

Summary

- **Importance:** ☆☆
- **Content:**
 - Accounting for barter transactions, gross and net reporting of revenue.
 - Implications of expense recognition choices for financial analysis.
 - financial reporting treatment and analysis of changes in accounting policies.
- **Exam tips:**
 - 辨析易货交易，了解收入确认的原则。
 - 了解费用确认的原则，以及一些分析运用。(费用确认主要在下一个SESSION中提到，此处只是简单介绍。)



Basic EPS & Dilutive EPS

Tasks:

- **Describe** how earnings per share is **calculated**.
- **Distinguish** between dilutive and antidilutive securities, and describe the implications of each for the earnings per share calculation.



Earnings per share

EPS is the most commonly used corporate profitability performance measures for publicly-traded firms.

- Basic EPS
- Dilutive EPS

A **simple capital structure** contains no potentially dilutive securities.

- Firm reports only basic EPS.

A **complex capital structure** contains potentially dilutive securities.

- Firm must report both basic and dilutive EPS.



Basic EPS

$$\text{Basic EPS} = \frac{\text{NI} - \text{Div}_{\text{preferred stock}}}{\text{Weighted average number of common shares outstanding}}$$

Weighted average number of common share outstanding

- New issue, repurchase is **weighted by time (days or months)**
- Stock dividend/split is **not weighted by time**, instead it should **adjust the number of common share** which exist before the stock dividend or split.
(Eg: 3-for-2 split: two shares split to three shares)



Dilutive vs. Antidilutive Securities

Dilutive securities **decrease EPS** if exercised or converted to new common stock

- Stock options
- Warrants
- Convertible debt
- Convertible preferred stock

Anti-dilutive securities **increase EPS** if exercised or converted to new common stock **(Not report Anti-dilutive EPS)**



Diluted EPS

$$\frac{(\text{net income} - \text{preferred dividends}) + \left(\begin{array}{c} \text{convertible} \\ \text{preferred} \\ \text{dividend} \end{array} \right) + \left(\begin{array}{c} \text{convertible} \\ \text{debt} \\ \text{interest} \end{array} \right) (1-t)}{\left(\begin{array}{c} \text{weighted} \\ \text{average} \\ \text{shares} \end{array} \right) + \left(\begin{array}{c} \text{shares from} \\ \text{conversion of} \\ \text{conv. pfd. shares} \end{array} \right) + \left(\begin{array}{c} \text{shares from} \\ \text{conversion of} \\ \text{conv. debt} \end{array} \right) + \left(\begin{array}{c} \text{shares} \\ \text{issuable from} \\ \text{options/warrants} \end{array} \right)}$$

Include only if security is dilutive (pointing to convertible preferred dividend and convertible debt interest)

Include only if security is dilutive (pointing to shares from conversion of conv. pfd. shares, shares from conversion of conv. debt, and shares issuable from options/warrants)



EPS with Warrants/ Stock options

Treasury stock method for options and warrants

- Funds received from the exercise of the options would be used to **hypothetically repurchase** shares in the market **at the average market price**.
- The net increase in the number of shares: Exercising the options **less the number of shares hypothetically repurchased**.



Checking for Dilution

Only those securities that would **reduce EPS** below basic EPS if converted are used in the calculation of diluted EPS.

- **Conv. pfd**: is dividends/new shares < basic?
- **Conv. debt**: is interest (1 - t)/new shares < basic?
- **Options and warrants**: is avg. price > ex. price?
- If the answer is **yes**, the security is **dilutive**



Summary

- **Importance:** ☆☆☆
- **Content:**
 - Calculation of basic EPS and dilutive EPS.
 - Know about dilutive and antidilutive securities, and describe the implications of each for the earnings per share calculation.
- **Exam tips:**
 - 计算基本和摊薄后EPS。（必出计算题！）
 - 会计算复杂资本结构中EPS。（须掌握三种复杂资本结构下EPS的计算，判断是稀释还是反稀释证券。）



Common size income statement and comprehensive income

Tasks:

- **Convert** income statements to common-size income statements.
- **Describe, calculate, and interpret** comprehensive income.



Common-Size Income Statement

- Expresses each income statement item as a **percentage of sales**.
- Used to analyze changes in cost structure and profitability.

Income statement item	2012	2013	Industry Avg
COGS	58%	63%	60%
SG&A	19%	24%	20%
Net income	8%	12%	10%



Comprehensive Income

Retained earnings

- The net income of the firm is added to stockholders' equity through an account known as retained earnings.
- Any transaction that affects the income statement (net income) will also affect stockholders' equity.

Other comprehensive income

- Foreign currency **translation** gains and losses.
- Adjustments for minimum pension liability. (**DB plan**)
- **Unrealized** gains and losses from **cash flow hedging** derivatives.
- **Unrealized** gains and losses from **available-for-sale** securities.
- **Valuation Surplus for long-lived asset (IFRS only)**



Comprehensive Income



Comprehensive Income (\$)	
Net Income	100
Gain / Loss in foreign currency translation	20
Adjustment for minimum pension liabilities	(10)
Unrealized gain / loss from cash flow hedging derivatives	(20)
Unrealized gain / loss from available for sale securities	30
Comprehensive Income	120

Summary



- **Importance:** ☆
- **Content:**
 - Evaluate a company's financial performance using common-size income statements and financial ratios based on the income statement.
 - Calculate, and interpret comprehensive income.
- **Exam tips:**
 - 考查common size利润表的构成形式。（基于Revenue）
 - 计算综合收益。（对于OCI科目的记忆和辨析是关键。）

Components of Balance Sheet and Format



Tasks:

- **Describe** the elements of the balance sheet: assets, liabilities, and equity.
- **Distinguish** between current and non-current assets, and current and non-current liabilities.

Components of balance sheet



Assets

- Provide probable future economic benefits controlled by an entity as a result of previous transactions.
- Current and Non current assets (Long term assets)

Liabilities

- Obligations owed by an entity from previous transactions that are expected to result in an outflow of economic benefits in the future.
- Current and Non current liabilities (Long term liabilities)

Equity

- Residual interest in assets that remains after subtracting a firm's liabilities.

Balance Sheet - Uses

A balance sheet can be used to assess a firm's **liquidity**, **solvency**, and ability to make distributions to shareholders.

- From the firm's perspective, liquidity is the ability to meet **short-term** obligations.
- Solvency is the ability to meet **long-term** obligations.



Balance Sheet

➤ Account format

Asset	X	Liability	X
		Equity	X
Total asset	X	Total Equity & Liability	X

➤ Report format (**Classified balance sheet**)

Non-current Assets	X
Current Assets	X
Total Assets	X
Non-current Liabilities	X
Current Liabilities	X
Equity	X
Total liabilities and Equity	X



Balance Sheet format and components

Assets

- **Current assets**
 - Cash and equivalents
 - Inventory
 - Prepaid expense
 - Short – term investment
 - Other current assets
- **Non – current assets**
 - Property, plant and equipment (PP&E)
 - Intangible assets
 - Long – term investment
 - Deferred tax assets
 - Pension assets

Presented in the
order of liquidity



Balance Sheet format and components

Liabilities

- **Current liabilities**
 - Bank overdraft
 - Account payable
 - Accrued expense
 - Unearned revenue
 - Current portion of long term debt
 - Current tax payable
- **Non – current liabilities**
 - Notes payable
 - Bonds payable
 - Capital lease obligations
 - Pension liabilities
 - Deferred tax liabilities



Balance Sheet format and components

Equity

- **Capital**
 - Common stock
 - Preferred stock
- **Additional paid-in-capital**
 - Capital in excess of par.
- **Treasury stock** (*No voting right, no dividend*)
 - Stock repurchased by the firm but not yet retired.
- **Retained earnings** (*Net income - Dividend*)
- **Other comprehensive income**
 - Foreign currency *translation* gain and loss.
 - Adjustments for minimum pension liability.
 - Unrealized gain and loss *from cash flow hedging* derivatives.
 - Unrealized gain and loss from *available-for-sale* securities.
- **Minority interest**



Summary

- **Importance:** ☆
- **Content:**
 - Elements of the balance sheet: assets, liabilities, and equity.
 - Classified Balance Sheet.
- **Exam tips:**
 - 了解构成资产负债表的会计元素。（辨析短期还是长期）



Financial Assets and Common Size Balance Sheet

Tasks:

- **Describe** different types of assets and liabilities and the measurement bases of each.
- **Describe** different types of financial assets.
- **Describe** common size Balance Sheet.



Measurement of financial elements

Historical cost

- The amount originally paid for the asset.

Amortized cost

- Historical cost adjusted for depreciation, amortization, and impairment.

Current cost

- The amount the firm would have to pay today for the same asset.



Measurement of financial elements



Realizable value

- The amount for which the firm could sell the asset.

Present value

- The discounted value of the asset's expected future cash flows.

Fair value

- The amount at which two parties in an arm's-length transaction would exchange the asset. (Willingness, Knowledgeable, Unrelated)

Financial assets



Held-to-maturity

- *Amortized cost*
- Unrealized G/L: not reported
- Realized G/L: reported in income statement

Trading securities

- *Fair value*
- Unrealized G/L: reported in income statement
- Realized: G/L: reported in income statement

Available-for-sale securities

- *Fair value*
- Unrealized G/L: reported in equity (*OCI*)
- Realized G/L: reported in income statement

Financial assets



Purchase a 6% bond at par, for 1000 at the beginning of the year. Interest rate have recently increase and the market value declined to 950. Determine the bond's effect under each classification of securities:

- HTM:
B/S: Financial Asset 1000
I/S: Interest Income 60
- Trading:
B/S: Financial Asset 950
I/S: Interest Income 60 and Unrealized Loss 50
- AFS
B/S: Financial Asset 950 and OCI (Equity) 50
I/S: Interest Income 60

Common size B/S



Item in the balance sheet account / *total assets*

Assets	\$	Common size
Current assets	700	70%
Non-current assets	300	30%
Total assets	1000	100%
Liability & Equity	\$	Common size
Current liability	200	20%
Non-current liability	300	30%
Equity	500	50%
Total Equity & Liability	1000	100%

Summary

- **Importance:** ☆☆☆
- **Content:**
 - Measurement base of B/S and financial assets.
 - Common Size Balance Sheet.
- **Exam tips:**
 - 了解资产负债表中各类 measurement base, 理解资产负债表的局限性。
 - 金融资产记账方法 (考查重点)
 - 记忆 Common Size 形式的资产负债表的记账方法。



Cash Flow Classification under GAAP and IFRS

Tasks:

- **Compare** cash flows from operating, investing, and financing activities and classify cash flow items .
- **Contrast** cash flow statements prepared under GAAP and IFRS.



Cash flow statement

- **Information about a company's cash receipts and cash payments during an accounting period.**
- **Items on the cash flow statement come from two sources**
 - Income statement items
 - Changes in balance sheet accounts

Operating cash flow
+ Investing cash flow
+ Financing cash flow
= Change in cash balance for the current year
+ Beginning cash balance
= Ending cash balance



Cash flow statement

Cash flow from operating activities (CFO)

- Consists of the inflows and outflows of cash resulting from transactions that affect a firm's **net income**.

Cash flow from investing activities (CFI)

- Consists of the inflows and outflows of cash resulting from the acquisition or disposal of **long-term assets** and certain investments.

Cash flow from financing activities (CFF)

- Consists of the inflows and outflows of cash resulting from transactions affecting a firm's **capital structure**.



Cash flow statement



U.S. GAAP Cash Flow Classification

Cash flows from operating activities <i>Cash flows resulting from major business of company</i>	
Inflows	Outflows
Cash collected from customers	Cash paid to employees and suppliers
Sale proceeds from trading securities	Acquisition of trading securities
Interest received	Interest paid
Dividend received	Taxes paid
	Cash paid for other expense

Cash flow statement



U.S. GAAP Cash Flow Classification

Cash flows from investing activities <i>Cash flows resulting from acquisition and disposal of long term asset and investment</i>	
Inflows	Outflows
Sale proceeds from fixed assets	Acquisition of fixed assets
Sale proceeds from debt & equity investment	Acquisition of debt & equity investment
Principle received from loans made to others	Loans made to others

Cash flow statement



U.S. GAAP Cash Flow Classification

Cash flows from financing activities <i>Cash flows resulting from transactions that affect firm's capital structure</i>	
Inflows	Outflows
Principle amounts of debt issued	Principle paid on debt
Proceeds form issuing stocks	Payment to reacquire stock
	Dividends paid to shareholders

US GAAP vs. IFRS



Items	U.S. GAAP	IFRS
Interest received	CFO	CFO or CFI
Interest paid	CFO	CFO or CFF
Dividends received	CFO	CFO or CFI
Dividends paid	CFF	CFO or CFF
Taxes paid	CFO	CFO, CFI or CFF
Bank overdrafts	CFF	Cash equivalents

Summary

- **Importance:** ☆☆☆
- **Content:**
 - Inflows and outflows of CFO, CFI and CFF.
 - Cash flow statements prepared under International Financial Reporting Standards (IFRS) and US generally accepted accounting principles (US GAAP).
- **Exam tips:**
 - 辨析各种类型的现金流。
 - 辨析现金流分类在美国和国际准则间的差异。



Direct & Indirect Method for Calculating CFO

Tasks:

- **Distinguish** between the direct and indirect methods of presenting cash from operating activities.
- **Describe** the steps in the preparation of direct and indirect cash flow statements.



Direct vs. Indirect Method

Direct vs. indirect method refers only to the calculation of CFO, the value of CFO is the same for both methods; CFI and CFF are unaffected.

- **Direct method:** begin at the top of the income statement and identify cash inflows and outflows.
- **Indirect method:** begin at the bottom of the income statement with net income and make necessary adjustments.
- **Disclosure**
 - **US GAAP and IFRS:** Encourage direct method, but permits Indirect method.



Calculation the Cash Flow

Basic Setting

- Cash inflow + Cash outflow –

$$Asset = Liability + Equity \Rightarrow$$

$$\Delta Cash = \Delta Liability + \Delta Equity - \Delta NonCash Asset$$

Cash is **positively** related to the Liability and Equity

Cash is **negatively** related to the Non-cash Asset

(Eg: Inventory、A/R)



Calculation the Cash Flow

Example: Sales Revenue and COGS are 600、300 Respectively

	Beginning	Ending
A/R	200	300
Inventory	400	200
A/P	500	550

Cash Received: $600 - (\text{Ending} - \text{Beginning}) = 600 - (300 - 200) = 500$
 销售600, 原来200的应收变成300, 实际收500

Purchased goods = $\text{COGS}(\text{sold}) + \text{Inventory}(\text{unsold})$
 $= -300 - (200 - 400) = -100$

Cash Pay to supplier = $-100 + (550 - 500) = -50$

公司一共卖出成本300的货物(来源于, 原有存货200, 以及100的新购买的), 其中100新购买的货物, 只支付的50应付账款变成550



CFO calculation (Indirect Method)

CFO Calculation by Indirect Method	
Net income	Income statement items
+ Non cash expenses or losses	
- Non cash revenue or gain	
+/- Non operating items	
- Increase in non cash current asset accounts <i>(eg: A/R, Inventory...)</i>	Balance sheet items
+ Increase in current liability accounts <i>(eg: A/P, Tax payable...)</i>	
= CFO	



CFO calculation (Direct Method)

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



Summary

- Importance: ☆☆☆
- Content:
 - Direct and indirect methods of presenting cash from operating activities.
 - Describe arguments in favor of each method.
- Exam tips:
 - 直接法和间接法计算经营性现金流(考查重点)。
 - 辨析使用直接法和间接法的优点。



Calculating CFI and CFF

Tasks:

- Calculate CFI & CFF
- Analysis of Cash Flow Statement.

CFI calculation

Cash used in purchase of fixed assets:

- $\text{Book Value} = \text{Carrying value} = \text{Purchase cost} - \text{AD}$
- $\text{BV end} = \text{BV Begin} + \text{Purchase} - \text{Disposal BV} - \text{Depreciation}$
- $\text{Original value end} = \text{Original Value Beg} + \text{Purchase} - \text{Disposal}$

Proceeds received from sale of fixed assets:

- $\text{Gain or loss} = \text{proceeds received (Cash)} - \text{disposal NBV}$

CFI calculation-Example

The Company sold a machine. Income statement shows 1million gain from selling old machine and 4million depreciation cost. The balance sheet shows:

	2012	2013
Machine Original cost	12	18
Accumulated Depreciation	(5)	(7)

During the year, company pay 10million for new machine. How much cash did the company received from selling the old one ?

Gain=Cash Received-Book Value(Old machine)

Original value of old machine: $12 + 10 - 18 = 4$

Depreciation of old machine: $5 + 4 - 7 = 2$

The book value of old machine: $4 - 2 = 2$

Cash received from selling the old machine: $1 + 2 = 3$ million

CFF calculation

Review long-term debt and stock

- Increases supply cash and decreases use cash .

Dividend paid

- $\text{Dividend paid} = - \text{Dividend declared} + \Delta \text{dividend payables}$
- $\text{Opening R/E} + \text{Net Income} - \text{Dividend declared} = \text{Ending R/E}$

CFF calculation



The company's Income statement shows: Net Income 1000

Balance sheet shows:

	2012	2013
Beginning Retained Earning	500	1000
Dividend Payable	300	200

Cash dividend paid?

Dividend declared: $500 + 1000 - 1000 = 500$

Cash dividend paid: $-500 + (200 - 300) = -600$

Analysis of cash flow statement



Benefits for the analyst

- Do regular operations generate enough cash to sustain the business.
- Is enough cash is generated to pay off maturing debt.
- Highlights the need for additional finance.
- Ability to meet unexpected obligations.
- The flexibility to take advantage of new business opportunities.

Analysis of cash flow statement



Examine the major sources and uses of cash

- Operating Cash Flow
 - A check of the *quality of a firm's earnings*.
- Investing Cash Flow
 - Increasing *capital expenditures*, a use of cash, is usually an *indication of growth*.
- Financing Cash Flow
 - Whether the firm is generating cash flow by issuing debt or equity.
 - Whether the firm is using cash to repay debt, reacquire stock, or pay dividends.

Summary



- Importance: ☆☆
- Content:
 - Calculate CFI and CFF.
 - Analysis of Cash Flow Statement.
- Exam tips:
 - 计算投资性和融资性现金流（考查计算）。
 - 辨析分析师如何基于现金流量表得到结论。

Common size cash flow statement and Free Cash Flow

Tasks:

- **Analyze and interpret** both reported and common-size cash flow statements.
- **Calculate and interpret** free cash flow to the firm, free cash flow to equity.

Common Size cash flow statement

- Show each item as a % of Net Revenue

$$\frac{\text{Cash flow statement account}}{\text{Revenue}}$$

- Show each inflow as a % of total inflows; Show each outflow as a % of total outflows

$$\frac{\text{Cash inflow}}{\text{Total cash inflows}} \quad \frac{\text{Cash outflow}}{\text{Total cash outflows}}$$

Free Cash Flow

Free cash flow attempts to measure the cash available for **discretionary purposes**.

Two common measure:

- Free cash flow to firm (FCFF)
 - Cash available to **all investors**, both equity owners and debt holders.
- Free cash flow to equity (FCFE)
 - Cash available to **equity owners**.

Free Cash Flow

$$\text{FCFF} = \text{NI} + \text{NCC} - \text{WC Inv} - \text{FC Inv} + [\text{Int} * (1 - \text{tax rate})]$$



$$\text{FCFF} = \text{CFO} - \text{FC Inv} + [\text{Int} * (1 - \text{tax rate})]$$

$$\text{FCFE} = \text{CFO} - \text{FC Inv} + \text{Net borrowing (Debt)}$$

NI = net income

NCC = noncash charges (depreciation and amortization)

Int = interest expense

FCInv = fixed capital investment (net capital expenditure)

WCInv = working capital investment

Net borrowing = debt issued – debt repaid

Summary

- **Importance:** ☆
- **Content:**
 - Common-size cash flow statements.
 - Free cash flow to the firm, free cash flow to equity.
- **Exam tips:**
 - 转化common size cash flow statement。
 - 计算两种自由现金流。（公司和股东）



Ratio and Ratio Analysis

Tasks:

- **Classify, calculate, and interpret** activity, liquidity, solvency, profitability, and valuation ratios.
- **Describe** relationships among ratios and evaluate a company using ratio analysis.



Common – size analysis

Common – size I/S

- Income statement account / Revenues

Common – size B/S

- Balance sheet account / Total assets

Common – size CFS

- 1) Cash flow statement account / Revenue
- 2) Cash outflow / total cash outflows
Cash inflow / total cash inflows



Ratio and Ratio analysis

Categories of ratios

- **Profitability** ratio
 - Ability to generate profit.
- **Activity** ratio
 - Efficiency in using assets to generate revenue.
- **Liquidity** ratio
 - Ability to pay short – term debt.
- **Solvency** ratio
 - Ability to pay long – term debt.
- **Valuation** ratio
 - Analysis for investment in common equity.



Profitability Ratios

Profit / Net revenue

- Gross profit margin = Gross profit / Net revenue
- Operating profit margin = EBIT / Net revenue
- Pretax margin = EBT / Net revenue
- Net profit margin = Net income / Net revenue

Profit / Capital

- Return on asset (ROA) = $[NI + \text{Int}(1-t)] / \text{Average total assets}$
- Operating return on assets = EBIT / Average total assets
- Return on equity (ROE) = NI / Average total equity



Activity Ratios

Important activity ratios

- Total asset turnover = Net revenue / Average total assets
- Fixed asset turnover = Net revenue / Average net fixed assets
- Inventory turnover = COGS / Average inventory
- Working capital turnover = Net revenue / Average WC
 - Working capital = Current assets – Current liabilities



Operating Cycle & Cash Conversion Cycle

Inventory	Account receivable	Account payable
Inventory turnover = COGS / average inventory	Receivable turnover = Net revenue / average A/R	Payable turnover = Purchase / average A/P
Average inventory processing period = $365 / \text{Inventory turnover}$	Average receivable collection period = $365 / \text{Receivable turnover}$	Average payment period = $365 / \text{Payable turnover}$
Operating cycle = Collection period + Inventory period		
Cash conversion cycle = Collection period + Inventory period – Payment period		



Liquidity Ratios

A firm's ability to pay short – term debt

- Current Ratio = Current assets / Current liabilities
- Quick Ratio = $(\text{Cash} + \text{Marketable security} + \text{Receivable}) / \text{Current liabilities}$
= $(\text{Current assets} - \text{Inventories}) / \text{Current liabilities}$
- Cash Ratio = $(\text{Cash} + \text{Marketable security}) / \text{Current liabilities}$
= $(\text{Current assets} - \text{Inventories} - \text{Receivables}) / \text{Current liabilities}$
- Defensive interval = $(\text{Cash} + \text{Marketable security} + \text{Receivable}) / \text{average daily expenditures}$



Solvency Ratios

A firm's ability to pay long – term debt

- Debt-to-equity ratio = D / E
- Debt-to-capital = $D / (D + E)$
- Debt-to-assets = D / A
- Financial leverage = A / E

Coverage ratio

- Interest coverage = $EBIT / \text{Interest}$
- Fixed charge coverage
= $(EBIT + \text{lease payments}) / (\text{Interest} + \text{lease payments})$



Summary

- Importance: ☆☆☆
- Content:
 - Common-size method for analysis.
 - Activity, liquidity, solvency, profitability, and valuation ratios.
- Exam tips:
 - 辨析各类型典型的财务比率。
 - 计算Cash/Operating conversion cycle.



DuPont System of Analysis, Equity & Credit Analysis

Tasks:

- Demonstrate the application of DuPont analysis of return on equity, and calculate and interpret effects of changes in its components.
- Calculate and interpret ratios used in equity analysis and credit analysis.



DuPont system of analysis

The three-part approach

$$ROE = \frac{\text{net income}}{\text{sales}} \times \frac{\text{sales}}{\text{assets}} \times \frac{\text{assets}}{\text{equity}}$$

Net profit margin

Asset turnover

Leverage ratio



DuPont system of analysis

Start Inc has maintained a stable and relatively high ROE of approximately 18% over the last three years. Use traditional DuPont analysis to decompose this ROE into its three components and comment on trends in company performance (\$'million).

	2003	2004	2005
Net income	21.5	22.3	21.9
Sales	305	350	410
Equity	119	124	126
Assets	230	290	350



DuPont system of analysis

Answer:

	2003	2004	2005
Net income	21.5	22.3	21.9
Equity	119	124	126
ROE	18.1%	18.0%	17.4%

	2003	2004	2005
Net income/sales	7.0%	6.4%	5.3%
Sales/Assets	1.33	1.21	1.17
Assets/Equity	1.93	2.34	2.78



DuPont system of analysis

The five-part analysis

$$ROE = \frac{\text{net income}}{EBT} \times \frac{EBT}{EBIT} \times \frac{EBIT}{\text{revenue}} \times \frac{\text{revenue}}{\text{assets}} \times \frac{\text{assets}}{\text{equity}}$$



tax burden × interest burden × EBIT margin × asset turnover × leverage ratio

➤ Tax burden = 1 – tax rate



Sustainable growth rate

Sustainable Growth Rate:

➤ $g = ROE \times \text{Retention Ratio} = ROE \times [1 - (\text{Dividend}/\text{Net Income})]$

	Company A	Company B
EPS	3	4
DPS	1.5	1
ROE	14%	12%

➤ Company A: $g = 14\% \times 50\% = 7\%$

➤ Company B: $g = 12\% \times 75\% = 9\%$



Equity analysis, Credit analysis

A firm's ability to service and repay its debt (Credit risk)

- The analysis of a company's financial reports
- A broad assessment of a company's operations

Credit analysis

- Z - score
- $$Z = 1.2 A + 1.4 B + 3.3 C + 0.6 D + 1.0 E$$
- A = WC / TA
B = RE / TA
C = EBIT / TA
D = MV of Equity / BV of Debt
E = Revenue / TA
- If $Z < 1.8$ ➡ Bankruptcy



Summary

- Importance: ☆☆☆
- Content:
 - DuPont analysis of return on equity.
 - Ratios used in equity analysis and credit analysis.
- Exam tips:
 - 使用杜邦分析分解ROE。(计算题)
 - 股票估值和信用分析中所用到的财务比率。(结合权益)



Inventory Accounting and Inventory Valuation Method

Tasks:

- Distinguish between costs included in inventories and costs recognized as expenses in the period in which they are incurred.
- Describe different inventory valuation methods (cost formulas).



Inventory accounting

Cost of good sold (COGS)

$$COGS = \text{beginning inventory} + \text{purchases} - \text{ending inventory}$$

- Purchase cost contains two parts: Inventory and COGS
- When the inventory sold, inventory goes to income statement as COGS

