

香港中文大学（深圳）金融学会

2021 SPRING FIN2010 期中复习总结

本次复习总结不代表 FIN2010 课程官方解释

内容可能有错漏，欢迎各位在微信公众号后台留言指正

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Lecture 1

一、学习目标

1. financial management
2. the goal of the firm
3. Agency Theory
4. Corporate Social Responsibility
5. Corporate Governance

二、复习内容

1. Financial management

- a. Financial Management: Concerns the [acquisition, financing, and management of assets](#) with some overall goal in mind.
- b. Investment Decisions: [Most important of the three decisions](#). Decide the optimal firm size, what specific assets should be acquired and what assets should be reduced or eliminated.
- c. Financing Decisions: Determine how the assets will be financed.
- d. Asset Management Decisions: Greater emphasis on current asset management than fixed asset management.

2. The goal of the firm

- a. The goal of the firm: Maximization of shareholder wealth

b. The goal of the firm 不是 Profit Maximization, 也不是 Earnings per Share Maximization

c. Shareholder wealth maximization 考虑到了 current and future profits and EPS, the timing, duration, and risk of profits and EPS, dividend policy, and all other relevant factors.

3. Agency Theory

a. An agent is an individual authorized by another person, called the principal, to act in the latter's behalf.

b. Agency Theory: Principals must provide **incentives** so that management acts in the principals' best interests and then monitor results.

c. Incentives include **stock options, perquisites, and bonuses**.

4. Corporate Social Responsibility

a. Corporate Social Responsibility (CSR): A business outlook that acknowledges a firm's responsibilities to its stakeholders and the natural environment.

b. Sustainability: Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

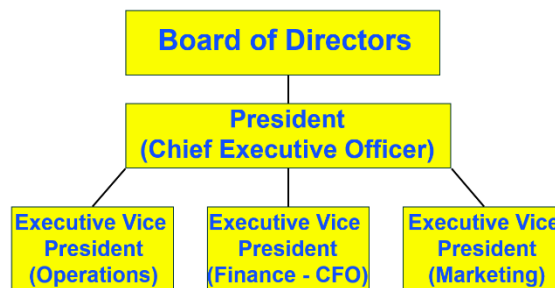
c. Wealth maximization does not preclude the firm from being socially responsible at the corporate level.

5. Corporate Governance

a. 公司治理包括 shareholders, board of directors, and senior management.

b. Board of Directors (董事会) 的职责: Set company-wide policy 制定公司制度政策; Advise the CEO and other senior executives 提供建议; Hire, fire, and set the compensation of the CEO 雇佣、解雇、设置 CEO 薪酬; Review and approve strategy, significant investments, and acquisitions 审批投资、收购战略; Oversee operating plans, capital budgets, and financial reports to common shareholders 监督经营计划、资本预算和财务报告.

c. Organization:



Lecture 2

一、学习目标

1. 4 types of business entities

2. Income tax

3. Various methods of depreciation

4. Financial markets

二、复习内容

1. 4 types of business entities

	Sole proprietorship	Partnership (分为 general 和 limited partnership)	Corporations	Limited liability companies (LLC)
Characteristics	1.Single owner 2.Unlimited liability 3.business income is accounted for on personal income tax form	1.Two or more individuals act as owners 2.General: all partners have unlimited liability Limited: limited partners have liability limited (至少存在一个 general partner) 3.business income is accounted for on each partner's personal income tax form	1.limited liability 2. centralized management 3. unlimited life 4. transfer of ownership without other owners' prior consent 5.business income is accounted for on the income tax form of the corporation.	1. corporate-style limited personal liability 2. the federal-tax treatment of a partnership 3. business income is accounted for on each member's individual income tax form
Advantages	1.Simplicity 2.Low setup cost 3.Quick setup 4.Single tax filing on individual form	1.can be simple 2.Low setup cost, higher than sole 3. relatively quick setup 4.: limited partners have liability limited	1. limited liability 2. easy transfer of ownership 3. unlimited life 4. easier to raise large quantities of capital	1. limited liability 2. eliminates double taxation 3. no restriction on number or type of owners 4. easier to raise additional capital

Disadvantages	1.Unlimited liability 2.Hard to raise additional capital 3.Transfer of ownership difficulties	1.Unlimited liability for general partners 2.Hard to raise additional capital, easier than sole proprietorship 3.Transfer of ownership difficulties	1.double taxation 2. more difficult to establish 3. more expensive to set up and maintain	1. limited life 2. transfer of ownership difficulties
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2. Income tax

a. Corporate income tax 的计算方法

Corp. Taxable Income		Tax		Tax Calculation
At Least	But <	Rate		
\$ 0	\$ 50,000	15%		$0.15 \times (\text{Inc} > 0)$
50,000	75,000	25%	\$ 7,500	$+ 0.25 \times (\text{Inc} > 50,000)$
75,000	100,000	34%	13,750	$+ 0.34 \times (\text{Inc} > 75,000)$
100,000	335,000	39%	22,250	$+ 0.39 \times (\text{Inc} > 100,000)$
335,000	10,000,000	34%	113,900	$+ 0.34 \times (\text{Inc} > 335,000)$
10,000,000	15,000,000	35%	3,400,000	$+ 0.35 \times (\text{Inc} > 10,000,000)$
15,000,000	18,333,333	38%	5,150,000	$+ 0.38 \times (\text{Inc} > 15,000,000)$
18,333,333		35%	6,416,667	$+ 0.35 \times (\text{Inc} > 18,333,333)$

- b. Average tax rate and marginal tax rate
- c. Interest expense is tax deductible. Cash dividend is tax deductible.
- d. After-tax cost of debt: $(\text{interest expense}) \times (1 - \text{tax rate})$
Debt financing has a tax advantage.
- e. Capital gains are not deductible. Capital losses are deductible.

Taxable income =

(Revenue – COGS – Depreciation – Interest Expense)

Income Tax =

(Revenue – COGS – Depreciation – Interest Expense) * Tax rate

After-tax income =

(1-Tax Rate)* (Revenue – COGS – Depreciation) - (1-Tax Rate) * Interest Expense

If company decides to pay out dividend,

• **Increase in retained earnings =**

-(1-Tax Rate) * Interest Expense + (1-Tax Rate)* (Revenue – COGS – Depreciation) – Dividend

3. Three methods of depreciation

a. Straight-line

- b. Double declining balance
- c. Modified accelerated cost recovery system (MACRS) : depreciation in any particular year is the maximum of DDB OR SL. 从 DDB 变为 SL



MACRS Example

Year	Depreciation Calculation	Depreciation Charge	Net Book Value
0	---	---	\$100,000
1	$0.5 \times 2 \times (1/5) \times \$100,000$	\$ 20,000	80,000
2	$2 \times (1/5) \times \$80,000$	32,000	48,000
3	$2 \times (1/5) \times \$48,000$	19,200	28,800
4	$\$28,800 / 2.5 \text{ Years}$	11,520	17,280
5	$\$28,800 / 2.5 \text{ Years}$	11,520	5,760
6	$\$28,800 / 2.5 \text{ Yrs} \times 0.5$	5,760	0

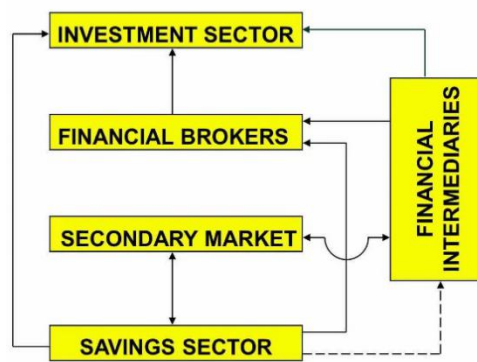


MACRS Schedule

Recovery Year	Property Class		
	3-Year	5-Year	7-Year
1	33.33%	20.00%	14.29%
2	44.45	32.00	24.49
3	14.81	19.20	17.49
4	7.41	11.52	12.49
5		11.52	8.93
6		5.76	8.92
7			8.93
8			4.46

4. Financial markets

- a. purpose: to allocate savings to ultimate users efficiently
- b. Financial markets are composed of all institutions and procedures for bringing buyers and sellers of financial instruments together.
- c.



SAVINGS SECTOR	SECONDARY MARKET
Households	Security Exchanges
Businesses	
Government	OTC Market

d. 影响 security expected returns 的因素

Default risk

marketability

maturity

tax-ability

embedded options

Inflation

Lecture 3

一、学习目标

1. Interest

2. present and future value

3. Types of Cashflows

4. Effective Annual Interest Rate

二、复习内容

1. Interest and the time value of money

① Types of interest:

- a. Simple Interest 单利: Interest paid (earned) on only the original amount, or principal, borrowed (lent).
- b. Compound Interest 复利: Interest paid (earned) on any previous interest earned, as well as on the principal borrowed (lent).

② Simple Interest Formula:

a. $SI = P_0(i)(n)$

SI: Simple Interest

P_0 : Deposit today ($t=0$)

i: Interest Rate per Period

n: Number of Time Periods

③ Frequency of compounding:

General Formula: $FV_n = PV_0(1 + [i/m])^{mn}$

n: Number of Years

m: Compounding Periods per Year

i: Annual Percentage Rate (APR)

FV_n : FV at the end of Year n

PV_0 : PV of the Cash Flow tod

2. Present and future value

① Simple Interest:

- a. Future Value: Future Value (FV) is the value at some future time of a present amount of money, or a series of payments, evaluated at a given interest rate.

$$FV = P_0 + SI$$

- b. Present Value: Present Value (PV) is the current value of a future amount of money, or a series of payments, evaluated at a given interest rate.

② Compound Interest:

- a. Future Value Formula: $F \cdot V_n = P_0 (1 + I)^n$

③ General Present Value Formula:

$$PV_0 = FV_n / (1 + i)^n$$

3. Types of Cashflows

① Perpetuity: A stream of constant cashflows that last forever

$$PV = \frac{C}{(1+r)} + \frac{C}{(1+r)^2} + \frac{C}{(1+r)^3} + \dots = \frac{C}{r}$$

② Annuity: A stream of constant cashflows over a finite time period

$$PV = \frac{C}{(1+r)} + \frac{C}{(1+r)^2} + \dots + \frac{C}{(1+r)^T} = \frac{C}{r} * [1 - \frac{1}{(1+r)^T}]$$

4. Effective Annual Interest Rate

- a. The actual rate of interest earned (paid) after adjusting the *nominal rate* for factors such as the number of compounding periods per year.

$$(1 + [i / m])^m - 1$$

- b. BWs Effective Annual Interest Rate:

例题: *Basket Wonders (BW)* has a \$1,000 CD at the bank. The Annual Percentage Rate (APR) is 6% compounded quarterly for 1 year. What is the Effective Annual Interest Rate (EAR)?

$$EAR = (1 + 0.06 / 4)^4 - 1 = 1.0614 - 1 = 0.0614$$

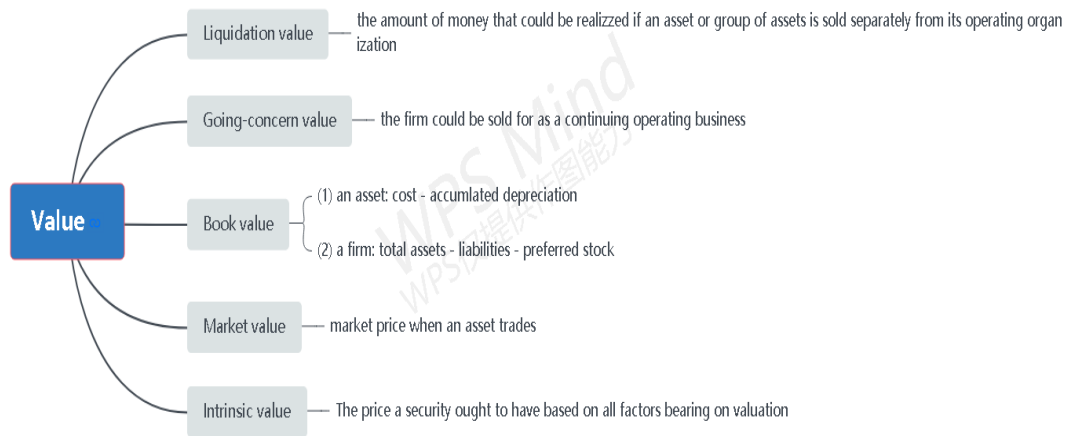
Lecture 4

一、学习目标

1. What is value
2. Value bonds preferred stocks common stocks
3. The rate of return (yield)

二、复习内容

1. what is value



2. Bond and stocks

① Bond

a. 定义: a long-term debt instrument issued by a corporation or government.

b. Face value (FV); the stated value

Coupon rate: the stated rate of interest

Discount value = risk-free rate + premium for risk

YTM: rate at which a bond is priced

c. Different types of bonds

Perpetual bond : a bond never matures

$$V = C / rd$$

Non-zero coupon-paying bond: a coupon paying bond with a finite life

$$V = PV(\text{Annuity}) + PV(F) \\ = C / rd * [1 - 1 / (1 + rd)^n] + FV / (1 + rd)^n$$

Zero coupon bond: a bond that pays no interest but sells at a deep discount from its face

value.

$$V = F / (1 + rd)^n$$

Semiannual compounding: bond that pays twice a year (1/2 of the annual coupon)
divide YTM by 2, multiply n by 2, divide C by 2

$$V = PV(\text{Annuity}) + PV(F)$$

② Stock

a. P = sum of discounted future dividends

b. Different types of stocks

Preferred Stock: a type of stock that promises a fixed(usually) dividend, but at the discretion of board of directors.

Preferred Stock has preference over common stock in the payment of dividends and claims on assets.

$$V = \text{Div}_p / r_p$$

Common stock: a residual ownership position in the corporation

Shareholder who own common stock will receive future dividends and future sale of the common stock shares

③ Dividend Valuation Model :

Basic dividend valuation model accounts for the PV of all future dividends.

$$V = \frac{\text{Div}_1}{(1 + r_e)^1} + \frac{\text{Div}_2}{(1 + r_e)^2} + \dots + \frac{\text{Div}_\infty}{(1 + r_e)^\infty}$$

$$= \sum_{t=1}^{\infty} \frac{\text{Div}_t}{(1 + r_e)^t}$$

Div_t :	Cash Dividend at time t
r_e :	Equity investor's required return

④ Adjusted Dividend Valuation Model:

The basic dividend valuation model
adjusted for the future stock sale.

$$V = \frac{\text{Div}_1}{(1 + r_e)^1} + \frac{\text{Div}_2}{(1 + r_e)^2} + \dots + \frac{\text{Div}_n + \text{Price}_n}{(1 + r_e)^n}$$

n: The year in which the firm's shares are expected to be sold.
Price_n: The expected share price in year **n**.

Constant Growth Model

The **constant growth model** assumes that dividends will grow forever at the rate **g**.

$$V = \frac{D_0(1+g)}{(1 + r_e)^1} + \frac{D_0(1+g)^2}{(1 + r_e)^2} + \dots + \frac{D_0(1+g)^\infty}{(1 + r_e)^\infty}$$

$$= \frac{D_1}{(r_e - g)}$$

D₁: Dividend paid at time 1.
g: The constant growth rate.
r_e: Investor's required return.

Zero Growth Model

The **zero growth model** assumes that dividends will grow forever at the rate **g = 0**.

$$V_{ZG} = \frac{D_1}{(1 + r_e)^1} + \frac{D_2}{(1 + r_e)^2} + \dots + \frac{D_\infty}{(1 + r_e)^\infty}$$

$$= \frac{D_1}{r_e}$$

D₁: Dividend paid at time 1.
r_e: Investor's required return.

Growth Phases Model

The **growth phases model** assumes that dividends for each share will grow at two or more *different* growth rates.

Note that the second phase of the **growth phases model** assumes that dividends will grow at a constant rate g_2 . We can rewrite the formula as:

$$V = \sum_{t=1}^n \frac{D_0(1+g_1)^t}{(1+r_e)^t} + \sum_{t=n+1}^{\infty} \frac{D_n(1+g_2)^{t-n}}{(1+r_e)^t} \quad V = \sum_{t=1}^n \frac{D_0(1+g_1)^t}{(1+r_e)^t} + \left[\frac{1}{(1+r_e)^n} \right] \left[\frac{D_{n+1}}{(r_e - g_2)} \right]$$

③ Valuation Multiples

P/E ratio E: earning per share (EPS) $P = \text{EPS} \times P/E$

P/D: price to dividend per share ratio

P/B: price to book value per share ratio

P/S: price to sale per share ratio

④ Holding Period Return (HPR)

$$\text{HPR} = (\text{income} + (\text{end of period value} - \text{initial value})) / \text{initial value}$$

3. Rates of return (or yields)

a. Steps to calculate the rate of return

- ① determine the expected cash flows
- ② replace the intrinsic value (V) with market price (P_0)
- ③ Solve for the market required rate of return that equates the discounted cash flows to the market price.

b. Bond YTM

Determine the Yield-to-Maturity (YTM) for the annual coupon paying bond with a finite life.

$$P_0 = \sum_{t=1}^n \frac{C}{(1+r_d)^t} + \frac{F}{(1+r_d)^n}$$

$$r_d = \text{YTM}$$

Determine the Yield-to-Maturity (YTM) for the semiannual coupon paying bond with a finite life.

$$P_0 = \sum_{t=1}^{2n} \frac{C/2}{(1+r_d)^t} + \frac{F}{(1+r_d)^{2n}}$$

$$r_d = \text{YTM}_{\text{nominal}} / 2$$

$$[1 + r_d]^2 - 1 = \text{EAR} = \text{Effective Annual Yield}$$

Bond Price - Yield Relationship

Discount Bond – The market required rate of return exceeds the coupon rate ($P_0 > \text{Par}$).

Premium Bond – The coupon rate exceeds the market required rate of return ($P_0 > \text{Par}$).

Par Bond – The coupon rate equals the market required rate of return ($P_0 = \text{Par}$).

① When interest rates **rise**, the market required rates of return **rise** and bond prices will **fall**.

When interest rates **fall**, then the market required rates of return **fall** and bond prices will **rise**.

② The role of Bond Maturity: the longer the bond maturity, the greater the change in bond price for a given change in the market required rate of return.

The role of Coupon Rate: For a given change in the market required rate of return, the price of a bond will change by proportionally more, the lower the coupon rate.

③ The yield on preferred stock with an infinite life.

$$P_0 = \text{Div}_p / r_p \quad r_p = \text{Div}_p / P_0$$

The yield on Common Stock:

$$P_0 = D_1 / (r_e - g) \quad r_e = (D_1 / P_0) + g$$

Lecture 5

一、学习目标

1. Define risk and return

2. Sharp Ratio

3. Portfolio risk and expected return

4. Distinguish between unsystematic risk and systematic risk

4. CAPM and Security Market Line

二、复习内容：

1. Define risk and return

① Return = Income(received on an investment) + Change (in market price)

$$R = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}}$$

Expected Return for the asset:

$$\bar{R} = \sum_{i=1}^n (R_i)(P_i)$$

② Risk: The variability of returns from those that are expected.

Standard Deviation(for a discrete distribution.):

$$\sigma = \sqrt{\sum_{i=1}^n (R_i - \bar{R})^2 (P_i)}$$

③ Coefficient of Variation: a measure of RELATIVE risk.

$$CV = \sigma / \bar{R}$$

④ Risk Attitude

Certainty equivalent > Expected value	→	Risk Preference
Certainty equivalent = Expected value	→	Risk Indifference
Certainty equivalent < Expected value	→	Risk Aversion

Most individuals are Risk Averse.

2. Sharp Ratio: Relative return measure

Sharpe ratio: $SR = \frac{E[R - R_f]}{\sigma(R - R_f)}$ R_f is the risk-free rate.

It measures the return of an investment relative to its risk

3. Portfolio Expected Return、Portfolio Standard Deviation

Portfolio Expected Return:

$$\bar{R}_P = \sum_{j=1}^m (W_j)(\bar{R}_j)$$

Portfolio Standard Deviation:

$$\sigma_P = \sqrt{\sum_{j=1}^m \sum_{k=1}^m W_j W_k \sigma_{jk}}$$

$$\sigma_{jk} = \sigma_j \sigma_k r_{jk}$$

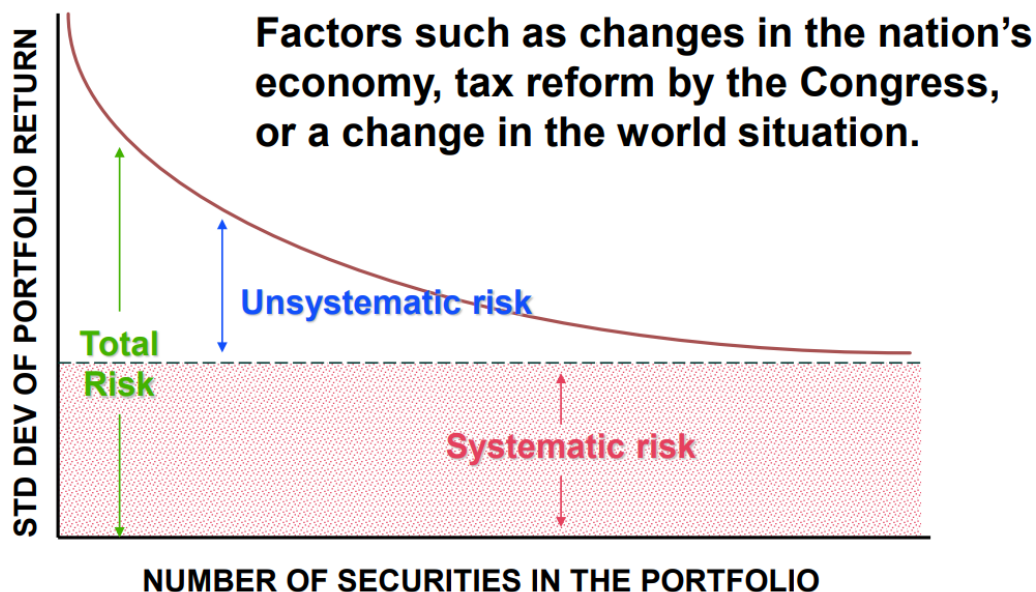
A weighted average of the individual standard deviations is **INCORRECT**

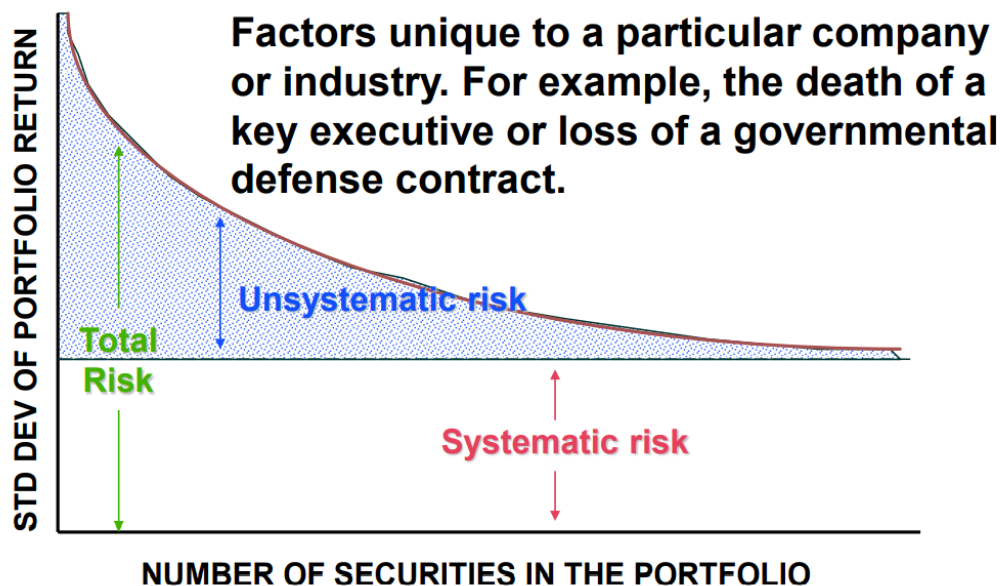
4. Unsystematic Risk and Systematic Risk

Total Risk = Systematic Risk + Unsystematic Risk

Systematic Risk: the variability of return on stocks or portfolios associated with changes in return on the market as a whole. **(Unavoidable)**

Unsystematic Risk: the variability of return on stocks or portfolios not explained by general market movements. **(avoidable)**





5. CAPM(资本-资产定价模型) and Security Market Line

① Definition: a model that describes the relationship between risk and expected (required) return

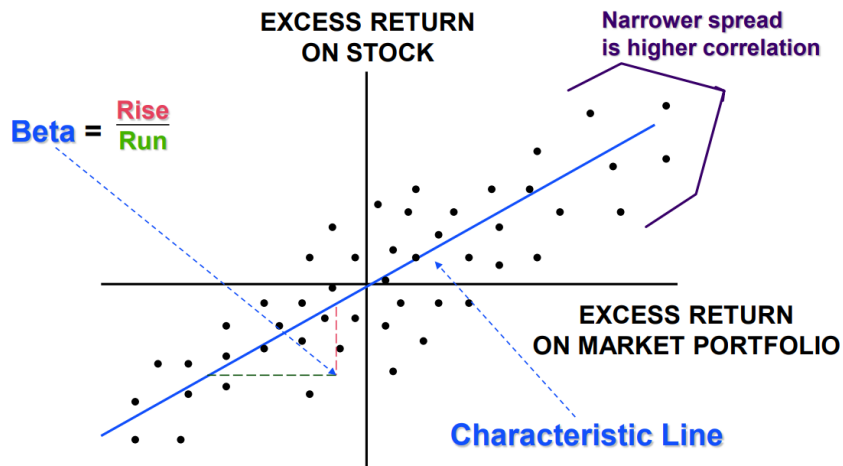
② Assumption: 1. efficient capital markets (有效率的资本市场)

2. Homogeneous investor expectations (相似的投资者期望)

3. Risk-free asset return is certain (确定的无风险资产收益)

4. Market portfolio contains only systematic risk (市场投资组合仅包含系统风险)

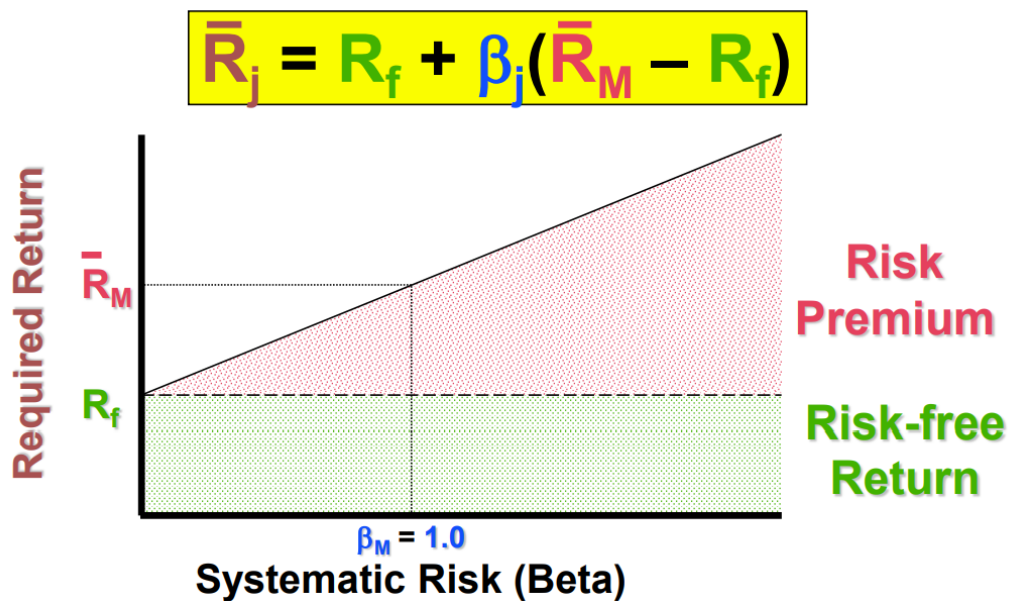
③ Characteristic Line

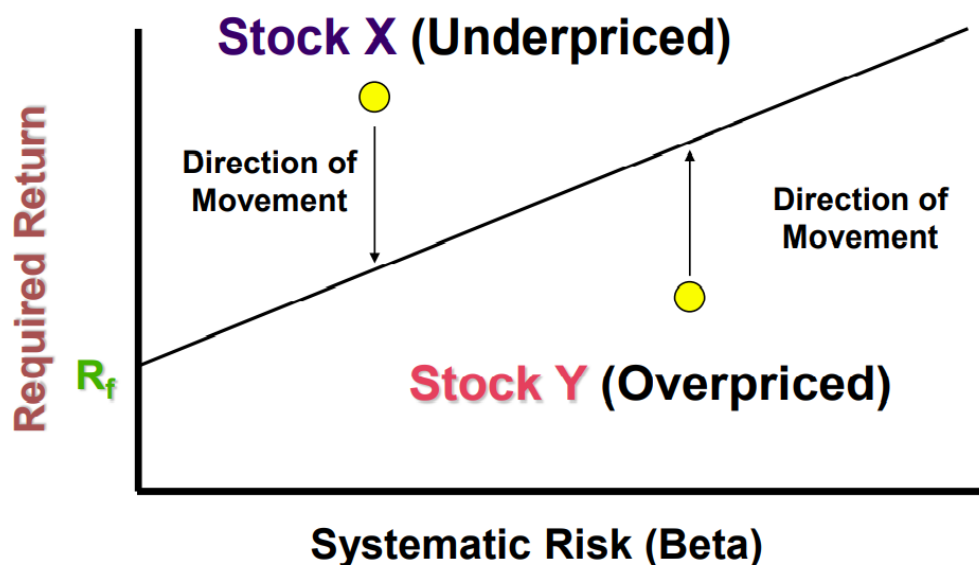


Beta: the slope of Characteristic Line (simply a weighted average of the individual stock betas in the portfolio)

Beta > 1 (aggressive) Beta < 1 (defensive)

④ Security Market Line





- i. Use CAPM formula to calculate the required rate of return of stock
- ii. Calculate the intrinsic value of the stock
- iii. Compare the intrinsic value with the market value to judge whether the stock is underpriced or overpriced

⑤ Three Forms of Market Efficiency

Weak-form efficiency: The current price fully reflects **the historical price**

Semistrong-form efficiency: The current price fully reflects **all public information**

Strong-form efficiency: The current price fully reflects **all public and private information**,
There is no way to help investors get excess profits

Lecture 6

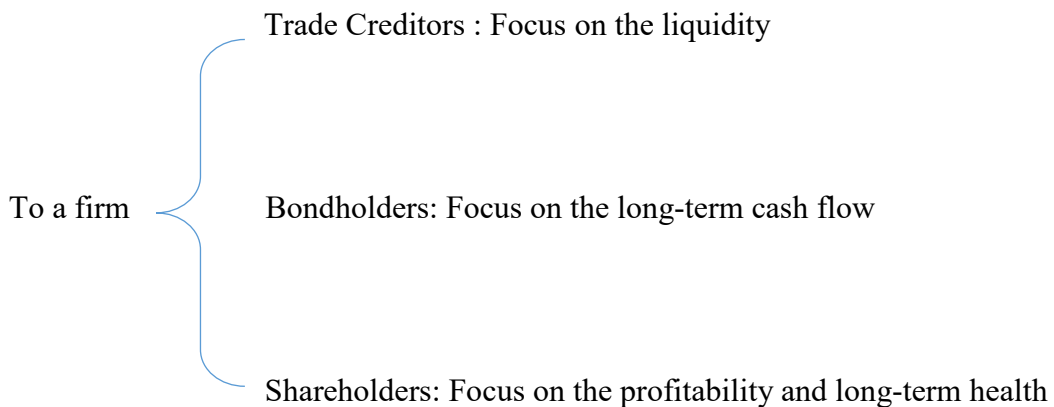
一、学习目标:

1. Understand the purpose of basic financial statements and their contents.
2. Learn the major financial ratios and analyze them
3. Understand trend analysis, common-size analysis, and index analysis

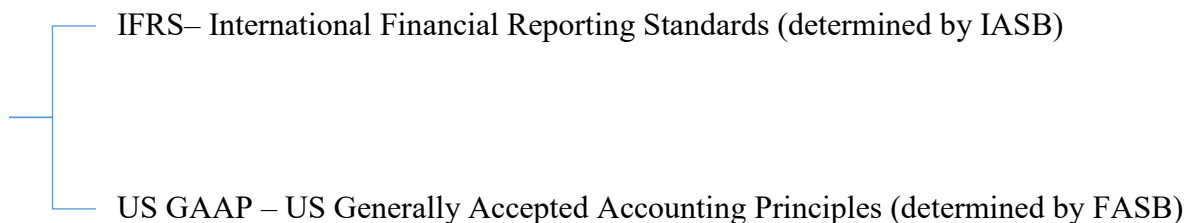
二、复习内容:

1. Understand the purpose of basic financial statements and their contents.

① External Uses of Statement Analysis



② Global Accounting Standards



③ Primary Types of Financial Statements

(1) Balance Sheet (资产负债表) :

shows total assets = total liabilities + owners' equity.

Basket Wonders' Balance Sheet (Asset Side)

Basket Wonders Balance Sheet (thousands) Dec. 31, 2007^a

Cash	\$ 90	a. How the firm stands on a specific date.
Acct. Rec. ^c	394	b. What BW owned.
Inventories	696	c. Amounts owed by customers.
Prepaid Exp. ^d	5	d. Future expense items already paid.
Accum Tax Prepay	10	e. Cash/likely convertible to cash within 1 year.
Current Assets^e	\$1,195	f. Original amount paid.
Fixed Assets (@Cost) ^f	1030	g. Acc. deductions for wear and tear.
Less: Acc. Depr. ^g	(329)	
Net Fix. Assets	\$ 701	
Investment, LT	50	
Other Assets, LT	223	
Total Assets^b	\$2,169	

6.8

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Basket Wonders' Balance Sheet (Liability Side)


Basket Wonders Balance Sheet (thousands) Dec. 31, 2007

Notes Payable	\$ 290	a. Note, Assets = Liabilities + Equity.
Acct. Payable ^c	94	b. What BW owed and ownership position.
Accrued Taxes ^d	16	c. Owed to suppliers for goods and services.
Other Accrued Liab. ^d	100	d. Unpaid wages, salaries, etc.
Current Liab.^e	\$ 500	e. Debts payable < 1 year.
Long-Term Debt^f	530	f. Debts payable > 1 year.
Shareholders' Equity		g. Original investment.
Com. Stock (\$1 par) ^g	200	h. Earnings reinvested.
Add Pd in Capital ^g	729	
Retained Earnings ^h	210	
Total Equity	\$1,139	
Total Liab/Equity^{a,b}	\$2,169	

6.9

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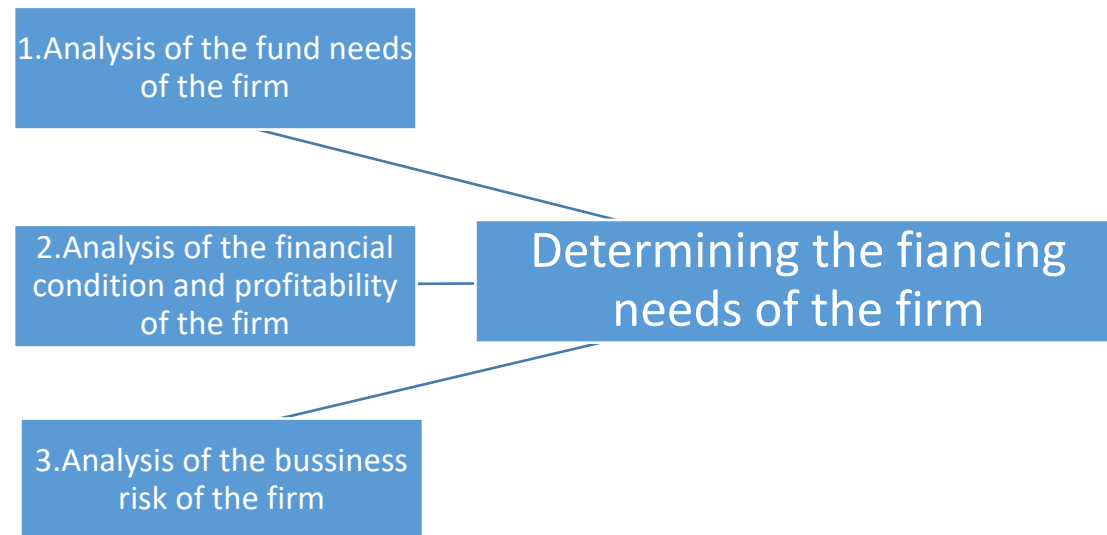
(2) Income Statement (损益表)



Basket Wonders' Income Statement		
Basket Wonders Statement of Earnings (in thousands) for Year Ending December 31, 2007^a		
Net Sales	\$ 2,211	a. Measures profitability over a time period.
Cost of Goods Sold ^b	<u>1,599</u>	
Gross Profit	\$ 612	b. Received, or receivable, from customers.
SG&A Expenses ^c	<u>402</u>	c. Sales comm., adv., officers' salaries, etc.
EBIT ^d	\$ 210	
Interest Expense ^e	<u>59</u>	d. Operating income.
EBT ^f	\$ 151	e. Cost of borrowed funds.
Income Taxes	<u>60</u>	f. Taxable income.
EAT ^g	\$ 91	g. Amount earned for shareholders.
Cash Dividends	<u>38</u>	
Increase in RE	\$ 53	

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2. Learn the major financial ratios and analyze them



Financial Ratios

Liquidity Ratio		
Current Ratio	$\frac{\text{current assets}}{\text{current liabilities}}$	Shows a firm's ability to cover its current liabilities with its current assets.
Acid-Test Ratio (Quick)	$\frac{\text{Current Assets} - \text{Inv}}{\text{Current Liabilities}}$	Shows a firm's ability to meet current liabilities with its most liquid assets.
Financial Leverage Ratios		
Debt-to-Equity Ratio	$\frac{\text{Total Debt}}{\text{Shareholders' Equity}}$	Shows the extent to which the firm is financed by debt.
Debt-to-Total-Asset Ratio	$\frac{\text{Total Debt}}{\text{Total Assets}}$	Shows the percentage of the firm's assets that are supported by debt financing.
Total Capitalization Ratio	$\frac{\text{Long - term Debt}}{\text{Total Capitalization}}$	Shows the relative importance of long-term debt to the long-term financing of the firm.
Coverage Ratio		
Interest Coverage	$\frac{\text{EBIT}}{\text{Interest Charges}}$	Indicate a firm's ability to cover interest charges.
Activity Ratios		
Receivable Turnover	$\frac{\text{Annual Net Credit Sales}}{\text{Receivables}}$	Indicates quality of receivables and how successful the firm is in its collections.
Avg Collection Period	$\frac{\text{Days in the Year}}{\text{Receivable Turnover}}$	Average number of days that receivables are outstanding.
Payable Turnover	$\frac{\text{Annual Credit Purchases}}{\text{Accounts Payable}}$	Indicates the promptness of payment to suppliers by the firm.
PT in Days	$\frac{\text{Days in the Year}}{\text{Payable Turnover}}$	Average number of days that payables are outstanding.
Inventory Turnover	$\frac{\text{Cost of Goods Sold}}{\text{Inventory}}$	Indicate the effectiveness of the inventory management practices of the firm.
Total Asset Turnover	$\frac{\text{Net Sales}}{\text{Total Assets}}$	Indicates the overall effectiveness of the firm in utilizing its assets to

		generate sales.
Profitability Ratios		
Gross Profit Margin	$\frac{\text{Gross Profit}}{\text{Net Sales}}$	Indicates the efficiency of operations and firm pricing policies.
Net Profit Margin	$\frac{\text{Net Profit after Taxes}}{\text{Net Sales}}$	Indicates the firm's profitability after taking account of all expenses and income taxes.
Return on Investment	$\frac{\text{Net Profit after Taxes}}{\text{Total Assets}}$	Indicates the profitability on the assets of the firm
Return on Equity	$\frac{\text{Net Profit after Taxes}}{\text{Shareholders' Equity}}$	Indicates the profitability to the shareholders of the firm

ROI = Net profit margin × Total asset turnover

Return On Equity = Net profit margin X Total asset turnover X Equity Multiplier

(Equity Multiplier = Total Assets / Shareholders' Equity)

Use of Financial Ratios: Internal Comparisons、External Comparisons

3. Understand trend analysis, common-size analysis, and index analysis

i. Trend Analysis: Analyze the change trend of the base period through each period of the relevant indicators

ii. Common-Size analysis, and Index Analysis

Common-Size Analysis	All balance sheet items are divided by <i>total assets</i> . All income statement items are divided by <i>net sales or revenues</i>
Index Analysis	All balance sheet or income statement figures for a base year equal 100.0

Common-Size Analysis:

	Regular (thousands of \$)			Common-Size (%)		
Assets	2005	2006	2007	2005	2006	2007
Cash	148	100	90	12.10	4.89	4.15
AR	283	410	394	23.14	20.06	18.17
Inv	322	616	696	26.33	30.14	32.09
Other CA	10	14	15	0.82	0.68	0.69
Tot CA	763	1,140	1,195	62.39	55.77	55.09
Net FA	349	631	701	28.54	30.87	32.32
LT Inv	0	50	50	0.00	2.45	2.31
Other LT	111	223	223	9.08	10.91	10.28
Tot Assets	1,223	2,044	2,169	100.0	100.0	100.0

Index Analysis:

	Regular (thousands of \$)			Indexed (%)		
	2005	2006	2007	2005	2006	2007
Net Sales	1,235	2,106	2,211	100.0	170.5	179.0
COGS	849	1,501	1,599	100.0	176.8	188.3
Gross Profit	386	605	612	100.0	156.7	158.5
Adm.	180	383	402	100.0	212.8	223.3
EBIT	206	222	210	100.0	107.8	101.9
Int Exp	20	51	59	100.0	255.0	295.0
EBT	186	171	151	100.0	91.9	81.2
EAT	112	103	91	100.0	92.0	81.3
Cash Div	50	50	50	100.0	100.0	100.0