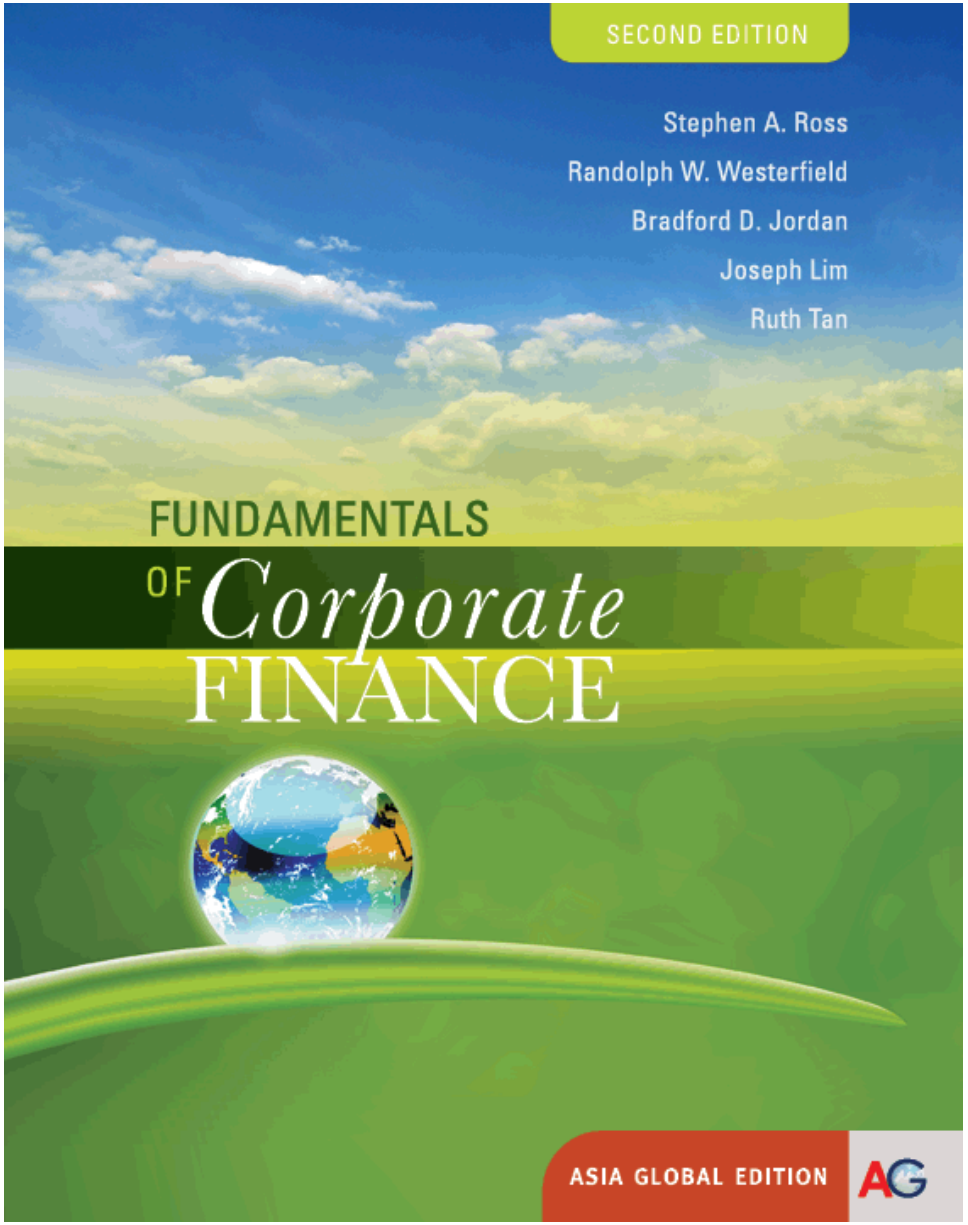

FUNDAMENTALS of *Corporate* FINANCE

SECOND EDITION

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CHAPTER 3

WORKING WITH FINANCIAL STATEMENTS

KEY CONCEPTS AND SKILLS

- Understand sources and uses of cash and the Statement of Cash Flows
- Know how to standardize financial statements for comparison purposes
- Know how to compute and interpret important financial ratios
- Be able to compute and interpret the DuPont Identity
- Understand the problems and pitfalls in financial statement analysis

CHAPTER OUTLINE

- Cash Flow and Financial Statements: A Closer Look
- Standardized Financial Statements
- Ratio Analysis
- The Du Pont Identity
- Using Financial Statement Information

SAMPLE BALANCE SHEET

	2015	2014		2015	2014
Cash	696	58	A/P	307	303
A/R	956	992	N/P	26	119
Inventory	301	361	Other CL	1,662	1,353
Other CA	303	264	Total CL	1,995	1,775
Total CA	2,256	1,675	LT Debt	843	1,091
Net FA	3,138	3,358	C/S	2,556	2,167
Total Assets	5,394	5,033	Total Liab. & Equity	5,394	5,033

Numbers in millions of dollars

SAMPLE INCOME STATEMENT

Revenues		5,000
Cost of Goods Sold		(2,006)
Expenses		(1,740)
Depreciation		(116)
EBIT		1,138
Interest Expense		(7)
Taxable Income		1,131
Taxes		(442)
Net Income		689
EPS	3.61	
Dividends per share	1.08	

Numbers in millions of dollars, except EPS & DPS

SOURCES AND USES OF CASH

- Sources
  - Cash inflow – occurs when we "sell" something
  - Decrease in asset account (Sample B/S)
    - Accounts receivable, inventory, and net fixed assets
  - Increase in liability or equity account
    - Accounts payable, other current liabilities, and common stock

- Uses
  - Cash outflow – occurs when we "buy" something
  - Increase in asset account
    - Cash and other current assets
  - Decrease in liability or equity account
    - Notes payable and long-term debt

STATEMENT OF CASH FLOWS

- Statement that summarizes the sources and uses of cash

- Changes divided into three major categories
  - Operating Activity – includes net income and changes in most current accounts
  - Investment Activity – includes changes in fixed assets
  - Financing Activity – includes changes in notes payable, long-term debt, and equity accounts, as well as dividends

SAMPLE STATEMENT OF CASH FLOWS

Cash, beginning of year	58	Financing Activity	
Operating Activity		Decrease in Notes Payable	-93
Net Income	689	Decrease in LT Debt	-248
Plus: Depreciation	116	Decrease in C/S (minus RE)	-94
Decrease in A/R	36	Dividends Paid	-206
Decrease in Inventory	60	Net Cash from Financing	-641
Increase in A/P	4		
Increase in Other CL	309	Net Increase in Cash	638
Less: Increase in other CA	-39		
Net Cash from Operations	1,175	Cash End of Year	696
Investment Activity			
Sale of Fixed Assets	104		
Net Cash from Investments	104		

Numbers in millions of dollars

STANDARDIZED FINANCIAL STATEMENTS

- Common-Size Balance Sheets
  - Compute all accounts as a percent of total assets
- Common-Size Income Statements
  - Compute all line items as a percent of sales
- Standardized statements make it easier to compare financial information, particularly as the company grows
- They are also useful for comparing companies of different sizes, particularly within the same industry

RATIO ANALYSIS

- Ratios allow for better comparison through time or between companies
- As we look at each ratio, ask yourself what the ratio is trying to measure and why that information is important
- Ratios are used both internally and externally

CATEGORIES OF FINANCIAL RATIOS

- Short-term solvency or liquidity ratios
- Long-term solvency or financial leverage ratios
- Asset management or turnover ratios
- Profitability ratios
- Market value ratios

COMPUTING LIQUIDITY RATIOS

- Current Ratio = CA / CL
  - 2,256 / 1,995 = 1.13 times
- Quick Ratio = (CA – Inventory) / CL
  - (2,256 – 301) / 1,995 = .98 times
- Cash Ratio = Cash / CL
  - 696 / 1,995 = .35 times
- NWC to Total Assets = NWC / TA
  - (2,256 – 1,995) / 5,394 = .05
- Interval Measure = CA / average daily operating costs
  - 2,256 / ((2,006 + 1,740)/365) = 219.8 days

B/S

I/S

COMPUTING LONG-TERM SOLVENCY RATIOS

- Total Debt Ratio = (TA – TE) / TA
  - (5,394 – 2,556) / 5,394 = 52.61%

B/S

I/S

- Debt/Equity = TD / TE
  - (5,394 – 2,556) / 2,556 = 1.11 times
- Equity Multiplier = TA / TE = 1 + D/E
  - 1 + 1.11 = 2.11
- Long-term debt ratio = LTD / (LTD + TE)
  - 843 / (843 + 2,556) = 24.80%

COMPUTING COVERAGE RATIOS

B/S

I/S

- Times Interest Earned = EBIT / Interest
  - 1,138 / 7 = 162.57 times
- Cash Coverage = (EBIT + Depreciation) / Interest
  - (1,138 + 116) / 7 = 179.14 times

COMPUTING INVENTORY RATIOS

- Inventory Turnover = Cost of Goods Sold / Inventory
  - 2,006 / 301 = 6.66 times
- Days' Sales in Inventory = 365 / Inventory Turnover
  - 365 / 6.66 = 55 days

B/S

I/S

COMPUTING RECEIVABLES RATIOS

- Receivables Turnover =
  Sales / Accounts Receivable
  - 5,000 / 956 = 5.23 times

B/S

I/S

- Days' Sales in Receivables =
  365 / Receivables Turnover
  - 365 / 5.23 = 70 days

COMPUTING TOTAL ASSET TURNOVER

- Total Asset Turnover = Sales / Total Assets B/S I/S
  - 5,000 / 5,394 = .93
  - It is not unusual for TAT < 1, especially if a firm has a large amount of fixed assets
- NWC Turnover = Sales / NWC
  - 5,000 / (2,256 – 1,995) = 19.16 times
- Fixed Asset Turnover = Sales / NFA
  - 5,000 / 3,138 = 1.59 times

COMPUTING PROFITABILITY MEASURES

B/S

I/S

- Profit Margin = Net Income / Sales
  - 689 / 5,000 = 13.78%
- Return on Assets (ROA) = Net Income / Total Assets
  - 689 / 5,394 = 12.77%
- Return on Equity (ROE) = Net Income / Total Equity
  - 689 / 2,556 = 26.96%

COMPUTING MARKET VALUE MEASURES - I

- Market Price = $87.65 per share
- Shares outstanding = 190.9 million
- PE Ratio = Price per share / Earnings per share
  - 87.65 / 3.61 = 24.28 times
- Market-to-book ratio = Market value per share / Book value per share
  - 87.65 / (2,556 / 190.9) = 6.55 times

COMPUTING MARKET VALUE MEASURES - II

- Enterprise value = market value of stock
  + book value of liabilities
  – cash
  - 16,732 + 2,838 – 696 = $18,874
- EBITDA ratio = Enterprise value / EBITDA
  - 18,874 / 1,138 = 16.6 times

DERIVING THE DUPONT IDENTITY

- ROE = NI / TE
- Multiply by 1 (TA/TA) and then rearrange
  - ROE = (NI / TE) (TA / TA)
  - ROE = (NI / TA) (TA / TE) = ROA * EM
- Multiply by 1 (Sales/Sales) again and then rearrange
  - ROE = (NI / TA) (TA / TE) (Sales / Sales)
  - ROE = (NI / Sales) (Sales / TA) (TA / TE)
  - ROE = PM * TAT * EM

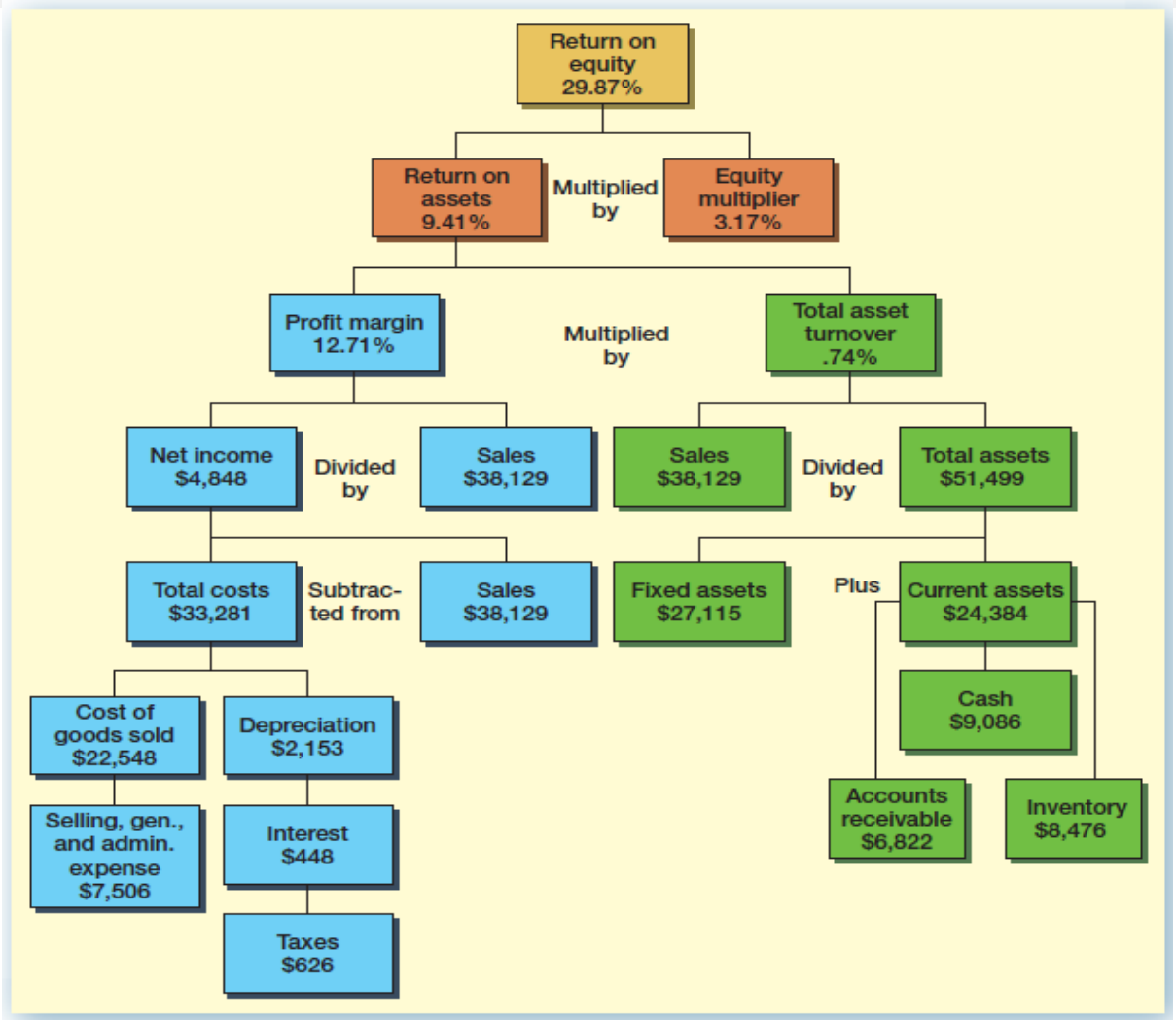
USING THE DUPONT IDENTITY

- ROE = PM * TAT * EM
  - Profit margin is a measure of the firm's operating efficiency – how well it controls costs
  - Total asset turnover is a measure of the firm's asset use efficiency – how well does it manage its assets
  - Equity multiplier is a measure of the firm's financial leverage

EXPANDED DUPONT ANALYSIS – DUPONT DATA (TABLE 3.9)

	ROE	=	Profit Margin	×	Total Asset Turnover	×	Equity Multiplier
			Yahoo!				
2013	10.5%	=	29.2%	×	0.279	×	1.29
2012	8.0%	=	23.4%	×	0.292	×	1.17
2011	8.4%	=	21.0%	×	0.337	×	1.18
			Google				
2013	14.8%	=	21.6%	×	0.539	×	1.27
2012	15.0%	=	21.4%	×	0.535	×	1.31
2011	16.7%	=	25.7%	×	0.522	×	1.25

EXTENDED DUPONT CHART – FIGURE 3.1



WHY EVALUATE FINANCIAL STATEMENTS?

- Internal uses
  - Performance evaluation – compensation and comparison between divisions
  - Planning for the future – guide in estimating future cash flows
- External uses
  - Creditors
  - Suppliers
  - Customers
  - Stockholders

BENCHMARKING

- Ratios are not very helpful by themselves; they need to be compared to something
- Time-Trend Analysis
  - Used to see how the firm's performance is changing through time
  - Internal and external uses
- Peer Group Analysis
  - Compare to similar companies or within industries
  - SIC and NAICS codes

POTENTIAL PROBLEMS

- There is no underlying theory, so there is no way to know which ratios are most relevant
- Benchmarking is difficult for diversified firms
- Globalization and international competition makes comparison more difficult because of differences in accounting regulations
- Varying accounting procedures, i.e. FIFO vs. LIFO
- Different fiscal years
- Extraordinary events

WORK THE WEB EXAMPLE

- The Internet makes ratio analysis much easier than it has been in the past
- Click on the web surfer to go to www.reuters.com
  - Click on Markets, then Stocks, then choose a company and enter its ticker symbol
  - Click on Financials to see what information is available

QUICK QUIZ

- What is the Statement of Cash Flows and how do you determine sources and uses of cash?
- How do you standardize balance sheets and income statements and why is standardization useful?
- What are the major categories of ratios and how do you compute specific ratios within each category?
- What are some of the problems associated with financial statement analysis?

ETHICS ISSUES

- Should financial analysts be held liable for their opinions regarding the financial health of firms?
- How closely should ratings agencies work with the firms they are reviewing? I.e., what level of independence is appropriate?

COMPREHENSIVE PROBLEM

- XYZ Corporation has the following financial information for the previous year:
- Sales: $8M, PM = 8%, CA = $2M, FA = $6M, NWC = $1M, LTD = $3M
- Compute the ROE using the DuPont Analysis.

CHAPTER 3

END OF CHAPTER