**《财务管理（FM）》课程教学大纲**

一、课程基本信息

课程代码：21020293

课程名称：FM 财务管理

英文名称：Financial Management

课程类别：专业课

学 时：48

学 分：3

适用对象: 国际会计（ACCA）创新实验区本科生

考核方式：考试

先修课程：F3 财务会计、F7 财务报告

二、课程简介

本课程主要让学生掌握企业财务管理的基本理论、基本概念和基本方法；熟悉营运资本项目管理、投资管理、收入和利润管理的相关知识；掌握财务预算、 财务控制和财务分析的能力；熟悉金融市场；树立现代财务管理的基本观念，具 有从事经济管理所必须的财务管理业务知识和工作能力。

**英文简介**

This course is to let students master the basic theory of enterprise financial management, the basic concepts and basic methods; knowledge of working capital management, project investment management, revenue and profit management; grasp the financial budget, financial control and financial analysis skills; Students should be familiar with financial market, establish the basic concept of modern financial management and has the knowledge and work ability in financial management of business.

三、课程性质与教学目的

本课程为专业必修课。通过本课程的学习，使学生明确财务管理的含义，目 标和特点，认识做好财务管理工作对于促进生产经营、提高经济效益的重要意义； 理解财务管理的基本内容，懂得各种财务活动的联系以及财务活动同其他经济活 动的联系；在系统掌握财务管理的基本理论和基本知识的基础上，熟练掌握财务 管理的各种业务方法，具有一定的财务分析和解决财务管理问题的能力，为经营 决策服务，并为学习其他课程打下良好的基础。

四、教学内容及要求

第一模块 Financial management function

## （一）目的与要求

1.理解企业财务管理的目标和企业目标的关系；

2.理解利益相关者对财务管理目标的影响；

3.了解非盈利组织财务管理目标。

## （二）教学内容

第一节 1.主要内容

## (1) The nature and purpose of financial management

**Financial management** can be defined as the management of the finances of an organization in order to achieve the financial objectives of the orgnisation.

* Setting financial objectives
* Deciding on : --------- proposed investments

--------- funding sources

--------- distribution of earnings

* Controlling resources
* Managing risk

## (2) Financial objectives and the relationship with corporate strategy Strategy

* **Overall goals cascaded down through the organization**

Corporate objective →corporate strategy

 ↓

Business objectives →business strategy

 ↓

Operations objectives →objectives strategy

* + **Corporate objectives** are relevant for the organization as a whole, relating to key factors for business success.

## (3) Financial objectives

* + **Shareholder wealth maximization (** deemed main/primary objective **)**
	+ **Profit maximization (** focus on short-term gain**)**
	+ **Earnings per share grown(** common objective but still based on profits**)**
	+ **Maximizing and satisfying (** distinction between achieving maximum returns and simply achieving enough to satisfy shareholders)
	+ A **restriction** on the company’s level of **gearing or debt**
	+ A target for **profit retention**
	+ A target for **operating profitability**

## (4) Maximization of shareholder wealth:

* **Investment decision**
	+ New projects (positive NPV investments should increase the share price)
	+ Acquisitions Working capital
* **Financing decision** (using appropriate levels of debt finance)
	+ Raising capital to finance investment
	+ Minimize cost of capital
* **Dividend decision**
	+ Pay out or reinvestment (determined by investment opportunities and willingness to use debt finance)

## (5) Non-financial objectives (difficult to measure)

* **Welfare of employees** (Good employee relations)
* **Welfare of management**
* **Welfare of society,** E.g. green policies
* **Provision of certain level of service**
* **Responsibilities towards customers/ suppliers**
* **Growth**
* **Diversification**
* **Quality**
* **Leadership in research and development.**

## (6) Stakeholders and impact on corporate objectives

|  |
| --- |
| **Stakeholder groups** |
| **Internal** | **Managers Employees** |
| **Connected** | **Shareholders** **Debt-holders** **Customers** **Bankers** **Supplies****Competitors** |
| **External** | **Government Pressure groups****Local and national communities Professional and regulatory bodies** |

**Stakeholder objectives**

* **The community at large:** legal and social responsibilities, pollution control, employee welfare
* **Ordinary shareholders:** wealth maximization, ROCE, EPS, gearing, growth ,asset utilization, market share
* **Trade payables:** being paid the full amount due by the date agreed, continuing the trading relationship
* **Long-term payables:** the ability to repay the finance including interest, long-term solvency: interest cover ,gearing
* **Employees:** salary and benefits, continuity of employment, working conditions
* **Managers:** balance the interests of shareholders and other stakeholders, long-term( defending against takeovers, sales maximization) , short-term( profit margins leading to increased bonuses) remuneration package
* **Government:** taxation, provision of grants, health and safety legislation, training initiatives, high levels of employment
* **Customers:** quality, lead times, price

The influence of the various stakeholders results in many firms adopting non-financial objectives in addition to financial ones

**These might include objectives such as:**

* Maintaining a contented workforce
* Showing respect for the environment
* Providing a top quality service to customers

 2.基本概念和知识点

**Strategy** is a course of action, including the specification of resources required, to achieve a specified objective.

**Financial strategy** is that area of a company’s overall strategy within the scope of the financial managers. The identification of the possible strategies capable of maximizing an organization’s net present value, the allocation of scarce capital resources among the competing opportunities and the implementation and monitoring of the chosen strategy so as to achieve stated objectives.

 3.问题与应用（能力要求）

 How to understand the relationship between strategy and financial strategy?

 第二节

1.主要内容

## (1) Corporate objectives

* **Profitability: PBIT, ROCE, ROE**

**Return on capital employed =Profit margin ×Asset turnover (ROCE)**

 **↓ ↓ ↓**

PBIT/Capital employed = (PBIT/Sale revenue) × (Sale revenue/Capital employed)

PBIT=profit before interest and tax

Capital employed=equity +long-term liabilities=total assets less current liabilities

**Disadvantage of ROCE:**

* Uses profit which is not directly linked to the objective of maximizing shareholder wealth
* The change in ROCE from one year to the next.

**Return on equity =** Profit available to ordinary shareholders/shareholders’ equity

**ROE=**profit after tax and preference dividends/ (ordinary share capital+ reserves)

**Debt and gearing ratios**

**Gearing** is the amount of debt finance a company uses relative to its equity finance

* **Liquidity ratio:** current ratio, quick ratio, stock turnover, account receivable turnover, account payable turnover
* **Shareholder’s investment ratios:** dividend yield, EPS, P/E ratio, dividend cover

**EPS=**earnings distributed to ordinary shareholders/ weighted average number of ordinary shares **(earnings per share)**

**P/E=**market price per share /EPS =total market value of equity/total earnings

**Dividend yield=**dividend per share/ Ex-div market price per share Dividend yield is calculated against the share price at the start of the year.

**Total shareholder return=dividend yield + capital gain(better than** profit-based measures EPS, ROCE)

## (2) Managerial reward schemes

* **Performance-related pay:**
	+ Minimum profit levels
	+ Economic value added ( EVA)
	+ Turnover growth
* **Rewarding managers with shares**
* **Executive share options plans (EPOPs)**

**corporate governance codes**

**Corporate governance** is the system by which companies are directed and controlled.

Good corporate governance involves **risk management** and **internal control, accountability** to stakeholders and other shareholders and conducting business in an **ethical and effective way.**

**The key areas relate to corporate governance codes**

* Non-executives directors ( NEDs ).
* Executive directors
* Remuneration committees
* Nomination committees
* Annual general meeting(AGM)

## (3) Financial and other objectives in not-for-profit organizations Value for money

**Value for money** can be defined as getting the best possible combination of services from the least resources, which means maximizing the benefits for the lowest possible cost.

## Measuring VFM

**Economy** is attaining the appropriate quantity and quality of inputs at lowest cost to achieve a certain level of outputs. (Obtaining resources at a ‘fair’ price)

**Efficiency** is the relationship between inputs and outputs. (Getting maximum outcomes from resources)

**Effectiveness** is the extent to which declared objectives/goals are met. (Obtaining good results)

 2. 基本概念和知识点

**Agency theory** (the divorce of ownership and control)

Agency relationships occur when one party, **the principal**, employs another party, **the agent**, to perform a task on their behalf. In particular, directors (agents) act on behalf of shareholders (principals).

**Stakeholders** are groups whose interests are directly affected by activities of organizations.

3.问题与应用（能力要求）

How to understand the following accusations of **non-goal-congruent behavior** have been made against managemen?

* **Excessive remuneration levels**
* **Empire building**
* **Creative accounting**
* **Off-balance-sheet financing**
* **Inappropriate reaction to takeover bids**
* **Unethical activities.**

## （三）思考与实践

理解和掌握财务目标的定量衡量方法。这些指标各自有什么意义和局限性？

## （四）教学方法与手段

课堂讲授、多媒体教学.

## （五）思政内容

**在讲述企业的目的时，应当强调在中国特色社会主义制度下企业应当承担的责任以及我国国有企业应当承担的责任。2017年12月12日，习近平视察徐工集团时强调：“国有企业是中国特色社会主义的重要物质基础和政治基础，是中国特色社会主义经济的‘顶梁柱’。要按照党的十九大部署推动国有企业深化改革、提高经营管理水平，使国有企业成为贯彻新发展理念、全面深化改革的骨干力量，成为我们党执政兴国的重要支柱和依靠力量。”“顶梁柱”形象地表明了国有企业在建设中国特色社会主义事业中的地位和作用。在讲述企业的目的时，应当突出企业应当承担的社会责任。**

## 第二模块 Financial management environment

## （一） 目的与要求

1.了解宏观经济政策的种类和作用

2.了解金融市场的种类和特色

3.熟悉金融的类别和特点

## （二）教学内容

第一节 1.主要内容

## （1）The economic environment for business

**The objectives of macroeconomic policy**

* + Economic growth
	+ Low inflation
	+ High employment
	+ Balance of payments stability
	+ appropriate distribution of income and wealth
		- There are conflicts between objectives:

-high employment & price stability;

-economic growth & balance of payment, etc.

* + - Simultaneous achievement of all the objectives is difficult, and hence government have to consider trade-offs between objectives

## （2）exchange rate policy

A change in the exchange rate will affect the **relative prices** of domestic and foreign produced goods and services. (I.e. exchange rate decreases to improve balance of payments position)

## （3）competition policy (Government intervention and regulation)

* + - The more specific measures taken to regulate business by government include
			* pricing restrictions
			* green policies
			* corporate governance

## （4）government assistance for business

* + - * Official aid schemes
			* The enterprise initiative

## （5）The nature and role of financial markets and institutions Financial intermediation: institutions invest other people’s money

* + Investment banks
	+ Saving banks
	+ Pension funds
	+ Insurance companies
	+ Investment trusts and unit trusts

## （6）The role of financial intermediation

* Maturity transformation
* Aggregation of funds
* Pooling losses

 2.基本概念和知识点

**Monetary policy** is undertaken by government **indirectly** through banks & financial intermediaries via interest rate policy, banking policy, etc.

* + It controls the output via managing the money supply using interest rate policy (i.e. **supply side economy**)

**Fiscal policy** is undertaken by government **directly** via taxation policy, government expenditures plans, etc.

* + It controls the output via managing the aggregate demand (i.e. **demand side economy**)

 3.问题与应用（能力要求）

了解政府运用不同宏观经济政策和工具对企业的影响。

 第二节

1.主要内容

## （1）Financial markets

**International money and capital markets** are available for larger companies wishing to raise larger amounts of finance.

* International money markets: Eurocurrency markets
* International capital markets: Eurobonds

## （2）ates of interest and rates of return

**The pattern of interest rates** on financial assets is influenced by the risk of the assets, the duration of the lending, and the size of the loan.

## the risk-return trade-off

investors in riskier assets expect to be compensated for the risk, some of the main forms of investment are listed below in ascending order of risk:

* government bonds
* company bonds
* preference shares
* ordinary shares

## （3） treasury function

3.1 the role of money markets

* Providing short-term liquidity to industry and the public sector
* Providing short-term trade finance
* Allowing an organization to manage its exposure to foreign currency risk and interest rate risk.

## （4） money market instruments

|  |  |  |
| --- | --- | --- |
| **Interest-bearing instruments** | **Discount instruments** | **Derivative products** |
| Money market deposits | Treasury bill (T-bill) | Forwards and futures |

|  |  |  |
| --- | --- | --- |
| Certificate of deposit (CD) | Banker's acceptance(BA) | Swaps |
| Repurchase agreements (Repo) | Commercial paper (CP) | Options |

* **money market deposits** are very short-term loans between banks or other institutions including governments.
* **Certificate of deposit (CD)** is a certificate of receipt for funds deposited at a bank or other financial institution for a specified term and paying interest at a specified term and paying interest at a specified rate.
* **Repurchase agreements (Repo)** is an agreement between two counterparties under which one counterparty agrees to sell an instrument to the other on an agreed date for an agreed price, and simultaneously agrees to buy back the instrument from the counterparty at a later date for an agreed price.
* **treasury bills**(T-bill) are debt instruments issued by the government with maturities range from one month to one year.
* **Commercial paper** is short-term unsecured corporate debt with maturity up to 270 days.
* **Banker's acceptance (BA)** are negotiable bills issued by companies and guaranteed by a bank.
* **Future** is an agreement to buy or sell a standard quantity of a specified asset on a fixed future date at a price agreed today.
* **Forward** is an agreement off-exchange between two parties to make or take delivery of an asset for an agreed price at a future date.
* **Option** is a contract that confers the right, but not the obligation, to buy or sell an asset at a given price (exercise price or strike price) on or before a given date.

 2.基本概念和知识点

**Capital markets** are markets for long-term capital, provides funds for the long-term.

* + Stock market (provide access to a wider pool of equity finance)
	+ Bond market (bonds(secured, traded), loan notes, debentures, junk bonds(unsecured))
	+ Euromarkets (Eurobonds, cheap, unsecured, traded, companies with an excellent credit rating the ability to borrow in a variety of different currencies)

**Money markets** are markets for short-term capital

* + - Treasury bills (issued by governments)
		- Certificates of deposit (can be sold on
		- Commercial paper(issued by companies with a high credit rating)
		- Bills of exchange (company IOU signed by customer)

3.问题与应用（能力要求）

不同金融工具的特点。

## （三）思考与实践

 企业应如何选择使用不同金融工具进行融资。

## （四）教学方法与手段

课堂讲授、多媒体教学。

## （五）思政内容

 **十九大报告明确指出，深化金融体制改革，增强金融服务实体经济能力。金融要为实体经济服务，而非与实体经济抢夺资金进而独立运行。因此，金融工具的使用要用于为实体经济服务，且金融机构的运行要在政府严格的监控之下进行。**

**第三模块 Working capital management**

## （一） 目的与要求

1.了解营运资本管理的目标

2.掌握营运资本管理的原则

3.掌握营运资本管理模型的计算及其意义

**（二）教学内容**

第一节

1. 主要内容

## （1）The nature, elements and importance of working capital

**Key elements of working capital**

|  |  |
| --- | --- |
| Current assets | Current liability |
| Cash | Creditors |
| Inventory or stocks | Short-term loans |
| Receivables | Long-term loans within 1 year |
| Marketable securities | Lease rentals due within one year |

**Objectives of working capital**

* Ensure sufficient liquidity to pay short-term debts as they fall due
* Increase profitability (receivables and inventory are a short-term investment)
* Trade-off between cash verses profits

**Net working capital**= current assets - current liabilities

**Working capital cycle (cash cycle/operating cycle/trading cycle)**

Means the time period from invest money (pay to suppliers) to collect money (receive from customers), can be measured by:

=Average time that raw materials remain in stock+ Production time

+ Cash collection timecredit period suppliers

## （2）Liquidity ratios

* **Current ratio**=current assets/currents liabilities

Normally, current ratio2 is preferable; however, it depends on what industries the company is in.

## Quick ratio (acid test ratio)

**=** (Current assets-inventories)/current liabilities With slow inventory turnover, it is better >1 With quick inventory turnover, it can <1

## Accounts receivables payment period (approximate)

**=** (Trade receivables/credit sales revenue) ×365 days

* **Inventory turnover period=** (Average inventory / cost of sales) ×365 days WIP production period=average WIP/ cost of sales×365 days

Raw materials inventory holding period = average raw materials inventory/annual purchases×365 days

## Accounts payable payment period

**=** (Average trade payables/purchase or cost of sales) ×365 days

## （3）overtrading

Over-capitalization VS overtrading

Prudent policy in finance VS aggressive policy

## Exam focus

– Diagnose overtrading/overcapitalization

## Suitable solutions to reduce the degree of overtrading

* + The introduction of new long-term capital
	+ Improve working capital management efficiency (better control could be applied to inventories and accounts receivable)
	+ Abandon ambitious plans for increased sales and more non-current asset purchases

2. 基本概念和知识点

**Over capitalisation** – too slowly

* – Working capital turnover period long
* – Liquidity ratio increase

**Over trading** – too quickly develop with little long-term capital

* – Rapid increase in turnover
* – Rapid increase in current assets
* – Increase in creditor/overdraft
* – Small increase in equity, more increase in current liabilities
* – Liquidity ratios fall, even liquid deficit

 3.问题与应用（能力要求）

## Over capitalisation 和 Over trading 各自的特点和成因。

第二节

1. 主要内容

## （1） Managing working capital

**optimum order quantities for inventory The assumptions of EOQ**

* Demand and lead time are constant and known
* Purchase price is constant
* No buffer inventory held (not needed)

**EOQ**-economic order quantity = (2CoD/Ch) ½

Co ---------- ordering costs (per order) D --------- expected annual demand

Ch--------- holding cost per stock unit per annum

Total annual cost of stock= holding cost + reordering cost

=(average stockｘCh)+( Number of reorders paｘCo)

Average stock=EOQ/2, no buffer stock

Number of reorders (it can be not an integer) = D/ EOQ



**Decision of order size between EOQ and bulk discount**

**How to determine** -----compare the total costs and choose the cheapest one

Average stock=Q/2+buffer stock

If bulk purchase discounts are available the impact of these on **total inventory related costs** needs need to be assessed.

**Total costs= purchase costs+ holding costs+ reordering costs**

**Example 1**

The annual demand for an item of stock is 125 units. The item costs £200 a unit to purchase, the holding cost for 1 unit for 1 year is 15% of the unit cost and ordering costs are £300 an order. The supplier offers a 3% discount for order of 60 units or more, and a discount of 5% for orders of 90 units or more. What is the cost-minimising order size?

**EOQ** ignoring discount is (2\*300\*125/200×15%)½=50 units Purchase cost 125\*200=25000

Ordering cost 2.5\*300=750

Holding cost (50/2)\*30=750 Total costs=26500

**60 units per order @ 3% discount** Purchase cost 25000\*(1-3%)=24250 Ordering cost (125/60) \*300=625 Holding cost (60/2)\*15%\*200\*97%=873

Total costs=25748

**90 units per order @ 5% discount** Purchase cost 25000\*95%=23750 Ordering cost (125/90)\*300=416.7

Holding cost (90/2)\*15%\*200\*95%=1282.5 Total costs=25449.2

The cheapest option is 90 units per order

## Just-in-time procurement

## The definition of JIT

JIT is a work flow organization technique to allow rapid, high quality, flexible production whilst minimizing stock levels and manufacturing waste.

**– No stock Benefits:**

* Reducing stockholding cost
* Reduction in accounting/admin cost
* Reduced scrap / rework/warranty cost
* Reducing manufacturing lead times
* Improved productivity
* Improved the supplier relationship

## –Drawbacks

* Not easy to build such a system, it spend TOYOTA about 25 years to run JIT successful
* It is not suitable for all industries.
* Dependent on quality and reliability
* Long-term trusting relationships.
* Physical proximity
* Increase the risk of not being able to meet demand due to production problems or because of unexpected increases in demand.

## Example 2

Hexicon plc manufactures and markets automatic washing machines. Among the many hundreds of components which it purchase each year from external suppliers for assembling into the finished article are drive belts, of which it uses 40,000 units pa. It is considering converting its purchasing, delivery and stock control of this item to a just-in-time system. This will raise the number of orders placed but lower the administrative and other costs of placing and receiving orders. Details of actual and expected ordering and carrying costs are given in the table below.

Actual Proposed

Ordering cost per order $100 $25

Purchasing cost per item $2.50 $2.50

Inventory holding cost 20% 20% (as a percentage of the purchase cost)

To implement the new arrangements will require ‘one-off’ reorganization costs estimated at $4,000 which will be treated as a revenue item for tax purposes. The rate of corporation tax is 33% and Hexicon can obtain finance at 12%. The effective life span of the new system can be assumed to be 8 years.

1. Determine the effect of the new system on EOQ;
2. Determine whether the new system is worthwhile in financial terms.

(i) Present EOQ =(2CD/H) ½=[(2ｘ$100ｘ40,000)/(20%ｘ$2.50)] ½

= 4,000 units /order Proposed EOQ = [(2ｘ$25ｘ40,000)/(20%ｘ$2.50)] ½= 2,000 units/order

from this it can be seen that the EOQ is halved.

(ii) First step:

holding cost reduced=(4,000/2-2,000/2)ｘ $2.5ｘ20% =$500

reordering cost reduced=40,000/4,000ｘ$100-40,000/2,000ｘ$25 =$500

Total inventory cost reduced=$1,000 (before tax)

Considering **tax shield**, total inventory cost reduced=$1,000ｘ67%=$670

Second step: calculate NPV

Cash Discount Present flow factor value

1-8 after tax savings $670 4.968 $3,329

0 cost of reorganization (4,000) 1.000 (4,000)

0 tax saving (again tax shield) 1,320 1.000 1,320 Net Present Value 649

As NPV is positive, this proposal is worthwhile.

## （2） Management of accounts receivables Receivables management requires a 4-step approach

1. A receivables policy (whether to offer credit, what terms to offer)
2. A credit analysis system(references, credit ratings)
3. A credit control system(review of credit limits)
4. A debt collection system (statements, reminders, debt factor)

## Credit policy

* Cost of credit control -- interest, management cost, implemental cost
* Risk of credit -- bad debt
* Higher receivables can be investments that help to boost future cash flows but cause higher finance (overdraft) costs.

## Extension of credit (cost-benefit analysis)

* The profitability of the extra sales
* The safety
* The required rate of return on the investment in additional accounts receivable
* Competition situation
* Financing costs and costs of credit control

## Example 3

Enticement Co currently expects sales of 50,000 a month, variable costs of sales are 40,000 a month. It is estimated that if the credit period allowed to accounts receivable were to be increased from 30 days to 60 days, sales volume would increase by 20%. All customers would be expected to take advantage of the extended credit. If the cost of capital is 12.5% a year, is the extension of the credit period justifiable in financial terms?

## Solution:

After credit extension, accounts receivable = 50000 x (1+20%) x 2=120000 Current A/R = 50000

Increased A/R = 70000

Additional annual profits = 10000 x 20% x 12=24000

Benefits = 24000- 70000 x 12.5% =15250

So, the extension of credit period is acceptable.

## Early settlement discounts

Objective ---shorten the credit periods, use money more efficient and reduce interest cost

## Advantages:

* Reducing in interest cost, management costs
* Potential to reduce the irrecoverable debts arising
* Offers a choice to customers of payment terms

## Disadvantages:

* Difficulty in setting the appropriate terms
* Uncertainty as to when cash receipts will be received, complicating cash budgeting.
* Unlike to reduce irrecoverable debts in practice.
* **Factoring:** Transfer the debts to a factor company, and receive the money before the debt maturity. The factor also involves in managing the account receivables of the company.

## Factoring:

* With Recourse: factor only pays collectable debts
* Without recourse: factor pays value of whole debt even if not recovered.

## Advantages:

* + Enhance liquidity of the company
	+ Saving in administration costs
	+ Reduction in the need for management control
	+ Particularly useful for small and fast growing businesses where the credit control department may not be able to keep pace with volume growth.

## Disadvantages:

* + Cost of factoring
	+ Endanger trading relationship and damage goodwill.
	+ A signal of tight liquidity
	+ Lose control over internal credit control system

**How to assess factoring:** Cost benefit analysis method

## Example 4

A company has monthly credit sales of $200,000, and it gives customers 60 days credit. All customers take the full credit allowed. It has bad debts each year amounting to about 2.5% of sales turnover. It operates with a bank overdraft and pays interest at 8% on its overdraft balance.

The company’s management is considering whether to use a factor to collect its debts, under a non-recourse factoring arrangement. A factor has indicated that it will take over the administration of the sales ledger and debt collection for a fee of 2% of annual credit sales turnover. This would save the company internal operating costs of $30,000 each year.

The factor would also charge 1.5% of turnover for credit insurance.

The factor will advance 80% of the value of invoices as soon as they are sent out, and charge interest at 7.75%.

If the services of the factor are used, it is anticipated that there will be no change in annual sales turnover and no change in the collection period of 60 days.

**Required:** Assess the financial consequences of using the factor for non-recourse factoring and factor finance.

Step 1 Cost of existing policy

Funding cost= 2ｘ$200,000ｘ8% =$32,000 Bad debts loss= 12ｘ$200,000ｘ2.5%=$60,000 Administrative cost=$30,000

Total cost of existing policy=$122,000 Step 2 Cost of factoring offering

Service charge= 12ｘ$200,000ｘ2%= $48,000

advance payment charge= 2ｘ$200,000ｘ80%ｘ7.75%= $24,800 Funding cost=2ｘ$200,000ｘ8%ｘ20%=$6,400

Credit insurance charge= 12ｘ$200,000ｘ1.5%=$36,000 Total cost of factoring offering=$ 115,200

Step 3 Make comparison

Net benefits= Cost of existing policy- Cost of factoring offering=$122,000-$ 115,200=$6,800

## Invoice discounting (connect with factoring)

Invoice discounting is a method of raising finance against the security of debtors without using the sales ledger administration services of a factor.

## Management in Foreign account receivable

* + **Letters of credit**: the customer’s bank guarantees it will pay the invoice.
	+ **Export factoring** and export credit insurance
	+ **Invoice discounting**: sale of selected invoices to a debt factor
	+ **Bills of exchange**: IOU signed by the customer. Until paid, shipping documents that transfer ownership are withheld; can be sold.

## （3） Management of creditors and short-term finance

* **Source of short-term finance**
	+ Trade credit
	+ Bank overdraft
	+ Short-term debt
* **Trade accounts payable management** may involve analysis of prompt payment discounts:
	+ Cost of lower payables---higher overdraft costs
	+ Benefit of lower payables---discounts

## Cost of trade creditor

* + Early payment discounts (explicit cost)
* Loss suppliers’ goodwill & credit rating problems (implicit cost)
* More stringent terms for future sales. (implicit cost)

## （4） Management of cash

* **Why holding cash**

**Transactions motive** to meet day -to -day financial obligations

**Finance motive** to cover major items like the purchase of fixed assets and the repayment of loans.

**Precautionary motive** to give a buffer against unplanned expenditure

**Investment motive** to take advantage of opportunities that might arise

## Factors to be considered:

* + liquidity: Available for use when needed;
	+ safety: No risk of loss must be taken;
	+ Profitability: Earn highest possible after tax returns

## Cash flow forecasts

|  |  |
| --- | --- |
| **Cash position** | **Appropriate management action** |
| **Short-term surplus** | Pay accounts payable early to obtain discount. Increase sales by increasing accounts receivable and inventories |
|  | Make short-term investments |
| **Short-term deficit** | Increase accounts payable Reduce accounts receivable Arrange an overdraft |
| **Long-term surplus** | Make long-term investments ExpandDiversityReplace/update non-current assets |
| **Long-term deficit** | Issue of share capital Long-term debt LeasingSell assets Consider shutdown Stop investments |

* **Cash flow forecasting for January 2013**

**January**

**Cash receipts**

Sales receipts (w1) X

Issues of shares X

Total cash receipts X

## Cash payments

Purchase payments (w2) (X)

Dividends/ taxes (X)

Wages (X)

 Repayment of loan (X)

Total cash payments (X)

## Cash surplus/ deficit for month X Cash balance, b/f(opening) X

**Cash balance, c/f** (closing) **X**

## Methods of easing cash shortage

* Postponing capital expenditure
* Accelerating cash inflows which would others be expected in a later period
* Reversing past investment decisions by selling assets previously acquired.
* Negotiating a reduction in cash outflows, to postpone or reduce payments

## Treasury management

**Advantages of a centralised treasury department**

* + Centralised liquidity management
	+ Giving better Short-term investment opportunities

– Borrowing arranged in bulk at lower cost

* + Foreign exchange risk improved
	+ Funds required for precautionary purposes will be smaller
	+ Employ experts to handle

## Advantages of a decentralised cash management

* + Source of finance can be diversified and match local assets

– Greater autonomy given to subsidiaries

* More responsive to the needs of operating units
* More limited opportunities of investment

## Cash management model

**Baumol cash management model Assumptions:**

* Cash use is steady and predictable
* Cash inflows are known and regular
* Day-to-day cash needs are funded from current account
* Buffer cash is held in short-term investments.



EOQ model calculates the amount of funds which means the optimum regular cash injection into the current account or to transfer into short-term investments at one time.

## Miller-Orr management model

* **Assumptions:**
	+ Assumes that cash flows in any given day are unpredictable
	+ Recognizes that cash flows and outflows vary considerably on a day-to-day basis

## Steps:

* + A **lower limit** (safety stock) of cash is decided upon
	+ A statistical calculation is completed taking into account the historic variability of cash flows to agree an allowable range or spread of cash flow fluctuations

**Spread**=3ｘ[3/4ｘ (transaction costｘvariance)/interest cost]1/3

Variance of cash flow= (standard deviation per day)2 Interest cost= interest cost per day

* + This model controls irregular movements of cash and sets the spread between the upper and lower cash balance limits.

**Lower limit**= set by the company; (safety stock)

**Upper limit**= lower limit + spread

* + If too much or too little cash is held then action is taken to return the cash level to a return point.

**Return point**=lower limit + spread/3

* + When cash hit upper limit, purchase securities to return point
	+ When cash hit lower limit, sale securities to return point



## Working capital funding strategies (trade off between risk and return)

Capital requirement = current assets -current liabilities

## Permanent and fluctuating current assets

* 1. **Non-current (fixed) assets**: long-term assets to derive benefit over a number of periods.
	2. **Permanent current assets**: are the amounts required to meet long-term minimum needs and sustain normal trading activity. For example, inventory and the average level of accounts receivable.
	3. **Fluctuating current assets**: are the current assets which vary according to normal business activity, for example due to seasonal variations.

## （5）Strategies of working capital funding



**Other factors influence working capital funding strategies**

* + - * Industry norms(the nature of business)
			* Products
			* Management issues: significant impact upon the actual length of the working capital cycle, The factors to consider include:
				+ The size of organization(the overall level of activity of business)
				+ The degree of centralisation
				+ Management attitudes to risk
				+ Previous funding decisions
				+ Uncertainty in supplier deliveries

6. 基本概念和知识点

**Conservative approach** -- All non-current assets and permanent current assets, as well as part of the fluctuating current assets, are financed by long-term funding. Reduce risk, holding higher working capital (safe but expensive).

**Aggressive approach --** fluctuating current assets and some of the permanent current assets are financed by short-term sources. Reduce financing cost and increase profitability by cutting inventories, speeding up collections and delaying payments (cheap but risky).

**Moderate approach** -- middle way, long-term funds finance permanent assets while short-term funds finance short-term assets (matching)

 3.问题与应用（能力要求）

（1）存货管理的要点是什么？需要使用什么模型？有什么局限性？

（2）应收账款管理的要点是什么？需要使用什么模型？有什么局限性？

（3）现金管理的要点是什么？需要使用什么模型？有什么局限性？

## （三）思考与实践

营运资本管理与企业周期的关系是什么？

## （四）教学方法与手段

课堂讲授、多媒体教学。

思政内容：资本运营的管理是为了创造更多的价值。在中国特色社会主义伟大旗帜之下，需要不断的价值创造才能够为为全面建设社会主义现代化国家提供物质基础，实现中国经济社会的高质量发展。

## 第四模块 Investment appraisal

## （一）目的与要求

1.掌握非折现投资评价方法；

2.掌握折现的投资评价方法；

3.掌握在企业具体决策中的投资评价方法的运用。

## （二）教学内容

第一节 1.主要内容

## （1）Methods of investment appraisal -- non-discount method

**Payback period**= Initial payment/Annual cash inflow

## Advantages

* + Simple to calculate and understand

•Uses cash flows rather than accounting profits

* + Short-term, less risk
	+ Used in capital rationing situation

## Disadvantages

* + Ignore cash flow after the end of payback period
	+ Ignore time value of money
	+ Variability of cash flow not considered
* Unable to distinguish between projects with the same payback period

•The choice of any cut-off payback period by an organization is arbitrary.

## Conclusion

* + Screening device
	+ Measure simple projects
	+ Used in conjunction with other methods

•Faster paybackbetter profitable

## ROCE (return on capital employed)

ROCE = average annual profits/average investment {Using PBIT (after depreciation)}

Average investment= (initial outlay + scrap value)/2

## Advantages

* + it is a quick and simple calculation
	+ Link with accounting measures
	+ Looks at the entire project life

## Disadvantages

* + It is based on accounting profits and not cash flows
	+ Vary with specific accounting policies
	+ It is a relative measure rather than an absolute measure and hence takes no account of the size of the investment.

•ignore the length of the project

* + Ignore working capital requirement

•ignore the time value of money

**–** Conclusion: not reliable basis for appraisal

**（2）Investment appraisal using DCF methods NPV method**

* **Both present value of cash inflows and cash outflows**
* **Timing of cash flows:**

**–** Now is year 0

* All cash flow occur at once at the end of the year
* Cash flow occurs at the beginning of a year is taken to occur at the end of the previous year

## Discount table

* + PV factor
	+ Annuity factor

## NPV=Σ(yearly cash inflows - yearly cash outflows)×discount factor

**key items of NPV**

* **Easy confused relevant cash flow ( Future , Incremental, Avoid double counting)**
* **Cash inflow:** revenue must be adjusted to cash flows
* **Opportunity cost:** costs/losses caused by using the resources, the best alternative use of resources, not the cost of resource
* **Working capital:** time value of working capital
* **residual value**: or disposal value of equipment at the end of its life.
* **Marketing cost:** including market research, promotion
* **Human resource cost:** including training costs
* **infrastructure costs**: additional equipment costs
* **Tax:** the extra taxation that will be payable on extra profits, or the reductions in tax arising from capital allowance or losses.
* **Relevant benefits** from investments include not only **increased cash flows**, but also **savings** and **better relationships** with customers and employees.

## Easy confused irrelevant costs

* **Sunk costs**: research cost, it incurred in the past, regardless whether or not the investment is undertaken.
* **Finance related cash flow( interests)**, because the discount method take account the cost of capital
* **Centrally-allocated overheads**: not related to the project
* **Depreciation**: using cash flow to assess, so exclude it.
* **Discount factor:** you need not to remember the formula to calculate the factor, but you must use the table very skillfully

**Which is the discount rate?** Use the cost of capital, not the cost of debt. Expect the question tells you the project is financed totally by debt

## Net present value investments create wealth for shareholders and should drive up the share price, as long as they can be financed.

**NPV with TAX and Inflation**

**Inflation**

* **Money rate( nominal rate):** the total rate including inflation condition
* **Real rate:** use in exclude inflation condition, it’s the actual rate

## Formula

## Fisher formula

## (1+i)=(1+r)×(1+h)

## (1+money rate)= (1+real rate) × (1+inflation rate)

* **Notice**

If inflation>0, money rate>real rate

## Methods of dealing with inflation

**Real cash flow use real rate:** when the cash flows are expressed in terms of the value at time 0

**Money cash flow use money rate:** when the cash flows are expressed in terms of the actual amount at the relevant date

If the items of project are in **different inflation rate,** you can only use money rate.

## Taxation

**Taxation** is generally assumed to be payable one year **in arrears Capital allowance:**

* Usually calculated on a reducing balance basis, the reduction in taxation is the capital allowance multiplied by the tax rate.
* At the end of project or the asset is eventually disposed of, there is a balancing allowance or a balancing charge. The balancing allowance should deduct the scrapped value of the asset,
* Capital allowances are not cash flows and so should not be included in the NPV analysis.

## Capital allowance/depreciation

* In F9, Capital allowance is used in **only** to calculate the reduction of taxation
* Capital allowance is always claimed against year 1, tax is always payable

one year in arrears. For example, if the asset has a life of 4 years, **the capital allowance is 4 years, e.g. from year 1- year 4, the tax saving is also 4 years, from year 2 - year 5.**

## Taxation and DCF

* Taxation is ignored; the discount rate will reflect the pre-tax rate of return required on capital investments.
* Taxation is included in the cash flows; a post-tax required rate of return should be used.

## Method of presentation Cash budget approach

**Layout of NPV** (for a 3-year project)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| YearSales CostOperating cash flows | 0 | 1x (x) x | 2x (x) x | 3x (x) x | 4 |
| **Taxation** |  |  | (x) | (x) | (x) |
| **Tax benefit of CAs** |  |  | x | x | x |
| Capital expenditure | (x) |  |  | x(scrap  | value) |
| Working capital (change) | (x) | (x) | (x) | x |  |
| Net cash flows | (x)  |  x |  x  |  x  | x |
| Discount factor | 1 | x | x | x | x |
| Present value | (x) | x | x | x | x |

 The cash budget approach is suitable for short projects with lots of different cash flows which change from year to year.

## Tabular approach

The tabular approach is suitable for long projects with lots of different cash flows that are the same from year to year (enabling annuity factors to be used) **In examination, you may use the quicker method to save your time**



## Case

A company is considering whether or not to purchase a new machinery costing

$40,000 in 2009; it would have a life of 4 years with a scrap value of $5,000. The machinery would create annual cost saving of $14,000. The machinery would attract tax allowable depreciation of 25% on the reducing balance basis which could be claimed against taxable profits of the current year, which is soon to end. A balancing allowance or charge would arise on disposal. The rage of tax is 30%. Tax is payable one year in arrears. The after-tax cost of capital is 8%. Assume that payments occur in the year following the transactions. Should the machinery be purchased?

## Solution

1. Tax-allowable depreciation

Year Tax-allowable deprecation reducing balance

1 10000 30000

2 7500=30000×25% 22500

3 5625=22500×25% 16875

4 11875=168755000 5,000(scrap value)

1. Combined tax computation

Year 0 1 2 3 4

Cost savings 0 14000 14,000 14,000 14,000

Tax-allowable deprecation 0 (10000) (7500) (5625) (11875)

Taxable profits 0 4000 6500 8375 2125

Tax at 30% 0 (1200) (1950) (2513) (638)

1. Cash flow analysis

Year 0 1 2 3 4 5

Equipment (40000) 5000

Savings 14,000 14,000 14,000 14,000

Tax (1200) (1950) (2513) (638)

Net cash flow (40000) 14000 12800 12050 16487 (638)

Discount factor 8% 1 0.926 0.857 0.794 0.735 0.681

Present value (40000) 12964 10970 9568 12118 (434)

Net present value=5186

Base on the NPV analysis, the NPV of the project is positive; it is worthwhile to purchase the new machinery in financial aspects.

## （3）Internal rate of return (IRR) 3-step approach

**Step 1** calculate the NPV of the project at 5%

**Step 2** calculate the NPV of the project at 10%

**Step 3** calculate the internal rate of return using the **Formula**

**IRR=a+ {(NPVa/NPVa-NPVb)(b-a)}%**

where a= lower rate chosen b= higher rate

* Calculate the exact rate of return so that NPV is zero
* If the IRR exceeds a target rate, the project is worthwhile
* How to choose trial rate: choose 2/3 of the return rate on investment as the first time.

## Advantages and disadvantages of IRR method Advantages

* Consider the time value of money
* Is a percentage and therefore easily understood
* Uses cash flows not profits
* Considers the whole life of the project
* Means a firm selecting projects where the IRR exceeds the cost of capital should increase shareholder’s wealth

## Disadvantages

* It is not a measure of absolute profitability
* Interpolation only provides an estimate
* It is fairly complicated to calculate
* Non-conventional cash flows may give rise to multiple IRRs

 2.基本概念和知识点： 非折现投资评价方法；折现投资评价方法； NPV；IRR

 3.问题与应用（能力要求）

## Comparison —— NPV and IRR

* When cash flow patterns are conventional both methods give the same accept or reject decision
* IRR method is more easily understood
* IRR ignores the relative sizes of investments
* IRR and accounting ROCE can be confused.
* NPV is easier to calculate and superior for ranking mutually exclusive projects. (A smaller project might be chosen over a larger project because it has a higher IRR. NPV would choose the larger project.)
* It is difficult to determine the discount rate of NPV
* The reinvestment assumption underlying the IRR method cannot be substantiated ( the IRR method assumes that cash inflows from the project are reinvested at the IRR rate, this is unrealistic when the IRR is high)
* When discount rates are expected to differ over the life of the projects, such variations can be incorporated easily into NPV calculations, but not into IRR calculations.
* The IRR method is widely used in practice
* To choose the project with higher NPV contributes directly to maximizing shareholder’s wealth.

第二节

1.主要内容

## （1）Risk and uncertainty

|  |  |
| --- | --- |
| **Risk** | * Can be estimated( predictable)
* Several possible outcomes
* On basis of past relevant experience
* Assign probabilities to outcomes
* Increase as the variability of returns increase
 |
| **Uncertainty** | * Can not be estimated
* Several possible outcomes
* Little past experience
* Difficult to assign probabilities to outcomes
* Increase as project life increases
 |

**Sensitivity analysis**

Sensitivity analysis is a modeling and risk assessment procedure in assessing how NPV is affected by the project variables

## Formula

Sensitivity = NPV/present value of project variable%

The lower the sensitivity, the higher sensitive for the variable. Because if sensitivity is lower, the present value of project variable is much higher than NPV, if all variables changing in a same percentage, the higher variable would have higher absolute value, so would make greater influence to NPV.

## Strengths and Weaknesses of sensitivity analysis Strengths

* Simple to understand
* Provides more information to allow management to make
* Identifies critical estimates

## Weakness

* Assumes variables change independently of each other
* Looking at factors in isolation is unrealistic since them often interdependent.
* Does not assess the likelihood of a variable changing
* Critical factors may be those over which managers have no control
* Does not directly identify a correct decision

## Certainty —— equivalent approach

By this method, the expected cash flows of the project are converted to riskless equivalent amounts. It is critical for subjective change in the items of project.

## （2）Probability analysis

**A probability analysis** of expected cash flows can often be estimated and used both to calculate an expected NPV and to measure risk.

## Formula

**Expected value=Σ(probability ×cash flow)**

**Standard deviation=sqrt(Σp(x-EV)2)**

The lower the standard deviation the lower the project risk

## Advantages and limitation of probability analysis Advantage

* There are several possible outcomes, more sophisticated than single value forecasts
* Enables the probability of the different outcomes to be quantified
* Leads directly to a simple optimizing decision rule.
* Calculations are relatively simple.

## Limitation

* An investment may be one-off, and ‘expected’ NPV may never actually occur.
* Assigning probabilities to events is highly subjective.
* Expected values do not evaluate the range of possible NPV outcomes.
* The whole forecasting procedure is complicated, inaccurate forecasting is already a major weakness in project evaluation.
* the technique ignores the investor’s attitude to risk.

**Case ——** probability analysis and standard deviation

ABC Company is considering which projects should be taken from A and

1. The details of A and B is showing as following:

|  |  |  |  |
| --- | --- | --- | --- |
| Project A NPV(000) | probability | Project B NPV(000) | probability |
| 20 | 0.15 | 5 | 0.2 |
| 10 | 0.20 | 15 | 0.3 |
| 20 | 0.35 | 20 | 0.4 |
| 40 | 0.30 | 25 | 0.1 |

Which project should ABC Company choose?

## Solution

* 1. **calculate the expected value of both projects**

Project A Project B

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NPV (000)-20 | probability0.15 | Expected value-3.0 | NPV(000)5 | probability0.2 | Expected value1.0 |
| 10 | 0.20 | 2.0 | 15 | 0.3 | 4.5 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 20 | 0.35 | 7.0 | 20 | 0.4 | 8 |
| 40 | 0.30 | 12 | 25 | 0.1 | 2.5 |
| Total EV |  | 18.0 |  |  | 16.0 |

Project A has higher expected value than project B, which means A is more profitable than B

## standard deviation analysis —— Risk analysis

Project A EV=18 Project B EV=16

NPV probability x-EV p(x-EV)2 NPV probability x-EV p(x-EV)2

-20 0.15 -38 216.6 5 0.2 -11 24.2

10 0.20 -8 12.8 15 0.3 -1 0.3

20 0.35 2 1.4 20 0.4 4 6.4

40 0.30 22 145.2 25 0.1 9 8.1

Total 376 39

Project A standard deviation=sqrt(376) = 19.391 Project B standard deviation=sqrt(39) = 6.245

Project A is more risky than Project B, though it has a higher expected value. Which project is suitable depends on the attitude of risks.

##  Discounted payback

**The discounted payback period** is the time it will take before a project’s cumulative NPV turns from being negative to being positive.

## （3）Investment decision capital investment decision

* Using proper discount rate, accept the project with NPV >0
* Choosing the higher NPV from the projects
* Don’t forget to commend your assumptions and other factors influenced your decision.

## Assets replacement policy decision

You will be asked which the appropriate replacement period is **Equivalent annual cost method=NPV of costs/ Annuity factor The best decision is to choose the option with the lowest EAC**

**Step 1** calculate the different NPV of replacement cost over the different replacement cycle

**Step 2** change the NPV to annual cost by divided by annuity factor

**Step 3** compare the NPV, and choose the option which has lower NPV

## The factors to be considered when making replacement decisions are as follows:

* Capital cost of new equipment
* Operating costs: increase repair and maintenance costs, loss of production due to ‘down time’, lower quality and quantity of output.
* Resale value
* Taxation and investment incentives
* Inflation

## Equivalent annual benefit=NPV of project/annuity factor for the life of the project

**The best decision is to choose the option with the highest equivalent annual benefit.**

**（4） Capital investment and financing decision combined (lease or buy) Types of leases**

* **Finance leases:** lessee owns the asset and maintains it, At the end of the lease period, the lessee can keep the asset or continue to lease the asset at a low price.(cheaper and easier to obtain)
* **Operating leases:** lessor retains most of the risks and rewards of ownership, maintains the assets (expensive)
* **Sale and leaseback:** used for raise funds

## Lease or buy decisions

There are several methods by the textbook; I recommend using the following 3-step method:

**Step 1** NPV of the project if obtained by purchase

Using the discount rate with after tax cost of capital

**Step 2** NPV of the project if using lease

Remember to Use discount rate with after tax cost of capital again, no the cost of debt finance, because it is the project NPV.

**Step 3** compare the step 1 and 2, Choose the higher NPV option (the lower cost option).

## It is about a lease or buys appraisal questions

**Use cost appraisal:** PV of cost of buy VS PV of cost of lease (the costs of leasing: payments, lost allowances and lost scrap revenue)

**Items to be considered:** Tax benefits for both buy and lease

* The purchase cost
* Any residual value
* Any associated tax implications due to capital allowance
* Maintenance costs
* Tax relief

**In examination,** after you make your decision, don’t forget to commend the assumptions and factors, normally including:

* + Investment needs to pay money at first, while lease just pay annual rent, consider the alternative using of the initial funds of investment
	+ The liquidity position of the company should be considered
	+ Running costs and scrap value are just by assessment, can be inaccurate
	+ Flexibility: lease is more flexible than buy
		- Operating lease can be used as the resource of off-balance sheet financing.

## （5） Capital rationing decision The reasons for capital rationing

|  |  |
| --- | --- |
| **Hard capital rationing** | **Soft capital rationing** |
| * Raising money through the stock market may not be possible if share price are depressed.
* Restrictions on banking lending due to government control.
* The costs associated with making small issues of capital may be too great.
* Company-specific factors, such as:

lack of or poor track recordlack of asset securitypoor management team. | * Limited management skills available.
* May lead to outsiders gaining control of the business
* The additional debt capital may lead to large fixed interest payments.
* Can be financed solely from retained earnings.
* Capital expenditure budgets may restrict spending.
* Encourages acceptance of only substantially profitable business.
 |

**The projects be divisible** —— **profitability index method Profitability index** = NPV of project inflows/initial outlay **Weakness of Profitability index method**

* The projects are assumed to be divisible, it is rarely existed.
* The method focus on the profitability rate, ignore the total NPV inflows
* The method ignores the project risks
* the selection criterion is fairly simplistic.
* the method is of limited use when projects have differing cash flow patterns.

## When the projects are indivisible, using the absolute NPV method Ranking the NPV of projects, and choose the combination which has the maximum total NPV

**Practical steps to deal with capital rationing include:**

* + Leasing
	+ Entering into a joint venture with a partner
	+ Delaying one of the projects to a later period
	+ Raising new capital (if possible)

 2.基本概念和知识点

**What is capital ration --** the company has limited money and wants to invest in potential projects.

**Soft capital rationing --** the management choose not to increase additional funds for all projects (internal factors)

**Hard capital rationing——**the company loose the ability of raising additional

funds due to the market restriction or gearing level (external factors)

 3.问题与应用（能力要求）

## Advantages and disadvantages of discounted payback period Advantages:

* It is easy to understand and calculate.
* It provides a focus on liquidity where this is relevant,
* It also takes into account the time value of money.
* It therefore bridges the gap between the gap between the theoretically superior NPV method and the regular payback period method.
* It produces a longer payback period than the non-discounted payback approach, and takes into account more of the project’s cash flows.
* It has over traditional payback is that it has a clear accept-or-reject criterion. A project is acceptable if it pays back within its lifetime.

## Disadvantages:

* It does differ from NPV in that the discount rate used is the unadjusted cost of capital whereas NPV often uses an adjusted rate to reflect project risk and uncertainty.
* Cash flows which occur after the payback period are ignored.
* A maximum payback period can be set to reflect the fact that risk increases the longer the time period under consideration, but the discounted payback can not be recommended as a method of adjusting for risk.

## （三）思考与实践

如何在投资决策中考虑风险和报酬的均衡？

## （四）教学方法与手段

课堂讲授、多媒体教学。

思政内容：在现代社会，如何学会价值判断很重要。选择能够增加未来价值的项目如此，选择能够实现自我价值的学习路径和职业路径亦是如此。作为新时代的中国青年，我们要学会价值判断，学会抉择，只有在党的领导下坚定不移的走中国特色社会主义道路，投身中国经济发展建设，为中华民族伟大复兴而努力，才是NPV为正的项目。

## 第五模块 Business finance

## （一）目的与要求

1.掌握不同融资渠道的特点

2.掌握不同股利政策的原理

3.掌握不同资本结构及其财务风险的特征

## （二）教学内容

第一节 1.主要内容

## （1）Selection of appropriate sources of finance

**Criteria for choosing between sources of finance**

|  |  |
| --- | --- |
| **Factor** | **Issue to consider** |

|  |  |
| --- | --- |
| **Cost** | Debt usually cheaper than equity. |
| **Duration** | Long-term finance more expensive but secure. Firm match duration to assets purchased. |
| **Term structure of interest rates** | Relationship between interest and loan durationusually short-term is cheaper-but not always! |
| **Gearing** | Using mainly debt is cheaper but high gearing is risky. |
| **Accessibility** | Not all sources are available to all firms. |

**（2）Sources of and raising short-term finance The range of short-term sources of finance**

* overdraft
* short-term loan
* trade credit
* lease finance( operating lease)

## Overdraft

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| **Flexibility -** can be used as required. **Cheapness -** interest is only payable on the finance actually used.**Can do the same job** as a loan - can simply be renewed every time it comes up for review. | Are **legally repayable** on demand. **Security** is usually required by way of fixed or floating charges on assets.**Interest costs** vary with bank base ratesMake **planning (budgeting)** more complicated. |

**The range of long-term sources of finance**

|  |  |
| --- | --- |
| **Equity finance** | Ordinary shares Preference shares Retained earnings Rights issues |
| **Debt finance** | Bonds, debentures, long-term loans Secured/unsecured Redeemable/irredeemableLow risk investment - cheap Inflexibility - risky to company |
| **Lease finance** | finance lease -- risk/ rewards transferred |
| **Venture capital** | High risk proposals High risk prospects Take equity share. |
| **Hybrids** | Convertible loan notes Loan notes with warrants |

**（3）Sources of Debt**

* **Market value of debt**
	+ **Irredeemable debts**

**Market price of debt = annual interest I/Kd**

Kd is the require return rate, NOT the nominal rate of debts

## Redeemable debts

**Market value = PV of interests + PV of redeemed payment**

* **Loan notes (long term debt, including bonds, debentures) Some definitions:**

**Nominal value -** the par value of notes

**Coupon -** interest base on the nominal value

**Redemption value -** the money paid at the maturity of notes

**Actual value -** the current market value of notes

## Deep discount bonds

Issued at a price much lower than the nominal value

## Zero coupon bonds

Issued at discount price without paying any interest

The borrowers has advantages of not paying annual interests, however, the advantages of lenders depend on the discount rate

## Convertible loan notes

With rights to convert to ordinary shares

## Formula

**Conversion premium** = Market value - current conversion value

**Current conversion value** = conversion ratio× current share value **Market Value**=present value of interests + present value of redemption or conversion value (choose the higher one)

**Case -** Convertible notes

ABC Co has issued 50000 units of convertible loan notes, each with a nominal value of $100 and a coupon rate of interest of 10% payable yearly. Each $100 of converted loan notes may be converted into 40 ordinary shares of ABC in 3 years time. Any notes not converted will be redeemed at 110.

Estimate the likely current market price for $100 of the loan notes, if investors in the loan notes now require a pre-tax return of 8%, and the expected value of ABC ordinary shares on the conversion day is:

* + 1. $2.50 per share
		2. $3.00 per share

## Answer

1. Share price are valued at $2.5 each

Conversion value of loan note = 2.5 X 40 =100 < 110 So, convertible right will not be exercised

Use present value to calculate the value of debt

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Items | Cash flow | Discount factor 8% | PV |
| 1 | Interest | 10 | 0.926 | 9.26 |
| 2 | Interest | 10 | 0.857 | 8.57 |
| 3 | Interest | 10 | 0.794 | 7.94 |
| 3 | Redemption value t | 110 | 0.794 | 87.34 |

Present value =113.11

So the market value of loan notes is $113.11

1. Shares are valued at $3 each

Convertible value = 3 X 40 = 120 >110, so, convert to shares

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year |  | Cash flow | Discount factor 8% | PV |
| 1 | Interest | 10 | 0.926 | 9.26 |
| 2 | Interest | 10 | 0.857 | 8.57 |
| 3 | Interest | 10 | 0.794 | 7.94 |
| 3 | convertible value | 120 | 0.794 | 98.28 |

Present value = 121.05, so the market value of loan notes is $121.05

## Finance leasing, convertibles, warrants

Distinguish operating leases, finance leases, sale and leases back. The key criterions are who takes the ownership/risk of the asset

## Factors influencing choice of debt finance

* + Costs of debt finance
	+ Length of project
	+ Risk attitude of management
	+ Financial ratios and market requirements

## Choosing between sources of equity

* **Factors influencing choice of equity finance**
* The accessibility of the finance
* The amount of finance
* Costs of the issue procedure
* Pricing of the issue
* Control
* Dividend policy

## Ordinary shares (public listing)

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| * Easier to raise funds on the stock market
* Access to a wider pool of finance.
* Improved marketability of shares
* Build up reputation
* Enhanced public image
* Easier to seek growth by

 acquisition* Value maximum
 | * Strict governance
* Higher management costs
* Threat of being hostile taken-over in stock market
* A wider circle of investors with more exacting requirements will hold shares.
 |

What is the Ex-right and Cum-right price of share?

## Why use rights?

* + Lower cost than IPO without prospectus
	+ Existing shareholders can maintain their control
	+ May reduce gearing

**Value of rights** = Ex-right price of share - price of right

**Theoretical ex-rights price**=[(market value of shares in issue)+ (proceeds

from new share issue)]/number of shares after right issue

## Question —— on effect of right issue

Seagull can achieve a profit after tax of 20% on the capital employed. At present its capital structure is as follows:

|  |  |
| --- | --- |
| 200000 ordinary shares of $1 each | 200,000 |
| Retained earnings | 100,000 |
|  | 300,000 |

The director proposes to raise an additional $126000 from a right issue. The current market price is $1.80.

## Required

* 1. Calculate the number of shares that must be issued if the rights price is:

$1.60; $1.5; $1.40; $1.20.

* 1. Calculate the dilution in EPS in each case

## Answer:

Current after tax profit = 300000 X 20% = 60000 EPS=60000/200000=0.3

After tax profit after rights issued = 426000 X 20% = 85200

|  |  |  |  |
| --- | --- | --- | --- |
| Rights price | No. of shares | EPS | Dilution |
| 1.6 | 78750 | 0.306 | 0.006 |
| 1.5 | 84000 | 0.30 | 0 |
| 1.4 | 90000 | 0.294 | -0.006 |
| 1.2 | 105000 | 0.279 | -0.021 |

## （4）Islamic finance

**wealth creation through trade and investment**

**Islamic finance transactions** are based on the concept of sharing risk and reward between the investor and the user of funds. (The entrepreneur)

The Islamic bank’s profitability is closely tied to that of the client. The bank stands to take profit or make loss in line with the projects they are financing and as such must be more involved in the investment decision-making. **riba**

**Riba**(interest) is forbidden in Islamic finance.

|  |  |
| --- | --- |
| **For the borrower** | Unfairness when the enterprise makes a profit which is less than the interest payment, turning his profit into a loss. |
| **For the lender** | Unfairness in high inflation environments when the returns are likely to be below the rate of inflation. |
| **For the economy** | Resulting in inefficient allocation of available resources in the economy and may contribute to instability of the system. |

Islamic finance will require that **an active role is played in the use of the asset by the fund provider** and that risks and rewards be shared.

## Summary of Islamic finance transactions

|  |  |  |
| --- | --- | --- |
| **Islamic finance transaction** | **Similar to** | **Differences** |
| **Murabaha** | Trade credit/loan | There is a pre-agreed mark-up to be paid, in recognition of the convenience of paying later, for an asset that is transferred immediately. There is no interest charged. |
| **Musharaka** | Venture capital | Profits are shared according to a pre-agreed contract. There are no dividends paid. Losses are shared according to capital contribution. |
| **Mudaraba** | Equity | Profits are shared according to a pre-agreed contract. There are no dividends paid. Losses are solely attributable to the provider of capital. |
| **Ljara** | Leasing | Whether an operating or finance transaction, in Ljara the lessor is still the owner of the asset and incurs the risk of ownership. This means that the lessor will be responsible for major maintenance and insurance which is different from a conventional finance lease. |
| **Sukuk** | Bonds | There is an underlying tangible asset that the Sukuk holder shares in the risk and rewards of ownership. This gives the Sukuk properties of equity finance as well as debt finance. |

 2.基本概念和知识点 **Placing**:

shares as issued at a fixed price to institutional investors, a low cost method common for smaller issues (cheaper, quicker, less disclosure of information, controlled by institutional investors).

## Stock exchange introduction:

the shares are already widely held, no new shares issued, the shares will be greater marketability after introduction.

## Right issues:

Definition- rights of purchasing new shares to existing shareholders, new shares can be issued at a discount so the theoretical ex rights price will be lower than the existing share price. (rights can be sold on if not exercised).

 3.问题与应用（能力要求）

## Comment - benefits and drawbacks of Debts Benefits:

* + - Lower cost than equity
		- Easier availability, especially when the debt ratio is lower
		- Create a tax relief on interest
		- Do not dilute control

## Drawbacks:

* + - Interest must be paid on time even the company makes a loss;
		- Higher gearing company may be required higher dividends;
		- Over-gearing may cause liquidity problems
		- Must be repaid.

## Comment - Debt or Equity?

**Debt -** lower cost, tax relief, no influence to control, inflexibility **Equity**safety especially in the situation of running new projects, higher cost, and new issue will dilute control

**Factors must be considered -** purpose of finance, size of business, duration of the project, cash flow prediction, gearing of the company, expectation of shareholders.

 第二节

1.主要内容

## （1）Factors influencing dividend policy

* The need to remain profitable.
* The law on distributable profits
* The government which may impose direct restrictions on the amount of dividends companies can pay.
* Any dividend restrains that might be imposed by loan agreements.
* Dividend signaling
* Preference for current income
* Taxation
* The company’s gearing level
* The company’s liquidity position.

**Dividend policy:** arguments for the relevance of dividend policy

* Different parties have different expectations of dividend policy
* The small shareholders who can’t control the company hope to get higher dividend.
* Different companies have different dividend policy
* Growing companies want to maintain more retain earnings as develop fund

If dividend is too low, shareholders may be unsatisfied and sell their shares, which will cause the drop of share price

If the company keeps a constantly higher dividend policy, it may cause insufficiency of finance or raise the cost of capital. Even worse, it is regarded as a bad signal for the company which normally paid high dividend changes its dividend policy to low dividend, the share price may drop down

* Choice of dividend is a trade-off between growth and stability

## （2）Gearing and Capital structure Gearing

**Financial gearing** is used to measure the financial risk in a company’s long-term capital structure. High financial gearing is risky, for fixed interest payment must be made regardless of the level of earnings.

## Financial gearing =Market value of long term debt /market value of (equity + long term debt)

**The dual-effects of Gearing**

**High gearing:** higher payback rate to shareholders, because cost of debt is normally lower than cost of equity. However, the higher gearing leads the riskier of capital; high gearing may cause liquidity problems.

The **appropriate capital structure** is the balance between equity and debt. It is based on the attitude of management to risk and return.

## Effect of Gearing on shareholder wealth

On earning per share (EPS) and PBIT

The **indifferent PBIT point** for capital structure

The following formula is using for assess capital structure:

## (PBIT-I) (1-T)/P1 = (PBIT-I) (1-T)/P2

I-- interest rate

T -- taxation

P1, P2 -- number of shares after financing for plan 1 and 2

PBIT-- indifference point of plan 1 and 2

When **real PBIT** > PBIT, choosing source of debt When **real PBIT** < PBIT, choosing source of equity

**Operating gearing** is used to measure the business risk of a company.

**Operating gearing**=contribution/ profit before interest and tax (PBIT)

If fixed costs are high then contribution will be high relative to profits. High fixed costs mean cash flow is volatile (high business risk) so high gearing is dangerous.

## （3）Some ratios

**Interest coverage ratio**=profit before interest and tax/interest

**Earnings per share**=the net profit or loss/ the weighted average number of ordinary shares

**Price earning ratio**= market price per share/EPS

**Dividend cover** = EPS/ dividend per share

**Dividend yield** = dividend per share/market price of share

## （4）Finance for small and medium sized entities (SMEs) Characteristics of small and medium-sized enterprises

* Ownership is highly concentration
* Unlisted
* Can not create economic of scale
* Lots of competitors and high failure rate
* Flexible in products and marketing,
* Quick response for market

2.基本概念和知识点

**Traditional view:** focuses on the effect on share price which depends on the mix of dividends, return rate and growth

**Residual theory:** investment is prior to dividends

**Irrelevancy theory (MM):** shareholders are indifferent between dividends and capital gains

 3.问题与应用（能力要求）

## Problems of finance of SMEs

* Not sufficient assets -banks are reluctant to lend
* High risks - hard to finance

## Potential resource of finance for SMEs

* Venture capital -- high risk and high benefit
* Business angles

## （三）思考与实践

How to determine the indifferent PBIT point?

##  （四）教学方法与手段

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## （五）思政内容

**习近平总书记在党的十九大报告中指出，创新是引领发展的第一动力，是建设现代化经济体系的战略支撑。科技创新的载体一部分时科学家孜孜不倦的努力，一部分是企业对创新的投入。因而企业在进行项目选择时，应当考虑国家的战略需求，加大对科技研发力量的投入，为我国技术进步做出贡献，同时也是为企业的长期生存喝发展积蓄力量。作为财务管理学人才，也许不能直接投入研发活动中，但可以通过项目决策的选择为我国的科技进步添砖加瓦。**

**第六模块 Cost of capital**

## （一）目的与要求

1.掌握权益资本成本的计算；

2.掌握债务资本成本的计算；

3.掌握加权平均资本的计算；

4.掌握资本成本对投资决策的影响。

##  （二）教学内容

第一节

1.主要内容

## （1）The cost of equity

**Dividend valuation model**

* **Constant dividend valuation mode**l

**Ke = d/P0**

* **Dividend growth model**

**Ke =d0(1+g)/P0+g=d1/P0+g**

g is the annual growth rate of dividend

## Gordon's growth model

g=b×r (g is the annual growth rate in dividends, b is the proportion of profits that are retained, r is the rate of return on new investments)

## Weakness of dividend growth rate of dividend

* + Dividend does not grow constantly in practice
	+ The model ignores risk level which connects with the cost
	+ Dividend may not affect the share price if shareholders consider capital gains
	+ It ignores taxation of dividend
	+ The input data used may be inaccurate: current market price, future dividend

## Capital Asset Pricing Model ( CAPM) Systematic risk and unsystematic risk



* **Assumptions of CAPM**
	+ Well-diversified investors
	+ Perfect capital market
	+ Unrestricted borrowing at the risk-free of interest
	+ Uniformity of investor expectations
	+ All forecasts are made in the context of one time period only

If we assume that the investments are totally diversified, the only risk is systematic risk. Now consider - how to assess systematic risk?

## Systematic risk is measured using beta factor (β)

* **Cost of equity=Rf+***β*(**Rm-Rf)**

**Rf** is the risk-free rate of return

*β* is the systematic risk factor connected with risk level. When *β=* 1, the risk of investment is the same with risk of average total market investment.

## The higher the *β*, the riskier the investment

*β*(Rm-Rf)is also defined as **Risk Premium**, and (Rm-Rf) as **Equity Risk Premium** or **Market Risk Premium**

## （2）Cost of debt Irredeemable debt capital

**K=i/P0 or K=I(1-T)/P0**

**Redeemable debt capital: use IRR**

Cost of debt is the rate when NPV of debt is 0

## Cost of convertible debt: use IRR

If the conversion is not exercised, it is a pure debt, like 2.2

If the debt is exercised convert right, use conversion value instead of redemption value of debt

Conversion value=P0(1+g)nR

## （3） Weighted average cost of capital (WACC) - cost of total capital

WACC is used as the discount rate when calculating NPV

**Assumption:** The company can continue to invest in the future by raising the same weighted capital.

**Formula WACC=Ke×(Ve/(Ve+Vd))+Kd×(Vd/(Ve+Vd))×(1-T)**

Ve, Vd is the market value of equity and debt respectively Ke, Kd is the cost of equity and cost of debt respectively T is taxation

## Arguments against using WACC

* + WACC ignores the business risk of the project when it is used for all projects
	+ Capital structure always change so does WACC when taking project
	+ The cost of debt may be floating, so the WACC always change

## Marginal cost of capital approach evaluate the cost of new project

When WACC is changed with the project

**Formula**

Cost=Δ (capital cost× market value of capital)/Δ market value of capital

 2.基本概念和知识点

* **Unsystematic risk =** business risk = diversifiable risk

Unsystematic risk CAN be eliminated by diversifying

* **Systematic risk =** market risk = undiversifiable risk Systematic risk can not be eliminated by diversifying

 3.问题与应用（能力要求）

## The advantages and weakness of CAPM

* **Advantages**
	+ Works well in practice
	+ Focuses on systematic risk
	+ Is useful for appraising specific projects

## Weakness of CAPM

* + Both geared and ungeared are difficult to calculate accurately, it is hard to find an appropriate proxy company as well
	+ Expected market return rate is not easy to assess
	+ It is difficult to assess the risk free rate
	+ Projects in different conditions are hard to compare their 
	+ Ignores tax situation of investors
	+ Actual data inputs are estimates and may be hard to obtain

第二节 1.主要内容

## （1）capital structure theories

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| **Theory** | **Net effect as gearing increases** | **Impact on WACC** | **Optimal finance method** |
| **Traditional theory** | The WACC is U-shaped. | At optimal point, WACC is minimized. | Find and maintain optimum gearing ratio. |
| **M&M**( no tax) | Cheaper debt=Increase in Ke | WACC is constant. | Choice of finance is irrelevant — use any. |
| **M&M**(with tax) | Cheaper debt>Increase in Ke | WACC falls | As much debt as possible. |
| **The pecking order** | **No theorized process.** | **No theorized process.** | Simply line of lease resistance. First internally-generated funds, then debt and finally new issue of equity. |





* **Reasons for following Pecking order**
	+ It is easier to use retained earnings
	+ There are no issue costs if retained earnings are used.
	+ Investors prefer safe securities, that is debt with its guaranteed income and priority on liquidation

## Limitations of pecking order theory

* + It fails to take into account taxation, financial distress, agency costs or how the investment opportunities that are available may influence the choice of finance.
	+ Pecking order theory is an explanation of what businesses actually does, rather than what they should do.

## 4.2 Impact of cost of capital on investment

* **Using the WACC in investment appraisal**
	+ The project being appraised is small relative to the company.
	+ The existing capital structure will be maintained (same financial risk)
	+ The project has the same business risk as the company

## Arguments against using the WACC

* + New investment undertaken by a company might have different business risk from the company’s existing operations.
	+ The finance that is raised to fund a new investment might substantially change the capital structure and the perceived financial risk of investing in the company.

## CAPM and MM combined- geared betas

Geared $β$(equity$ β$) and ungeared Beta (asset $β$)

The gearing of a company will affect the risk level of capital, so$ β$ is affected by the gearing

## The relation of gearing and ungearing 

$β$**u=**$ β$**g×Ve/(Ve+Vd(1-T)), so ,** $β$**g>**$β$**u**

**The question about** $β$**is never straightforward**, you must be able to use the formal to convert $β$u and $β$g twice:

* + Convert the $β$of the industry to ungearing $β$using the capital and debt of the industry $β$get ungearing $β$of the industry.
	+ Convert the ungearing $β$to gearing $β$reflecting the real capital and debt of the company $β$get gearing $β$of the company.
	+ Use the gearing $β$ of the company to get the cost of project by CAPM

2.基本概念和知识点

**Traditional theory -**optimal capital structure is the lowest WACC structure.

**MM theory -** ignore tax, capital structure would have no impacts on WACC A key assumption of MM theory is that capital markets are perfect ie a company will always be able to raise finance to fund good projects.

**Pecking order theory -** using retained earning, straight debt, convertible debt, preference shares, equity shares in order

 3.问题与应用（能力要求）

**Case -** gearing $β$and ungearing $β$

A company’s debt: equity ratio, by market values, is 2:5. The corporate debt, which is assumed to be risk-free, yields 11% before tax. The beta value of the company’s equity is currently 1.1; the average returns on stock market equity are 16%.

The company is now proposing to invest in a project which would involve diversification into a new industry, and the following information is available about this industry.

1. Average beta coefficient of equity capital = 1.59
2. Average debt: equity ratio in the industry = 1:2 (by market value)

The rate of corporation tax is 30%. What would be a suitable cost of capital to apply to the project?

## Solution

The gearing $β$of the industry is 1.59, convert to ungearing $β$

$β$u = 1.59×2/ (2+1× 0.7) =1.18

The gearing $β$of A company is $β$g = 1.18×(5+2×0.7)/5＝1.51

The project equity cost is Keg = 11% + 1.51×(16%-11%)=18.55%

Remember: Keg is the cost of equity, you must convert to cost of capital by WACC

K = 18.55% ×5/(5＋2)＋11%×(1-30%)×2/(5+2) = 15.45%

K is the cost of capital for the project

## Limitations of using gearing and ungearing method

* + The industry’s gearing level is difficult to determine.
	+ Debt capital may not be risk-free
	+ βvalue of the industry is hardly accurate
	+ βvalue is different in companies

## （三）思考与实践

## The advantages of using CAPM in project appraisal

* + - Unlike the WACC, the CAPM can be used to the project risk is different from that of the company’s normal business risk.
		- Objective is to maximize shareholder wealth
		- Rational shareholders are well diversified
		- Any new project is just another investment in a shareholder’s portfolio
		- CAPM can set the shareholders’ required return on the project

## Limitations of using CAPM in investment decisions

* + - It is hard to estimate returns on projects under different economic environments, market returns under different economic environments and the probabilities of the various environments.
		- The CAPM is really just a single period model.
		- It may be hard to determine the risk-free rate of return.

## （四）教学方法与手段

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 思政内容：成本是我们在进行财务财务管理时需要考虑的重要因素，亦是同学们在学习和未来的工作中需要考虑的重要因素。每一个选择都是具有机会成本的。作为新时代的中国青年，同学们要思考道德成本、法律成本和价值成本。道德高于法律，但却是我们每个人都应当遵守的。违背道德遵守法律也许能带来小利，背后却是巨大的社会成本，包括心理负担和社会成本。因此，希望同学们在奋斗的过程中谨记这三个成本，从而在党的领导下努力实现自身价值，不走弯路，为中华民族伟大复兴而奋斗。

## 第七模块 Business valuations

## （一）目的与要求

 1.熟悉不同估值方法的特点。

2.掌握普通股、优先股和负债的估值。

## （二）教学内容

**第**一节

1 主要内容

## （1）The nature and purpose of business valuations

When valuations are required,

**For quoted companies**, when there is a takeover bid and the offer price is an estimated 'fair value' in excess of the current market price of the shares.

**For unquoted companies**, when:

1. The company wishes to 'go public' and must fix an issue price for its shares
2. There is a scheme of merger
3. Shares are sold
4. Shares need to be valued for the purposes of taxation
5. Shares are pledged as collateral for a loan

## （2）Asset valuation bases (min value)

Asset based valuation is not suitable for investment, because it ignores earning capacities, intangibles and business risk.

## Value per share=net asset/number of shares

**Net asset=total assets-intangible assets (goodwill)-total liabilities Choice of valuation bases**

* **Historic basis** - unlikely to give a realistic value as it is dependent upon the business's depreciation and amortization policy
* **Replacement basis** - if the assets are to be used on an on-going basis
* **Realizable basis** - if the assets are to be sold or the business as a whole broken up.

|  |  |  |
| --- | --- | --- |
| **Measure** | **Strengths** | **Weaknesses** |
| **Book values** | None | Historic cost value |
| **Replacement cost -going concern** | Maximum to be paid for assets by buyer | Valuation problems - similar assets for comparison?Ignores goodwill |
| **Realizable basis** | Minimum acceptable to ownersAsset stripping | Valuation problems especially if quick sale. Ignores goodwill |

## （3）Income /earning based valuation bases (max value) Market value per share =EPS×P/E ratio

**Market value=D0× (1+g)/ (Ke-g)**

**Market value of company=Total earnings ×PE ratio Problems with using P/E ratios**

 However, using the P/E ratios of quoted companies to value unquoted companies may be problematic.

 Finding a quoted company with a similar range of activities may be difficult. quoted companies are often diversified

 A single year's P/E ratio may not be a good basis, if earnings are volatile, or the quoted company's share price is at an abnormal level, due for example to the expectation of a takeover bid

 if a P/E ratio trend is used, then historical data will be being used to value how the unquoted company will do in the future

 The quoted company may have a different capital structure to the unquoted company

So, it may be necessary to adjust the P/E downwards if valuing an unlisted company, the earnings figure should be sustainable.

## （4）Cash flow based valuation models The dividend valuation model

 Market value of shares=D/Ke

Dividend based valuation assumes the constant rate of dividend which is rarely exist in reality.

## The dividend growth model

 D0 = Current year's dividend

 g = Growth rate in earnings and dividends

 D0（1 + g） = Expected dividend in one year's time（D1）

 Ke = Shareholders' required rate of return

 P0 = Market value excluding any dividend currently payable

## Discounted cash flow basis of valuation

Use discount method: use NPV as the value

2. 基本概念和知识点

**Market capitalization** is the market value of a company's shares multiplied by the number of issued shares.

 3. 问题与应用（能力要求）

## Disadvantages of dividend valuation model:

* + It is difficult to estimate future dividend growth& inaccurate to assume it will be constant.
	+ It creates zero values for zero dividend companies& negative values for high growth companies, if g﹥Ke

第二节 1.主要内容

## （1） Valuation of debt and preference shares

|  |  |
| --- | --- |
| **Type of finance** | **Market value** |
| Preference shares | **P0=D/Kp** |
| Irredeemable debt | **P0=I/Kd** |
| Redeemable debt | **MV**=PV of future interest and redemption receipts, discounted at investor’s required returns |
| Convertible debt | **P0（1 + g）nR** |

P0 is the current ex-dividend ordinary share price

g is the expected annual growth of the ordinary share price n is the number of years to conversion

R is the number of shares received on conversion

The current market value of a convertible bond =**PV** of the future interest + PV of conversion value

## （2） The efficient market hypothesis

Market efficiency refers to the relationship of the stock price with the relevant information.

|  |  |  |
| --- | --- | --- |
| **Types of efficiency** | **Evidence** | **Conclusion** |
| **Weak form efficiency** | Share prices follow a random walk:There are no patterns or trendsPrices rise or fall depending on whether the next piece of news is good or bad.Tests show that only 0.1% of a share price change on one day can be predicted from knowledge of the change on the previous day. | Future price movements can not be predicted from past price movement.Technical analysis can not help make a consistent gain on the market. |
| **Semi-strong form efficiency** | Share prices react within 5-10 minutes of any newinformation being released: Rise in response to breaking good newsFall in response to breaking bad news. | Fundamental analysisexamining publicly-available information will not make an abnormal gain.The vast majority of investors can not consistently beat the market.Since published information includes past share prices a semi-strong form efficient market is also weakly efficient |
| **Strong form efficiency** | The share price would not move when news became public.There would be no need to ban” insider dealing” as insiders could not make money by trading before news became public | Inside dealers have been fined and imprisoned for making money trading in shares before the news affecting them went public. The stock exchange encourages quick releases of new information to prevent insider trading opportunities.Insiders are forbidden from trading in their shares at crucial times. |

 2.基本概念和知识点

**Weak form efficiency** implies that share prices reflect only available information about past price movements and their implications.

**Semi-strong form efficiency** implies that share prices reflect past price movements and publicly available knowledge

**Strong form efficiency** implies that prices reflect past price movements, publicly available knowledge and inside knowledge

 3.问题与应用（能力要求）

The efficient market hypothesis is the hypothesis that the stock market reacts immediately to all the information that is available. Thus a long term investor cannot obtain higher than average returns from a well diversified share portfolio.

## （三）思考与实践

How to value debt and preference shares?

## （四）教学方法与手段

课堂讲授、多媒体教学。

## 第八模块 Risk management

## （一）目的与要求

1.了解汇率风险和利率风险产生原因的相关理论；

2.掌握汇率风险管理的一般方法；

3. 掌握利率风险管理的一般方法。

## （二）教学内容

第一节 1.主要内容

## （1）Foreign currency risk

**Exchange rates**

**Which exchange rates do you use?**

**The principle ：**Bank always make money through currency exchange, so companies always get the unfavorable amount from exchanging.

## Foreign currency risk

**Transaction risk:** Caused by the floating exchange rate, it increases the cost or reduces the revenue from an overseas transaction.

**Translation risk:** The risk of a reduction in the value of overseas assets when they are translated into local currency at the balance sheet date. This is not a cash flow, but is still a worry for some companies because of its potential profit impact.

**Economic risk:** The risk that a change in the exchange rate will reduce the value of a company. It caused by the macro economic factors.

## （2）The factors influenced exchange rates

Interest rate, inflation rate, liquidity, foreign currency policy of the countries

## Interest rate parity

Theoretically, future exchange rate reflects the change of interest rate.

## F0=S0×[(1+ic)/(1+ib)]

 F0=forward rate

 S0=current spot rate

 ic=interest rate in country c

 ib=interest rate in country b

## Example: interest rate parity

Exchange rates between two currencies, the Northland florin （NF） and the Southland dollar （S$） are listed in the financial press as follows.

 Spot rates 4.7250 NF/$S

 0.21164 $S/NF

 90 day rates 4.7506 NF/$S

 0.21050 $S/NF

The money market interest rate for 90 day deposits in Northland florins is 7.5% annualized. What is implied about interest rates in Southland?

Northland interest rate on 90 day deposit = in= 7.5% x 90/365 = 1.85% Southland interest rate on 90 day deposit = is

90-day forward exchange rate = Sf = 0.21050 Spot exchange rate = S0 = 0.21164

 [（1+is）/（1+0.0185）]=（0.21050/0.21164）

 1 + is = 1.0185 ×0.21050 + 0.21164 = 1.013

 is = 0.013, or 1.3%

 Annualized, this is 0.013 × 365/90 = 5.3%

## Purchasing power parity (PPP)

Assume purchasing power of currency is the same in each country



## The Fisher effect

The term Fisher effect is sometimes used in looking at the relationship between interest rates and expected rates of inflation.

The rate of interest can be seen as made up of two parts: the real required rate of return （real interest rate） plus a premium for inflation. Then:

 [1 + nominal （money） rate] = [1 + real interest rate] [1 + inflation rate]

 （1 + i）= （1 + r）（1 + h）

2.基本概念和知识点

**Receive foreign currency** - receive less local currency

If convert to local currency by multiplying the rate, use the lower rate If convert to local currency by dividing by the rate, use the higher rate

**Pay foreign currency -** pay more local currency

If convert to local currency by multiplying the rate, use the higher rate If convert to local currency by dividing by the rate, use the lower rate

 3.问题与应用（能力要求） **Case - exchange rate**

A US company receives 1 million sterling from an UK customer and 1

million JPY from a Japanese customer; the spot rates are as follows.

US$/￡1.7935-1.7957

JPY/US$ 105.65-105.89

Calculate how much USD would receive by the company?

## Solution

Receives sterling, and change to USD, need to multiply the rate, so use the lower rate 1.7935. Received USD = 1m×1.7935=1.7935m

Receive JPY, and change to USD, the rate is JPY/USD, so we need to divide by the rate, use the higher rate 105.89. Received USD=1m/105.89=9444

第二节 1.主要内容

## （1）Foreign currency risk management

**What happens if a customer cannot satisfy a forward contract? How to close-out of forward contracts?**

If company signs a **buy** currency contract - the bank will sell the foreign currency to the company at contract rate and buy the currency back at spot rate.

If company signs a **sell** currency contract - the bank will sell the foreign currency to the company at spot rate and buy the currency back at contract rate

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| * Simple
* Normally free, always cheap
* Available for many currencies
* Normally available for more than a year ahead.
 | * Fixed date agreements
* Future exchange rate quoted may be unattractive
 |

## Money market hedging

Money market hedging involves borrowing in one currency, converting the money borrowed into another currency and putting the money on deposit until the time the transaction is completed, hoping to take advantage of favorable interest rate movements.

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| * May be cheaper if an exporter with a cash flow deficit.
* May be cheaper if an importer with a cash flow surplus.
 | * More time consuming than forward contract and normally no cheaper.
 |

## Setting up a money market hedge for a foreign currency payment

Step 1 Borrow the appropriate amount in local currency

Step 2 Convert the local currency to foreign currency immediately

Step 3 Make investment of foreign currency and make profits

Step 4 When the time comes to pay the company:

 （a）Pays interests on local currency loan.

 （b）Repays the loan on the due date.

## Setting up a money market hedge for a foreign currency receipt

Step 1 Borrow an appropriate amount in the foreign currency

Step 2 converts it immediately to home currency

Step 3 Place it on deposit in the home currency

Step 4 When the debtor's cash is received:

 （a）Repay the foreign currency loan

1. Take the cash from the home currency deposit account

## （2）Foreign currency derivatives

* + - **Currency futures**

Future market and spot market

Futures can only be closed by opposite transactions in future market Future contracts are standardized in future market

## Steps of futures

**1.** Decide which type of future contract - what currency, buy or sell

The currency is the same with the actual needs of company Buy or sell depends on the contract currency

Number of contracts

2. Compare outcomes in futures and spot market

Futures profits/losses = the difference between closing futures price and opening futures price

## Advantages and disadvantages of futures

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| * Flexible dates ie a September futures can be used on any day up to the end of September
* Transaction costs be lower
* Be tradable and pricing transparency
 | * Only available in large contract sizes.
* Deposit needs to be topped up on a daily basis if the contract is incurring losses.
* Only a limited number of currencies exists in future contracts.
 |

* + - **Currency options**

A currency option is a right of an option holder to buy （call） or sell （put）

foreign currency at a specific exchange rate at a future date. **Advantages and drawbacks of currency options Advantages:**

* + - * Company can choose to take or abandon the options
			* Flexible dates
			* It is a right, company can make more benefits in some situations
			* Useful for uncertain transactions, can be sold if needed.

## Drawbacks:

* + - * The cost depends on the expected volatility of the exchange rate.
			* Options must be paid for as soon as they are bought.
			* Tailor-made options lack negotiability.
			* Traded options are not available in every currency
			* Only available in large contract sizes
			* expensive

## Currency swaps

A swap is a formal agreement whereby two organizations contractually agree to exchange payments on different terms, eg in different currencies, or one at a fixed rate and the other at a floating rate. Both organizations can benefit the swap by saving costs

## Benefits of currency swaps

（a）Swaps are easy to arrange and are flexible since they can be arranged in any size and are reversible.

（b）Transaction costs are low, only amounting to legal fees, since there

is no commission or premium to be paid

（c）The parties can obtain the currency they require without subjecting themselves to the uncertainties of the foreign exchange markets.

（d）The company can gain access to debt finance in another country and currency where it is little known, and consequently has a poorer credit rating, than in its home country, it can therefore take advantage of lower interest rates than it could obtain if it arranged the currency loan itself.

（e）Currency swaps may be used to restructure the currency base of the

company's liabilities. Currency swaps therefore provide a means of reducing exchange rate exposure.

（f）At the same time as exchanging currency, the company may also be

able to convert fixed rate debt to floating rate or vice versa. Thus it may obtain some of the benefits of an interest rate swap in addition to achieving the other purposes of a currency swap.

（g）A currency swap could be used to absorb excess liquidity in one

currency which is not needed immediately, to create funds in another where there is a need.

## Disadvantage of currency swaps

* + - * It is complex to tailor the swap.
			* It is not easy to find the counterparty
			* There is risk when the counterparty failed to fulfill the swap.

2.基本概念和知识点

**Currency of invoice -** invoice foreign customer in domestic money

**Matching receipts and payments -** offset payments against receipts in currency.

**Matching assets and liabilities -** match foreign assets（property, plant etc） by a long-term loan in the foreign currency.

**Leading and lagging -** Lead payments（payments in advance）

Lagged payments （delaying payments beyond their due date）

**Netting -** multinational groups of companies offset in intra-group trading.

**Forward exchange contracts -** A forward contract specifies in advance the rate at which a specified quantity of currency will be bought and sold.

3.问题与应用（能力要求）

**Case** - choosing the hedging method (06/12)

Zigto Co is a medium-sized company whose ordinary shares are all owned by the members of one family. It has recently begun exporting to a European country and expects to receive €500,000 in six months’ time. The prospect

of increased exports to the European country means that Zigto Co needs to expand its existing business operations in order to be able to meet future orders. The company plans to take action to hedge the exchange rate risk arising from its European exports.

Zigto Co could put cash on deposit in the European country at an annual interest rate of 3% per year, and borrow at 5% per year. The company could put cash on deposit in its home country at an annual interest rate of 4% per year, and borrow at 6% per year. Inflation in the European country is 3% per year, while inflation in the home country of Zigto Co is 4·5% per year.

The following exchange rates are currently available to Zigto Co: Current spot exchange rate 2·000 euro per $

Six-month forward exchange rate 1·990 euro per $ One-year forward exchange rate 1·981 euro per $ **Required:**

1. Calculate whether a forward exchange contract or a money market hedge would be financially preferred by Zigto Co to hedge its future euro receipt.
2. Calculate the one-year expected (future) spot rate predicted by purchasing power parity theory

## Answer:

1. **Forward exchange contract**

Zigto Co needs to use the six-month forward exchange rate to hedge its six-month euro receipt.

Dollar value in six months’ time = 500,000/1·990 = $251,256

## Money market hedge

The six-month euro receipt is a future asset and needs to be hedged by a future euro liability. Zigto Co needs to borrow sufficient euros now so that in six months’ time the debt is equal to €500,000. The six month euro borrowing rate is 2·5%(5%/2).

Euros borrowed now = 500,000/1·025 = €487,805

Dollar value of this euro debt = 487,805/2·000 = $243,903 The six-month dollar deposit rate is 2% (4%/2)

Future value of these dollars placed on deposit = 243,903 x 1·02 = $248,781 The forward contract gives the higher value and hence is preferred to the money market hedge.

## ) Expected (future) spot exchange rate

Using purchasing power parity, the expected (future) spot exchange rate can be calculated from the relative inflation rates, i.e. expected spot rate = 2·00 x (1·03/1·045) = €1·971 per $. The change in the spot rate over time can therefore, according to purchasing power parity, be related to relative inflation rates. This expected spot rate can be compared with the current twelve-month forward rate of €1·981 per $.

 第三节

1.主要内容

## （1）Interest rate risk (normally a discuss question) Nature of interest rate

Interest rate risk is caused by the change of interest rate Interest rates differ in different markets

There is a trade-off between risk and return

## Gap exposure

The difference between the two amounts indicates the net exposure.



## （1）Liquidity preference theory:

Investors have a natural preference for holding cash rather than other investments, even low-risk ones such as government securities. They therefore need to be compensated with a higher yield for being deprived of their cash for a longer period of time. The normal shape of the curve as being upwards sloping can be explained by liquidity preference theory.

## （2）Interest rate risk management

* **Matching and smoothing ( internal methods)**

**Matching** is where liabilities and assets with a common interest rate are matched.

This method is most widely used by financial institutions such as banks, who find it easier to match the magnitudes and characteristics of their assets and liabilities than commercial or industrial companies.

 **Smoothing** is where a company keeps a balance between its fixed rate and floating rate borrowing.

A rise in interest rates will make the floating rate loan more expensive but this will be compensated for by the less expensive fixed rate loan. The company may however incur increased transaction and arrangement costs.

## Forward rate agreements （FRAs）

Forward rate agreements hedge risk by fixing the interest rate on future borrowing.

## （3）Interest rate derivatives

* **Futures contracts**

Interest rate futures are similar in effect to FRAs, except that the terms, amounts and periods are standardized.

Borrowers **sell** futures to hedge against interest rate rises; lenders **buy**

futures to hedge against interest rate falls.

Sell (incurring the obligation to make interest payments) Buy (having the right to receive interests)

## Interest rate options

An interest rate option grants the buyer of it the right, but not the obligation, to deal at an agreed interest rate at a future maturity date. On the date of expiry of the option, the buyer must decide whether or not to exercise the right. Interest rate options offer more flexibility than and are more expensive than FRAs.

## Interest rate caps, collars and floors

•An interest rate cap is an option which sets an interest rate ceiling.

•A floor is an option which sets a lower limit to interest rates.

•Using a 'collar' arrangement, the borrower can buy an interest rate cap and at the same time sell an interest rate floor. This limits the cost for the company as it receives a premium for the option it's sold.

## Interest rate swaps

Interest rate swap is an agreement whereby the parties to the agreement exchange interest rate commitments.

Can be used to swap variable rate debt for fixed rate debt; also currency swaps. Can be used to raise debt in a different currency (allows long term matching of foreign exchange risk) at can be cheaper than borrowing in an overseas currency directly, Swaps can provide long-term hedging up to 20 years ahead.

 2.基本概念和知识点

**A negative gap -** interest-sensitive assets - interest-sensitive liabilities Facing exposure if interest rates rise by the time of maturity.

**A positive gap -** interest-sensitive assets> interest-sensitive liabilities

Losing out if interest rates fall by maturity.

 3.问题与应用（能力要求）

**limitation of FRAs** is that they are usually only available on loans of at least ￡500,000. They are also likely to be difficult to obtain for periods of over one year.

 **An advantage of FRAs** is that, for the period of the FRA at least, they protect the borrower from adverse market interest rate movements to levels above the rate negotiated for the FRA.

A '3-6' forward rate agreement is one that starts in three months and lasts for three months.

##  （三）思考与实践

## The causes of interest rate fluctuations

（a）Risk - Higher risk borrowers must pay higher rates on their borrowing, to compensate lenders for the greater risk involved.

（b）The need to make a profit on re-lending

Financial intermediaries re-lending at a higher rate of interest than the cost of their borrowing.

（c）The size of the loan

Deposits above a certain amount with a bank might attract higher rates of interest than smaller deposits.

（d）Different types of financial asset

This is largely because of the competition for deposits between different types of financial institution.

（e）The duration of the lending

The longer the term of an asset to maturity, the higher the rate of interest paid on the asset.

（f）Expectations theory states that the forward interest rate is due only to

expectations of interest rate movements.

（g）The market segmentation theory of interest rates suggests that the slope of the yield curve will reflect conditions in different segments of the market.

The theory holds that the major investors are confined to a particular segment of the market and will not switch segment even if the forecast of likely future interests rates changes.

（h）Government policy on interest rates might be significant too.

## （四）教学方法与手段

课堂讲授、多媒体教学。

## （五）思政内容

**面对国内外风险挑战明显上升的复杂局面，外汇管理部门应当以习近平新时代中国特色社会主义思想为指导，按照党中央、国务院决策部署，在金融委统一领导和部署下，在人民银行党委具体指导下，深化外汇领域改革开放，服务实体经济发展，防范跨境资本流动风险，维护国际收支基本平衡，维护国家经济金融安全。作为公民个人，应当遵守国家关于外汇管理的规定，不主动或被动参与“洗钱”，培养防范汇率风险的意识。**

五、各教学环节学时分配

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **教学环节****教学时数****课程内容** | **讲****课** | **习****题****课** | **讨****论****课** | **实验** | **实习** | **其他教学环节** | **小****计** |
| 第一模块 | 3 |  |  |  |  |  | 3 |
| 第二模块 | 3 |  |  |  |  |  | 3 |
| 第三模块 | 6 | 1 |  |  |  |  | 7 |
| 第四模块 | 6 | 1 |  |  |  |  | 7 |
| 第五模块 | 6 | 1 |  |  |  |  | 7 |
| 第六模块 | 6 | 1 |  |  |  |  | 7 |
| 第七模块 | 6 | 1 |  |  |  |  | 7 |
| 第八模块 | 6 | 1 |  |  |  |  | 7 |
| 合计 | 42 | 6 |  |  |  |  | 48 |

六、课程考核

（一）考核方式 考试

（二）成绩构成

平时成绩占比： 40% 期末考试占比：60%

（三）成绩考核标准

 理解并掌握财务管理的目的和范围；熟悉运用营运资本管理，投资决策，融资决策并计算企业的资本成本（权益成本和债务成本）；掌握进行利率风险对冲和汇率风险对冲的方法和步骤。达到上述标准成绩为优秀

七、推荐教材和教学参考资源

1.Financial Management (Study Text), （England）BPP, 2020;

2. Financial Management (Practice and Revision Kit), （England）BPP, 2020.

3. 《习近平：推动企业发挥更大作用实现更大发展》，<http://www.12371.cn/2020/07/22/ARTI1595372649456807.shtml?from=groupmessage>

4. 《奋进正当时！习近平与青年说》，<http://www.12371.cn/2020/05/04/ARTI1588553317962316.shtml>

5. 《关于推动国有文化企业把社会效益放在首位、实现社会效益和经济效益相统一的指导意见》<http://theory.people.com.cn/n/2015/0915/c40531-27584430.html>

八、其他说明

大纲修订人：庄学敏、冯晓丽、杨澄 修订日期：2021年1月4日

大纲审定人： 审定日期：