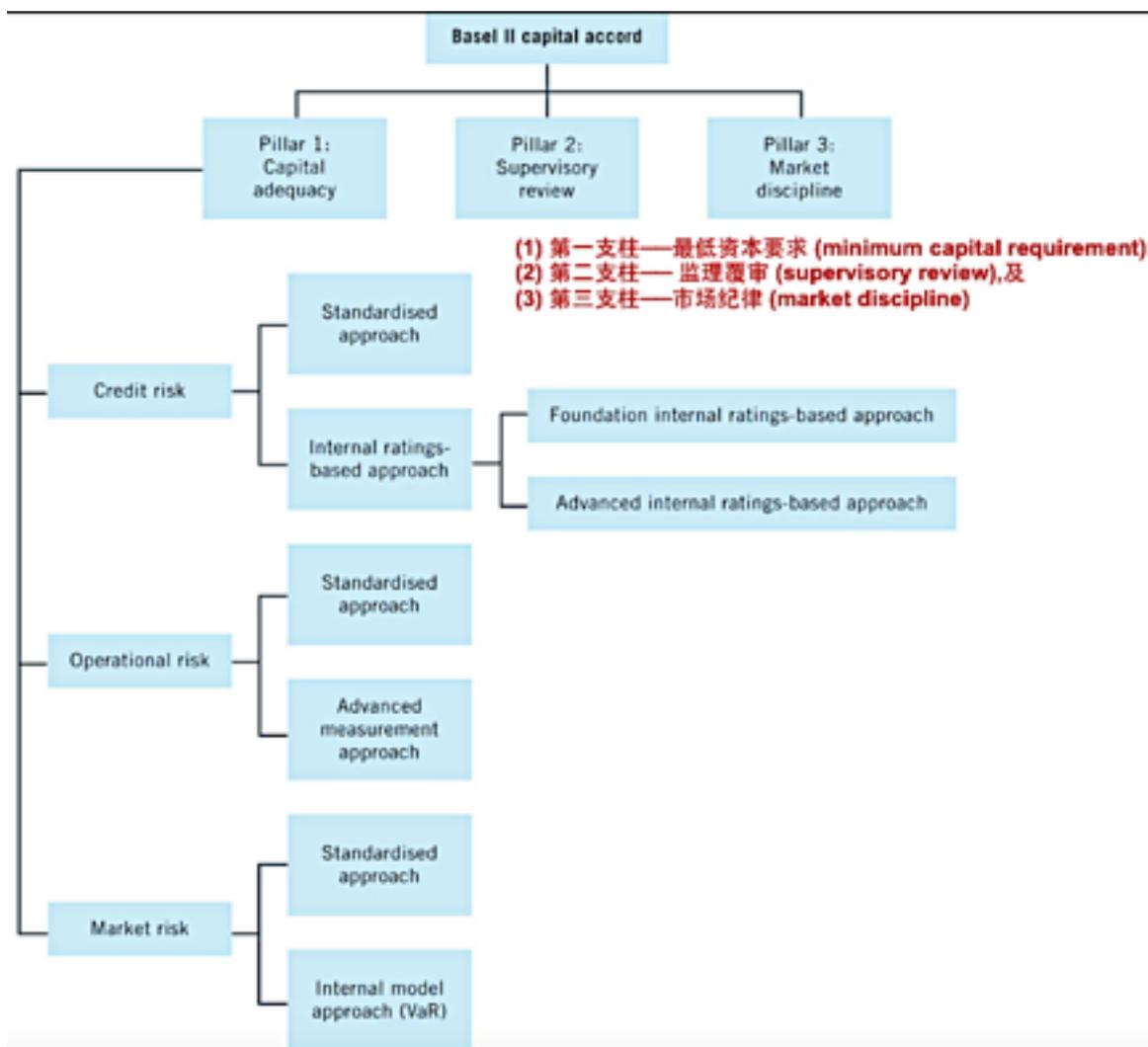
\*\*\*ordinary shares, general reserves, retaining earning, current year's earning, foreign currency translation reserve\*\*\*

巴塞尔协议按照资本质量及弥补损失的能力，将商业银行的资本划分为一级资本、二级资本，其中二级资本又可以分为低二级资本和高二级资本。混合资本债(hybrid capital)就是属于二级资本中的高二级资本。

\*\* 小插曲  $Capital = Debt + Equity$

### Tier 2 (supplementary) capital:

- (slower) take longer time to convert the capital to cash (nearly 4 months)
- **Upper Tier 2 capital:** essentially permanent in nature, including some hybrid capital instruments (e.g. hybrid capital of a permanent nature, perpetual cumulative preference shares)
- **Lower Tier 2 capital:** instruments are not permanent, dated or limited-life instruments (e.g. limited-life preference shares)



## LP7: Basel II 3 pillars

Basel II accord 协议 comprise three pillars 三大支柱:

### Pillar 1: Capital adequacy (minimum requirement)

- (1) **Credit risk**: borrower will not repay interest or principle when due, not meet commitment

\*\***Standardised approach**: measures risk weights from **i.** balance-sheet and OBS **ii.** external rating grade or supervisor **iii.** loan- to-valuation ratio (LTVR) and level of mortgage insurance for residential housing loan

\*\***Internal ratings-based approach**: use bank's own measurement model factors. - Foundation (FIRB), relies on supervisor estimates - Advanced (AIRB), banks provides estimates of all credit risk components

- (2) **Operational risk**: risk of loss from inadequate or failed internal process, people and system and external events (e.g employee steal money) (what banks can do: internal control, CCTV, more responsibility for managers, pay attention to all the employees, reward and punishment)
- (3) **Market risk**: risk of losses from exposure to the changes in interest rates and exchange rates (bond portfolio, separate risk)

### Pillar 2: Supervisory review of capital adequacy 监督检查

Four basic principles:

- (1) the assessment of total capital requirements by a bank
  - (2) the review of capital levels and the monitoring of banks' compliance by supervisors
  - (3) the ability of a supervisor to increase the capital requirement of a bank
  - (4) the intervention of a supervisor at an early stage to maintain capital levels
- ensure banks have sufficient capital to support all risks
  - encourage improved risk-management policies and practises in measuring and managing risk exposure such as:

\*risks not captured in Pillar 1 and factors external to the bank (e.g. a changing business cycle)

\*additional risk management practices (e.g. training, improved internal control, internal responsibilities)

### Pillar 3: Market discipline 市场纪律

- aim to develop **transparency and disclosure** requirements that allow the market to assess information to the capital adequacy of an institution
- banks are required to provide information and data on a periodic basis to the supervisor, some of these repots may be made public

## Basel III (2010)

- aims to enhance the risk coverage of the Basel II framework by enhancing capital adequacy requirements

### (1) Strengthen capital base: (total-risk-weighted asset)

- Minimum 8% should be capital

- Minimum 6% (4% in Basel II) should be **Tier 1 capital**
- The reminder should be **Tier 2 capital**
- Increase minimum **Common Equity Tier 1 capital** to 4.5% (2% in Basel II)
- Create capital conservation buffer (new) for use during a financial crisis and economic distress

### (2) Liquidity Requirement

- minimum liquidity coverage ratio (LCR)
- minimum net stable fund ratio (NSFR)

### (3) Governance & Systemic Risk Mitigation 降低风险

## LP 8: Liquidity management & Supervisory control

Liquidity - access to sources of funds to meet day-to-day expenses and commitments

- Liquidity prudential standard APS210 (APRA)
- **The bank regulator, APRA**, applies a number of **important prudential controls on commercial banks**
- (e.g. liquidity management policies, risk management systems certification, business continuity management, audit (external auditors), disclosure and transparency, foreign currency exposures)

## Summary

- Banks are the dominant financial institution and have moved to liability management
- **Sources of funds** include deposits (current, call and term deposits) and non-deposit sources (bill acceptances, debt and foreign currency liabilities, OBS business and other services)
- **Uses of funds** include government, commercial and personal lending
- **OBS transactions** are a major part of a bank's business and include:
  - \*\*direct credit substitutes
  - \*\*trade-and performance-related items
  - \*\*commitments
  - \*\*market-rate-related transactions
- **APRA's** bank prudential supervision requirements include capital adequacy, liquidity management and other controls

## Week 3

### LP1

**Share market** only deals Share(equity securities), only a part of stock exchange.

**Stock exchange** is a formal market within a nation-state that lists a range of securities issued

- A **publicly list corporation** is a company whose shares are quoted and traded on a formal stock exchange
- **Ordinary shares/Common stock**: the main type of equity security issued by a corporation, bestows a claim to residual cash flows and ownership and voting rights
- A share is a financial asset, a security that entitles a shareholder to **share** in the net profits and to **vote** for the boards of directors and attend general meeting
- Advantages of holding a share: **dividend**, **voting rights**, **capital gains**, the price of share may go up when you sell it.

## LP2

- **Shareholders** elect **boards member**, (shareholder not deal daily operation)
- the **board** determine the objective and policies of the firm, appoint **Executive managers**
- **Executive managers** manage the daily operations.

### *Limited liability Co*

- In share market, you only lose the money you put in the market, compared with other assets (mortgage - lose your house)
- The liability of shareholder is limited to the **fully paid issue** price of the shares (you pay full money at the beginning and you will get the share)

### *No liability Co*

- Shareholder hold any **partly paid share** (e.g. just pay half)
- For example, a share worth 4, you pay 2 today, and 2 after few months, if something goes wrong, you just lose 2 today

### **Advantages of corporation:**

1. Access to **larger pool of equity funds** (at a relatively cheaper cost)
  - smaller firms are not able to access capital as easily and would normally be expected to pay a higher rate of return
2. The **separation** of **ownership** (shareholder) and **control** (managers)
  - appointment of specialised management
  - greater effectiveness in the planning and implementation of strategic decisions
3. The continuity of operation (**Perpetual succession**)
  - the corporate form is unaffected by change in ownership or management (e.g. died of shareholder)
4. The corporate form is suited to **large-scale operation**
5. (Liquidity) The opportunity for investors to hold a **diversified** share portfolio

### **Disadvantages of corporation:**

**Agency problem**, managers may act for their own benefit rather than for shareholder's benefits

- conflict of interest between owners(principals) and managers(agents)

**Factors moderating conflict** of interest between owners and managers:

1. **Investors' ability** to sell shares in a corporation, causing the share price to fall
2. **Dismissal** from the board at AGM by shareholders
3. Threat of **takeover and loss of employment**
4. Use of **performance incentives**, such as share options
5. More rigorous严格的 **corporate governance**

### **LP3: Roles of a stock exchange**

#### **Primary market Role**

- ensure the efficient and orderly sale of new issue securities

1. **New floats/Initial public offerings (IPOs)**: the listing of a new company on the stock exchange
2. **Rights issue:供股** Issue of additional shares to existing shareholders on a pro-rata按比例 basis
3. **Placements**: Issue of new shares to selected institutional investors
4. **Dividend reinvestment plans**: Reinvestment of dividends into corporation for additional shares

#### **Secondary market Role**

- provides a market structure for the buying and selling of **existing listed securities** (no new funds are raised by the issuing company)

- Only a **transfer of ownership** for shares

- An active, liquid, well-organised secondary market increases the appeal of buying new shares in the primary market

**Market liquidity** 股票周转率 = Turnover(成交量) / Capitalisation

- a deep and liquid market encourages investors (Turnover - Sales, not asset)

**Capitalisation** 市价总值 = Number of shares \* Share price

#### **Third role: Managed product and Derivative product Role**

- Stock exchange may list a range of managed products and derivative products, these standardised products are known as exchange traded contacts

- Equity-based **managed products** are professionally managed funds

- A **derivative** is a financial security that derives its price from an underlying commodity (e.g. gold) or financial instrument

1. **Exchanged traded funds (EFT)**: invest in a basket of securities, provide access to a diversified portfolio of securities.

2. **Contract for difference (CFD)**: an agreement to exchange the net difference in value between the start date and the close date
3. **Real estate investment trusts (REIT)**: issues units in the trust in order to raise funds to purchase property, including industrial, hotels and leisure, retail and office.
4. **Infrastructure funds**: enable investors to gain access to large-scale infrastructure projects, e.g. utilities, transport.
5. **Options**: a right, but not the obligation, to buy (call option) or sell (put option) a specified security at a predetermined price and on a predetermined date.
6. **Warrant**: a derivative product
7. **Futures contract**: a derivative product used to lower risk

#### **Fourth role: Interest rate market Role**

- facilitate(促进) the issue of debt securities and the subsequent(随后的) trading of those securities on a formal exchange
  - Keep interest rate stable to avoid people invest money in bank
  - Debt issues may be listed on a stock exchange and provide investors with transparency, liquidity and ease of entry and exit.
1. **Straight corporate bond** - fixed interest security that pays a periodic coupon, secured bond is known as a debenture, unsecured bond a an unsecured note.
  2. **Floating rate note (FRN)** - corporate bond that pays a variable coupon rate which will be based on a published reference rate.
  3. **Convertible note** - a hybrid security that pays a fixed interest rate and includes an option to convert the note at a future date into ordinary shares.
  4. **Preference share** - a hybrid security that pays a fixed dividend. It has an option at maturity to redeem to cash or convert to ordinary shares

#### **Fifth role: Trading and settlement Role**

- ASX uses **ASX Trade (an integrated system)**, allows the stock exchange to trade all shares
- **ASX Trade 24** facility the international market (global trading)
- Investors lodge(apply to) buy and sell orders with their stockbroker (who have access to the ASX platform), generally using internet
- **Clearing House electronic sub-register system (CHES)**: process transfer of ownership and financial settlement. (transaction settlement)
- used to ensure the system is work
- Settlement will normally occur in **T+2 business day** (e.g. if trillion to buy shares, need time) through CHES
- e.g. if earthquake, 2 days includes some special consideration

- With ASX, the actual share certificate is no longer issued to the shareholder, an electronic record is maintained of share ownership,
- therefore, share listed on the ASX are known as **uncertificated securities** (means no paper receipt, not means not paid yet)

### **Sixth role: Information and regulation Role**

- Information is the only reason for investors to buy the share (relies on **information efficiency**)
- The current share prices should reflect all information available in the market
  1. **Continuous disclosure** of information (reporting requirements)
  2. Stock exchange will **monitor information** flows to ensure the market is fully informed, in order to maintain the integrity and confidence in the market
- **Regulatory: The Australian Securities and Investment Commission (ASIC)** has responsibility for the supervision in domestic market

#### Examples of information disclosures required by ASX listing rules

- A change in a company's financial forecasts
- Appointment of a liquidator
- Declaration of a dividend
- Notice of a takeover bid
- Disclosure of directors' interests

### **LP4: Investment and financing decision**

#### **Four main aspects of financial management:**

##### **1. Investment choices (capital budgeting)**

- Invest in which assets?
- Capital budgeting refers to the choices that a company makes when allocating its capital
- **NPV**: the sum of present value of all future cash flow (initial cost should be positive, otherwise not acceptable)
- Accept if  $NPV > 0$
- **IRR 实际回报率**: a rate that makes NPV equal to 0
- Accept, if  $IRR > \text{Required return rate}$

##### **2. Financial decision (capital structure)**

- How to fund the purchase of these assets? **Debt or equity?**
- **(Consider current D/E ratio & the associated degree of financial risk)**
- The financial objective of a corporation is to **maximise return**, with an **acceptable level of risk**
- **Business Risk**: depends upon the type of operations of the business, market share, aggressiveness of competitors

- **Financial Risk:** exposure to factors that impact on the value of assets, liabilities and cash flows (e.g. interest rate risk, foreign exchange risk, liquidity risk, credit risk, capital risk, country risk)
- Debt must be repaid while equity does not need to be repaid.
- **Debt to equity ratio** = debt / equity (no ideal number)
- D/E indicates the risk of being unable to meet interest due and principal repayments associated with use of debt, i.e. risk of insolvency破产
- If the **cost of debt** < **the return** achieved, issuing more debt will **benefit shareholders** (higher EPS)
- However, **high debt levels, high financial risk**
- So!! should reach an appropriate D/E ratio!!
- Interest payable can be tax reducible

#### Factors influencing the D/E ratio:

1. industry norms
2. historical levels of firm's ratio
3. loan covenant, limit imposed by lenders
4. firms' capacity to service debt (most relevant)

#### Forms of equity finance:

##### 1. Initial public offering (IPO)

- incorporate as limited liability company and issue ordinary shares, listing on a stock exchange
- **Promoter:** the party seeking to list as a corporation on a stock exchange
- **Promoter and adviser decide:** the structure, the pricing, the timing, the marketing and the allocation of the share issue
- **Underwriter:** 保险公司 purchase any shares not taken up by investors

##### 2. Additional ordinary shares

- I. **Rights issue:** 供股 Issue of additional shares to existing shareholders on a pro-rata 按比例 basis
  - issued at a discount to current share price
  - need prospectus, so take long time to work
  - **Renounceable**—share holder may sell their right
  - **Non-renounceable**—right may not be sold
- II. **Placements:** Issue of new shares to selected institutional investors
  - fast, less work, give small discount
  - Not required to register a prospectus but a memorandum of information must be prepared
- III. **Takeover issues:** issued by a takeover company as full payment, or part payment with a cash component, in a merger bid
- IV. **Dividend reinvestment plans:** Shareholders have the option of reinvestment dividends in additional ordinary shares
  - issued at discount (0% - 5%)

- give existing shareholders the opportunity to increase their equity holding

### 3. Preference shares (Hybrid security)

- hybrid securities (have characteristics of both debt and equity)
- offer a **fixed dividend** that is set at the issue date, have fixed term to maturity (more like debt than equity)
- rank ahead of ordinary shareholders in the payment of dividends and liquidation, rank behind the company's creditors

#### Features attached to preference shares:

- Cumulative or non-cumulative (carry **paid dividend forward** or not)
- Redeemable or non-redeemable 可换成现款的 (convert **share into cash** or not)
- Convertible or non-convertible (Hybrid debt can **become shares** or not)
- Participating or non-participating (get **higher dividend** or not)

### 4. Quasi-equity (Hybrid securities)

#### I. Convertible notes

- issued for a fixed term at a stated rate of interest, either by direct placement or pro rata to shareholders
- holder has right to convert the note into ordinary shares at a future date at a predetermined price

#### II. Company-issued options (期货或定期股票的)期权

- provides the holder with the right (not the obligation) to purchase ordinary shares at a predetermined price on a specified date
- have value, can be traded

#### III. Company-issued equity warrants 普通股认购权证

- a corporate bond debt issue
- provides the holder with the right to convert the warrant into ordinary shares in the issuer company at specified price over a given period
- no dividends but holders benefit from capital gains

### 3. Liquidity (working capital) management

- How best to manage current assets and current liabilities

### 4. Dividend policy decision

- How to retain and/or distribute profits