# CFA一级
# Financial Reporting Analysis

高顿教育
GOLDEN EDUCATION

# Reading 19
# Introduction to Financial Statement Analysis

# 财务报表和财务报表分析的作用
## The Roles of Financial Reporting and FSA

**The role of financial reporting**

The role of financial reporting by companies is to **provide** information about a company's performance, financial position, and changes in financial position that is useful to a wide range of users[1] in making economic decisions.

**The role of financial reporting analysis**

**Using** the information in a company's financial statements, alone with other relevant information, to evaluate company's past performance.

考察方式:
1. 掌握财报和财报分析的相同和不同之处
2. 这里主要为概念题,对号入座即可

# 核心报表简介
## Major Financial Statements

**Balance Sheet**

Presents a company's current financial position by disclosing the resources the company controls (Assets) and its obligations to the other creditors (Liabilities) at a specific point of time.

**Income Statement**

Reports on the financial performance of the firm over a period of time.

**Cash flow Statement**

Reports the company's cash receipts and payments over a period of time.

**考察方式：**
1. 三大报表的功能和作用辨析
2. 概念辨析题为主

# 其他补充类信息
## Supplementary Information

**Supplementary Information**
1. MD&A
2. Auditor's report

**Other Sources of Information**
1. Interim reports
2. Proxy statements（股东委托书）
3. Webcasts（广播）
4. Press releases（新闻稿）
5. Conference calls（电话会议）
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**Auditor's Report**

1. Unqualified opinion (clean opinion)：Free from material omissions and error.
2. Qualified opinion：If statements make any exceptions to the accounting principles.
3. Disclaimer of opinion：Unable to express an opinion due to scope limitation
4. Adverse opinion：If statements materially depart from accounting standards and are not presented fairly.

**考察方式：**
1. 依然是记忆性的内容
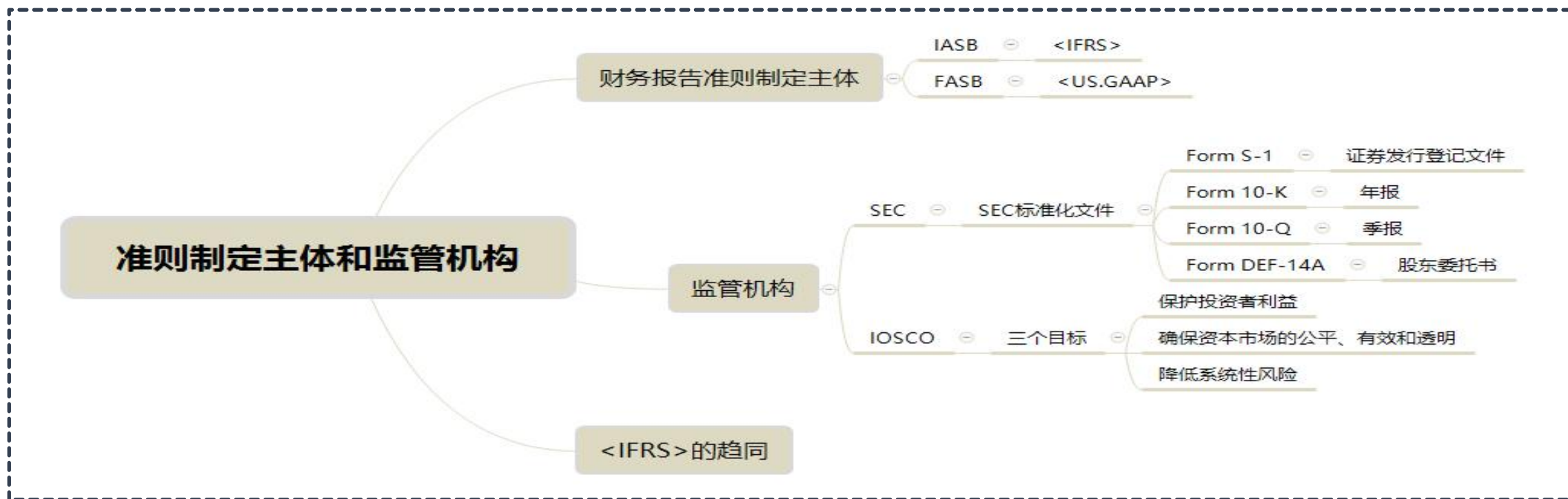2. 对于审计意见的记忆，重点抓关键词

# Reading 20
# Financial Reporting Standards

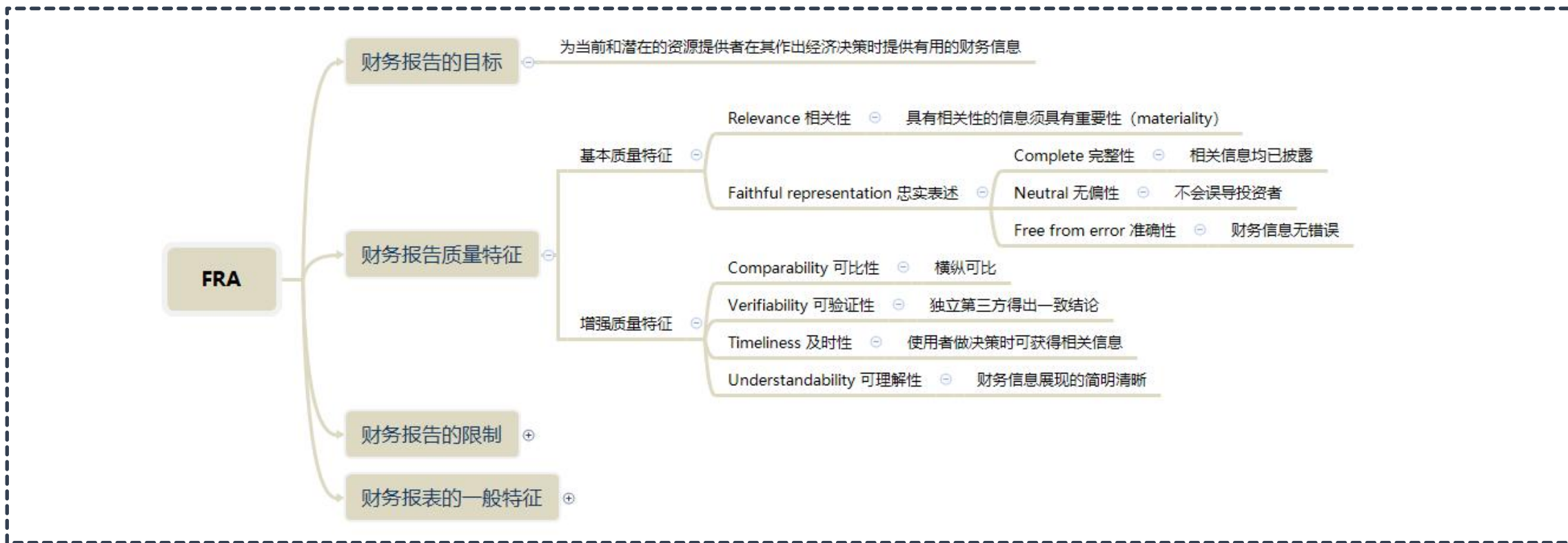# 准则制订主体和监管机构
## Standard Setting Bodies & Regulatary Authorities



**考察方式：**
1. 掌握准则制订主体和监管机构的差异
2. 美国证监会的规范化文件需要背诵整理
3. IFRS的趋同属于考试非重点内容

# 财报的质量特征
## Qualitative Characteristics



**财务报告的目标** — 为当前和潜在的资源提供者在其作出经济决策时提供有用的财务信息

**财务报告质量特征**

基本质量特征
- Relevance 相关性 — 具有相关性的信息须具有重要性（materiality）
- Faithful representation 忠实表述
  - Complete 完整性 — 相关信息均已披露
  - Neutral 无偏性 — 不会误导投资者
  - Free from error 准确性 — 财务信息无错误

增强质量特征
- Comparability 可比性 — 横纵可比
- Verifiability 可验证性 — 独立第三方得出一致结论
- Timeliness 及时性 — 使用者做决策时可获得相关信息
- Understandability 可理解性 — 财务信息展现的简明清晰

**财务报告的限制**

**财务报表的一般特征**

FRA

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**考察方式：**
分辨财报的基本质量特征和增强质量特征（对号入座即可）
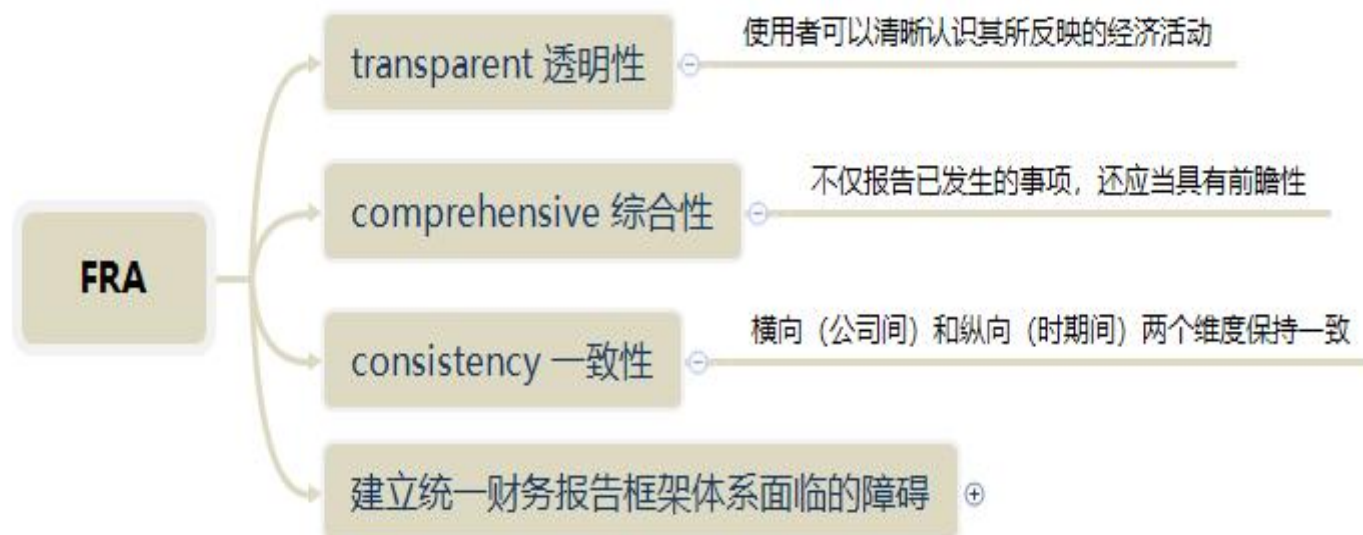
**考察方式：**
稍作了解即可

# Reading 21
# Understanding Income Statements

# 利润表格式
## Format of Income Statement

| Income Statement |
|---|
| Net revenue |
| −COGS |
| Gross Profit |
| −SG&A |
| Operating Income |
| +/−Other gain or loss（Non operating item） |
| +/−Unusual or infrequent items |
| EBIT |
| −Interest expense |
| EBT |
| −Income tax expense |
| NI（Continuing operations） |
| +/−Income from discountinued operation（net of tax） |
| Net Income |

1.Unusual or infrequent items
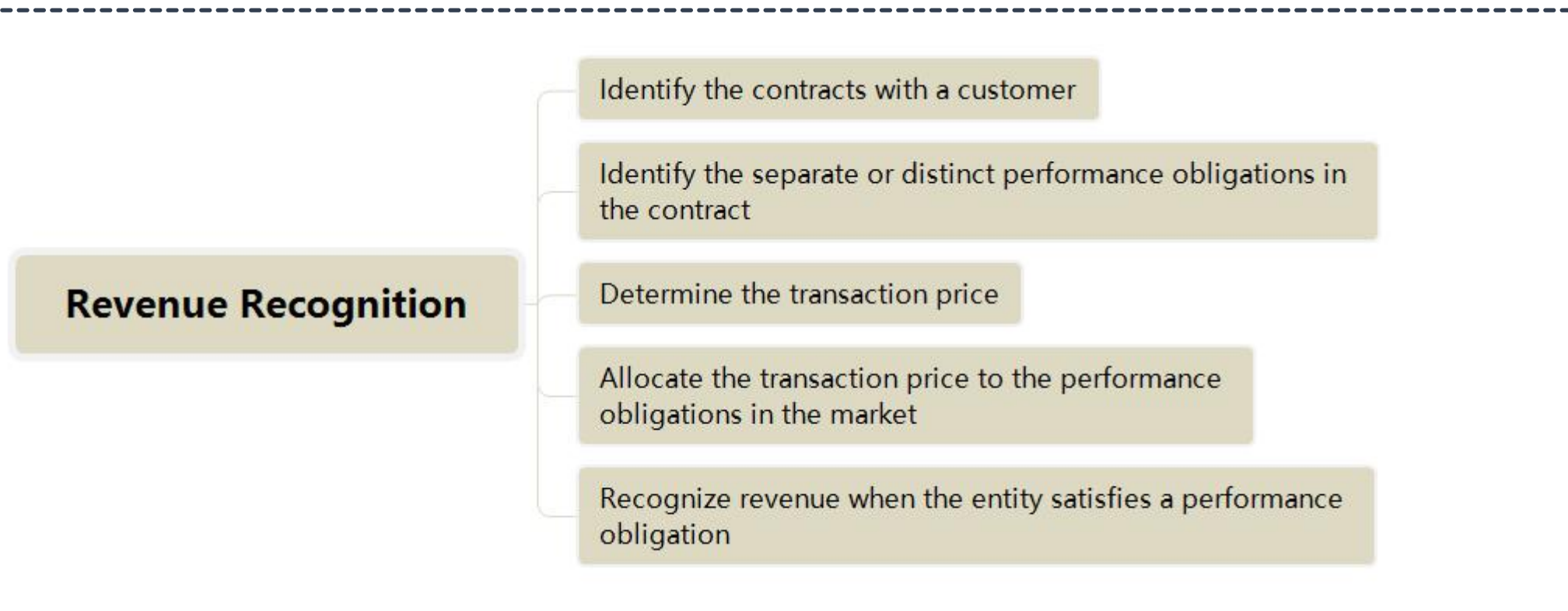指企业的非经常性项目，通常在税前列示。主要包括：长期资产减值、债券赎回损失等；

2.Income from discountinued operation
通常指企业的非持续经营部分的收入，在税后列示。

**考察方式：**
1. 两项非经常性项目的辨析
2. 利润表的科目一定要背诵！

# 收入确认准则
## Revenue Recognition — General Principles

**Revenue Recognition**

- Identify the contracts with a customer
- Identify the separate or distinct performance obligations in the contract
- Determine the transaction price
- Allocate the transaction price to the performance obligations in the market
- Recognize revenue when the entity satisfies a performance obligation

**考察方式：**
了解收入确认的原则和标准

# EPS的计算
## Calculation of EPS

$$Basic\ EPS = \frac{NI - 优先股股利}{加权平均发行在外普通\ 股股数}$$

$$Diluted\ EPS = \frac{NI - 优先股股利 + 可转优先股股利 + 可转债利息（1\text{-}Tax）}{加权平均发行在外普通\ 股股数 + 可转优先股转换的 + 可转债转换的 + 库存股法下增加的}$$

股票增发&回购需要**加权平均.**

股票股利、股票分拆、并股只需要对之前的股份数进行**追溯调整.**

Basic EPS ≥ Diluted EPS.

**库存股法：**

行权价格=X； 行权能够获得的公司股票=S； 公司当年平均股价=P；新增股数=S - (S*X)/P

**考察方式：**
1.掌握Basic EPS的算法，需注意影响加权平均股数的四种情况。
2.掌握Diluted EPS的算法，可转债需考虑税盾，期权/权证需理解公式背后的原理。

# 综合收益
## Comprehensive Income

| 财务报告准则 | 记录到OCI中的事项 |
|---|---|
| U.S GAAP | 1.外币报表折算差异 (*translation G/L*) |
| | 2.现金流衍生工具 (*cash flow hedging* derivatives) 未实现利得或损失 |
| | 3.可供出售金融资产 (AFS) 的未实现利得或损失 |
| | 4.DB养老金计划的精算损益 |
| IFRS | 以上4项 + 重估模型计量长期资产的重估增值 (revaluation surplus) |

**考察方式：**
1. 掌握综合收益的计算公式
2. 分辨计入OCI的具体事项（国际准则&美国准则相同的有四项，国际准则独占一项）

# Reading 22
# Understanding Balance Sheets

# 金融资产
## Classification of Financial Assets

| 分类 | 定义 | 资产类别 |
|---|---|---|
| Held-to-Maturity<br>持有至到期的金融资产 | 企业有能力且有意愿持有至到期的金融资产 | 特指债券 |
| Trading Security<br>交易性金融资产 | 企业以短期获利为目的持有的金融资产 | 债券和股票 |
| Avaliable-for-sale<br>可供出售的金融资产 | 不满足以上两项定义的金融资产 | 债券和股票 |

**考察方式：**
理解金融资产分类的原理是学好金融资产的关键

# 金融资产的计量
## Measurement of Financial Assets

| | Held to maturity | Trading securities | Avaliable for sale securities |
|---|---|---|---|
| Recognition on the B/S | Amortized cost | Fair value | Fair value |
| Unrealized G/L | Not reported | I/S | OCI |
| Realized G/L | I/S | I/S | I/S |

**考察方式：**
1. 考试不会考察摊余成本的计算，条件都会直接给出
2. 考试注意题干中的表达形式，对金融资产类型的描述有时会比较委婉

# 计量属性
## Measurement of Financial Elements

| 计量属性 | 含义 |
|---|---|
| **Historical cost** 历史成本 | The amount originally paid for the asset. 取得资产时所支付的现金或者其他等价物 |
| **Amortized cost** 摊余成本 | Historical cost adjusted for amortization of discount/premium. 摊余成本=历史成本- 实际利率法下的累计摊销额 |
| **Current cost** 现行成本 | The amount the firm would have to pay today for the same asset. 按当前市场条件重新取得同一项资产所需支付的现金或现金等价物 |
| **Realizable value** 可变现净值 | The amount for which the firm could sell the asset. 预计售价减去进一步加工成本和销售成本后的净值 |
| **Present value** 现值 | The discounted value of the asset's expected future cash flows. 对未来现金流以恰当折现率折现后的价值 |
| **Fair value** 公允价值 | The amount at which two parties in an arm's-length transaction would exchange the asset. (Willingness, Knowledgeable, Unrelated) 市场参与者在公平交一下出售资产或转移负债需支付或者能收到的价格 |

**考察方式：**
考试不会考概念辨析题，但需要理解每种计量属性的含义

# Reading 23
# Understanding Cash flow Statements

# 现金流的一般分类
## U.S. GAAP Cash Flow Classification

| Cash flows from operating activities | |
|---|---|
| *Cash flows resulting from major business of company* | |
| **Inflows** | **Outflows** |
| Cash received from customers | Cash paid to suppliers |
| Interest received | Interest paid |
| Dividend received | Cash expenses paid for ordinary business (salaries, taxes, advertising...) |
| Sale proceeds from trading securities | Acquisition of trading securities |

**考察方式：**
考试需要熟练掌握现金流在美国准则下的分类，计算题通常以美国准则分类为准

# 现金流的一般分类
## U.S. GAAP Cash Flow Classification



| Cash flows from investing activities<br>*Cash flows resulting from acquisition and disposal of long-term asset and other investments* | |
| --- | --- |
| **Inflows** | **Outflows** |
| Sale proceeds from PP&E, intangible assets | Acquisition of PP&E, intangible assets |
| Sale proceeds from non-trading securities | Acquisition of non-trading securities |
| Principal received from loans made to others | Loans made to others |

**考察方式:**
考试需要熟练掌握现金流在美国准则下的分类，计算题通常以美国准则分类为准

# 现金流的一般分类
## U.S. GAAP Cash Flow Classification

| Cash flows from financing activities<br>*Cash flows resulting from transactions that affect firm's capital structure* | |
|---|---|
| **Inflows** | **Outflows** |
| Principal amounts of debt issued | Principal paid on debt |
| Proceeds from issuing shares | Payment to repurchase shares |
| | Dividends paid to shareholders |

**考察方式：**
考试需要熟练掌握现金流在美国准则下的分类，计算题通常以美国准则分类为准

# 现金流的特殊分类
## IFRS Cash Flow Classification

| Items | U.S. GAAP | IFRS |
|---|---|---|
| Interest received | CFO | CFO or CFI |
| Dividends received | CFO | CFO or CFI |
| Interest paid | CFO | CFO or CFF |
| Dividends paid | CFF | CFO or CFF |
| Taxes paid | CFO | CFO,CFI or CFF |

**考察方式：**
国际准则下的现金流分类也需要熟练掌握，推荐使用

# CFO的计算—直接法
## CFO Calculation — Direct Method

| CFO Calculation by Direct Method （一收四支） | |
|---|---|
| Cash received from customers | Beginning A/R + Net sales – Cash received = Ending A/R |
| - Cash paid to suppliers | Beginning A/P + Purchase – Cash paid = Ending A/P<br>Beginning Inv + Purchase – COGS = Ending Inv |
| - Cash paid to employees | Beginning wage payable + Wage expense – Cash paid = Ending wage payable |
| - Interest paid | Beginning interest payable + Interest expense – Cash paid = Ending interest payable |
| - Taxes paid | Beginning tax payable + tax expense – Cash paid = Ending tax payable |
| = CFO | |

**考察方式：**
CFO直接法的计算通常只会考察其中的一到两项。

# CFO的计算—间接法
## CFO Calculation — Indirect Method

| CFO Calculation by Direct Method （一收四支） | |
|---|---|
| Cash received from customers | Beginning A/R + Net sales – Cash received = Ending A/R |
| - Cash paid to suppliers | Beginning A/P + Purchase – Cash paid = Ending A/P<br>Beginning Inv + Purchase – COGS = Ending Inv |
| - Cash paid to employees | Beginning wage payable + Wage expense – Cash paid = Ending wage payable |
| - Interest paid | Beginning interest payable + Interest expense – Cash paid = Ending interest payable |
| - Taxes paid | Beginning tax payable + tax expense – Cash paid = Ending tax payable |
| = CFO | |

**考察方式：**
CFO直接法的计算通常只会考察其中的一到两项。

# CFI的计算
## CFI Calculation



**01**

CFI的计算在考察什么？

考察的是企业处置资产的现金流入

**02**

卖出资产的盈亏如何衡量？

Gain or Loss =
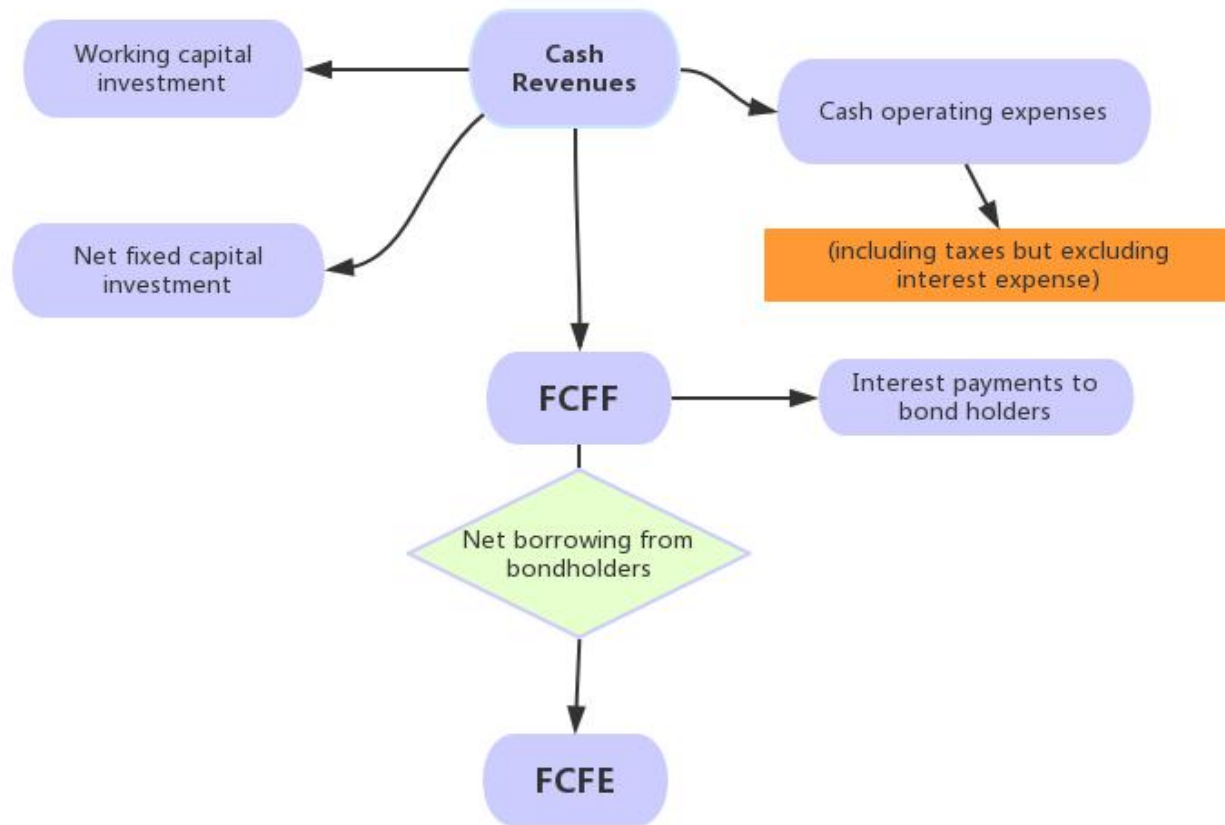Proceeds received – Disposal BV

买入一项资产

卖出一部老资产

资产折旧

**考察方式：**
CFI计算考察的是处置资产所收到的现金

# 自由现金流的计算
## FCFF & FCFE

$$FCFF = CFO - FC\ Inv + Int * (1 - tax\ rate)$$

$$FCFF = NI + NCC - WC\ Inv - FC\ Inv + Int * (1 - tax\ rate)$$

$$FCFE = CFO - FC\ Inv + Net\ borrowing$$

$$FCFE = FCFF - Int * (1 - tax\ rate) + Net\ borrowing$$

**考察方式：**
自由现金流以考察计算为主

# Reading 24
# Financial Analysis Techniques

# 同比报表分析
## Common-size Analysis

| | B/S | I/S | CF/S |
|---|---|---|---|
| Denominator | Total assets | Net Revenue | 1. Total inflows （outflows） of cash<br>2. Net revenue |

**考察方式：**
同比报表的编制法

| Activity Ratio | |
|---|---|
| • **Inventory turnover=COGS/average inventory**<br>• Days of inventory on hand=365/inventory turnover | 反映企业经营效率，以及企业的各种资源是否得到了充分利用。这里的资源即包含了流动资产和流动负债，还包括长期资产。 |
| • **Receivable turnover=revenue/average receivable**<br>• Days of sales outstanding=365/receivable turnover | |
| **Payable turnover=purchase/average payable**<br>Number of days payables=365/payable turnover | |
| • Total assets turnover=revenue/average assets<br>• Fixed assets turnover=revenue/average fixed assets<br>• Working capital turnover=revenue/average working capital | |

**考察方式：**
主要考察计算

**Liquidity Ratio**

| | |
|---|---|
| • Current ratio=current assets/current liabilities<br>• Quick ratio=(cash+short-term marketable security+receivable)/current liability<br>• Cash ratio=(cash+short-term marketable security)/current liability | 反映企业履行其长期负债义务的能力。 |
| • Operating cycle=days of inventory on hand+days of sales outstandings<br>• Cash conversion cycle=operating cycle-number of days of payable | |

**考察方式：**
主要考察计算

# 偿债比率
## Solvency Ratio

| Solvency Ratio | |
|---|---|
| • debt-to-assets ratio=total debt/total assets<br>• debt-to-capital ratio=total debt/（total debt+total equity）<br>• **debt-to-equity ratio=total debt/total equity**<br>• **financial leverage=average total assets/average total equity**<br><br>• **interest coverage ratio=EBIT/interest payments**<br>• fixed charge coverage ratio=（EBIT+lease payments）/（interest payments+lease payments） | 反映企业履行其长期负债义务的能力。 |

**考察方式：**
主要考察计算

# 盈利能力比率
## Profitability Ratio

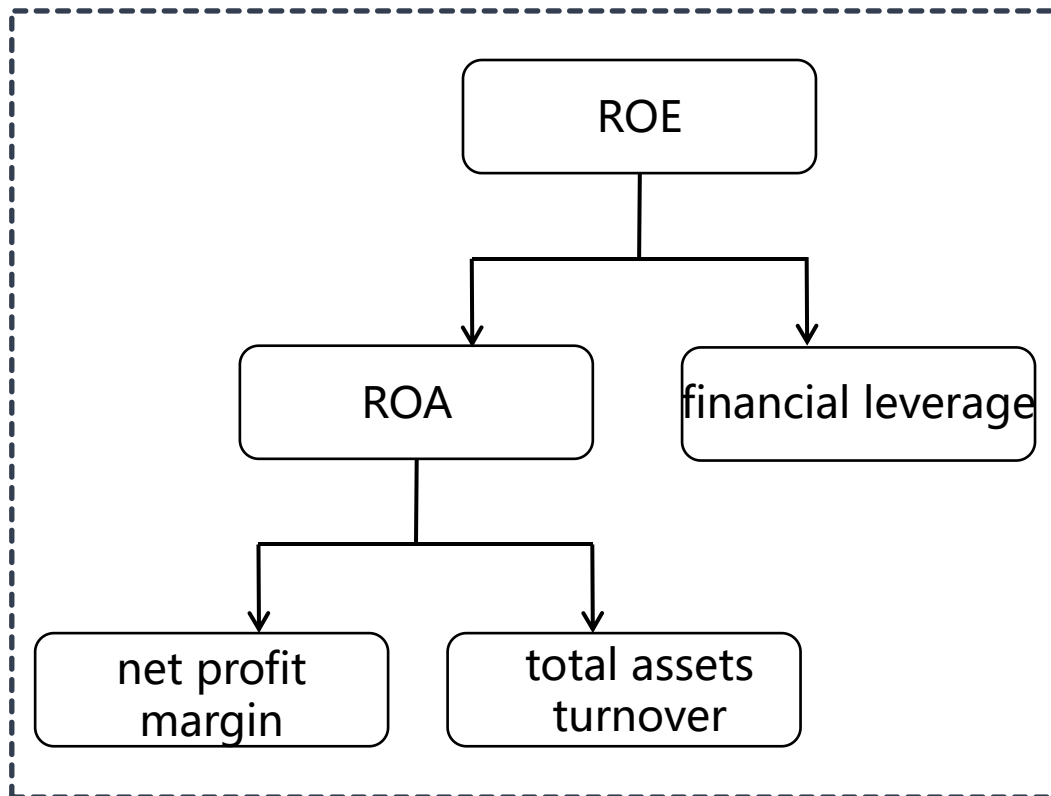| Profitability Ratio | |
| --- | --- |
| •**gross profit margin=gross profit/revenue**<br><br>•operating profit margin=operating profit/revenue<br><br>•pre-tax margin=earning before tax/revenue<br><br>•**net profit margin=net income/revenue**<br><br><br>•**return on assets（ROA）=net income/total average assets**<br><br>•return on capital=EBIT/（total average debt+ average equity）<br><br>•**return on equity（ROE）=net income/total average equity** | 反映企业赚取利润的能力。 |

**考察方式：**
主要考察计算

# 杜邦分析法 — 三步法
## Dupont Analysis — 3 Steps

```
            ┌─────────┐
            │   ROE   │
            └─────────┘
                 │
        ┌────────┴────────┐
        ▼                 ▼
   ┌─────────┐     ┌──────────────────┐
   │   ROA   │     │ financial leverage│
   └─────────┘     └──────────────────┘
        │
   ┌────┴────┐
   ▼         ▼
┌────────┐ ┌────────────┐
│net profit│ │total assets│
│ margin  │ │ turnover   │
└────────┘ └────────────┘
```

$$ROE = \frac{NI}{Equity}$$

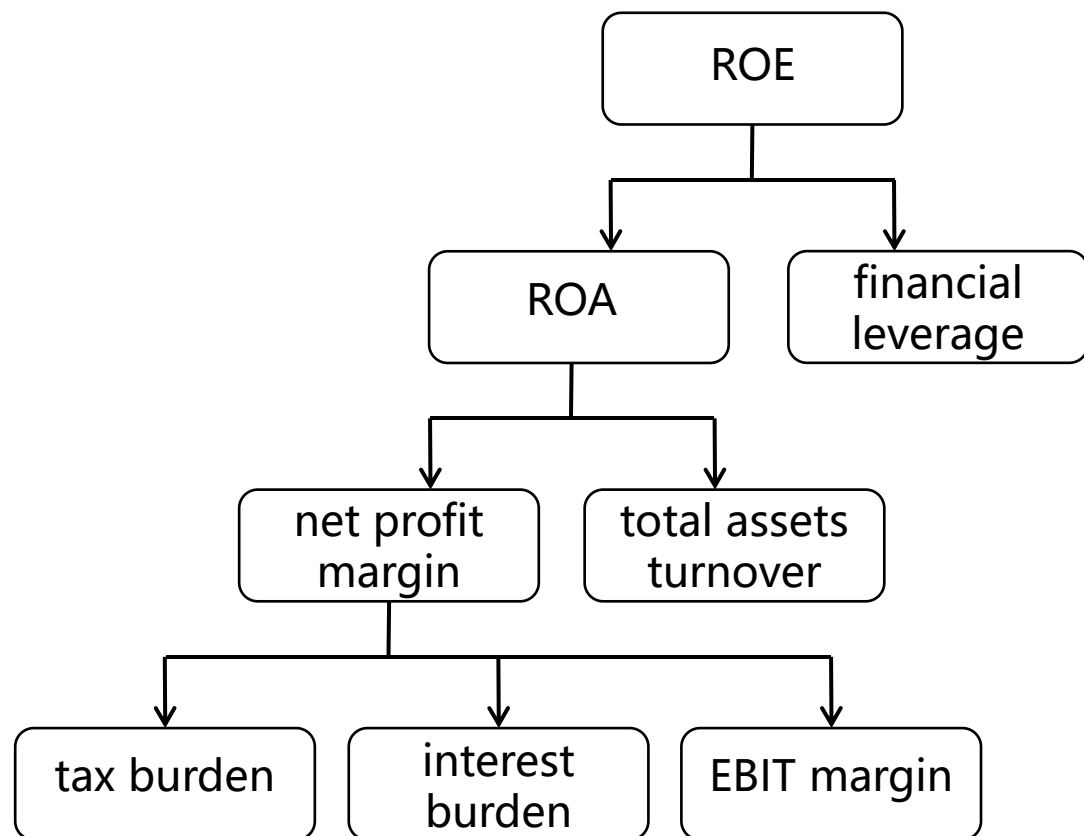$$= \frac{NI}{Assets} \times \frac{Assets}{Equity}$$

$$= \frac{NI}{Revenue} \times \frac{Revenue}{Assets} \times \frac{Assets}{Equity}$$

**考察方式：**
三步法的拆解计算，经常结合案例分析题

# 杜邦分析法 — 五步法
## Dupont Analysis — 5 Steps

ROE

ROA

financial leverage

net profit margin

total assets turnover

tax burden

interest burden

EBIT margin

$$\text{ROE} = \frac{\text{NI}}{\text{Equity}}$$

$$= \frac{\text{NI}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

$$= \frac{\text{NI}}{\text{Revenue}} \times \frac{\text{Revenue}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

$$= \frac{\text{NI}}{\text{EBT}} \times \frac{\text{EBT}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Revenue}} \times \frac{\text{revenue}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

**考察方式:**
五步法的拆解计算，经常结合案例分析题

# Reading 25
# Inventories

# 存货的初始计量
## Cost of Inventory

| Product Cost | Period Cost |
|---|---|
| Expense recognition is delayed until the inventory is sold （存货卖出那一刻才算作COGS，确认为费用） | Expensed in the period incurred （出现即写成费用） |
| ➢ Purchase cost less trade discounts and rebates<br>➢ Conversion costs including labor and overhead<br>➢ Other costs necessary to bring the inventory to its present location and condition | ➢ Abnormal waste of materials, labor, or overhead<br>➢ Storage costs （unless required as part of production）<br>➢ Administrative overhead<br>➢ Selling costs |

**考察方式：**
辨析题干中需要计入存货成本和期间费用的支出

# 存货的计价方法
## Inventory Valuation Method

| Specific Identification | eg: 古董，珠宝<br>进行单独识别计价 |
|---|---|
| First-in, First-out （FIFO) | COGS: 以最早购进的商品成本确认费用<br>Inventory: 最新购进的商品成本被反映在期末存货 |
| Last-in, First-out （LIFO)<br>(US.GAAP Only) | COGS: 最新购进的商品成本确认费用<br>Inventory: 最早购进的商品成本被反映在期末存货 |
| Weighted Average Cost （AVCO) | 加权平均单位成本 |

**考察方式：**
重点掌握先进先出法、后进先出法、加权平均法的计算

# 存货的减值
## Impairment of Inventory

| | IFRS | GAAP |
|---|---|---|
| 计量减值判断 | The lower of cost or net realisable value | The lower of cost or market |
| | NRV=selling price - selling cost | market取值：<br>1.If replacement cost （RC） > NRV<br>Market=NRV<br>2.If replacement cost（RC） < NRV - normal profit margin<br>Market=NRV - normal profit margin<br>3.NRV - normal profit margin < RC < NRV<br>Market=replacement cost |
| 确认减值 | If Cost > NRV<br> •Inventory written down to the NRV on the B/S<br> •COGS↑ （I/S） | If Cost > Market<br> •Inventory written down to the market on the B/S<br> •COGS↑ （I/S） |
| 减值转回 | 可以转回，但是只能转回到原值 | 不可以转回 |

**考察方式：**
掌握存货减值的判定和减值数额的计算

# 后进先出储备&清库存
## LIFO Reserve & Liquidation



LIFO reserve ↓
- $P\downarrow$
- *LIFO liquidation

cause → 1. 成本上涨
2. 滞销

result → $COGS\downarrow ==> NI\uparrow$
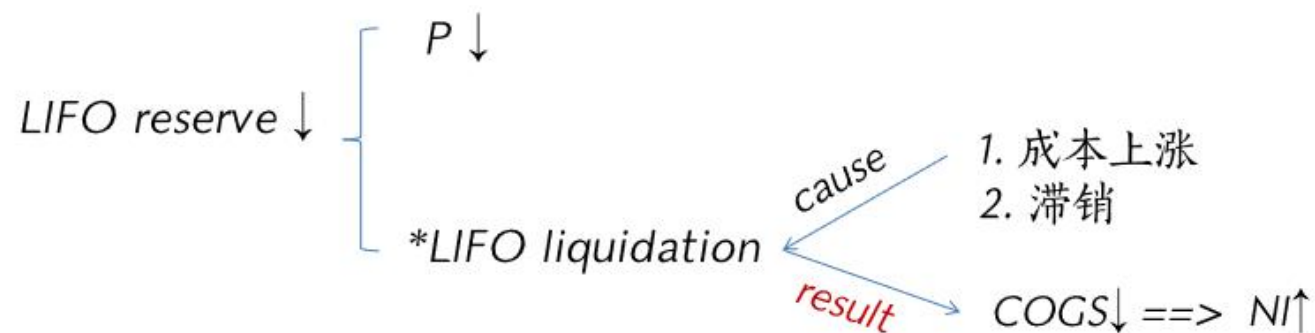
LIFO to FIFO Conversion
- $Inventory_{FIFO} = Inventory_{LIFO} + LIFO\ Reserve$
- $COGS_{FIFO} = COGS_{LIFO} - \Delta LIFO\ Reserve$

*LIFO liquidation: $Q_{Sold} > Q_{Purchase}$

**考察方式:**
掌握先进先出和后进先出相关科目的转换公式,了解LIFO liquidation发生的原因和后果

# Reading 26
# Long-Lived Assets

# 资本化&费用化
## Capitalizing & Expensing
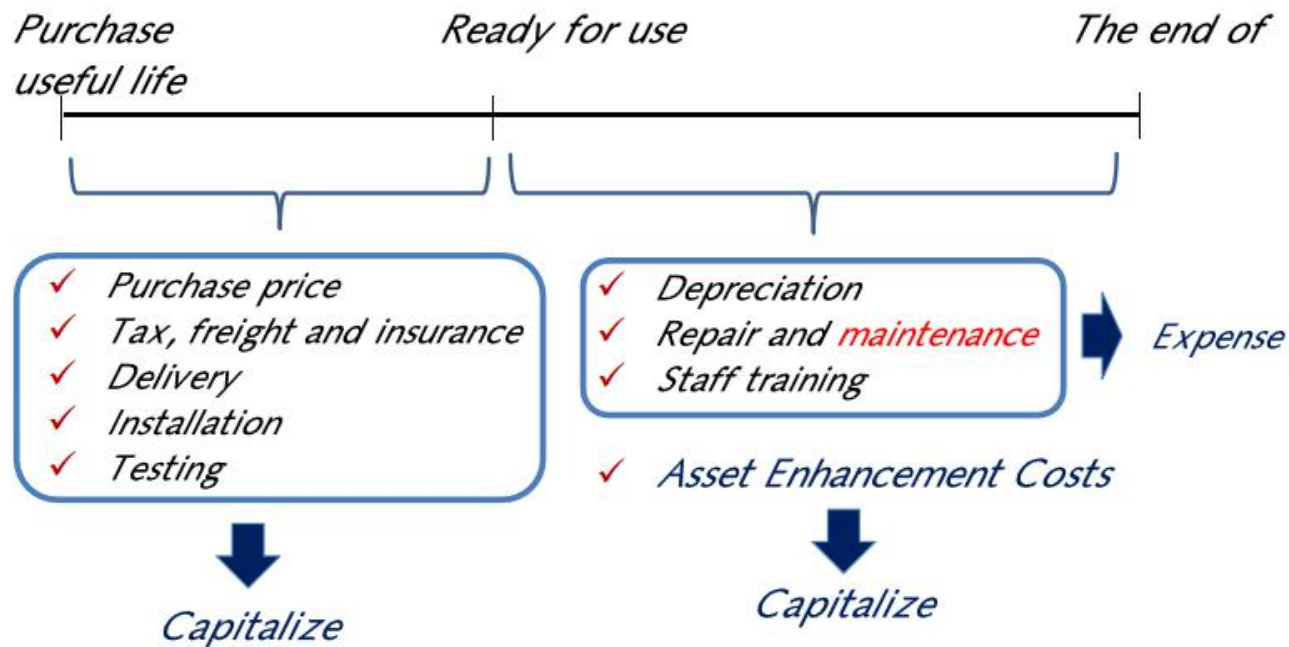


**考察方式：**
掌握资本化和费用化之间的分界线，从题干中分辨出哪些应该资本化，哪些应该费用化。

| Type of expenditure | IFRS | US.GAAP |
|---|---|---|
| Research | Expense | Expense |
| Development | Capitalize if<br>• tech feasibility to complete<br>• intend to use or sell | Expense 除了 software<br>① for sales：<br>The product's technological feasibility is established<br>② for own internal use：<br>Capitalize if<br>• probable to be completed<br>• used as intended |

**考察方式：**
考试可能会把规定和计算结合在一起考察

# 资本化和费用化的比较
## Capitalizing vs Expensing

| Statements | Items | Capitalizing | Expensing |
|---|---|---|---|
| B/S & Ratios | Total assets | Higher | Lower |
| | Total equity | Higher | Lower |
| | Leverage ratio (D/A, D/E) | Lower | Higher |
| I/S & Ratios | Income volatility | Lower | Higher |
| | Net income – first year (ROA, ROE) | Higher | Lower |
| | Net income – later year (ROA, ROE) | Lower | Higher |
| Cash flow statement | Total cash flow | Same | Same |
| | CFO | Higher | Lower |
| | CFI | Lower | Higher |

**考察方式：**
需要在理解的基础上把握两种处理方式的不同，不能一昧死记硬背

## Three methods to calculate depreciation

**Straight-line depreciation:**

$$Depreciation \quad expense = \frac{\cos t - residual \quad value}{useful \ life}$$

**Accelerated depreciation (Double-declining-balance Method):**

$$Depreciation \quad \exp ense = \frac{2}{useful \quad life} * (original \quad \cos t - accumulative \quad depreciation)$$

**Units of production:**

$$Depreciation \quad \exp ense = \frac{output \quad units \quad in \quad the \quad period}{life \quad in \quad output \quad units} * (\cos t \quad - residual \quad value)$$

**考察方式：**
折旧逻辑简单，以计算为主，该拿的分一定要拿到

# 折旧方法对财务比率的影响
## Tangible Assets - Depreciation Effect

**Depreciation impacts in early years**

| Items | Straight line | DDB |
|---|---|---|
| Depreciation expense | Lower | Higher |
| Net income | Higher | Lower |
| Assets | Higher | Lower |
| Equity | Higher | Lower |
| ROA | Higher | Lower |
| ROE | Higher | Lower |
| Total asset turnover | Lower | Higher |
| Cash flow – Tax | Same | Same |

**考察方式：**
需要在理解的基础上把握两种处理方式的不同，不能一昧死记硬背

# 长期资产的减值
## Impairment of Long-lived Assets

| | IFRS | US.GAAP (two steps) |
|---|---|---|
| Impairment Test | carrying value of assets > recoverable amount<br><br>*recoverable amount 选取 the *higher* of<br>NRV( selling price–selling cost )<br>value in use (pv of future cash flows) 题目会直接给哦 | ① impairment test: carrying value of assets > **undiscounted** future cash flow generated by assets<br><br>② loss measurement: carrying value of assets – fair market value or PV of future CF |

**考察方式：**
需要在理解的基础上把握两种处理方式的不同，不能一昧死记硬背

# 减值对比率的影响
## Impairment Effect

| Impairment Effects | |
|---|---|
| Assets | Decrease |
| Equity | Decrease |
| Debt / Equity | Increase |
| Current income, ROA, ROE | Decrease |
| Future income, ROA, ROE | Increase |
| Future depreciation expense | Decrease |
| Asset turnover ratios | Increase |
| Cash flow | Same |

**考察方式：**
需要在理解的基础上把握两种处理方式的不同，不能一味死记硬背

# 长期资产的计量模型
## Revaluation of Long-lived Assets
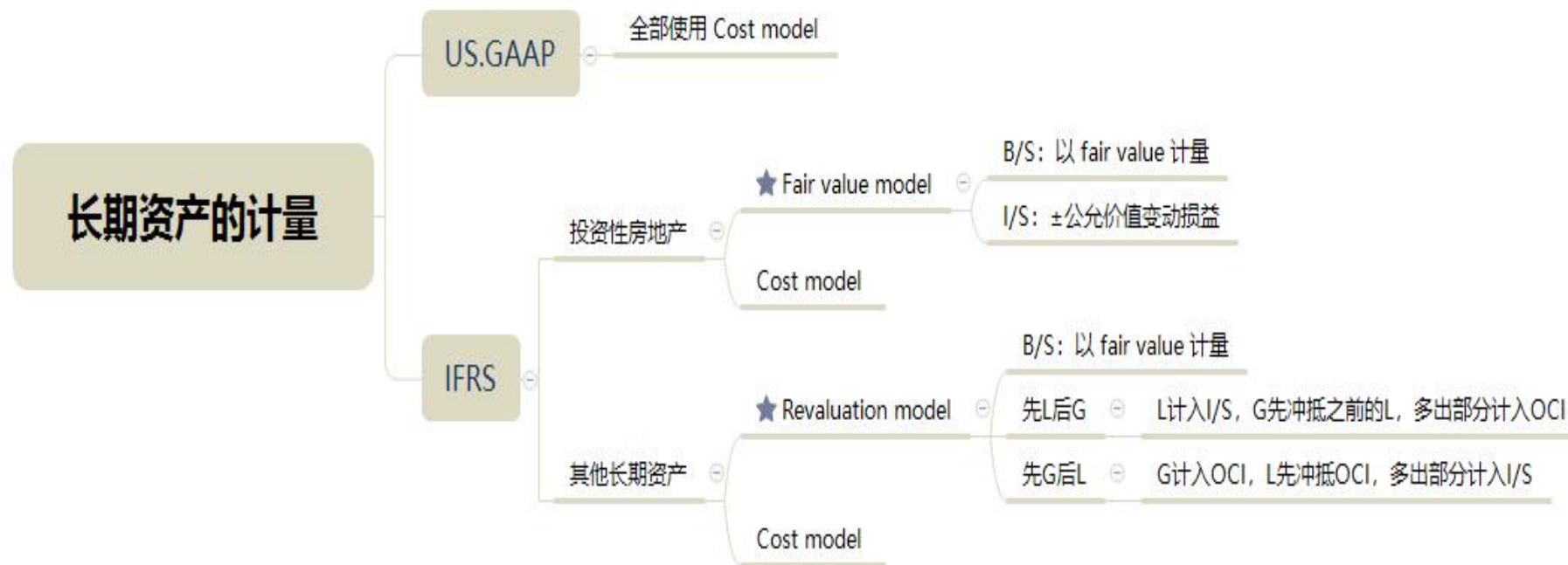


**考察方式：**
考试重点在于对国际准则下两种计量模型的考察

# Reading 27
# Income Taxes

高顿教育
**GOLDEN EDUCATION**

Accounting profit （会计报表上的税前利润）

Pre-tax income, earnings before tax

Income tax expense （在财务报表上出现的所得税费用）

Tax expense recognized in income statement.

Deferred tax liabilities (DTL)

A liability caused by temporary differences.

Deferred tax assets (DTA)

An asset caused by temporary differences.

Both DTLs and DTAs are presented on the balance sheet, *not netted.*

Taxable income （应税收入，税务报表上反映的应纳税的收入）

Amount of profit subject to taxes

Current tax payable （应交税费，本期应当缴纳的税费）

Tax liability for the current period

Tax base （税基，税务报表上的"账面价值"）

The carrying amount of an assets and liabilities based on tax purpose.

**考察方式：**
学习所得税，必须先掌握相关术语

➢ Temporary differences

　　Differences in tax and financial reporting that will *reverse* in the future

– *Cause* deferred tax

• Tax payable < income tax expense → 将来多缴税，产生DTL

• Tax payable > income tax expense → 将来少缴税，产生DTA

➢ Permanent differences

Differences in tax and financial reporting that will not reverse in the future.

• *Don't* cause deferred tax

　✓ *Income or expense* items not allowed by tax legislation

　✓ Tax credits for some expenditures

**考察方式：**
分辨永久性差异和暂时性差异的区别

# 递延所得税的计算
## Calculation of Deferred Tax

➢From the financial reporting–财务报表

• Carrying value/carrying amount

Balance sheet value of ana assets or liability

➢From the tax reporting–税务报表

•Tax base

Net amount of an asset or liability used for tax reporting purposes.

| Balance sheet approach | Income statement approach |
|---|---|
| Step 1: Identify Carrying value and Tax base for every asset and liability item on B/S | Step 1: Calculate Accounting profit & Taxable income |
| Step 2: Calculate the difference two bases<br>For assets = Carrying value – Tax base<br>For liabilities = Tax base– Carrying value<br>Positive figure * tax rate = DTL<br>Negative figure * tax rate = DTA | Step 2: Calculate Income tax expense & Tax payable<br>ΔDTA = (Taxable income（较大）– Accounting profit) * tax rate<br>ΔDTL = (Accounting profit（较大）– Taxable income) * tax rate<br><br>注：是DTA还是DTL看第一年的数值谁较大 |

**考察方式：**
1.掌握两种方法对DTA和DTL的判断
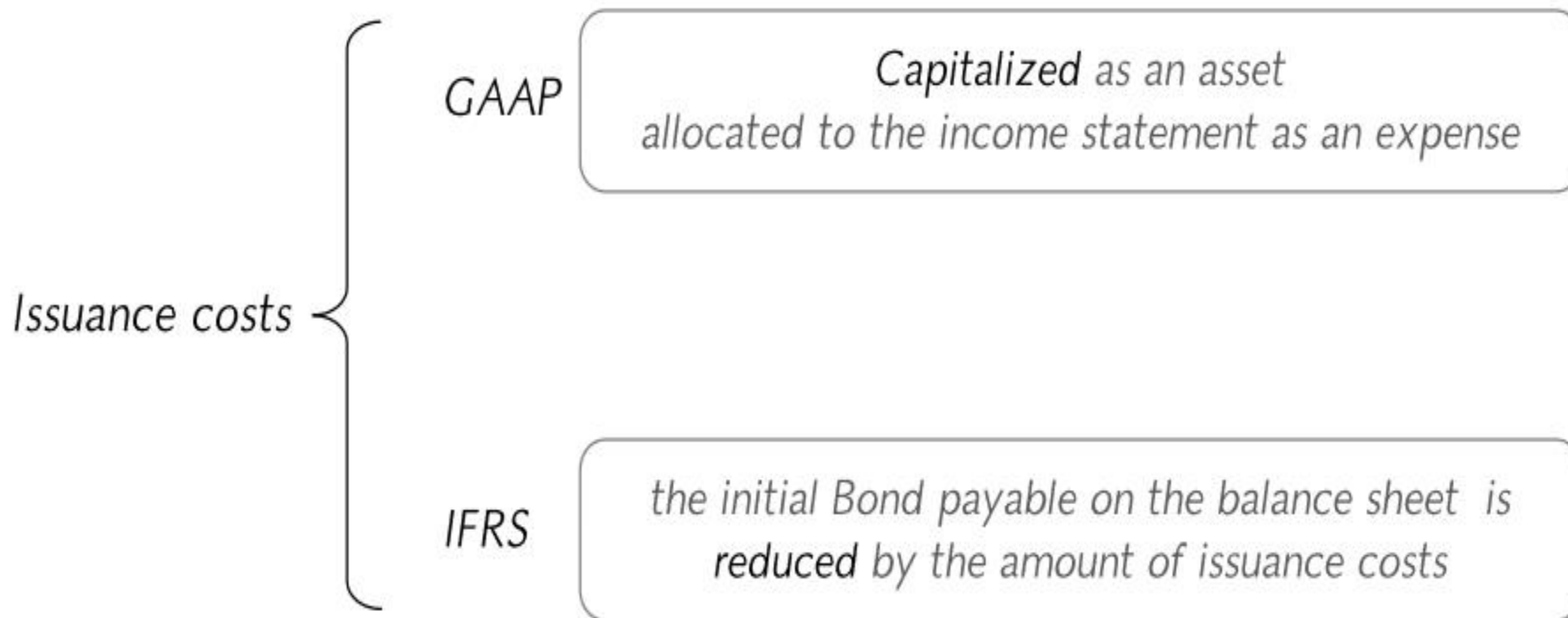2.掌握DTA/DTL的计算

# Reading 28
# Long-term Liabilities

|  | Issued at par | Issued at premium | Issued at discount |
|---|---|---|---|
| B/S | Bond payable = face value | Bond payable will decrease towards the face value | Bond payable will Increase towards the face value |
| I/S | Interest expense =Beginning B/P * market rate | | |
| CF/S | CFF Inflow: bond price（期初）<br><br>CFO outflow：100(coupon payment)<br><br>CFF Outflow: face value （期末） | | |

**考察方式：**
1.掌握三种债券发行方式的债券处理。
2. 能够计算任意一年的利息费用和债券的摊余成本

Issuance costs

GAAP

**Capitalized** as an asset
allocated to the income statement as an expense

IFRS

the initial Bond payable on the balance sheet is
**reduced** by the amount of issuance costs

**考察方式:**
掌握两大准则下对发行成本处理方式的不同

# 债券条款
## Covenants

> *Affirmative covenants* (约定必须做的事情)

- Make timely payments of principal and interest.

- Maintain certain ratios (such as the current, debt-to-equity, interest coverage ratios in accordance with specified levels.

- Maintain collateral, if any, in working order.

> Negative covenants (约定不能做的事情)

- Increasing dividends or repurchasing shares.

- Issuing more debt .

- Engaging in mergers and acquisitions.

**考察方式：**
以定性考察，概念题为主

| | IFRS (New Standard) | US.GAAP |
|---|---|---|
| Finance lease | All leases are treated as Finance lease, **except :**<br>1. Short-term leases (those with a lease term less than one year)<br>2. leased asset is low in value. (< $5000) | • Title transfer<br>• Bargain purchase option<br>• The lease term is for **at least 75%** of the asset's economic life.<br>• The PV of the lease payments is **equal to or greater than 90%** of the fair value of the leased asset |
| Operating lease | 1. Short-term leases (those with a lease term less than one year)<br>2. leased asset is low in value. (<$5000) | A lease not meeting any criteria above. |

**考察方式：**

所有租赁相关的问题，第一件事都是弄清楚租赁的类型

# 租赁的会计处理 —承租人角度（国际准则）
## Accounting for leases —Lessee (IFRS)

| Statements | Finance Lease | Operating Lease |
|---|---|---|
| B/S Inception | **Right-of-use=** Leased Payable = The lower of the PV(future lease payments) or fair value of leased asset) | No effect |
| B/S Periodic | **Leased asset**: Depreciation over lease term. **Leased liability**: Amortized cost (Beginning lease liability + Interest expense – lease payment = Ending lease liability) | No effect |
| I/S Periodic | Recognize **interest expense** and **depreciation expense** in income statement . | Recognized as **rental expense** |
| Cash flow | Interest expense: **CFO & CFF** Principle repayment: **CFF** | **CFO** |

**考察方式：**
能够计算任意一年Lease liability的账面价值和任意一年的利息费用

# 租赁的会计处理 —承租人角度（美国准则）
## Accounting for leases —Lessee (US GAAP)

| Statements | Finance Lease | Operating Lease |
|---|---|---|
| **B/S Inception** | **Right-of-use=** Leased Payable = The lower of the PV(future lease payments) or fair value of leased asset) <br> No effect | |
| **B/S Periodic** | **Leased asset**: Depreciation over lease term. <br> **Leased liability**: Amortized cost <br> (Beginning lease liability + Interest expense <br> – lease payment = Ending lease liability) | **Leased Asset (No need to depreciate)** <br><br> **Leased liability (No need to amortize)** |
| **I/S Periodic** | Recognize **interest expense** and **depreciation expense** in income statement . | Recognized as **rental expense** |
| **Cash flow** | Interest expense: **CFO** <br> Principle repayment: **CFF** | **CFO** |

**考察方式：**
能够计算任意一年Lease liability的账面价值和任意一年的利息费用

| Lessee | IFRS（Lessor） | U.S. GAAP（Lessor） |
|---|---|---|
| Operating Lease | Operating Lease | Operating Lease |
| Finance(Capital) Lease | Finance Lease | Operating Lease (Revenue recognition requirements are not satisfied) |
| | | Capital Lease (Revenue recognition requirements are satisfied) |

**考察方式:**
考试对出租人角度考察较少，了解即可

| | Operating Lease |
|---|---|
| B/S | Assets记在Lessor的报表上：<br>Leased assets（At inception）<br>Carrying value of Leased Assets = Original value of leased assets – A.D (Periodic) |
| I/S | Report Rental income：Lease payment<br>Report Depreciation |
| CF/S | CFO inflow：Rental income |

**考察方式：**
考试对出租人角度考察较少，了解即可

# 租赁的会计处理 — 出租人角度
## Accouting of leases — Lessor

| | Sales – type Lease | Direct – financing Lease |
|---|---|---|
| B/S At inception | Remove Assets; Recognize lease receivable | |
| | Lease Receivable = PV (lease payment ) > Carrying value of leased assets | Lease Receivable = PV (lease payment ) = Carrying value of leased assets |
| I/S At inception | Profit = Sales –COGS =Lease Receivable – Carrying value of leased assets | No profit |
| I/S Periodic | Interest income= Lease receivable × Interest rate | |
| CF/S | CFO inflow（Interest income） CFI inflow [Repayment of Principal(lease payment – interest income from lessee)] | |

**考察方式：**
考试要求能够分辨销售型融资租赁和直接融资租赁的区别

| Defined contribution plan | Defined benefit plan |
|---|---|
| A company contributes an agreed-upon (defined) amount into the plan. | A company makes promises of future benefits to be paid to the employee during retirement. |
| The *employee* take all investment risk | The *employer* take all investment risk |

Notes on DB plan:
以net pension assets/liabilities计入B/S；
actuarial gains and losses记在OCI里。

**考察方式：**
考试要求能够描述DB Plan的记账方式

# Reading 29
# Financial Reporting Quality
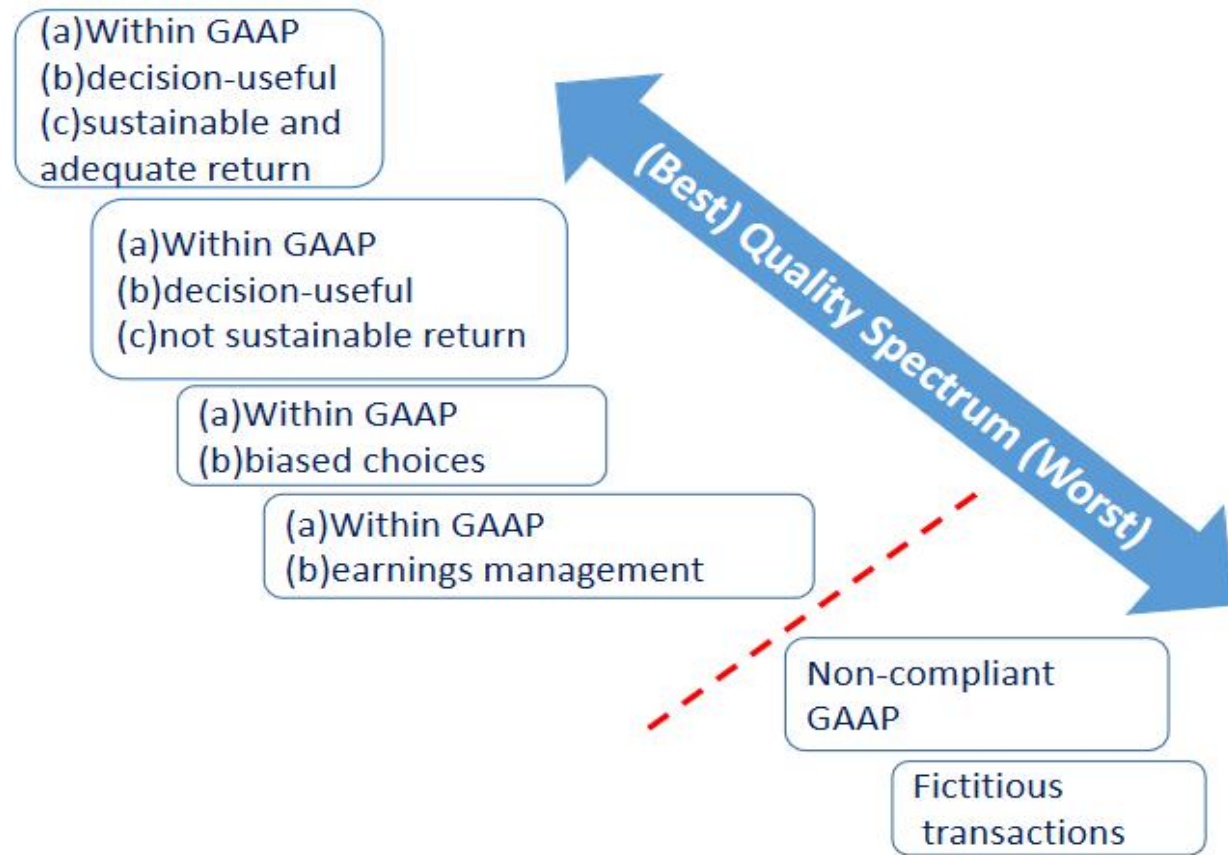
# 财报质量和盈利质量
## Financial Reporting Quality & Earning Quality

| Earnings Quality | | Financial Reporting Quality | |
|---|---|---|---|
| | | Low | High |
| | High | LOW financial reporting quality impedes assessment of earnings quality. | HIGH financial reporting quality makes assessment meaningful. HIGH earnings quality raises value of the company. |
| | Low | | HIGH financial reporting quality makes assessment meaningful. LOW earnings quality reduces value of the company. |

**考察方式：**
了解高财报质量和盈利质量的特征即可

# 财报质量和盈利质量
## Financial Reporting Quality & Earning Quality



(a)Within GAAP
(b)decision-useful
(c)sustainable and adequate return

(a)Within GAAP
(b)decision-useful
(c)not sustainable return

(a)Within GAAP
(b)biased choices

(a)Within GAAP
(b)earnings management

(Best) Quality Spectrum (Worst)

Non-compliant GAAP

Fictitious transactions

**考察方式：**
务必把不同质量档次的特征弄清楚

# CFA一级
# Corporate Finance

# Reading 31
# Corporate Governance and ESG

# 公司治理
## Corporate Governance

**Stakeholder：**
shareholders，
creditors，
board of directors
customers,
suppliers,
employees,
government，
others who have an interest in the company

**Principal-agent relationship：**
Shareholder vs. Manager/Director
Controlling shareholder vs. Minority shareholder
Shareholder vs. Creditor interests

**Board of directors committees:**
Nomination committee
Audit committee
Remuneration/Compensation committee

**考察方式：**
1. 了解公司的利益相关者
2. 了解委托代理问题的起因和缓解方式
3. 了解董事会的组成及其下属委员会的职能

# ESG投资
## ESG Investing

**Components：**

Sustainable investing
Responsible investing
Social responsible investing

**Applications：**

Negative screening
Positive screening/ Best-in-class approaches
Impact investing
Thematic investing

**考察方式：**
了解ESG投资的含义和筛选项目的方式

# Reading 32
# Capital Budgeting

# 资本预算的基本原则
## Principles of Capital Budgeting

| Included in Incremental CFs | | Excluded in Incremental CFs |
|---|---|---|
| **After tax** | | sunk costs |
| Opportunity cost | | financing costs |
| Externalities | cannibalization（negative effect） | |
| | synergy（positive effect） | |

**考察方式：**
1. 明确增量现金流中需要考虑和不需要考虑的条件
2. 列举机会成本，外部性，沉没成本，融资成本的事例
3. 明确考虑融资成本的情况

# 净现值&内部回报率
## NPV&IRR

| | **Net Present Value (NPV)** | **Internal Rate of Return (IRR)** |
|---|---|---|
| Definition | NPV = PV(inflow) - PV(outflow) | The discount rate that makes NPV = 0. |
| Calculation | $NPV = CF_0 + \dfrac{CF_1}{(1+r)^1} + \dfrac{CF_2}{(1+r)^2} + ... + \dfrac{CF_n}{(1+r)^n}$ | $NPV = 0 = CF_0 + \dfrac{CF_1}{(1+IRR)^1} + \dfrac{CF_2}{(1+IRR)^2} + ... + \dfrac{CF_n}{(1+IRR)^n}$ |
| Rules | NPV > 0, undertake the project.<br>NPV ≤ 0, should not undertake the project. | IRR > cost of capital, undertake the project .<br>IRR ≤ cost of capital, should not undertake the project. |
| Pros & Cons | Pros: directly reflect expected value of project.<br>Cons: ignore size of project. | Pros: reflect profitability.<br>Cons: multiple or no IRR. unrealized reinvestment assumption. |
| Conflict | Mutually exclusive projects → Stick to the NPV rule | |

**考察方式：**
1. 金融计算器计算NPV及IRR
2. NPV和IRR方法各自的优缺点
3. 单一项目，判断是否接受
4. 多个项目，选择哪一个

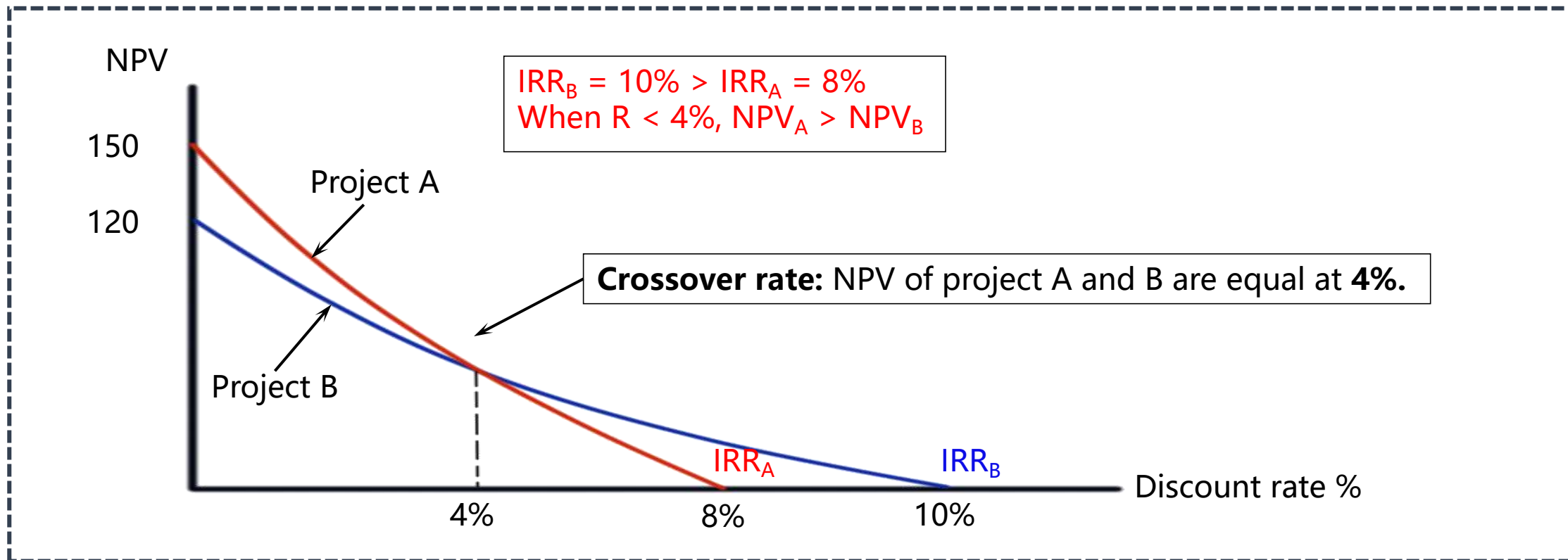# 回收期&折现回收期&盈利指数
## PB&DPB&PI

| | Payback Period (PB)<br>Discounted Payback Period (DPB) | Profitability Index (PI) |
|---|---|---|
| Definition | Number of years to recover the (PV of) investment cost. | Present value of future cash flows divided by initial investment. |
| Calculation | | $PI = \dfrac{PV\ of\ Future\ CF}{CF_0}$ |
| Rules | No decision rule like that of the NPV or IRR. | If PI > 1, then accept/invest.<br>If PI < 1, then reject/not invest. |
| Pros & Cons | Pros: reflect liquidity.<br>Cons: ignore time value of money (be modified by DPB). ignore the CF beyond PB/DPB. ignore project's value. | Pros: reflect profitability.<br>Cons: The absolute NPV is ignored. |

**考察方式：**
1. 计算PB, DPB和PI
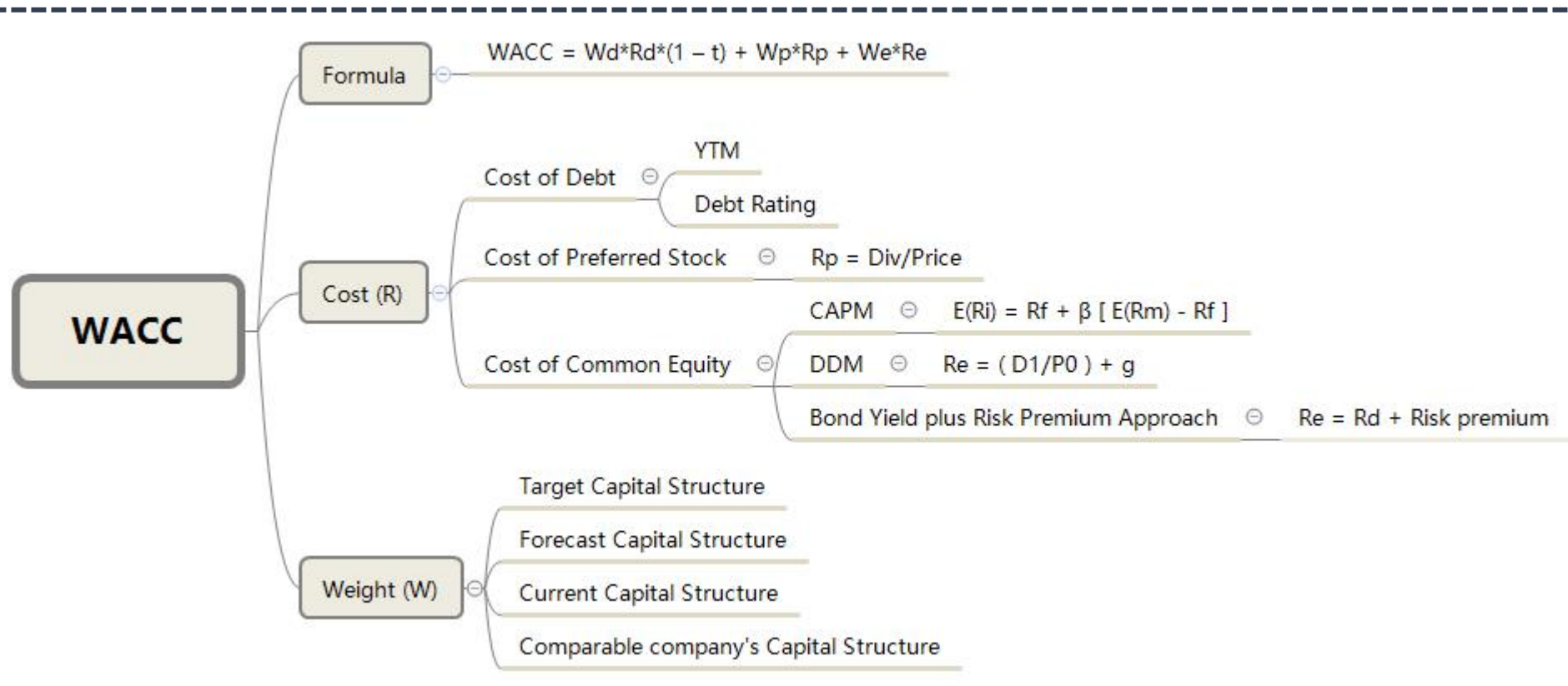2. 明确各种方法的优缺点
3. 各种方法选择项目的依据

# NPV图像交点
**NPV Profile**



IRR$_B$ = 10% > IRR$_A$ = 8%
When R < 4%, NPV$_A$ > NPV$_B$

NPV

150

120

Project A

**Crossover rate:** NPV of project A and B are equal at **4%.**

Project B

IRR$_A$          IRR$_B$

Discount rate %

4%          8%          10%

**考察方式：**
1. 明确横轴，纵轴交点坐标表示的含义
2. 计算出Crossover rate
3. 明确不同折现率条件下项目的选择

# Reading 33
# Cost of Capital

# WACC基本概念
## Basic WACC Concepts



Formula — WACC = Wd*Rd*(1 – t) + Wp*Rp + We*Re

WACC

Cost (R)
- Cost of Debt
  - YTM
  - Debt Rating
- Cost of Preferred Stock — Rp = Div/Price
- Cost of Common Equity
  - CAPM — $E(R_i) = R_f + \beta [ E(R_m) - R_f ]$
  - DDM — $R_e = ( D1/P0 ) + g$
  - Bond Yield plus Risk Premium Approach — $R_e = R_d + Risk\ premium$

Weight (W)
- Target Capital Structure
- Forecast Capital Structure
- Current Capital Structure
- Comparable company's Capital Structure

**考察方式:**
1. WACC公式套用
2. 掌握三种融资方式的成本计算
3. 根据题目要求选择合适的成本计量方式
4. 根据题目要求选择合适的权重

**Un-lever:**

$$\beta_{A,\,comp.} = \beta_{E,\,comp.}\left[\cfrac{1}{1+[(1-t_{comp.})\cfrac{D}{E_{comp.}}]}\right]$$

**Re-lever:**

$$\beta_{E,pro.} = \beta_{A,pro.}\left[1+[(1-t_{pro.})\cfrac{D}{E_{pro.}}]\right]$$

**考察方式:**
1. 运用公式计算非上市公司权益的β值
2. 理解加杠杆和去杠杆的过程

# 权益发行成本
**Flotation Cost**

**Method 1**:

$$r_e = \frac{D_1}{P_0 - F} + g \quad \text{or,} \quad r_e = \frac{D_1}{P_0(1-f)} + g$$

F/f: flotation cost by dollar/percentage.

**Method 2**:
deduct the flotation cost from the initial cash flow of projects.

**考察方式:**
1. 明确方法一和方法二的适用条件
2. 计算权益发行成本

# 国家主权风险溢价
## Country Risk Premium

**Cost of capital in developing country (Kce)**

$$k_{ce} = R_f + \beta * \left[ E(R_m) - R_f + {\color{red}CRP} \right]$$

$$\text{Kce = sovereign yield spread} \times \frac{\text{发展中国家股票市场指数的年化标准差}}{\text{以发达国家货币计价的发展中国家债券市场指数的年化标准差}}$$

**考察方式：**
1. 计算发展中国家权益的资本成本
2. 计算国家主权风险溢价

# 最优资本结构
## Optimal Capital Structure

| Project Risk & Discounted rate | | |
|---|---|---|
| | **Project Risk > Company's average** | **Project Risk < Company's average** |
| Subtable discount rate | Discount rate > WACC | Discount rate < WACC |
| If Not | Overvalue Projevt's NPV | Undervalue Projevt's NPV |

**考察方式:**
1. 明确折现率和项目风险的关系以及错用的后果
2. 运用合适的折现率计算项目NPV

# 最优资本结构
## Optimal Capital Structure
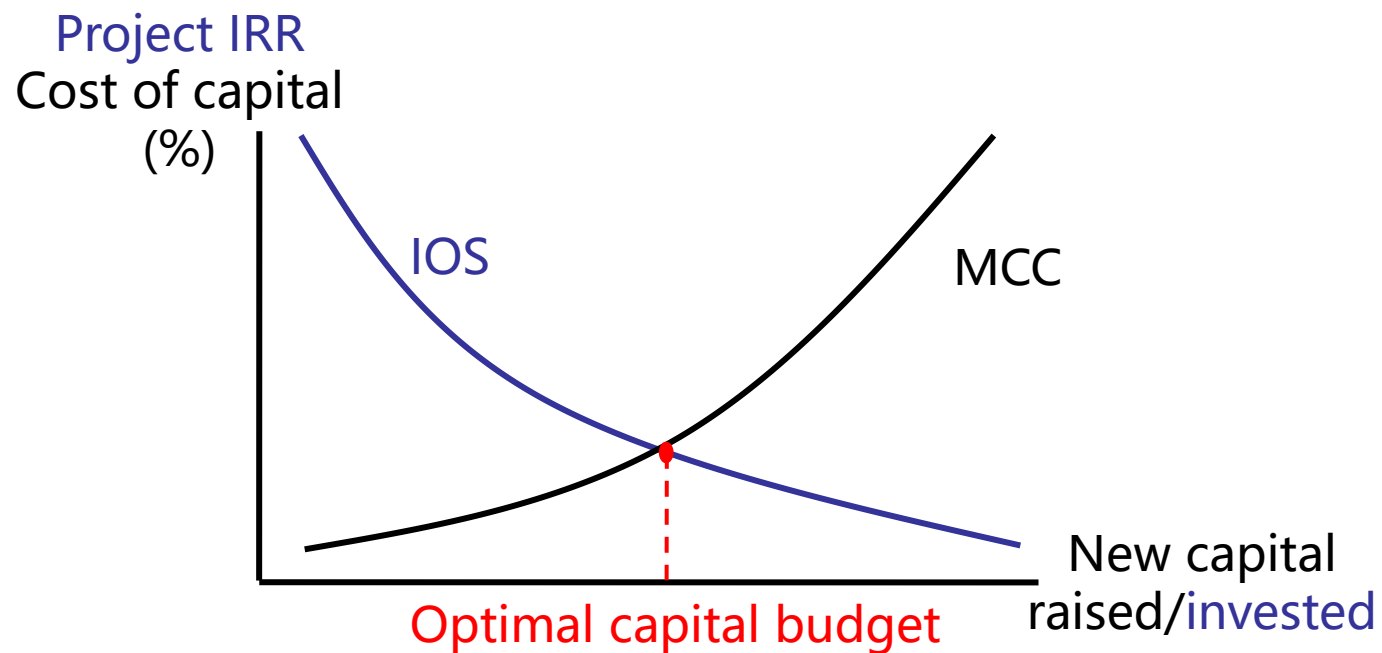


考察方式：
1. 知道IOS曲线和MCC曲线含义和形状
2. 知道最优资本结构的决定和位置

# Reading 34
# Measures of Leverage

# 杠杆
**Leverage**

| | Definition | Formula |
|---|---|---|
| DOL | Created by fixed operating cost (e.g. depreciation and rent). | $DOL = \dfrac{\text{Percentage change in operating income}}{\text{Percentage change in units sold}} = \dfrac{Q(P-V)}{Q(P-V)-F}$ |
| DFL | Created by fixed financial cost (e.g. interest). | $DFL = \dfrac{\text{Percentage change in net income}}{\text{Percentage change in operating income}} = \dfrac{[Q(P-V)-F]}{[Q(P-V)-F-C]}$ |
| DTL | A measure of the sensitivity of net income to changes in the number of units produced and sold. | $DTL = \dfrac{\text{Percentage change in net income}}{\text{Percentage change in the number of units sold}} = \dfrac{Q(P-V)}{Q(P-V)-F-C}$ |

**考查方式：**
1. 计算DOL. DFL. DTL
2. 明确影响杠杆大小的因素

# 盈亏平衡点
## Breakeven Points

| | Breakeven Points | Operating Breakeven Points |
|---|---|---|
| Definition | The breakeven point, QBE, is the number of units produced and sold at which the company's net income is zero. | The operating breakeven point, QOBE, is the number of units produced and sold at which the company's operating income is zero. |
| Formula | $$Q_{\mathrm{BE}} = \frac{F + C}{P - V}$$ | $$Q_{\mathrm{OBE}} = \frac{F}{P - V}$$ |

**考察方式：**
1. 计算盈亏平衡点和经营盈亏平衡点
2. 明确盈亏平衡点和经营盈亏平衡点的区别

# Reading 35
# Working Capital Management

# 流动性来源
## Sources of liquidity

| | |
|---|---|
| Primary source of liquidity | Trade credit,<br>Bank lines of credit,<br>Short-term investment portfolio |
| Secondary sources of liquidity | Negotiating debt contract,<br>Liquidating assets;<br>Filing for bankruptcy protection and reorganization. |

**考察方式:**
区分不同类型的流动性来源

# 活动比率
## Active Ratio

- Inventory turnover=COGS/average inventory
- Days of inventory on hand=365/inventory turnover

- Receivable turnover=revenue/average receivable
- Days of sales outstanding=365/receivable turnover

Payable turnover=purchase/average payable
Number of days payables=365/payable turnover

- Total assets turnover=revenue/average assets
- Fixed assets turnover=revenue/average fixed assets
- Working capital turnover=revenue/average working capital

**考察方式：**
主要考察计算

# 流动比率
## Liquidity Ratio

- Current ratio=current assets/current liabilities
- Quick ratio=(cash+short-term marketable security+receivable)/current liability
- Cash ratio=(cash+short-term marketable security)/current liability

- Operating cycle=days of inventory on hand+days of sales outstandings
- Cash conversion cycle=operating cycle-number of days of payable

**考察方式:**
1. 考察计算
2. 明确影响循环周期和各比率的因素

$$Money \quad market \quad yield = \frac{Face \quad Value - \Pr ice}{\Pr ice} * \frac{360}{Days}$$

$$Bond \quad equivalent \quad yield = \frac{Face \quad value - \Pr ice}{\Pr ice} * \frac{365}{Days}$$

$$Discount - basis \quad yield = \frac{Face \quad value - \Pr ice}{Face \quad value} * \frac{360}{Days}$$

**考察方式：**

主要考察计算

# 应付账款成本
## Cost of Trade Credit

| Definition | The cost to the company of not taking the trade discount. |
|---|---|
| Formula | $$\text{Cost of trade credit} = \left(1 + \frac{\%\text{discount}}{1 - \%\text{discount}}\right)^{\frac{365}{\text{days past discount}}} - 1$$ |
| Evaluation | If the company's cost of funds or short-term investment rate less than cost of trade credit, the company should take the trade discount. |

**考查方式：**
1. 计算Cost of trade credit
2. 根据计算结果和题意，做出正确的投资或融资决定

**CFA一级**
**Equity**
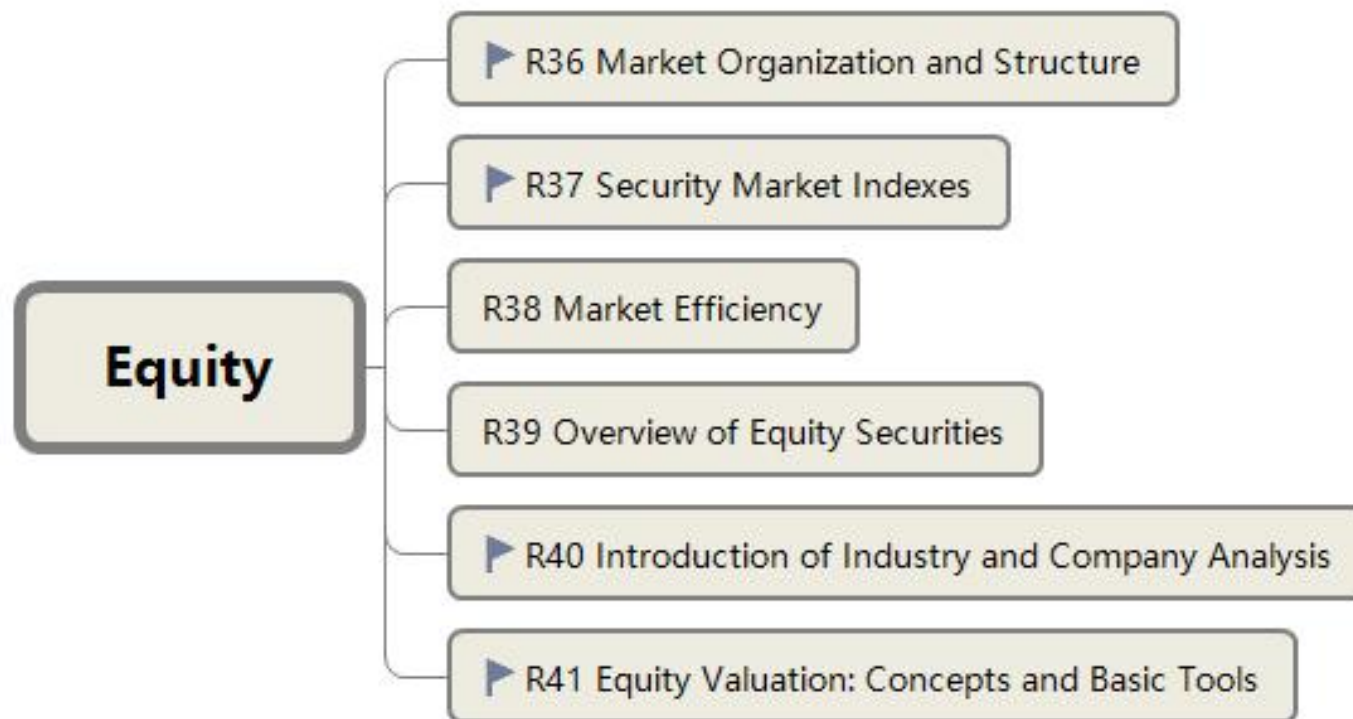
# Reading 36
# Market Organization and Structure

# 金融系统功能
## Interest Functions of Financial System

- Achieving Entities' Purposes in Using Financial System
- Determining Equilibrium Rate of Return
- Capital Allocation Efficiency

**考察方式：**
1.定性分析，问金融系统的功能，能判断出来即可；
2.满足各方需求中有一项功能是基于信息驱动的交易者，需注意判断（该信息指的是通过模型等数据分析得出的证券买卖方向信息。）

# 经纪商&做市商
## Broker &Dealer

|  | Broker (经纪商) | Dealers (做市商) |
|---|---|---|
| Definition | help clients buy and sell securities | buying or selling from their own inventory |
| profit | commission | bid-ask spread |

**考察方式：**
1. 考察经纪商和做市商各自的含义；
2. 考察经纪商和做市商的对比，主要是自身是否参与交易以及利润来源差别

# 资产&合约
## Assets and Contracts



**考察方式：**
掌握资产大类的分类即可，因为每个资产分类都对应具体的科目，不在权益里做重点考察

# 市场分类
## Markets



| | | |
|---|---|---|
| **按Maturity分类** | Money market 货币市场 | liquidity，maturity < 1year |
| | Capital market 资本市场 | maturity > 1 year |
| **按Delivery分类** | Spot market 即期市场 | 一手交钱，一手交货 |
| | Forward market 远期市场 | 价格今日商定，交割未来发生 |
| **按Underlying asset分类** | Traditional market 传统投资市场 | stock, bond, mutual fund... |
| | Alternative market 另类投资市场 | hedge fund, PE, commodity, real assets, collections |

**考察方式：**
1.掌握按照不同维度的市场分类
2.各个维度下不同市场之间的对比

# 市场分类
## Markets



**Security issuing methods**

- **Primary markets**
  - Public Offering
    - Initial Public Offerings（首次公开发行）
    - Seasoned Offering（增发）
  - Private Placement
    - Dividend Reinvestment Plan
    - Rights Offering
- **Secondary markets**
  - Trading Sessions
    - Call market（集合竞价市场）
    - Continuous trading market（连续竞价市场）
  - Execution Mechanisms
    - ★ Quote-driven markets（报价驱动市场）
    - ★ Order-driven markets（指令驱动市场）
    - Brokered markets（经纪商市场）

**考察方式：**
1.掌握一级市场和二级市场的对比
2.区分公开发行和私募发行的种类
3.掌握报价驱动市场和指令驱动市场的异同点

# 包销&代销
## Underwritten &Best Effort Offering

| Underwritten offering | Best effort offering |
|---|---|
| Investment bank bears the risk of buying the unsold portion of securities | Investment bank is not obligated to buy the unsold portion of securities |
| Investment bank prefer the issue price be set low | Investment bank sets the issue price as high as possible |

**考察方式：**
1. 掌握包销和代销的含义，名词解释能理解含义
2. 掌握包销和代销的对比，尤其是双方的义务和获益来源

# 集合竞价市场&连续竞价市场
## Call Markets &Continuous Trading Market

| | **Advantanges** | **Disadvantages** |
|---|---|---|
| **Call markets** | 买卖双方更易找到合适的交易对手 | 交易者只能在竞价时间段交易 |
| **Continuous trading market** | 有意向的买卖双方可以在市场开放的任意时间交易 | 若买家和买家不在同一时段，则无法交易 |

**考察方式:**
1. 掌握两个市场的定义;
2. 掌握两个市场的对比，尤其是各自的优缺点

# 头寸
**Position**

**Long Position（多头）**

对资产预期：看涨，资产上涨时盈利。

操作：先买入，涨价后卖出，赚取差价。

Maximum profit：正无穷

Maximum loss：初始投入（风险有限）

**Short Position（空头）**

对资产预期：看跌，资产下跌时盈利。

操作：先借入卖出，降价后低价买回，赚取差价。

Maximum profit：卖出价

Maximum loss：负无穷（风险无限）

**考察方式：**

并不会单独出题，会作为题目背景一部分考察，属于专业术语

# 期权及标的物的头寸
## Position of Option & Underlying

| Type of Option | Option Position | Underlying Position<br>(underlying risk exposure) |
|:---:|:---:|:---:|
| Call（看涨期权） | Long | Long |
| Call（看涨期权） | Short | Short |
| Put（看跌期权） | Long | Short |
| Put（看跌期权） | Short | Long |

**\*记忆口诀：** long/call为正，short/put为负
**对标的物头寸->正正得正，负负得正，正负得负\***

**考察方式：**
关于衍生品的头寸，重点放在衍生品科目里面考察，但权益里需要做了解

# 指令
## Orders

Basic Instructions:
- what instrument to trade（标的）
- whether to buy or sell（方向）
- how much to trade（数量）

| Additional Instructions | |
|---|---|
| **Execution instructions（执行指令）** | **how** to fill the order |
| **Validity instructions （时效指令）** | **when** the order may be filled |
| **Clearing instructions （清算指令）** | how to arrange the final **settlement** of the trade |

**考察方式：**
重点掌握执行指令和时效指令的内涵

# 指令
# Orders
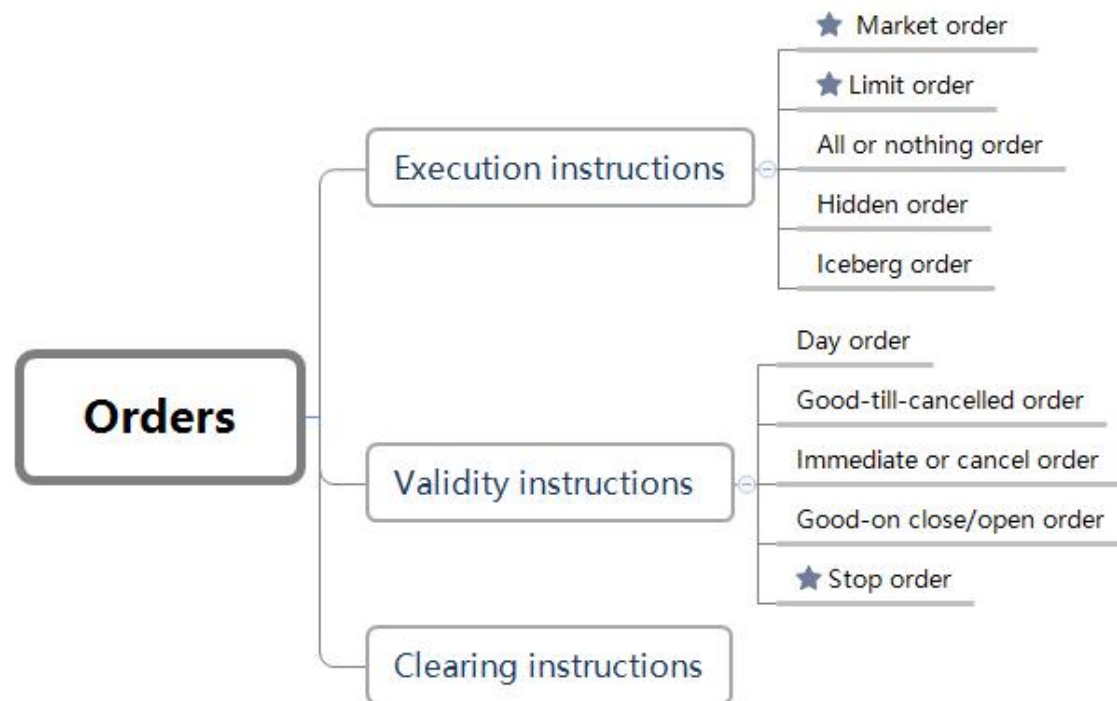


**考察方式：**
重要考点，主要是掌握各指令是属于执行指令还是时效指令

# Reading 37
# Security Market Indexes

# 指数加权法
## Index Weighting Methods
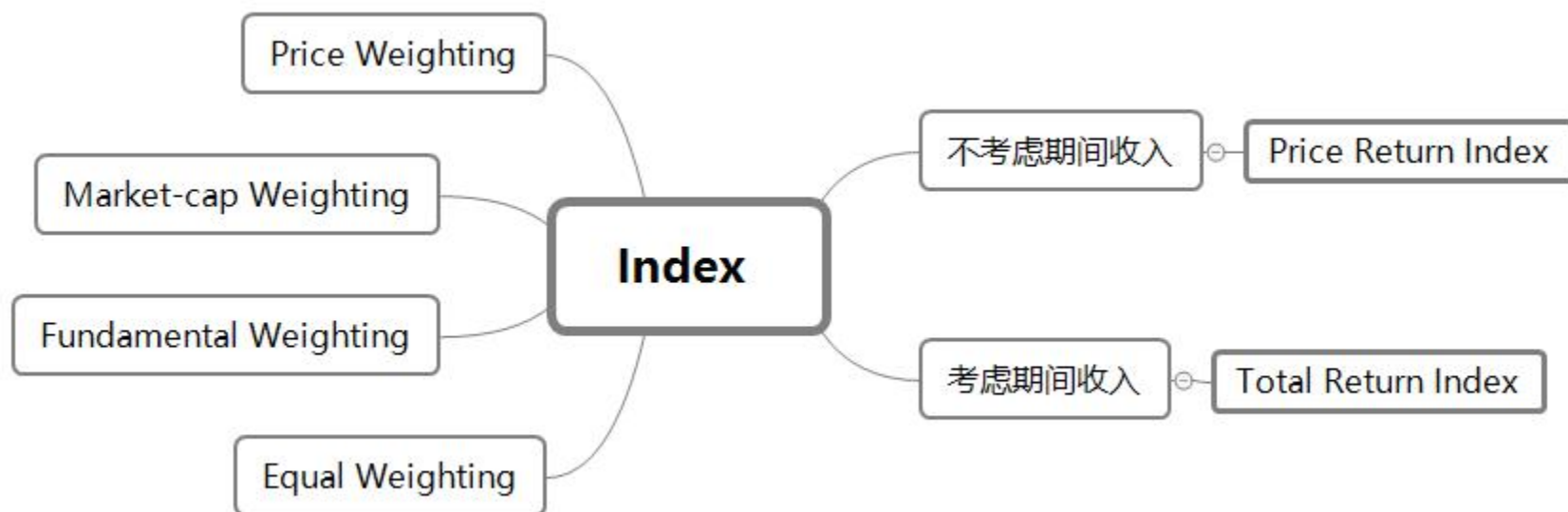


**考察方式：**
1.明确指数收益计算的两种维度：price return和total return；
2.掌握计算指数收益的四大加权方法，包括定性分析和定量分析

# 指数加权法
## Index Weighting Methods

### Price Weighting

◆ **Advantages**
- Simplicity

◆ **Disadvantages**
- A stock split in any one security causes arbitrary changes the weights of all the constituents' securities.
- High price stock could be overweighted.

### Equal Weighting

◆ **Advantages**
- Simplicity

◆ **Disadvantages**
- Large-Cap securities are underrepresented.
- Small-Cap securities are overrepresented.
- Maintaining equal weights requires frequent adjustments to the index(i.e. rebalancing).

**考察方式：**
两种加权法的优缺点对比

**Market-Capitalization Weighting**

◆ **Advantages**
- The constituent securities are held in proportion to their value in the target market.

◆ **Disadvantages**
- Overweighting stocks that have risen in price and underweighting stocks that have declined in price.

**Fundamental Weighting**

◆ **Features**
- Value Tilt (价值倾斜): Weight（value stock）> Weight（growth stock）
- Contrarian Effect (反转效应): higher price, lower weight and vice versa

**考察方式：**
两种加权法的优缺点对比以及各自的特点

# 指数管理
## Index Management

| | Rebalancing（再平衡） | Reconstitution（重构） |
|---|---|---|
| Definition | adjusting the weights of the constituent securities. | changing the constituent securities in an index. |
| Purpose | ◆ Price-weighted : no need for rebalance<br>◆ Market-Cap-weighted : rebalancing themselves automatically<br>◆ Equal-weighted : requires most frequent rebalancing. | reflect changes in the target market (bankruptcies, de-listings, mergers, acquisitions, etc.) or to reflect the judgment of the selection committee. |

**考察方式：**
1. 掌握再平衡与重构的定义
2. 掌握两者的目的以及不同加权法下再平衡和重构的意义

- Benchmarks for Actively Managed Portfolios（投资经理表现的参考标准）
  α = R（actively managed portfolio）- R（passive managed portfolio）

- Model Portfolios for Investment Products（模拟指数的投资组合）

- Proxies for Measuring and Modeling Returns, Systematic Risk, and Risk-Adjusted Performance（衡量市场的收益和风险和风险调整后的收益）

- Gauges of Market Sentiment（反应投资者信心）

**考察方式:**
定性考察市场指数的用处

# 指数种类
## Categories of Indices



**Categories of Indexes**

- ★ Equity Indexes
  - Broad Market Indexes
  - Multi-Market Indexes
  - Sector Indexes
  - ★ Style Indexes
- Fixed-Income Indexes
  - Too large quantity
  - Too little of price data
  - Limited liquidity
- ★ Alternative Investment Indexes
  - Commodity Indexes
  - REIT Indexes
  - ★ Hedge Fund Indexes
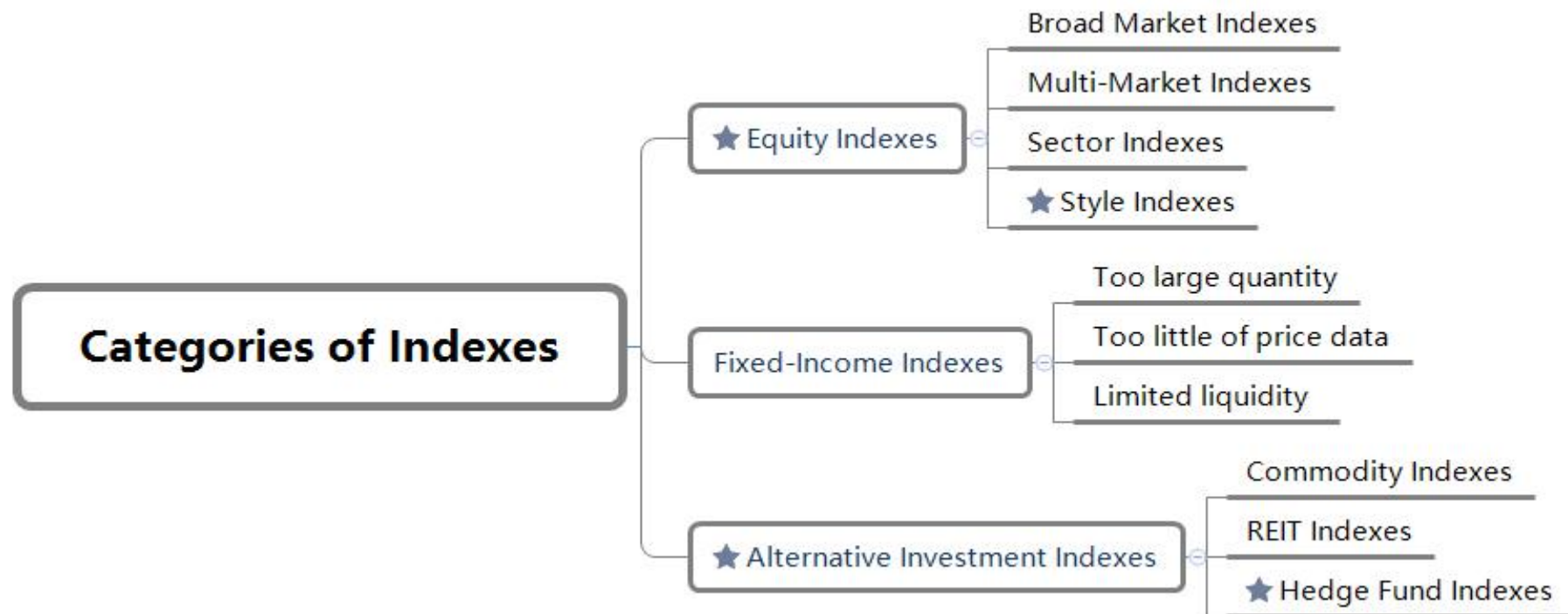
**考察方式:**
1.其他权益指数的内涵
2.固定收益市场指数的缺陷
3.对冲基金指数的优缺点

# Reading 38
# Market Efficiency

# 市场价值 VS 内在价值
## Market value vs Intrinsic value

| | Price VS Value | Action | Strategy | Reason |
|---|---|---|---|---|
| **Efficient Market** | P = V  (fairly valued) | hold | passive strategy | lower transaction costs & information seeking costs |
| **Inefficient Market** | P > V  (overvalued) | sell | active strategy | can earn risk-adjusted abnormal return |
| | P <V  (undervalued) | buy | | |

**考察方式：**
根据市场价值和内在价值的大小比较，决定交易策略

# 影响市场有效性的因素
## Factors affecting a market's efficiency

| Factors | Relationship with Market Efficiency |
|---|---|
| Number of market participants | + |
| Information availability | + |
| Limits to trading（arbitrage） | - |
| Transaction costs &Information-seeking costs | - |

**考察方式：**
各因素如何影响市场有效性，是成正比还是反比

# 有效市场理论
## Efficient Market Hypothesis

| Forms of Efficient Market | Category of Information Price reflects | | |
|---|---|---|---|
| **weak** | Past Market Data | | |
| **Semi-strong** | Past Market Data | Public Information | |
| **Strong** | Past Market Data | Public Information | Private Information |

**考察方式：**
三种不同的有效市场各反映何种信息

# 有效市场理论
## Efficient Market Hypothesis

| | |
|---|---|
| **weak-form inefficient** | every analysis method and <span style="color:red">inside trading</span> is valid |
| **weak-form efficient** | <span style="color:red">technical analysis</span> becomes invalid |
| **semi-strong-form inefficient** | <span style="color:red">fundamental analysis</span> is valid |
| **semi-strong-form efficient** | fundamental analysis becomes invalid |
| **strong-form inefficient** | only <span style="color:red">inside trading</span> is valid |
| **strong-form efficient** | every analysis method and inside trading becomes invalid |

**考察方式：**
在不同市场情况下，各应采取何种分析方法

# 市场异象
**Market Anomalies**

| Time Series (时间序列) | Cross-Sectional (横截面) | Other |
|---|---|---|
| January effect | Size effect | Closed-end fund discount |
| Day-of-the-week effect | Value effect | Earnings surprise |
| Weekend effect | Book-to-market ratios | Initial public offerings |
| Turn-of-the-month effect | P/E ratio effect | Distressed securities effect |
| Holiday effect | | Stock splits |
| Momentum（势头效应） | | |
| Overreaction（过度反应） | | |

**考察方式：**
各市场异象的含义

# 市场异象
## Market Anomalies

| | |
|---|---|
| **The January effect** | during the first five days of January, stock returns is significantly higher than the rest of the year. |
| **Overreaction effect** | firms with poor stock returns over the previous three or five years (losers) have better subsequent returns than firms that had high stock returns over the prior period |
| **Momentum anomalies** | High short term returns are followed by continued high returns. |
| **Closed-End Fund Discounts** | closed-end funds generally be traded at a discount from their Net Asset Value（NAV） |
| **Earnings Surprise** | prices adjust slow for unexpected portion of earnings announcement |
| **Initial Public Offerings** | underpricing of the IPO securities and the subsequent poor performance |

**考察方式：**
各市场异象的含义

# 市场异象
## Market Anomalies

◆ **Size Effect（规模效应）**
R（small-cap）＞R（large-cap）

◆ **Value Effect（价值效应）**
R（Value Stock）＞R（Growth Stock）

| | |
|---|---|
| **Value Stock（价值股）** | below-average P/E ratio (市盈率) |
| | below-average P/B ratio (市净率) |
| | above-average dividend yields（D/P） |
| **Growth Stock（成长股）** | above-average P/E ratio |
| | above-average P/B ratio |
| | below-average dividend yields（D/P） |

**考察方式：**
1.价值股和成长股各自的特点；
2.价值股和成长股对比

# 行为金融学
## Behavioral Finance

| | | | Represent ativeness (代表性) | investors assess new information and probabilities of outcomes based on similarity to the current state or to a familiar classification |
|---|---|---|---|---|

| Loss Aversion | Dissatisfaction (loss) > Satisfaction (gain) |
|---|---|
| Overconfid ence | Investors overestimate their ability to process and interpret information |
| Informatio n Cascade (信息瀑布) | Transmission of information from those participants who act first and whose decisions influence the decisions of others |
| Herding (羊群效应) | Investors trade on the same side of the market in the same securities |

| Represent ativeness (代表性) | investors assess new information and probabilities of outcomes based on similarity to the current state or to a familiar classification |
|---|---|
| Mental accounting (心理账户) | investors keep track of the gains and losses for different investments in separate mental accounts and treat them differently |
| Conservati sm | investors tend to react slowly to new information and continue to maintain their prior views or forecasts |
| Narrow framing (狭窄框架) | investors focus on issues in isolation and respond to the issues based on how the issues are posed |

**考察方式**:
各种概念的定性考察，根据案例辨析

# 股票种类
## Categories of Equity Securities

**Common shares（普通股）**
Callable Common Shares（可回购普通股）

Issuing Common Shares

| Issuing Company | → | Investors |

Buy back at call price

（主动回购）

Putable Common Shares（可回售普通股）

Issuing Common Shares

| Issuing Company | → | Investors |

Sell back at put price （主动回售）
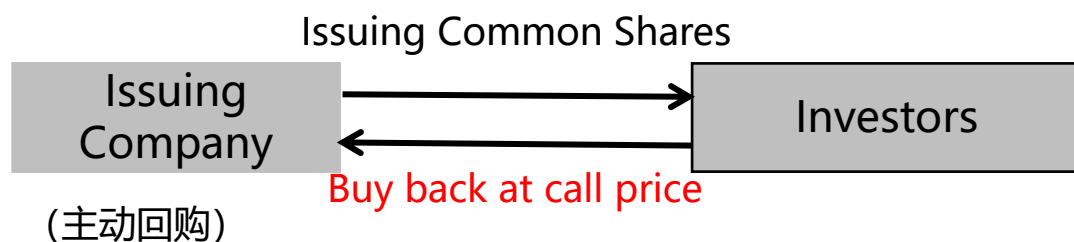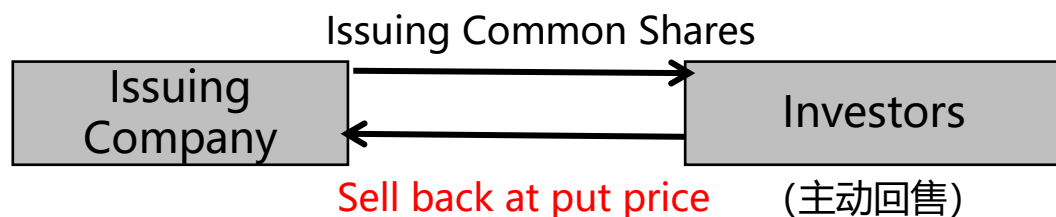
**Preference Shares (优先股)**

◆ Similar to Common Shares
- can be perpetual（永续）
- dividends are not  ontractual obligations
- can be callable or putable

◆ Similar to Debt Securities
- the dividends are fixed
- generally do not have voting rights
- generally do not share in the operating performance of the company

**考察方式：**
普通股和优先股各自的特点以及对比

**Cumulative Preference Shares** （可累积优先股）
the unpaid dividends in the prior periods accrue and must be paid in full before dividends on common shares can be paid

**Participating Preference Shares （可参与优先股）**
\* if the company's profits exceed a pre-specified level

| standard preferred dividend | + | an additional dividend |
|---|---|---|

**Convertible Preference Shares（可转化优先股)**
• Preference shares that can be converted into a specified number （determined at issuance） of common shares.

| 平时 | 通过转化实现 |
|---|---|
| higher dividend than common shares | share in the profits of the company |
| less price volatile than the underlying common shares | benefit from a rise in the price of the common shares |

**考察方式：**
各优先股种类的性质和特点

# 私募股权投资
## Private Equity Securities

| Types | Definition |
|---|---|
| **Venture Capital （风险投资）** | provide capital to companies that are in the early stages of development and require additional capital for expansion. |
| **Leveraged Buyout （杠杆收购）** | investors uses a large amount of debt to purchase all of the outstanding common shares of a publicly traded company. |
| **Private Investment in Public Equity （上市公司私有股权投资）** | public company that is need additional capital immediately sell a sizeable ownership position to a private investor or investor group. |

**Characteristics of Private Equity Securities:**
- Less liquidity
- Share price is negotiated
- Limited firm financial disclosure
- Lower reporting costs
- Greater ability to focus on long-term prospects
- Potentially greater return for investors once the firm goes public.

**考察方式：**
1.私募股权种类的对比；
2.私募股权的特点

# 存托凭证
## Depository Receipts

| Sponsored DR（参与型DR） VS Unsponsored DR（非参与型DR） | | |
|---|---|---|
| | whether foreign company involved in the issuing of DR | Voting rights ownership |
| **Sponsored DR** <br> **（外国企业主动提供股票）** | Yes | Investors |
| **Unsponsored DR** <br> **（存托银行主动购买股票）** | No | Depository bank |

| Global Depository Receipts VS American Depository Receipts | | |
|---|---|---|
| | **GDR** | **ADR** |
| **issuing place** | outside of USA | in USA |
| **denominated currency** | $、£ or € | $ |

**考察方式：**
1.参与型与非参与型DR的对比；
2.GDR与ADR的对比

# 权益投资的风险和收益
## Risk and Return of Equity Securities

**Return of Equity Securities**
- Consist of dividends: Gains from dividends and the reinvestment of dividends
- Capital gains or losses from changes in share prices
- Foreign exchange gains or losses

| Risk of Equity Securities | | |
|---|---|---|
| Preference Shares | < | Common Shares |
| Putable Shares | < | Callable Shares |
| Cumulative pre-shares | < | Non-Cumulative pre-shares |
| Participating pre-shares | < | Non-participating pre-shares |

**考察方式：**
各类股票风险大小对比

# Reading 40
# Introduction to Industry and Company Analysis

# 行业分析
## Industry Analysis

| External influences | |
|---|---|
| **Macroeconomic factors** | most notably economic output as measure by GDP or some other measures, such as interest rates, inflation and educational level. |
| **Technology** | change an industry dramatically through the introduction of new or improved products. |
| **Demographics** | the population growth and the age distributions, geographical distribution of people, changing ethnic mix in a society, and changes in income distribution. |
| **Governments** | today's social trend may be tomorrow's law, regulations or tax. |
| **Social influence** | how people work, play, spend their money and conduct their lives. |

**考察方式：**
行业分析中五大外部因素含义

# 行业生命周期理论
## Industry life cycle



**Demand**

**Mature**

**Shakeout**

**Growth**

**Embryonic**

Slow growth

High prices

Faster growth

Falling prices

Slowing growth

Lower prices

g=0

"recovered" price

**Decline**

g<0

"recovered"
competition

**Time**
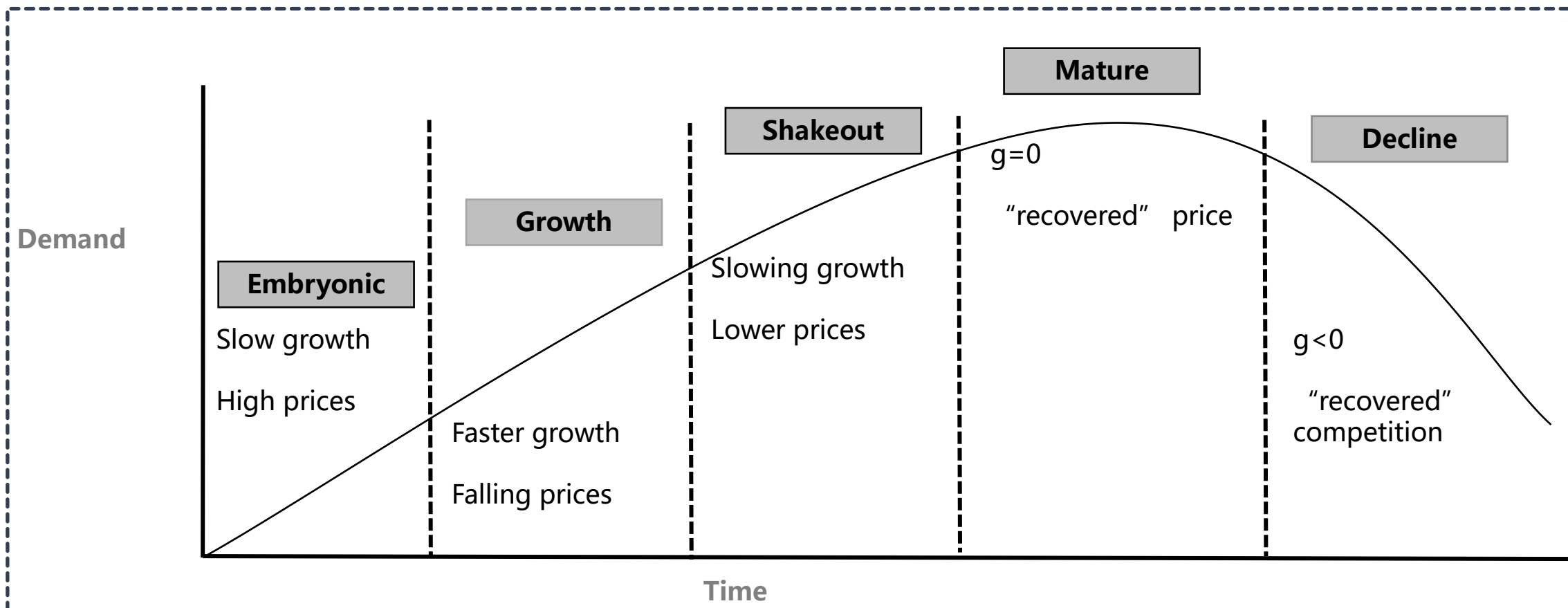
**考察方式：**
1. 行业生命周期的分类；
2.各生命周期的特点

# 定价能力分析
## Pricing Power Analysis

| | |
|---|---|
| **Barriers to Entry** | low barriers to entry →weak pricing power（must） |
| | low barriers to entry→strong pricing power（**may**） |
| **Industry Concentration** | fragmented industry →weak pricing power（tend to） |
| | concentrated industry →strong pricing power（tend to） |
| **Industry Capacity** | limited capacity（S < D）→ strong pricing power |
| | overcapacity（S > D）→ weak pricing power |

| | | |
|---|---|---|
| **Market Share Stability** | barriers to entry | positively |
| | frequency of new product introductions | negatively |
| | product differentiation | positively |

**考察方式：**
1. 影响定价能力的因素；
2.各影响因素和定价能力之间的关系

# 波特五力模型
## Porter's Five Forces
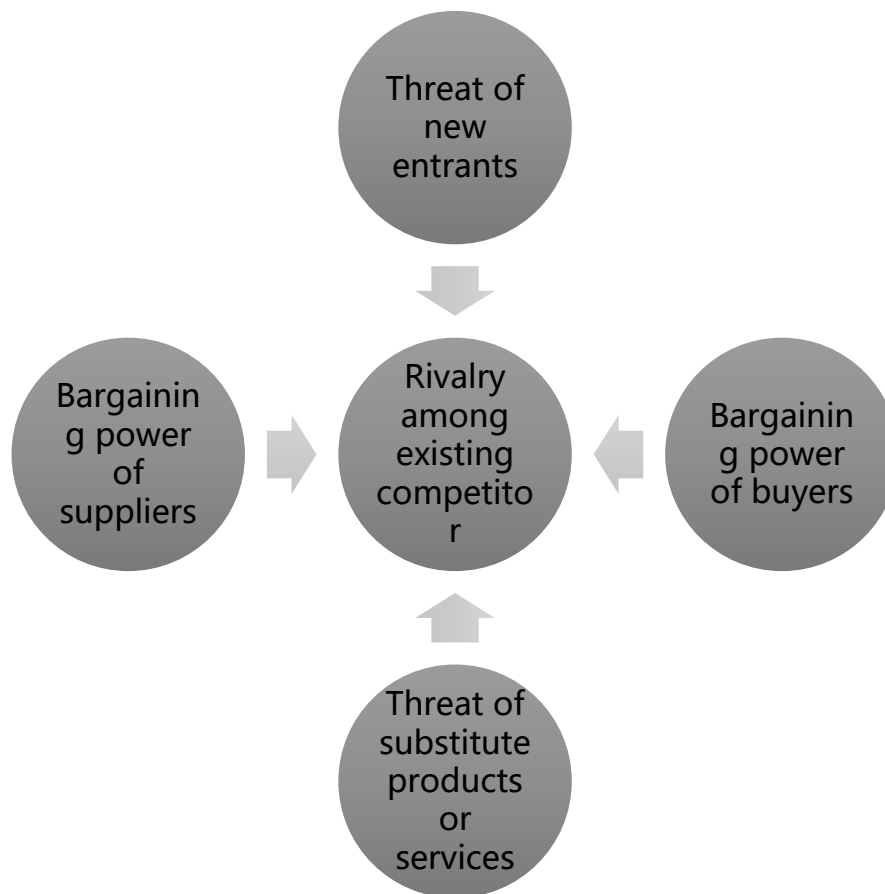


考察方式：
波特五力模型具体内容

# Reading 41
# Equity Valuation: Concepts and Basic Tools

# 现金流折现模型
## Discount Dividend Model

**Situation 1**
- Going-concern.
- Investors hold the security for finite periods, receive the regular dividend, and sell the security at $P_t$.

$$V_0 = \frac{D_1}{(1+r)^1} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \cdots + \frac{P_t}{(1+r)^t}$$

**Situation 2**
- Going-concern.
- Investors hold the security for finite periods,.

$$V_0 = \frac{D_1}{(1+r)^1} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \cdots + \frac{P_N}{(1+r)^N}$$

$$= \sum_{t=1}^{\infty} \frac{D_t}{(1+r)^t} + \frac{P_N}{(1+r)^N} \approx \sum_{t=1}^{\infty} \frac{D_t}{(1+r)^t}$$

**Situation 3**
- Going-concern.
- Investors hold the security for finite periods,
- The dividend grows indefinitely at a constant rate.

$$V = \sum_{t=1}^{\infty} \frac{D_t}{(1+r)^t} = \sum_{t=1}^{\infty} \frac{D_0(1+g)^t}{(1+r)^t} \implies V_0 = \frac{D_1}{r-g} = \frac{D_0(1+g)}{r-g}$$

**考察方式:**
计算内在价值，或者反算股利；

# 戈登股利模型
## Gordon Growth Model

**The assumption of GGM**

➢ r，required rate of return,unchanged;

➢ g，dividend growth rate ,constant and unchanged;

➢ r> g

$$V_0 = \frac{D_1}{r-g} = \frac{D_0(1+g)}{r-g}$$

**Limitations**

➢ Very sensitive to estimates of r and g

➢ Difficult with non-dividend stocks

➢ Difficult with unpredictable growth patterns

(use multi-stage model)

**Important conclusion**
➢ The wider is the difference between r and g, the smaller the value of the stocks.
➢ Small changes in the difference between r and g will cause large changes in the stock's value.

**考察方式:**
1.根据模型计算内在价值;
定性考察模型的缺陷以及结论

# 乘数模型
## Multiplier Models

### Categories of Price Multiples

| P/E | 市盈率 | Price / Earnings per share |
|-----|--------|----------------------------|
| P/B | 市净率 | Price / Book value per share |
| P/S | 市销率 | Price / Sales per share |
| P/CF | 市现率 | Price / CFO or FCF |

### From Trailing to Forward Price Multiples
- **Trailing Price Multiple:** using trailing or current value of the divisor
- **Forward Price Multiple:** using forward value of the divisor

### Justified forward P/E ratio

$$V_0 = \frac{D_0\,(1+g)}{r-g} = \frac{D_1}{r-g}$$

$$\frac{P_0}{E_1} = \frac{D_1/E_1}{r-g} = \frac{p}{r-g}$$

### The relationship between r、g、payout ratio and P/E ratio

| r and P/E ratio | negatively |
|-----------------|------------|
| g and P/E ratio | positively |
| payout ratio and P/E ratio | ambiguous(模棱两可的) |

**考察方式：**
1.定量：P/E ratio的计算；
2.定性：P/E ratio的种类和影响因素

# 乘数模型
## Multiplier Models

**Calculating EV / EBITDA**

Enterprise value：MV（Common shares）＋MV（Preferred stock）＋MV（Debt）－ Cash and short-term investments

EBITDA：earnings before interest, taxes, depreciation, and amortisation

**Advantages of EV/EBITDA compared with P/E ratio**

can be used even with a company whose profit is negative
➢ An alternative to using EBITDA in EV multiples is to use

**Disadvantages of EV/EBITDA compared with P/E ratio**
➢ Market value of debt is generally difficult to obtain.

**考察方式：**
1.定量：EV / EBITDA的计算
2.定性：EV / EBITDA优缺点

# 资产估值模型
## Asset-Based Valuation Model



**Logic of Asset-Based Valuation Model**
MV (Equity) = MV (Assets) - MV (Preferred Shares) - MV (Liabilities)

**Factors should considering when applying ABV Model**
- Companies with assets that do not have easily determinable market values are very difficult to analyze using ABV Model
- Fair values of assets and liabilities can be very different from their corresponding book value
- Many special intangible assets may not be shown on the books（e.g. value from synergies、value of a good business reputation）
- Asset values may be more difficult to estimate in a hyper-inflationary environment.

**Companies that Asset-Based Valuation Model can be used**
- companies that do not have a high proportion of intangible assets
- companies that do have a high proportion of current assets and current liabilities

**考察方式：**
1.定量：MV的计算；
2.定性：资产估值模型适用情况以及影响因素

# CFA一级
# Fixed Income
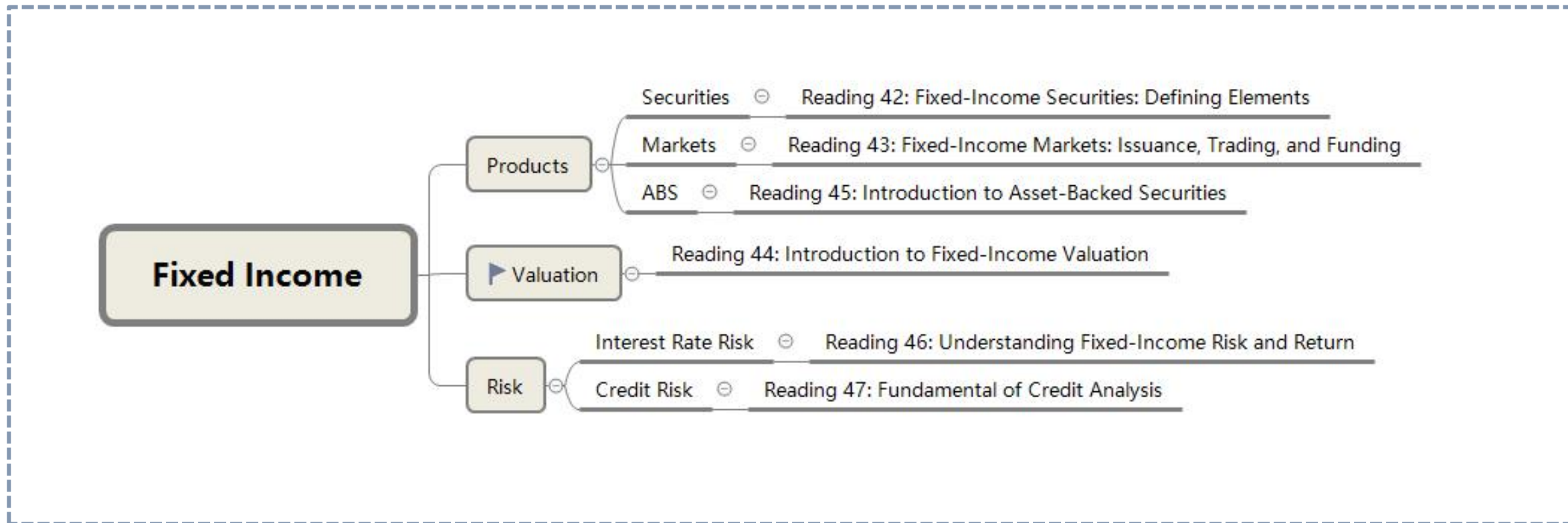
# Reading 42
# Fixed-Income Securities: Defining Elements

# 五要素
## Features

| Issuer | Supranational organizations/Sovereign governments/<br>Non-sovereign governments/Quasi-government entities/Companies |
|---|---|
| Maturity | Money market securities/Capital market securities/Perpetual bond |
| Par value | Par value/Face value/Maturity value/Redemption value（赎回价值） |
| Coupon payment | Coupon rate/Nominal rate |
| Currency | Dual-currency bonds/Currency option bonds<br>National bond/Domestic bond/Foreign bond/Eurobond |

**考察方式：**
1. 辨析区分五类Issuer
2. 辨析区分Money market securities（1年以内）和Capital market securities（1年以上）
3. 计算Coupon（票息）
4. 辨析区分Currency中第二行的四类Bonds

# 契约
**Indenture**

| | |
|---|---|
| **Legal identity** | Sovereign bonds/Corporate bonds/Securitized bonds |
| **Source of repayment** | Supranational bond/Sovereign bond/Non-sovereign bond/Corporate bond/Securitized bond |
| **Collateral** | Secured bonds/Unsecured bonds/Debentures<br>Collateral trust bonds/Equipment trust certificates/MBS/Covered bond |
| **Credit enhancement** | Internal：Subordination/Overcollateralization/Excess spread<br>External：Surety bond/Bank guarantee/Letter of credit/Cash collateral account |
| **Covenants** | Affirmative covenants/Negative covenants |
| **Tax** | Income tax/Capital gain tax/OID |

**考察方式：**
1. 辨析区分Collateral下各类型Bonds
2. 辨析Credit enhancement（信用增级）中Internal（内部信用增级）与External（外部信用增级）的类型
3. 辨析区分Covenants下Negative（否定性条款）与Affirmative covenants（肯定性条款）

# 现金流结构
## Cash Flow Structure

| Principal repayment structures | Coupon payment structures | Contingency provision |
|---|---|---|
| ✓ Bullet bond<br>✓ Amortizing bond★★<br>✓ Sinking fund provision | ✓ FRN★★★<br>✓ Step-up coupon bonds<br>✓ Deferred coupon bonds<br>✓ Payment-in-kind (PIK) coupon bonds<br>✓ Credit-linked coupon bonds<br>✓ Equity-linked notes<br>✓ Capital-indexed bonds | ✓ Callable bond★★★<br>✓ Putable bond★★★<br>✓ Convertible bond<br>✓ Contingent convertible bond<br>✓ Warrant（权证） |

**考察方式：**
1. 辨析区分Amortizing bond与Sinking fund provision
2. 理解FRN关键点（Coupon rate公式、Discount rate公式）：
   Coupon rate=Reference rate + Quoted margin
   Discount rate=Reference rate + Discount margin
3. 辨析区分Callable bond（可赎回债券）和Putable bond（可回售债券）

# Reading 43
# Fixed-Income Markets: Issuance, Trading, and Funding

# 市场
**Market**

| Market Classifications | Primary market | Secondary market |
|---|---|---|
| ✓ By issuer<br>✓ By credit quality<br>✓ By maturity<br>✓ By currency<br>✓ By coupon<br>✓ By geography | • Public offering<br>   ✓ Underwritten offering<br>   ✓ Best efforts offering<br>   ✓ Auction<br>   ✓ Shelf registration<br>• Private placement | ✓ Organized exchange<br>✓ OTC markets<br>✓ Electronic trading network |

**考察方式：**
1. 辨析区分Public offering下的Underwritten offering（包销）、Best efforts offering（代销）和Shelf registration
2. 辨析区分Public offering（公开发行）和Private placement（私募发行）
3. 辨析区分Organized exchange（场内市场）和OTC markets（场外市场）

# 融资
## Funding

| Government-related bonds | Corporate debt | Bank funding | Repo | Structured financial instruments |
|---|---|---|---|---|
| ✓ Sovereign bonds<br>✓ Non-sovereign bonds<br>✓ Quasi-government bonds<br>✓ Supranational bonds | ✓ Bank loans<br>✓ Commercial paper<br>✓ Corporate bonds<br>✓ Medium-term note | • Retail deposits<br>✓ Demand deposits<br>✓ Saving accounts<br>✓ Money market account<br>• Wholesale funds<br>✓ Central bank funds<br>✓ Interbank funds<br>✓ CD | ✓ Repo/Reverse repo<br><br>Repo rate ／ Repo margin | ✓ Capital protected instrument<br>✓ Yield enhancement instruments<br>✓ Participation instruments<br>✓ Leveraged instruments |

**考察方式：**

1. 辨析区分Repo（正回购）与Reverse repo（逆回购）

2. 理解影响Repo rate的因素：
①回购期限②抵押物信用质量③抵押物是否移交④抵押物供求关系⑤其他工具融资利率

3. 理解影响Repo margin的因素：
①回购期限②抵押物信用质量③借款人信用质量④抵押物供求关系

4. 了解每种产品的基本定义

# Reading 44
# Introduction to Fixed-Income Valuation

# 债券价格
## Bond Price

高顿教育
GOLDEN EDUCATION

| | YTM | Spot rate | Forward rate | Bond quotation |
|---|---|---|---|---|
| 考察 | IRR<br>Assumptions<br>Price & YTM<br>Coupon rate vs YTM | Investment<br>YTM on zero-coupon bonds | 1y2y | Accrued interest<br>Full price<br>Flat price |
| 计算 | $P = \dfrac{C_1}{1+YTM} + \dfrac{C_2}{(1+YTM)^2} + \dfrac{C_3+Par}{(1+YTM)^3}$ | $P = \dfrac{C_1}{1+S_1} + \dfrac{C_2}{(1+S_2)^2} + \dfrac{C_3+Par}{(1+S_3)^3}$ | $(1+S_1)(1+1y2y)^2 = (1+S_3)^3$ | Full price = Flat price + Accrued interest |

**考察方式：**
1. 计算债券价格与YTM；
2. 理解记忆Assumptions of YTM：
①持有到期②足额及时偿付利息和本金③以YTM再投资
3. 根据Coupon rate与YTM的关系，区分溢价债券、平价债券和折价债券：
①Coupon rate＞YTM，为溢价债券
②Coupon rate＝YTM，为平价债券
③Coupon rate＜YTM，为折价债券
4. 辨析、计算Spot rate和Forward rate（根据即期利率计算远期利率）

# 债券收益率
## Bond Yield

| | Fixed-rate bonds | Floating-rate bonds | Money market instruments | Yield spread |
|---|---|---|---|---|
| **分类** | Street convention yield<br>True yield<br>Current yield<br>Simple yield<br>Yield to call<br>Yield to worst | Coupon rate<br>Discount rate | Discount rate<br>$$DR = \frac{FV - PV}{FV} \times \frac{Year}{Days}$$<br>Add-on rate<br>$$AOR = \frac{FV - PV}{PV} \times \frac{Year}{Days}$$<br>Bond equivalent yield<br>$$BEY = \frac{FV - PV}{PV} \times \frac{365}{Days}$$ | G-spread<br>I-spread<br>Z-spread<br>OAS<br>✓ OAS = Z-spread - Option value<br>✓ Callable bond: OAS < Z-spread<br>✓ Putable bond: OAS > Z-spread |

**考察方式：**
1. 辨析区分与计算Discount rate、Add-on rate和Bond equivalent yield
2. 辨析区分与比较Z-spread和OAS（Callable bond和Putable bond）
3. 根据YTM计算公式计算Yield to call和Yield to worst

# Reading 45
# Introduction to Asset-Backed Securities

# 证券化
## Securitization
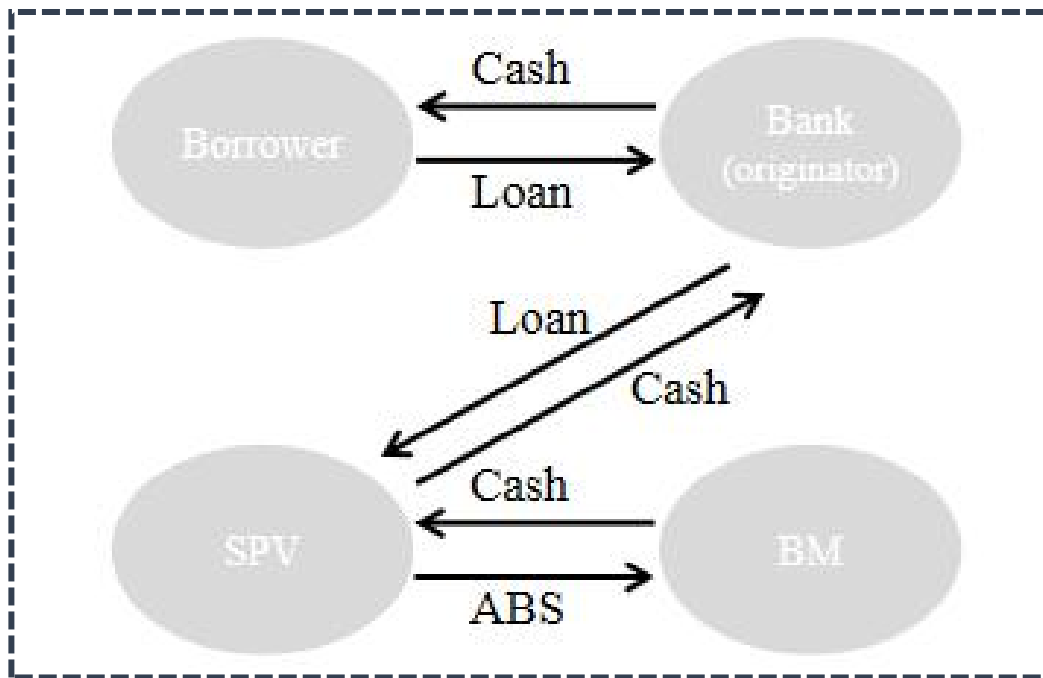


**考察方式：**
1. 记忆证券化的Benefits
2. SPV的作用
3. 证券化中涉及的Issuer(SPV)、Servicer(服务商)、Originator（银行）

## Securitization

✓ **ABS（资产担保证券）**

✓ **SPV（特殊目的实体）**
  - Bankruptcy remote（破产隔离）

✓ **Benefits**
  - Increase the funds available for banks to lend.
  - Increase the liquidity of financial asset.
  - Lower funding cost.
  - Remove the wall between investors and originating borrowers.
  - Enhance the risk-adjusted return of investors.
  - Allow investors to access asset classes.
  - Allows investors to access asset classes matching their risk, return, and maturity profiles that are otherwise not directly available (tranching).

# 资产支持证券
## ABS
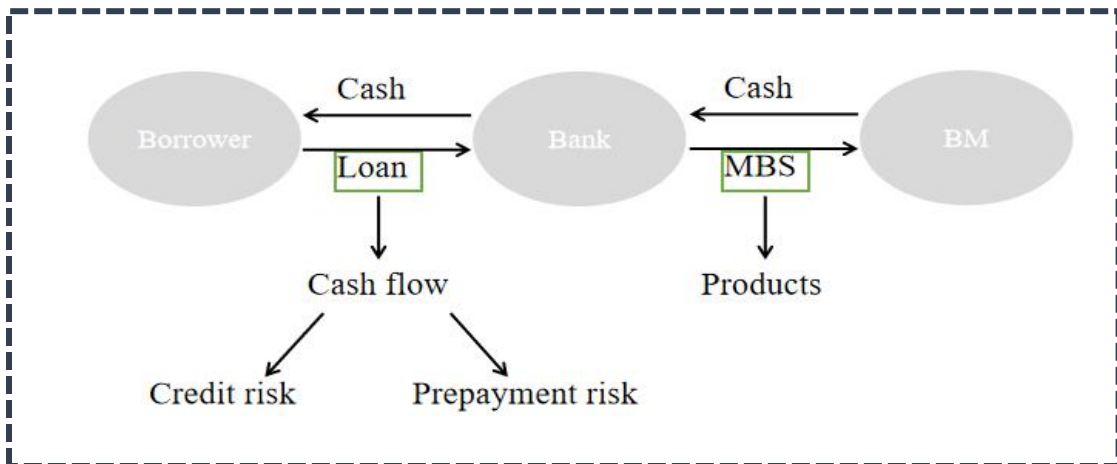


- ✓ **Prepayment option**
- ✓ **Prepayment risk**
  - Contraction risk
  - Extension risk
- ✓ **Prepayment rate**
  - PSA
  - SMM
  - CPR

- ✓ **RMBS/CMBS/Agency RMBS/Non-agency RMBS**
- ✓ **MPS**
  - Mortgage rate - Pass-through rate = Servicing fees
  - Weighted average coupon rate (WAC)
  - Weighted average maturity (WAM)
  - Weighted average life (WAL)
- ✓ **CMO**
  - Sequential-pay tranches
  - PAC/Support tranches
- ✓ **Auto/Credit card/CDO**

**考察方式：**
1. 辨析区分Contraction risk和Extension risk
2. 理解PSA模型对Prepayment rate的估计
3. 辨析区分MPS与CMO
4. 理解不同的层级对Prepayment risk的敞口
5. 了解其他ABS产品的定义

# Reading 46
# Understanding Fixed-Income Risk and Return

# 久期
## Duration



| | Macaulay duration | Modified duration | Money duration | PVBP |
|---|---|---|---|---|
| 分类 | Time<br>现金流的平均回流时间<br><br>$MacDur = \frac{PV(C_1)}{P} \times 1 + \frac{PV(C_2)}{P} \times 2 + \cdots + \frac{PV(C_n + Par)}{P} \times n$ | Sensitivity<br>$1\%\triangle r \rightarrow \%\triangle p$<br>修正式<br>$Mod\ Dur = \frac{Mac\ Dur}{1+r}$<br>定义式<br>$Mod\ Dur = \frac{\Delta P/P}{\Delta y}$<br>计算式<br>$Mod\ Dur = \frac{P_- - P_+}{2 \times P \times \Delta y}$ | Slope<br>$1\%\triangle r \rightarrow \triangle p$<br>定义式<br>$MoneyDur = ModDur \times Price$<br>计算式<br>$Money\ Dur = \frac{P_- - P_+}{2 \times \Delta y}$ | $1bp \rightarrow \triangle p$<br>计算式<br>$PVBP = \frac{P_- - P_+}{2}$ |

**考察方式：**
1. 理解及计算各个Duration
2. 辨析区分Macaulay duration与Modified duration
3. 辨析区分Money duration与PVBP

# 久期
**Duration**

| 分类 | Effective duration | Bond portfolio duration | Key rate duration | Properties |
|------|--------------------|-----------------------|-------------------|------------|
| | $1\%\triangle curve \rightarrow \%\triangle p$<br>计算式：<br>$$ED = \frac{P_- - P_+}{2 \times P \times \Delta Curve}$$<br>适用条件：<br>适用于含权债券。 | 计算式：各修正久期按照市场价值加权计算。<br>$$D_P = \sum_{i=1}^{n} w_i \times MD_i$$<br>假设：收益率曲线平行移动。 | 非平行移动 | Interest rate risk<br>Maturity<br>Coupon<br>YTM<br>Bond with embedded options |

**考察方式：**
1. 重点理解掌握Duration的Properties
2. Effective duration的适用条件：Bonds with embedded options
3. 计算债券组合久期的假设：利率曲线平行移动

# 久期
**Duration**

**Duration gap**
- Duration gap = Macaulay duration - investment horizon
- Duration gap > 0 → Macaulay duration > investment horizon → market price risk dominates reinvestment risk → the investor is at risk of higher rates.
- Duration gap = 0 → Macaulay duration = investment horizon → market price risk offsets reinvestment risk → the investor is hedged against interest rate risk.
- Duration gap < 0 → Macaulay duration < investment horizon → reinvestment risk dominates market price risk → the investor is at risk of lower rates.

**考察方式：**
1. 掌握Duration gap定义
2. 根据Duration gap判断market price risk和reinvestment risk的大小关系
3. 根据Duration gap=0（两个风险offset）时判断investment horizon的大小

✓ $\% \triangle p = -Mod \times \triangle y + 0.5 \times Con \times \triangle y^2$

✓ **Approximate convexity**

 • $ApproxCon = \frac{P_- + P_+ - 2P_0}{(\Delta yield)^2 \times P_0}$

✓ **Effective convexity**

 • $ApproxCon = \frac{P_- + P_+ - 2P_0}{(\Delta curve)^2 \times P_0}$

**考察方式：**
1. 理解凸度的性质：涨多跌少；
2. 计算凸度；
3. 考虑凸度时，债券价格变化的计算。

# CFA一级
# Alternative Investments
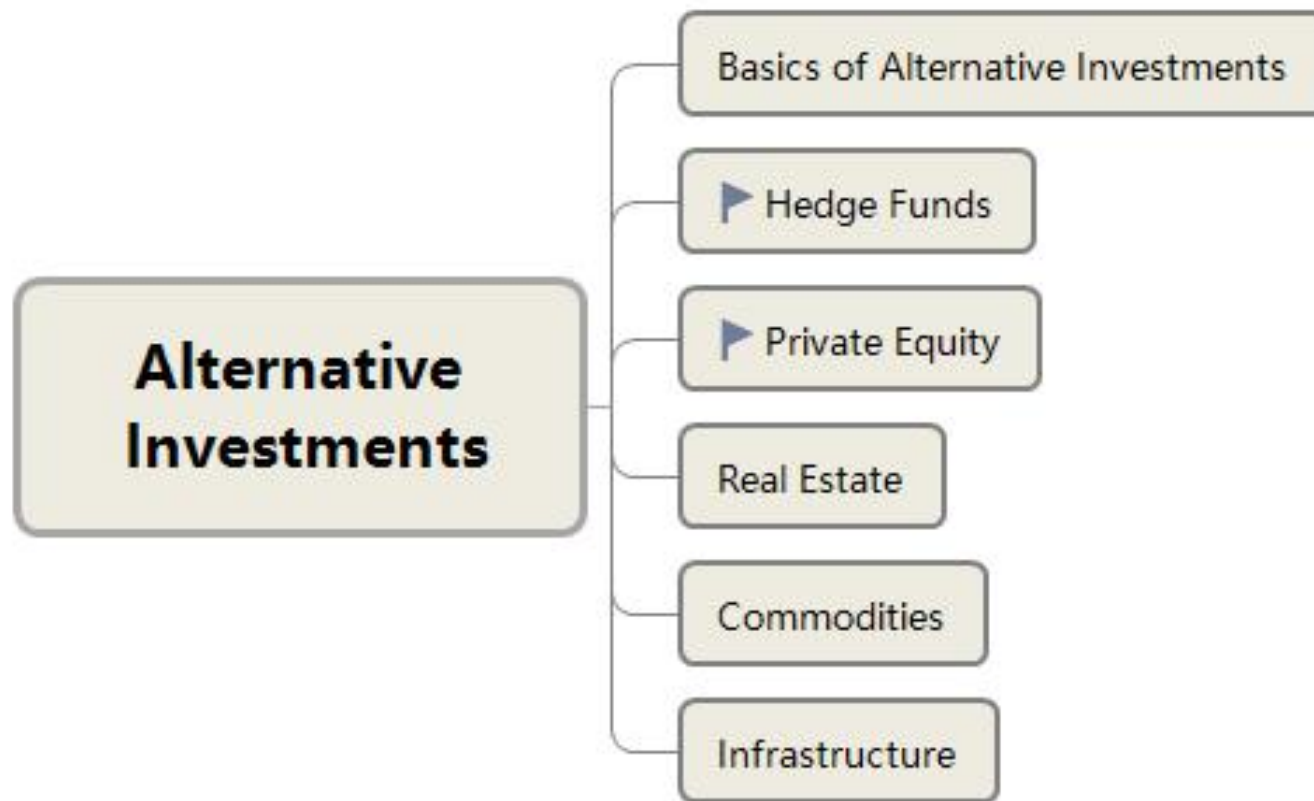
# Reading 50
# Introduction to Alternative Investments

# 对冲基金
## Hedge Funds

**Characteristics of hedge funds**

Aimed at higher returns ⟶ few investment restrictions（leverage）

（限制少） less government regulations

但是returns被高估（Survivorship bias& Backfill bias）

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还是有一些限制
- a limited number of investors &a large initial investment
- restrictions on redemptions （Lockup period &Notice period）

**FOFS**
**Drawbacks**
More complex (higher) fees structures
**Benefits**
diversifying across fund strategies
some expertise in due diligence
enable small investors
Negotiate better redemption

**Hedge fund strategies**
1.Event-driven strategies（关键词：merge，acquisition，restructuring，bottom-up，short term)
2.Relative value strategies（关键词：pricing discrepancy，"Fixed income"，bond）long bond , short stock
3.Macro strategies（关键词：major economic trends and events，top down approach）
4.Equity hedge strategies（关键词：undervalued & overvalued，market neutral)

**考察方式：**
1. 让你根据特征选出对冲基金，或者告诉你是对冲基金问你特征。
2. FOFS的优缺点。（most/least）
3. 给出关键词/一句话的描述问你属于哪一个对冲基金策略。
4. 给出对冲基金策略让你选具体特征。

# 对冲基金
## Hedge Funds

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**Calculations of Hedge Funds**

1. 画出数轴——标出初始值，终值，门槛值或高水位线（如有）。
2. 计算管理费（management fees）——AUM。
beginning-of-period or end-of period
（如果没明确说明，一般默认end-of period）
3. 计算激励费（Incentive fees）
net of management fee or independently
（如果没明确说明，一般默认independently）

*Hurdle rate (门槛回报率)
（如果没明确说明，一般只说hurdle rate默认hard)
Hard hurdle rate or Soft hurdle rate（需要会计算）
*High water mark (高水位)了解概念，一般考试不考计算。

**Hedge Funds VS. PE**

| | Hedge Fund | Private Equity |
|---|---|---|
| | The same fees stucture: LP&GP | |
| Management fees | Asset Under Management (AUM) | committed capital |
| Incentive fees: | Only earned if the return exceeds a hurdle rate | GP does not earn an incentive fee until the LPs have received initial investment back |
| Claw back provision (回拨条款) | × | √ |

**考察方式：**
1. 对冲基金的计算
2. 对冲基金与PE的费用结构的对比
3. 一些概念的考察： Hurdle rate, High water mark, Claw back provision

# 私募股权
## Private Equity

**Venture capital**

Formative-Stage
- Angel investing
  （idea stage，验证idea）
- Seed-stage
  support product development
  开发产品，此时VC资金开始进入
- Early-stage
  initiate commercial production and sales
  开始进入规模生产并销售

Later-Stage
expansion of production&increasing sales
扩大再生产

Mezzanine Stage
prepare to go public
夹层融资，是公司上市前的最后一步

**Characteristics of attractive target companies for LBOs**
1. Undervalued/depressed stock price
2. Inefficient companies
3. Willing management
4. Strong and sustainable 5.cash flow
6. Low leverage
7. Assets

**Exit strategies**
IPO
Trade sale
Secondary sales
Recapitalization
Write-off/Liquidation

**考察方式：**
1. 给出描述判断是VC哪个阶段
2. 被杠杆收购公司的特征（注意most/least likely）
3. 给出描述判断是哪一种退出策略

# 房地产
## Real Estate

### 房地产的分类

| | Debt | Equity |
|---|---|---|
| **Private (Direct)** | ✓ Mortgages<br>✓ Construction lending | ✓ sole ownership<br>✓ joint ventures<br>✓ real estate limited partnerships |
| **Public (Indirect)** | ✓ MBS<br>✓ CMO | ✓ Shares in real estate corporations<br>✓ REITs |

### 房地产估值



Real Estate Property 实物房地产
- Comparable sales approach
- Income approach
- Cost approach

REITs valuation
- Income approach
- Asset based approach
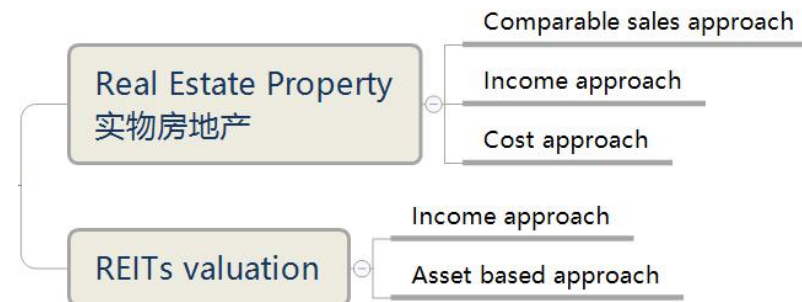
### 房地产指数
**Appraisal index**—Subjective & Understate volatility
**Repeat sales index**—Sample selection bias
**REIT index**—frequently & reliable

### 考察方式：
1. 房地产的分类，给出要求选出most/least likely的某一项，要求背出表格中每一项
2. 房地产估值的类别
3. 房地产指数的优缺点

**Contango** (期货溢价)
  Futures price > Spot price

**Backwardation** (现货溢价)
  Futures price < Spot price
  **Futures price ≈ Spot price(1 + r) +**
  **storage costs - convenience yield**

期货收入来源
1. Roll Yield—现货与期货的差
*Roll yield is positive in backwardation
* Roll yield is negative in contango
2. Collateral Yield—margin
3. Price Return—Change in spot prices

考察方式：
1. 在contango或者backwardation的前提下，convenience yield与storage cost之间的大小关系（主要分析公式）
2. 考察期货收入的三种来源，通常给出关键词让你判断，注意一定没有convenience yield

# 另类投资特征
## Characteristics of Alternative Investments

1. Illiquidity
2. Narrow manage specialization
3. Low correlation
4. Less regulation and less transparency
5. Limited and potentially **problematic historical risk** and return data
6. Unique legal and tax considerations

**problematic historical risk**
1. 不能用标准差衡量
2. 使用下行风险的衡量
* Sortino ratio
*Value at Risk,VaR

**Risk & Return**
1higher return
2diversification
3higher Sharpe ratio

**考察方式：**
1. 另类投资的总体特征，需要注意most/least likely
2. 关于另类投资的风险与收益的衡量

# CFA一级
# Portfolio Management
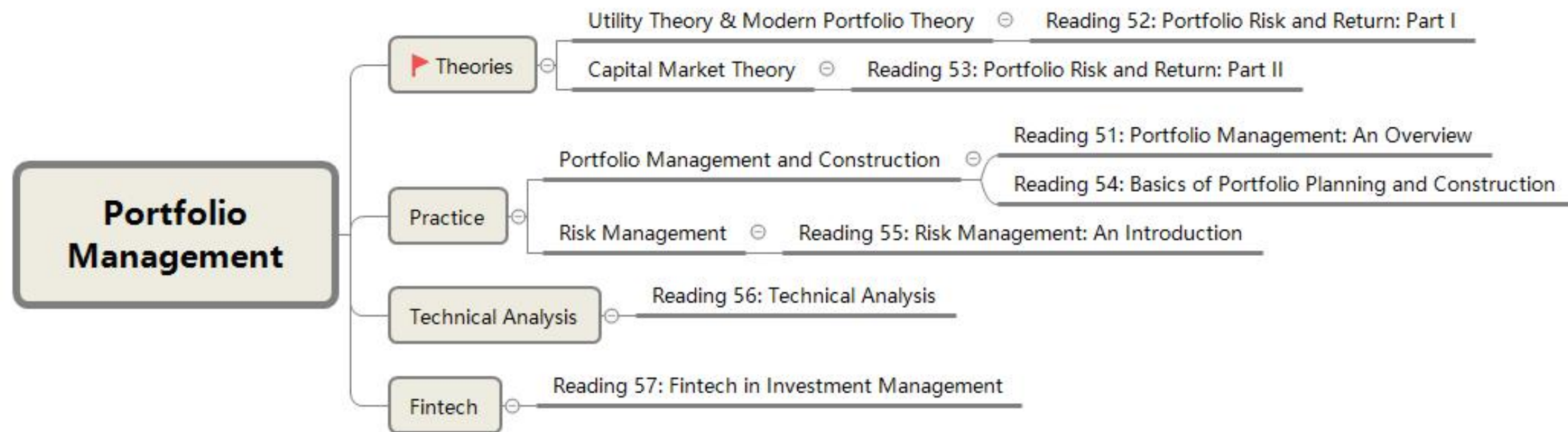
# Reading 52
# Portfolio Risk and Return: Part I

# 时间加权收益率&货币加权收益率
## TWR&MWR
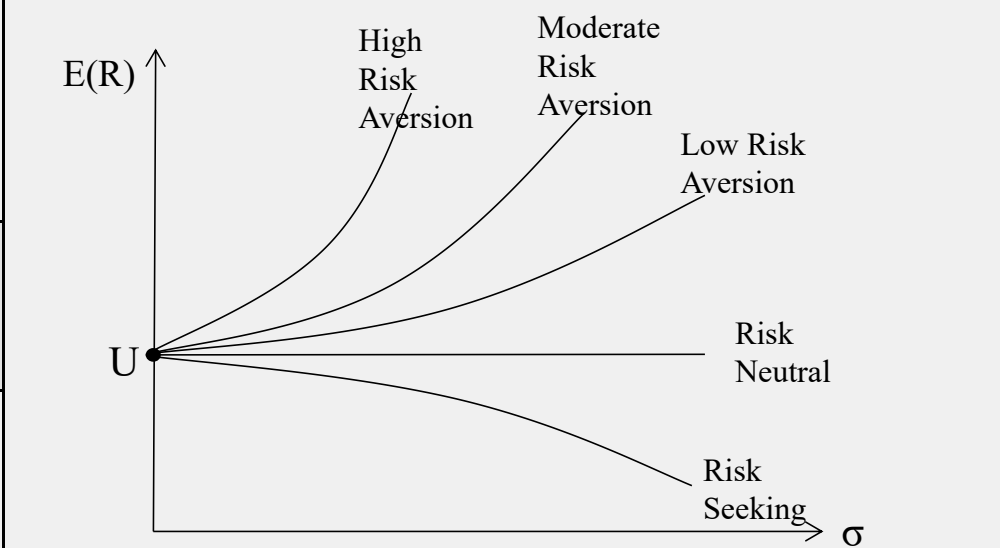
| | **Time-Weighted Return (TWR)** | **Money-Weighted Return (MWR)** |
|---|---|---|
| Definition | The compound return that \$1 initially invested in the portfolio over a stated measurement period. | The IRR based on the cash flows related to the investment. |
| Calculation | $$TWR = [(1+HPR_1) \times (1+HPR_2) \times ... \times (1+HPR_n)]^{\frac{1}{N}} - 1$$ | $$NPV = CF_0 + \frac{CF_1}{1+MWR} + ... + \frac{CF_N}{(1+MWR)^N} = 0$$ |
| Feature | not affected by cash withdrawals or additions to the portfolio | cash withdrawals or additions may significantly influence the performance of portfolio |
| Application | performance evaluation | |

**考察方式:**
1. TWR和MWR的计算
2. 性质对比
3. 比较大小

# 效用函数
## Utility Function

高顿教育 GOLDEN EDUCATION

| Definition | A measure of relative satisfaction that an investor drives from different investment portfolios. | | |
|---|---|---|---|
| | Characteristic | Measurement of risk aversion | Indifference Curve: $E(R) = \frac{1}{2}A\sigma^2 + U$ |
| **Risk-averse** | prefer less risk given certain expected return, higher expected return given certain risk. | A>0 |  |
| **Risk-neutral** | indifferent with the risk given certain expected return. | A=0 | |
| **Risk-seeking** | prefer higher risk given certain expected return | A<0 | |

**考察方式：**
1. 通过投资者风险厌恶程度系数判断投资者类型
2. 根据题目描述判断无差异曲线形状及对应投资者类型

# 现代投资组合理论
## Modern Portfolio Theory

**Risk (σ) of portfolio with two risky assets**

$$\sigma_p = \sqrt{w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1w_2Cov(R_1,R_2)}$$

$$= \sqrt{w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1w_2\sigma_1\sigma_2\rho_{1,2}}$$

**Return of portfolio with two risky assets**

$$R_p = w_1R_1 + (1-w_1)R_2$$

**Covariance**

$$Cov(x,y) = \frac{\sum_{i=1}^{N}(X_i - \overline{X})(Y_i - \overline{Y})}{N} \in (-\infty, \infty)$$

**Correlation coefficient**

$$\rho_{x,y} = \frac{Cov(x,y)}{\sigma_x\sigma_y} \in [-1,1]$$
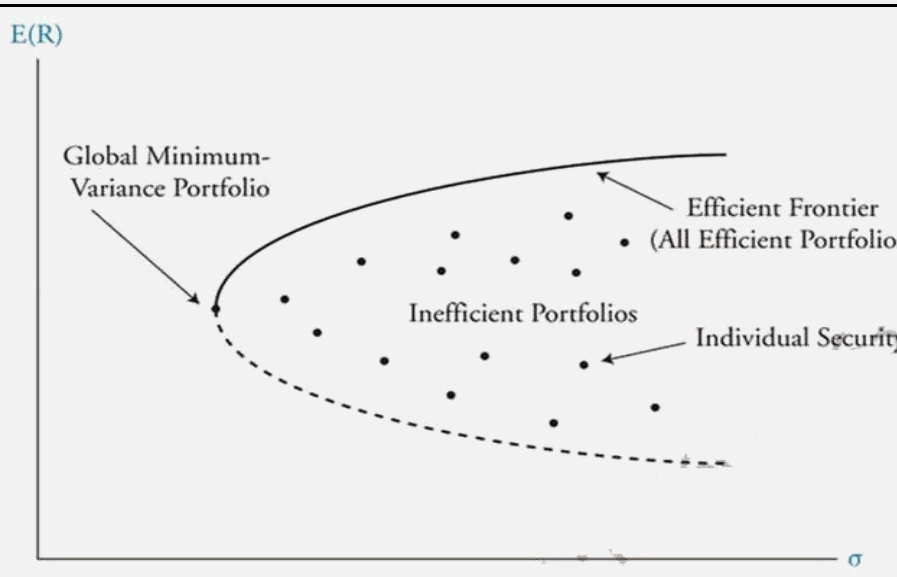
**correlation↓, diversification benefits↑, σ_p↓**

**考察方式：**
1. 利用协方差或相关系数计算两资产组合的风险
2. 相关系数的性质
3. 相关系数对投资组合风险的影响

# 有效前沿
## Efficient Frontier

| Concepts | Characteristic | Graph |
|---|---|---|
| **Minimum-variance frontier** | Portfolio that have the lowest risk of all portfolios given a certain level of return. | |
| **Global minimum-variance portfolio** | The investment portfolio that has the lowest variance. | |
| **Efficient frontier** | All risky assets are contained. Effective portfolio provides the lowest risk at a certain level of return and offers the highest return given certain level of risk | |

**考察方式：**
1. 最小方差前沿、全球最小方差组合、有效前沿的性质
2. 与CAL相结合进行考察

The combination of risk free asset and one risky asset (well-diversified portfolio)

$$CAL: \ R_p = R_f + \frac{(R_A - R_f)}{\sigma_A}\sigma_p$$

Intercept: $R_f$
Slope: Sharpe Ratio = $(R_A - R_f) / \sigma_A$
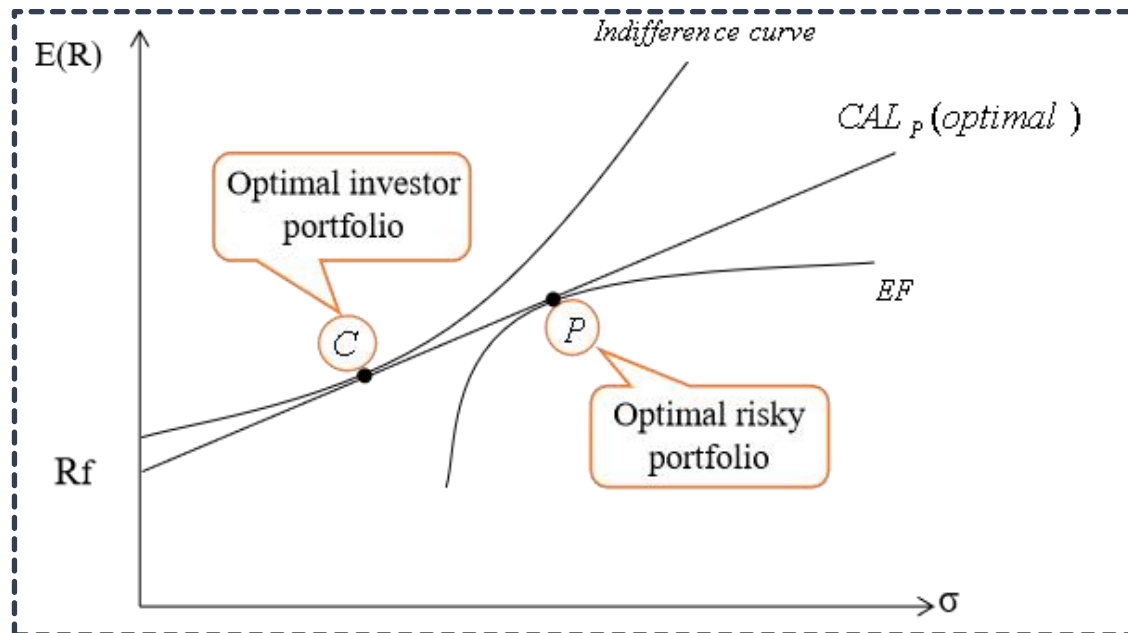


考察方式：
1. 定性考察CAL的截距和斜率
2. 与EF相结合，考察CAL的形成
3. 最优CAL、最优风险组合、最优投资者组合的性质

# Reading 53
# Portfolio Risk and Return: Part II

Assuming all investors have a homogeneous expectation.
CML is a special CAL.

$$CML: R_p = R_f + \frac{(R_m - R_f)}{\sigma_m} \sigma_p$$

Intercept: $R_f$
Slope: Sharpe Ratio = $(R_m - R_f)/\sigma_m$
Application: Asset allocation
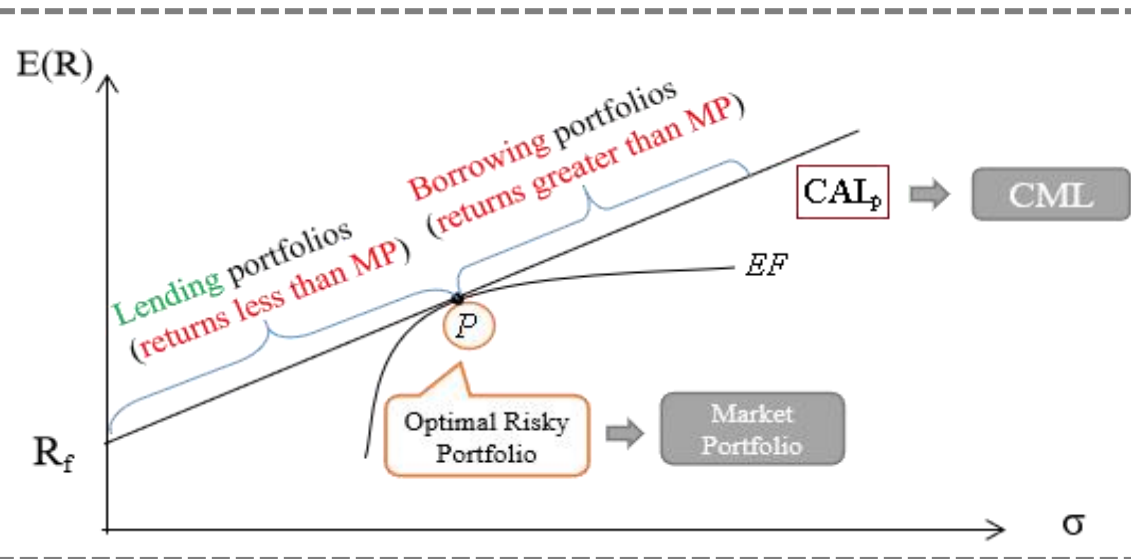


**考察方式：**
1. 定性考察CML的截距和斜率
2. CML与CAL之间的区别和联系
3. CML的性质
4. lending portfolios 与 borrowing portfolios的性质

# 风险
## Risks

| | Systematic Risk (β) | Nonsystematic Risk |
|---|---|---|
| **Definition** | Risk affects the entire market or economy, which cannot be avoided and is inherent in the overall market | Risk can be reduced or eliminated by holding well-diversified portfolios |
| **Keywords** | Non-diversifiable risk/ Market risk/ Unavoidable/ Rewarded/ Be priced | Diversifiable risk/ Firm-specific risk/ Avoidable/ Unrewarded/ Not be priced |
| **Examples** | Interest rates, exchange risk, policy risk | Industry risk, corporate risk, credit risk |
| **Calculation** | $\beta_i = \dfrac{Cov(R_i, R_m)}{\sigma_m^2} = \dfrac{\rho_{i,m}\sigma_i\sigma_m}{\sigma_m^2} = \rho_{i,m}\dfrac{\sigma_i}{\sigma_m}$ | Nonsystematic risk = Total risk - Systematic risk |

**考察方式：**
1. 与CAPM相结合，考察β的计算和应用
2. 辨析系统性风险及非系统性风险
3. 系统性风险及非系统性风险的性质

# 资本资产定价模型
## Capital asset pricing model (CAPM)

The expected return only measured by beta (Systematic risk);

$$CAPM: E[R_i] = R_f + \left[E(R_m) - R_f\right]\beta_i$$

Intercept: $R_f$
Slope: Market premium = $E(R_m) - R_f$

Application: Security selection
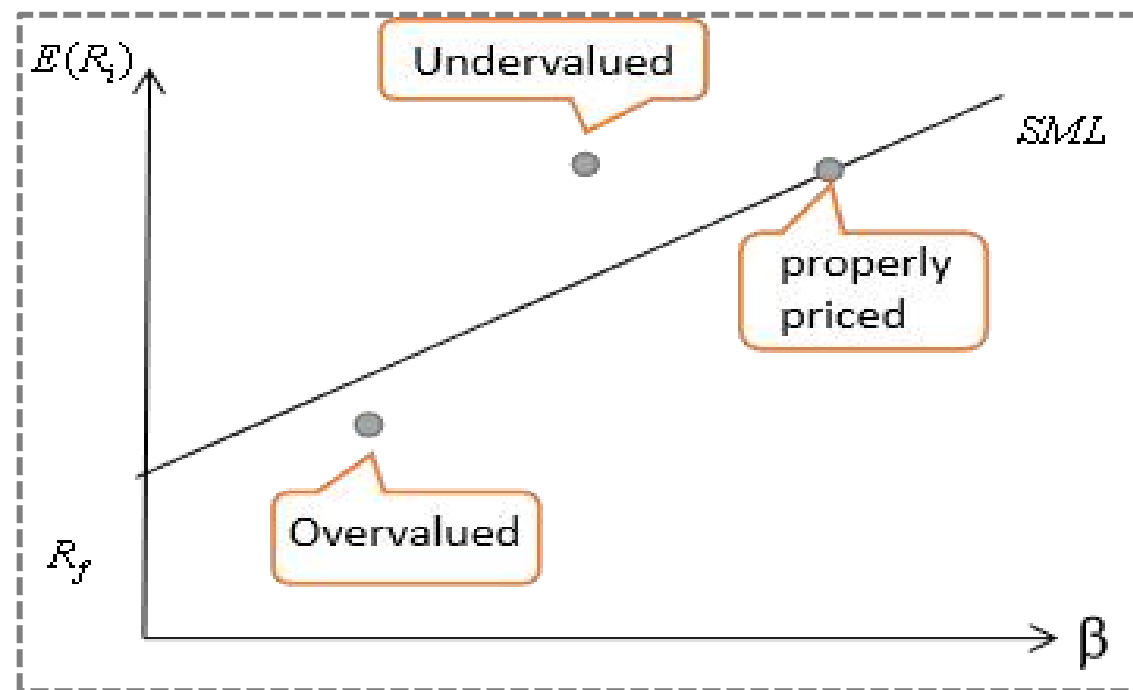


**考察方式：**
1. CAPM的计算
2. 判断资产是否被合理定价，并给出投资建议
3. SML的性质

# 组合业绩评价指标
## Portfolio performance evaluation

| | Non-diversified Portfolio | Diversified Portfolio |
|---|---|---|
| **Relative** | $\text{Sharpe } ratio = \dfrac{R_p - R_f}{\sigma_p}$ | $\text{Treynor } ratio = \dfrac{R_p - R_f}{\beta_p}$ |
| **Absolute** | $M^2 = \left[ \dfrac{R_p - R_f}{\sigma_p} - \dfrac{R_m - R_f}{\sigma_m} \right] \times \sigma_m$ | $\text{Jensen's } \alpha_p = R_p - \left\{ R_f + [E(R_m) - R_f]\beta_p \right\}$ |

**考察方式：**

1. 辨析绝对指标与相对指标

2. 考察各指标的性质和适用范围

# Reading 51 & 54
# Portfolio Management: An Overview
# Basics of Portfolio Planning and Construction

# 组合业绩评价指标
## Portfolio performance evaluation

| Institutional Investor | Time horizon | Liquidity needs | Risk tolerance |
|---|---|---|---|
| DB pension plan | long | low | high |
| Endowments & Foundations | long | low | high |
| Banks | short | high | low |
| Insurance companies | long for life; short for P&C | high | low |

**考察方式：**
各类机构投资者的特征

# 集合类投资
## Pooled investment

| Pooled Investments | | Characteristic |
|---|---|---|
| **Mutual funds** | Open-end funds | Investors can buy and redeem the mutual fund shares at net asset value<br>Not fully invested as some cash kept for redemption |
| | Closed-end funds | No new investments are accepted, could be fully invested<br>Traded at a premium or discount to net asset value |
| **Exchanged traded funds (ETF)** | | Can be bought and redeemed, or it can trade its share in the secondary market<br>Trading prices are close to the net asset value of the fund |
| **Hedged funds** | | vast majority of hedge funds are exempt from many of the reporting requirements for the typical public investment company |
| **Private equity** | Buyout funds | A few very large investments |
| | Venture capital funds | A large number of small investments with the expectation that only a small number will pay off |

**考察方式：**

各类集合投资产品的性质

# 投资组合建立过程
## Process of portfolio construction

**1. Planning**
a. Understand the client's objectives and constraints;
b. Develop the investment policy statement;
c. Establish long-term expectations of capital markets;
d. Develop Strategic Asset Allocation (SAA).

**2. Execution**
a. Deciding the target asset allocation of the portfolio;
b. Security selection;
c. Portfolio construction and trade executions.

The correlation among asset classes should be relatively low; the correlation within the same asset class should be high.

**3. Feedback**
a. Portfolio monitoring and rebalancing;
b. Performance evaluation and reporting.

**考察方式:**

1. IPS各项内容

2. 建立投资组合的每一步都包含哪些内容

# Reading 55
# Risk Management: An Introduction

# 风险管理框架
## Risk management framework

**1. Risk governance**
The top-down process and guidance that directs risk management activities to align with and support the overall enterprise.
a. Risk tolerance
b. Risk budgeting

**2. Risk identification and measurement**
Financial risk: market risk/ credit risk/ liquidity risk
Non-financial risk: others

**3. Risk infrastructure**
**4. Defined policies and processes**

**5. Risk monitoring, mitigation and management**
a. Risk prevention and avoidance
b. Risk acceptance: self-insurance/ diversification
c. Risk transfer: insurance
d. Risk shifting: derivatives

**6. Communications/ reporting**
**7. Strategic analysis or integration**

**考察方式：**
1. 风险管理框架内各部分的特征
2. 每一个部分的职责及手段

# CFA一级
# Derivatives

# Reading 48
# Derivative Markets and Instruments

# Types
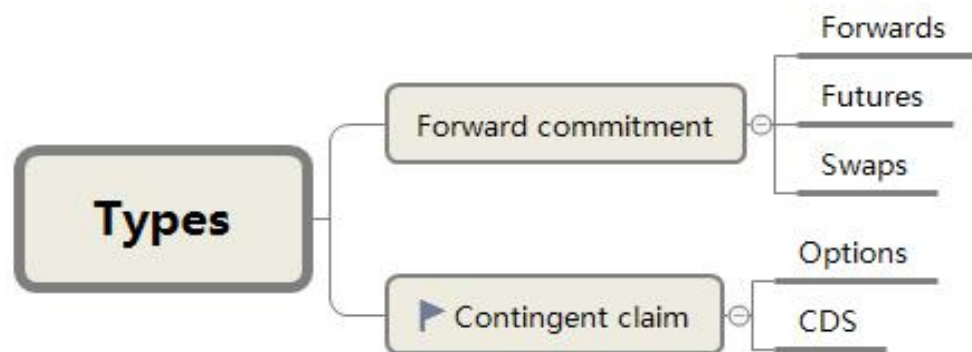


Forward commitment：双方义务方
Contingent claim：买方权力方，卖方义务

# Market

Exchange-traded：no default risk
Advantage of derivative market：
Lower transaction costs

**考察方式：**
1. 判断衍生工具属于哪种衍生合约类型
2. 判断衍生合约拥有权力还是义务
3. 对比交易所市场和OTC市场
4. 对比衍生品市场和现货市场

# 衍生工具
## Instruments

**FRA**

Underlying: interest rate (libor).
The long position: is the party that borrow at a fixed rate.
The short position: is the party that lend at a fixed rate.
Quotation: 1 × 4 FRA=Long 30 day FRA on 90-day Libor.

**Futures**
A forward contract that is standardized and exchanged.

**Swaps**
A series of forward contracts.

**Options**
The owner has the right, but not the obligation

考察方式：
1. 判断Borrower是long position，Lender（investor）是short position
2. 判断如何合成FRA

考察方式：
1. 考察Daily settlement的概念
2. 对比Futures和Forwards
3. 考察Swaps的定义
4. 判断Options的position

# Reading 49
# Basics of Derivative Pricing and Valution

**Arbitrage：**
低买高卖

**No arbitrage pricing（无套利定价原则）：**
假设不存在套利机会

**Risk-neutral pricing（风险中性定价原则)：**
以无风险利率折现或复利

**考察方式：**
1. 判断一段描述是否符合套利
2. 考察No arbitrage pricing&Risk-neutral pricing的概念

# 远期的定价和估值
## Pricing&Valuation of Forwards

**Pricing：**

$$FP=(S_0+PV_{Carrying\ costs}-PV_{Carrying\ benefits})(1+Rf)^T$$

Explain $\longrightarrow$ 即期 持有 持有 机会
价格 成本 收益 成本

- Carrying costs (θ): costs in owning commodity
- Carrying benefits (γ): dividends,coupons,interest,convenience yield
- Net cost of carry: γ-θ

**Valuation：** t=T时， $V_{long}=S_T-FP$ ; $V_0$=0.

**考察方式：**
1. 根据公式，判断变量对于FP的影响（变大或变小）
2. 考察是否知道大宗商品才有Carrying costs和Convenience yield
3. 判断资产价格变化对合约价值的影响（变大或变小）
4.考察是否知道远期期初价值=0

# 资产的复制
**Replication**

**Asset - Derivative = Risk-free asset**
Asset - Risk-free asset = Derivative
Derivative + Risk-free asset = Asset

**考察方式：**
判断如何合成风险资产、衍生品和无风险资产

## 期货的定价
## Pricing of Futures

| Correlation between interest rate and futures price | Futures vs Forward |
|---|---|
| Positive | Futures > Forward |
| Negative | Futures < Forward |
| Zero | Futures = Forward |

**考察方式：**
1. 已知利率和期货价格的相关性判断期货价格和远期价格谁大谁小
2. 考察是否知道利率不波动的时候期货价格=远期价格
3. 考察是否知道期货和远期定价的差异是由于逐日盯市制

# 互换的定价和估值
## Pricing&Valuation of Swaps
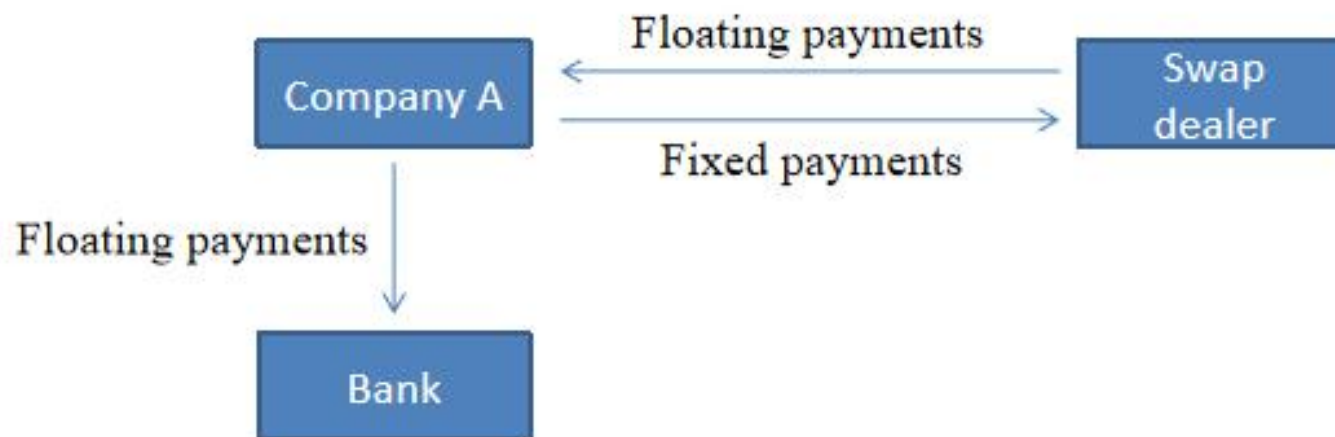


考察方式：
1. 考察性质：Swap的$V_0=0$
2. 考察定义：Swap=一系列远期
3. 考察是否知道Swap Price=一系列远期的Price
4. 考察是否知道IRS=一系列FRA

# 期权的价值状态
## Moneyness of Options

| Moneyness | Call | Put |
|---|---|---|
| In the money | S>X | S<X |
| At the money | S=X | S=X |
| Out of the money | S<X | S>X |

**考察方式：**
判断Call和Put是什么价值状态

**Option Price=Option Value=Option premium**

**Intrinsic value (exercise value)（内在/行权价值）**
- Call option: max(0, S-X)
- Put option: max(0, X-S)

**Time value（时间价值）**：Option premium (value/price) = Intrinsic value + Time value
- At expiration: Option value = Intrinsic value
- Prior expiration: Option value > Intrinsic value

**考察方式：**
1. 计算期权的Payoff和Profit
2. 判断Time value是否=0

# 期权平价公式
## Put-Call Parity

Fiduciary call       Protective put

$$C + X/(1+R_f)^T = P+S$$

Long call      Long bond      Long put      Long stock
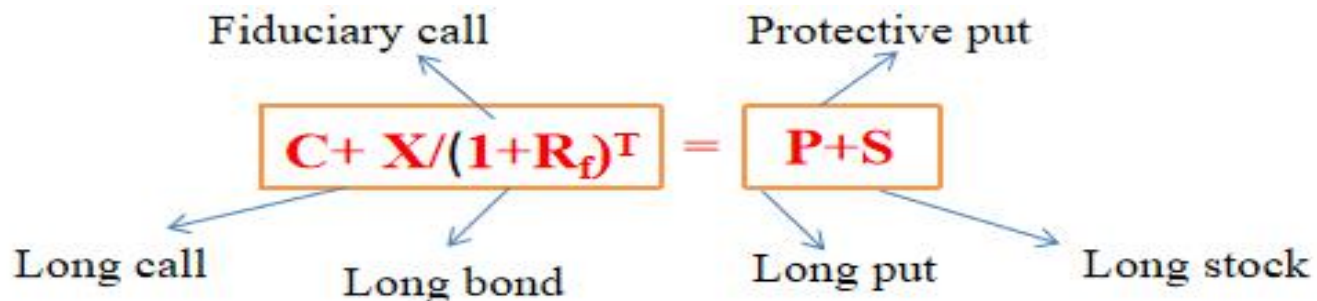
➤ Synthetic
- Synthetic call: $C = P + S - X/(1+R_f)^T$
- Synthetic put: $P = C + X/(1+R_f)^T - S$
- Synthetic stock: $S = C + X/(1+R_f)^T - P$
- Synthetic bond: $X/(1+R_f)^T = P + S - C$
  - ◆ Note: the term "+" means long and "-" means short.

➤ Arbitrage

**考察方式:**
1. 考察如何根据期权平价公式合成
2. 考察如何根据期权平价公式套利
3. 考察是否知道Fiduciary call=C+K; Protective put=P+S
4. 考察是否知道期权的远期平价公式及其简单变形: $F0(T)/(1 + Rf)^T + p = c + X/(1+Rf)^T$

# 期权的影响因素
## Factors of Options

| | Call | Put |
|---|:---:|:---:|
| Underlying price (S) | ↑ | ↓ |
| Exercise price (X) | ↓ | ↑ |
| Risk-free rate ($R_f$) | ↑ | ↓ |
| Volatility (σ) | ↑ | ↑ |
| Time to expiration (T-t) | ↑ | ↑ (with exception) |
| Carrying cost (θ) | ↑ | ↓ |
| Carrying benefit (γ) | ↓ | ↑ |

**考察方式：**
判断影响因素会怎么样影响期权价值（变大或变小）

$D = 1/U;$

$\pi_U = (1 + R_f - D)/(U - D)$, <span style="color:red">risk-neutral probability</span> of an up-move;

$\pi_D = 1 - \pi_U$, <span style="color:red">risk-neutral probability</span> of an down-move.

**考察方式:**

1. 考察是否知道risk-neutral probability会影响期权定价而实际上涨下跌概率不会
2. 计算$\pi_U$和$\pi_D$

# 美式期权VS欧式期权
## American Option vs European Option

**With no dividend:** American call = European call → no early exercise
**With dividend:** American call ≥ European call → may early exercise
**Deep in the money:** American put ≥ European put → may early exercise

考察方式：
1. 考察是否知道American call在有分红的情况下有可能提前行权以及价格大于European call
2. 考察是否知道American put在有deep in the money的情况下有可能提前行权以及价格大于European put

# CFA一级
# Ethical and Professional Standards
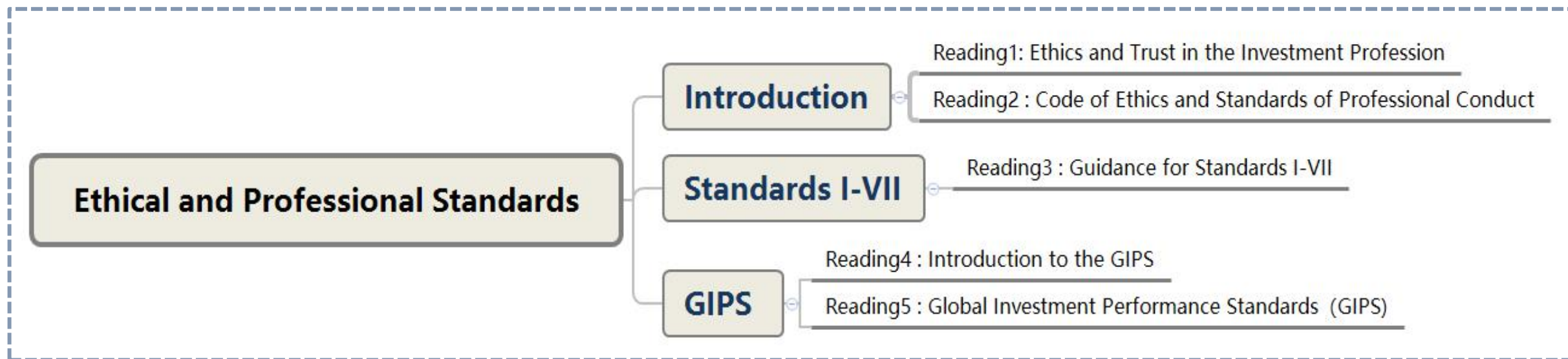
# Reading 1
# Ethics and Trust
# in the Investment Profession

# 道德规范和职业行为准则
## Ethics and Trust in the Investment Profession

**Code of ethics VS. Standards of conduct**
**A code of ethics（伦理规范）** is a written set of moral **principles** that can guide behavior by describing what is considered acceptable behavior.
**Standards of conduct（职业行为准则）** serve as **benchmarks** for the **minimally acceptable behavior** of community members and can help clarify the code of ethics.

**Ethics vs. Legal standards**

Legal | Legal & Ethical | Ethical
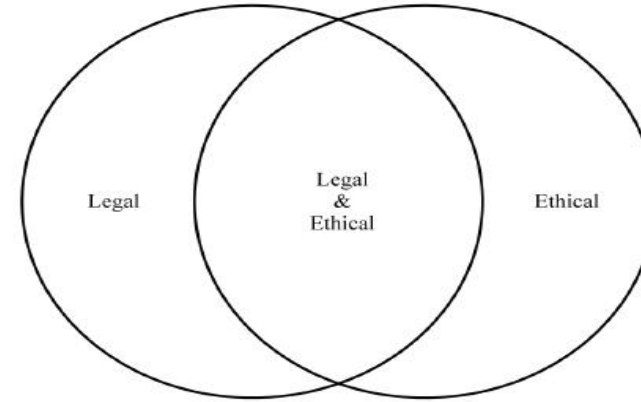
**Situational influences**
1.The bystander effect（旁观者效应）
2.Large financial rewards and prestige ( short-term self-interests vs. long-term risks)
3.Loyalty, Promotions

**考察方式：**
1. 概念辨析，区分code of ethics&standards of conduct，ethics&law，可通过关键词进行记忆和区分
2. 概念考查，主要是三种情境影响

# Reading 2
# Code of Ethics and Standards of Professional Conduct

# 伦理规范
## Code of Ethics

1.Act with integrity, competence, diligence, respect, and in an ethical manner with the public, clients, prospective clients, employers, employees, colleagues in the investment profession, and other participants in the global capital markets.

2.Place the integrity of the investment profession and the interests of clients above their own personal interests.

3.Use reasonable care and exercise independent professional judgment when conducting investment analysis, making investment recommendations, taking investment actions, and engaging in other professional activities.

4.Practice and encourage others to practice in a professional and ethical manner that will reflect credit on themselves and the profession.

5.Promote the integrity and viability of the global markets for the ultimate benefit of society.

6.Maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals.

**考察方式：**
在给出的选项中选出属于/不属于code of ethics的内容

# Reading 3
# Guidance for Standards I-VII

# Standard I(A) 知法守法
## Standard I(A) Knowledge of the Law

| | |
|---|---|
| **要点** | **细则逻辑：知法→守法→不违法（发现违法行为要怎么做）**<br><br>1.知法：Should know the laws and regulations related to their professional activities （与本职工作相关的法律）；No need to be an expert （不要求成为法律专家）；<br>跨境贸易（cross-border）时，要确认产品在贸易相关国家是否都是合法的。<br><br>2.守法：Must follow the more strict applicable law or the Code and Standards.<br><br>3.不违法：<br>①当对违法行为确定（四步走）：Direct discussions→Report →Dissociate→Resignation<br>②当不确定时：consulting the legal and compliance advisers （进行咨询，但不免责）<br>注意：inaction也被视为违反准则 |
| **考察方式** | 1.守法，遵守更严格的法律，需要在不同法律的具体要求中判断出更严格的法律，会跟其他细则结合考查<br>2.不违法，四步走的步骤，注意先后顺序 |

# Standard I(B) 独立客观性
## Standard I(B) Independence and Objectivity

| | |
|---|---|
| **要点** | **7种关系：**<br>1. Buy-side clients：基金经理等会对sell-side analyst威逼利诱<br>2. Investment Banking Relationships：研究部要拒绝投行部等其他部门的威逼利诱（Firewall；Restricted list)<br>3. Public Companies: 上市公司会对分析师威逼利诱，分析师要坚持自己对上市公司的看法<br>4. Issuer-Paid Research：付费报告，公司付费请分析师写公司的研报，报告需要披露双方的关系同时分析师只能收固定费用，任何与研究相关的bonus都不能收<br>5. Selection of Fund manager and Custodian：在选择基金经理和托管人时，不能受贿也不能行贿<br>6. Performance Measurement and Attribution：负责业绩归因和核算的人要坚持自己的分析结果，不能屈服于威逼利诱<br>7. Credit Rating Agency Opinions：债券评级机构对债券的评级结果不能受到发债公司的影响<br>**Travel Funding:**<br>Best practice：自己付钱 ；例外：当所去的地方是偏远（remote)时，可以接受对方安排<br>**Gift:**<br>第三方（调研对象等）：只能收modest gifts, 注意disclose<br>Exception：客户的礼物（视为额外报酬，提供了服务的奖励），都可以接受，disclose |
| **考察方式** | 1. 7种关系，要求能够从给出的题干中判断出来，并选出正确的做法<br>2. 差旅费的要求，礼物是否能分清不同情况的不同要求 |

# Standard I(C) 不当陈述
## Standard I(C) Misrepresentation


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| **要点** | 1. Social Media：通过不同媒体渠道发布的信息都应当是一致的<br>2. **Investment Practice**：真实表述自己及公司的服务资质，A company is prohibited from saying "we can provide all services you need"（service list is a better choice）；在使用外部经理的意见时，需要披露，不能直接使用<br>3. **Performance Reporting**：合适的benchmark；no cherry-picking；no guarantee<br>4. Omission: 不能故意遗漏重要内容（no cherry-picking；opinion不等于fact）<br>5. **Plagiarism**：引用的时候一定要规范标明引用，否则视为抄袭；<br>Exception: Information from recognized financial and statistical reporting services may not be cited（e.g. GDP，unemployment rate，stock price）<br>6. Work Completed for Employer: 使用同事（含离职同事在职期间的）研究成果不算违反；离职后，成果归公司，原公司仍可使用，离职人员不可再使用 |
| **考察方式** | 1. 考查对资质的描述，判断是否为错误陈述<br>2. 多考查抄袭的知识点，注意例外情况 |

# Standard I(D) 渎职
## Standard I(D) Misconduct

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|---|---|
| **要点** | 1. Professional conduct：影响正常工作状态和判断的行为才是 Misconduct；与工作无关的、个人不涉及不诚信的行为，不违反Misconduct<br>2. Dishonesty、fraud and deceit： Any act that involves lying, cheating, stealing, or other dishonest conduct is a violation;<br>3. Notice：Personal bankruptcy（因为欺诈欺骗等原因造成的破产违反Misconduct,否则不违反） |
| **考察方式** | 1. 判断Misconduct，看是否影响正常工作及判断<br>2. 单独考查personal bankruptcy知识点，注意破产原因即可判断是否违反准则 |

# Standard II(A) 重大非公开信息
## Standard II(A) Material Nonpublic Information

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| **要点** | **要求：不能泄露、使用或者促使他人使用重大非公开信息**<br>1. 重大非公开信息<br>①重大四条件：an impact on the price；investors would want to know；reliable；effect of the information on price is clear<br>②非公开：未向全社会公众公布的信息均为非公开，注意部分公开也为非公开<br>2. Mosaic Theory (马赛克理论)：Public information + Nonmaterial Nonpublic information<br>3. Using Industry Experts：可以用：行业趋势、经济状况等；不能用：重大非公开信息<br>4. 推荐做法：当怀疑一个信息是否为重大非公开信息时，要尽力去促进当事主体公开这个信息，信息公开之后才可以使用这个信息 |
| **考察方式** | 1. 重大非公开信息的判断，具体题目中一般满足 impact&reliable 两个条件即可<br>2. 马赛克理论判断，马赛克理论的结论是否可以使用 |

# Standard II(B) 市场操纵
## Standard II(B) Market Manipulation

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| **要点** | 1. Information-Based Manipulation：dissemination of false or misleading information（散播不实谣言）<br>2. Transaction-Based Manipulation：distorting the price-setting mechanism<br>3. 合规的交易策略不属于市场操纵（披露即可）<br>①对冲基金的交易策略<br>②大宗交易（**block trade**）<br>③提高新产品流动性采取的策略 |
| **考察方式** | 1. 市场操纵的方式判断<br>2. 合规的不违反本条细则的交易策略 |

# Standard III(A) 忠诚、谨慎和责任心
## Standard III(A) Loyalty, Prudence, and Care

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| **要点** | **1. Integrity of Capital Market>Clients` interest>Employers` interest>Employee`s interest**<br>2. Identifying the Actual Investment Client<br>①Individual：Managing the personal assets<br>②Ultimate beneficiaries：Managing pension plans or trusts<br>③No actual client(Mandate)：Managing a fund<br>**3. Soft Commission Policies: assets of clients（是客户资产）**<br>①Soft dollars(Soft commissions): Purchase research services（使用要为客户利益服务）<br>②When selecting broker for clients："best transaction cost" "best execution"<br>③Directed brokerage: A client direct a manager to use the client's brokerage to purchase services or goods；manager should disclose to the client may not be getting best execution from it.<br>4. Proxy Voting Policies: 考虑客户利益<br>cost-benefit analysis |
| **考察方式** | 1. 判断软美元用法，case中是否使用正确<br>2. 辨析基金经理（mutual fund）没有actual client，按照mandate进行管理 |

# Standard III(B) 公平交易
## Standard III(B) Fair Dealing

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| **要点** | 1. Fair ≠ Equal<br>2. Investment Recommendations<br>①Updated recommendation：先通知自己的所有客户<br>②Clients who place orders contrary to a current recommendation：advised<br>3. Investment Actions<br>①Treating all clients fairly<br>②Oversubscribed: prorated（按申购比例分）<br>③Hot issue：prohibit<br>④Family-member accounts：一视同仁 |
| **考察方式** | 1. 投资推荐更新，是否第一时间告知所有客户<br>2. 超额认购下是否按照prorated方式分配<br>3. 对待family-member accounts是否一视同仁 |

# Standard III(C) 适合性
## Standard III(C) Suitability

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| **要点** | 1. Developing an Investment Policy(IPS)：了解客户风险收益→制定IPS（RRTTLLU）→战略资产配置（SAA）<br>**2. Updating an Investment Policy（IPS）**： At least annually；Material changes<br>3. The Need for Diversification：<br>①In the context of the entire portfolio<br>②Invest only on the basis of the information actually provided by the client<br>**4. Addressing Unsolicited Trading Requests（与IPS内容不一致，但是客户要求做的投资）**<br>①Minimum impact: first educating clients on how the request deviates from IPS, then may execute the trade<br>②Material impact : updating client's IPS and inform potential effect may be necessary ; If clients decline to modify their IPS while insisting the trade be made，determining whether continuing the advisory relationship with the client |
| **考察方式** | 1. IPS更新的相关要求<br>2. 投资是否符合IPS的内容要求<br>3. 当出现与IPS内容不一致的投资要求时如何处理 |

# Standard III(D) 业绩陈述
## Standard III(D) Performance Presentation



| 要点 | **1. Accurate**<br>①Prohibit misrepresentations<br>②Not state or imply that clients will obtain or benefit from a rate of return that was generated in the past<br>③No guarantee<br>**2. Complete**<br>①No cherry-picking<br>②If the presentation is brief, the member or candidate must make available to clients and prospects, on request, the detailed information supporting that communication. |
|---|---|
| 考察方式 | 业绩表述是否符合 accurate&complete 两个要求 |

# Standard III(E) 保密性
## Standard III(E) Preservation of Confidentiality

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|---|---|
| **要点** | Former<br>Current<br>Prospective → Clients —— Confidential → Except → Illegal activities<br>Compliance with laws<br>Investigation by PCP<br>Customer permit |
| **考察方式** | 1. 是否保密客户信息<br>2. 考查特殊情况 |

# Standard IV(A) 忠诚
## Standard IV(A) Loyalty

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| **要点** | 1. Employers' Responsibilities<br>雇主有义务为雇员创造良好的工作环境（包括道德环境）和设计薪酬和激励体系<br>2. Employees' Responsibilities<br>**① Nature of Employment**<br>区分 employee和independent contractors，**independent contractor**只受合同限制<br>**② Independent Practice**<br>• 可从事与雇主有**竞业**关系的兼职，但需要**事先披露**并且得到**雇主同意**<br>• 从事没有利益冲突的活动不需要披露，但要注意不违反I(D)<br>**③ Leaving an employer**<br>• 离职准备：<br>离职生效前，仍然以雇主利益为先，但是允许利用业余时间进行**离职后工作准备**和安排<br>• 新公司选择<br>如果签订了**竞业协议**，离职后不能从事竞业业务<br>• 客户招揽：<br>离职前不能招揽原公司客户、不可带走客户清单<br>离职后可以招揽原公司客户，但是只能通过**公开渠道**招揽<br>• 记录文件：在职期间写的**文件、报告、模型都属于公司资产**，离职后带走需要得到雇主同意<br>• 经验和知识：可以在新公司使用（不涉及保密信息）<br>• 机密信息：不能盗用或滥用商业机密等机密 |

# Standard IV(A) 忠诚
## Standard IV(A) Loyalty

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|---|---|
| **要点** | **④ Use of Social Media**<br>公司的公共社交媒体账号是公司财产，离职后需要转移或归还<br>最好将公司账号和私人账号分开<br>**⑤ Whistleblowing**<br>如果雇主的行为跟资本市场诚信和客户利益冲突（尤其违法),鼓励揭发，但是揭发**只能**是出于客户和资本市场利益，不能因为私怨 |
| **考察方式** | 1. 有竞业关系的兼职要披露，无关的不用披露。<br>2. 因为做兼职影响正常工作，也违反I(D)Misconduct。<br>3. 离职，只有知识和技能，是可以直接带走的。<br>4. 离职后可以凭借公共资源和新雇主的资源，recreate之前的报告和模型。 |

# Standard IV(B) 额外报酬安排
## Standard IV(B) Additional Compesation Arrangements

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| **要点** | 1. 来自于客户的礼物可以收，但是要**事先**向雇主披露并且得到**书面同意**后，才可以接受<br>2. 兼职：如果有利益冲突，需要披露，得到同意才能接受 |
| **考察方式** | 1. 和I(B)独立客观性的gift对比，关键在于礼物来自于谁，调研对象的贵重礼物不可以收，客户的礼物都可以收，只要事先向雇主披露得到书面同意即可。<br>2. 如果没有办法事先披露，可以在事后尽快向雇主补交说明。<br>3. 礼物的形式可能是金钱形式，也可能是非金钱形式。 |

# Standard IV(C) 监管者的职责
## Standard IV(C) Responsibilities of Supervisors

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| **要点** | 1. Promotion & Delegating Supervision Duties<br>① 雇员很多的公司，supervisor **可以授权**下属监管员工，不过需要教育下属如何进行监管；雇员违反，supervisor **不可以免责**<br>② 接受管理职责或者晋升时，如果**公司制度不完善则不能接受职责**，直到相关制度完善才可接受<br>2. System for Supervision<br>① 建立充分合理的监管合规制度：Supervisor 应尽力促使公司**建立充分合理的合规制度**，合规制度要符合法律、道德及公司要求，至少达到行业最低标准<br>② 确保制度执行：发现违反需要立即反应，深入调查，对员工行为进行限制或加强监管，以确保不再犯。**不充分的做法**：仅靠雇员口头保证、简单汇报和警告雇员<br>3. Supervision Includes Detection<br>① Supervisor 应尽最大努力去监管违反行为，制度须以书面形式呈现，并定期复核，一旦发现不合适的制度，需要报告高管并且提出修正措施<br>② 如果监管者**尽职尽责**，就算没有发现员工有违反行为，也不违反；如果监管者没有尽职尽责做监管，即使没有违反行为，也违反本细则 |
| **考察方式** | 1. 发现违反行为，应该采取措施，不能只是简单的警告和汇报，应保证员工不再犯。<br>2. 只要监管者尽职尽责，无论结果如何，都没有违反。<br>3. 管理者应建立完善的制度，如果制度不完善导致有漏洞，是管理者责任。 |

# Standard V(A) 勤勉与合理性
## Standard V(A) Diligence and Reasonable Basis

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| **要点** | 1. Using Secondary or Third-Party Research<br>① Secondary research: 同事的报告 Third-Party Research：第三方的报告<br>② 可以使用二三方报告，但需要**先确认信息是sound**的，如果公司或同事已经确认信息是 sound 的，可以直接使用，除非有理由质疑<br>③ 判断 soundness：研究假设；研究的严谨性；报告时效性；客观独立性<br>④ 公司应有相关**政策**去确认报告提供方的质量<br>2. Selecting External Advisers and Subadvisers<br>可以用外部顾问，但是需要**review 外部顾问**的情况，检查的内容包括：道德情况、合规制度、投资回报质量、投资流程和是否遵守投资策略<br>3. Quantitatively Oriented Techniques<br>① Develop：开发者需要对模型有**深入了解**，发布前做全面的测试；确保模型包含了尽可能多的因素，也要考虑极端情况<br>② Use：**了解基本情况**，假设局限性等；但不要求成为专家；考虑极端情况<br>4. Group Research and Decision Making<br>结论代表的是团队一致的意见，如果跟最终结论有分歧，但**论证过程**是充分合理、独立客观的，依然可以署名 |
| **考察方式** | 1.使用二三方报告应先verify。<br>2.审查和确认雇佣的外部顾问后，可以充分相信外部顾问的决策。<br>3.团队的研究报告只要过程没问题就可以署名，一旦发布后，个人不能对外宣称不同意公司观点。 |

# Standard V(B) 与现有或潜在客户沟通
## Standard V(B) Communication with Clients and Prospective Clients

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| **要点** | 1. Forms of Communication<br>① 可采用不同方式跟客户沟通，但要确保对待客户是 fair 的--III（B）<br>② 提供简略信息时，要确保能向客户提供详细信息--III（D)&I(C)<br>2. Investment Process<br>① Informing Clients of the Investment Process<br>• 充分告知客户投资流程：<span style="color:red">对决策有重要影响的factors、重大风险和局限</span>、流程、<span style="color:red">投资过程变更</span><br>• 告知组合的特征，基于整个组合角度做投资决策<br>• 使用外部经理观点时，需要向客户披露外部经理情况<br>② Identifying Risks and Limitations<br>• 提前告知<span style="color:red">风险</span>（衍生品、杠杆等）、<span style="color:red">限制投资因素</span>（流动性等）<br>• 没有披露投资的一些未知风险和局限，不违反本条，但可能违反V(A)<br>3. Report Presentation<br>① 所有对研究分析有重要影响的因素都应该披露<br>② 使用量化模型时，要有reference,并且要保持 methodology 一致，若发生变更应该重点标注<br>4. **Distinction between Opinion and Fact**<br>观点：对未来预测、统计猜想（结论）、研究报告和模型结论 |
| **考察方式** | 1. 判断情景描述的情况是否应该告知客户。<br>2. 判断描述是否区分了观点和事实。 |

# Standard V(C) 记录保存
## Standard V(C) Record Retention

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| 要点 | 1. 必须 develop or maintain 投资活动相关的记录<br>保存形式：书面或者电子方式均可<br>2. Records 是公司的资产<br>① 离职带走需要雇主同意<br>② 不能使用前公司得出的没有supporting documentation的投资结论<br>③ 到新公司后，可以利用**公共资源**等相关信息**re-create** records<br>3. 保存年限<br>① 如果法律有规定，依照法律规定<br>② 如果**法律没有规定**，CFA协会建议至少保存**7年** |
|---|---|
| 考察方式 | 如果法律规定保存5年，则保存5年。 |

# Standard VI(A) 利益冲突披露
## Standard VI(A) Disclosure of Conflicts

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|---|---|
| **要点** | 1. Disclosure of Conflicts to Employers（需要披露给雇主的利益冲突）<br>① 与雇主的利益冲突，包括：<br>• 自己分析或推荐的股票的**持股**情况（最简便的处理方法是公司规定分析师不能持有其推荐的股票）<br>• 在其他公司**董事会任职**的情况（对客户的职责和上市公司股东的职责存在冲突；获得报酬可能与上市公司股票相关；有可能获得上市公司内幕消息）<br>• 来自**金钱**等其他影响决策的因素（兼职、additional compensation arrangement）<br>② 披露给客户的利益冲突也需要披露给雇主<br>③ 发生意料外冲突，立即披露给雇主<br>2. Disclosure of Conflicts to Clients（需要披露给雇主的利益冲突）<br>① 当事人是上市公司董事会成员或持有其推荐股票时<br>② 当事人雇主与上市公司存在商业关系（股票发行、兼并收购等）<br>③ 可能与客户利益有冲突的费用安排：referral fees, incentive fees ,rebate(回扣)等<br>3. Cross-Departmental Conflicts（跨部门的冲突）<br>卖方分析师：可能受到上市公司和投行部的压力<br>买方分析师：可能受到市场部门压力<br>如果风投部门之前投资的非上市公司上市，做推荐的时候需要披露冲突 |
| **考察方式** | 判断是否产生利益冲突，及时披露 |

# Standard VI(B) 交易的优先顺序
## Standard VI(B) Priority of Transactions


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| 要点 | 1. Integrity of Capital Market>Clients' interest > Employers' interest > Employees' interest<br>2. Non-public Information：不得利用或促使他人利用重大非公开信息，如果利用了也违反II（A）<br>3. 个人交易：不能损害客户利益；不能从为客户的交易中私自获利；遵守相应法律法规<br>4. Co-investment：自己的利益依然要放在客户利益之后,让客户先交易<br>5. 如果家庭成员是客户，要当做客户一视同仁；如果个人可以从关联账户中**直接受益**，需要事先披露并遵守相关法律要求 |
|---|---|
| 考察方式 | 1. 判断是不是家庭成员账户：父母、子女的账户看作是普通家庭成员账户<br>2. 如果签订条约从账户收益中获利，或者是夫/妻的账户，看作是直接受益账户 |

# Standard VI(C) 介绍费
## Standard VI(C) Referral Fees

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|---|---|
| **要点** | 1. What：会员和考生必须披露收到的和给出的推荐费 注意：要在与客户签订正式**合同之前**披露推荐费<br>2. Why：客户和雇主可以评估推荐是否存在偏差以及产品和服务的真实成本<br>3. How：全面披露推荐费的情况，包括形式和内容等 |
| **考察方式** | 1.介绍费可能是金钱形式，也可能是非金钱形式，比如提供服务 |

# Standard VII(A) CFA会员及候选人的行为准则
## Standard VII(A) Conduct as Participants in CFA Institute Programs

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| **要点** | 1. During the Exam<br>① 不能作弊或帮助他人作弊<br>② 不得违反考试规范<br> • 考生：不得违反考试政策，如：计算器政策、 个人物品规定、考试公约等<br> • 会员：作为 Volunteer, 不得泄露考题等<br>③ 不能无视或试图避免考场安检<br>2. After the Exam<br>① Confidential Information：**禁止**谈论考试的具体问题、考试范围、公式，但是可以讨论原版书等不机密的信息<br>② Expression of opinions：可以发表关于考试和协会的**个人观点**<br>③ 不能为了个人或职业便利错误使用CFA称号<br>④ 不得在PCS中错误陈述 |
| **考察方式** | 1. 不能泄露考试内容，但是可以表达观点<br>2. 可以表达对CFA的负面观点<br>3. 即使被诬陷了，查证最后无罪，也要在PCS中披露 |

# Standard VII(B) CFA协会、CFA称号和CFA项目的引用
## Standard VII(B) Reference to CFA Institute, the CFA Designation, and the CFA Program

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| **要点** | 1. CFA Members<br>① 成为会员条件：本科及相应学历；至少通过CFA一级考试；至少四年工作经验；3个专业人员的 reference；加入了当地的Society<br>② 维持会员资格条件：每年交会费；每年交PCS<br>③ 如果没有维持会员资格，则是inactive members，不能对外说自己是会员<br>2. CFA Charterholders<br>① 成为持证人条件：成为会员（主要是有四年工作经验，本科及相应学力）；通过CFA三级考试<br>② 不得错误陈述或**夸大**持证资格，不得声称由于通过三个级别考试，自己能力就高于别人<br>3. CFA Candidates<br>① CFA Candidate 指的是已经注册报名考试，但还**没有拿到最终考试成绩**的考生<br>② 不得暗示获得**部分**持证资格 |
| **考察方式** | 1. CFA称号的使用方法只有两种："名字，CFA" 或者 "名字，Chartered Financial Analyst"<br>2.不能夸大CFA作用，可以说是一次性通过考试，但是不能因此暗示考试能力更强 |

# Reading 4&5
# GIPS

**遵守主体：**
1. 投资管理公司 **（investment management firms)**
2. 全公司范围遵守
3. 当与local law有冲突，遵守local law，并披露冲突的部分

**Verification(验证)的问题：**
1. Firms that claim compliance with the GIPS self-regulate their claim of compliance. (可以选择自觉遵守GIPS)
2. Firms may voluntarily hire an independent third party to verify its claim of GIPS compliance. (也可以自愿请第三方机构验证遵守情况)
3. Verification is performed with respect to an entire firm, not on specific composites.

**考察方式：**
1. GIPS遵守主体
2. 当与其他法律有冲突需要怎么做
3. Verification相关问题

# 九大组成部分
## 9 Sections of the GIPS Standards

高顿教育
GOLDEN EDUCATION

0. Fundamentals of compliance
1. Input data
2. Calculation methodology
3. Composite construction
4. Disclosures
5. Presentation and reporting
6. Real estate
7. Private equity
8. Wrap-fee/Separately managed account portfolios.

**Historical Performance Record:**

1. The firm is required to initially present at least 5 years of annual performance complaint with the GIPS, or performance since inception if the firm/composite has been in existence less than 5 years.
2. Thereafter, the firm must present an additional year of performance each year, building up to a minimum of 10 years GIPS-compliant performance.

**3.Composite construction：**
1. A composite is an aggregation of one or more portfolios managed according to a similar investment mandate, objective, or strategy.
2. A composite must include all actual, fee-paying, discretionary portfolios managed in accordance with the same investment mandate, objective, or strategy.
（Composite的三大条件：similar、discretionary、fee-paying)

**考察方式：**
1. 九大组成部分记忆
2. 业绩披露年份要求
3. Composite构建条件