

CHAPTER 3

Financial Statements and Cash Flow

Financial Decisions

- Finance focuses heavily on valuation. We often are trying to decide what an asset (stock, bond, company, project, etc.) is worth to us.
- When valuing corporations, we need information about what the firm owns, where it got the money to buy those items, and how it uses those items.

Accounting Information

- If you think back to basic accounting, you will remember that one of the purposes of accounting is to keep track of the firm's activities.
- Thus, to do any type of corporate financial analysis, it is necessary to have some understanding of accounting information.

3

Financial Reports

- Financial reports provide information about the firm and its operations.
- They represent a method of “keeping score” that allow you to “see” the various components of the firm and how they are used.

4

Financial Reports

- The most important financial report the firm provides is the annual report.
- The annual report provides:
 - A verbal description of the firm's operating results for the past year.
 - A discussion of new developments.
 - Financial statements.

5

Verbal portion of annual report

- The verbal portion of the annual report is just as important as the numbers. Here you will find management's discussion of strengths, weaknesses, and opportunities of the firm. This information can give you great insight into where the company is headed in the future.

6

Financial Statements

- Balance sheet - a snapshot of the firm's position at a given time (assets, liabilities, and equity)
- Income statement - shows the results of the firm over a given time period (profit)
- Statement of cash flows - indicates the flow of cash in and out of the firm during a time period

7

Balance Sheet

- Assets - what the company owns (all physical items and rights that have a monetary value)
- Liabilities - debts owed to outsiders
- Equity - capital provided to the firm by its owners, the shareholders

8

Balance Sheet

- Assets are divided into two basic categories
 - Current assets are those assets that can be relatively easily converted into cash (include cash and marketable securities, accounts receivable, and inventory)
 - Fixed assets are those assets of a more “permanent” or “fixed” nature (include equipment, machinery, buildings, and land). Fixed assets are generally depreciated over time. Net fixed assets indicates the value of assets that has not been depreciated.

9

Assets

- Keep in mind that assets are generally listed on the balance sheet on the basis of historical cost.
- The actual value of the assets if sold may vary tremendously from the value shown.
- Thus, although the assets are all listed with dollar values, their actual value is sometimes difficult to determine.

10

Cash Versus Other Assets

- Although assets are all stated in terms of dollars, only cash represent actual money available to be spent.
 - Receivables are bills owed to the firm.
 - Inventory shows the dollar amount the firm has invested in materials.
 - Net plant and equipment reflects the amount the firm paid for its fixed assets minus the accumulated depreciation.

11

Balance Sheet: Assets

	<u>2002</u>	<u>2001</u>
Cash	7,282	57,600
AR	632,160	351,200
Inventories	<u>1,287,360</u>	<u>715,200</u>
Total CA	1,926,802	1,124,000
Gross FA	1,202,950	491,000
Less: Deprec.	<u>263,160</u>	<u>146,200</u>
Net FA	<u>939,790</u>	<u>344,800</u>
Total Assets	<u>2,866,592</u>	<u>1,468,800</u>

Liabilities

- Liabilities are also generally divided into two basic categories.
 - Current liabilities are those due within a short period of time (usually less than one year); examples includes accounts payable and accrued expenses.
 - Long-term liabilities (long-term debt) are not due for a longer time period (include longer-term notes, loans and bonds).

13

Equity

- The equity accounts indicate the amount of funds that shareholders have contributed to the firm.
- Common stock - par value of all shares out
- Paid-in-capital - value paid above par for shares outstanding
- Retained earnings - the amount of income that has been reinvested in the firm

14

Retained earnings

- Note that the retained earnings account on the balance sheet represents the total since the inception of the firm of all income reinvested in the company.

- These funds do not indicate cash available for use. They have already been used to purchase the assets shown.

15

Liabilities and Equity

	<u>2002</u>	<u>2001</u>
Accts payable	524,160	145,600
Notes payable	636,808	200,000
Accruals	489,600	136,000
Total CL	<u>1,650,568</u>	<u>481,600</u>
Long-term debt	723,432	323,432
Common stock	460,000	460,000
Retained earnings	<u>32,592</u>	<u>203,768</u>
Total equity	<u>492,592</u>	<u>663,768</u>
Total L&E	<u>2,866,592</u>	<u>1,468,800</u>

Income Statement

- The income statement shows the revenue generated by the firm and the costs necessary to create that revenue. Costs include items such as cost of goods sold, other operating expenses, depreciation, interest, and taxes. The net income figure represents profit remaining after all obligations are met. Profit belongs to the common shareholders.

17

Income Statement

	<u>2002</u>	<u>2001</u>
Sales	6,034,000	3,432,000
COGS	5,528,000	2,864,000
Other expenses	519,988	358,672
EBITDA	<u>(13,988)</u>	<u>209,328</u>
Depr. & Amort.	116,960	18,900
EBIT	<u>(130,948)</u>	190,428
Interest exp.	136,012	43,828
EBT	<u>(266,960)</u>	146,600
Taxes (40%)	<u>(106,784)</u>	58,640
Net income	<u>(160,176)</u>	<u>87,960</u>

Income Statement

- Depreciation is a charge to reflect the cost of assets used in the production process. It does NOT represent a cash outlay.
- EBITDA – Earnings before interest, taxes, and depreciation and amortization.
- EBIT – Earnings before interest and taxes.
- EBT – Earnings before taxes (taxable income).

19

Financial Statement Measures

- Earnings per share = $(NI) / (\text{shares outstanding})$
- DIVs per share = $(DIV) / (\text{shares outstanding})$
- Book value per share =
 $(\text{Total common equity}) / (\text{shares outstanding})$
- Total Market value =
 $(\text{Stock price per share}) * (\text{shares outstanding})$

20

Profit versus After-tax Cash Flow

- Profit is an accounting term. It is derived based on accepted practices. It may not indicate the true “value” of a firm or project to an investor.
- This is primarily true because there are various non-cash flow expenses. These expenses are taken for various reasons (many tax related) but do not represent actual cash drains for the firm.

21

Profit versus After-tax Cash Flow

- Profit is an accounting term. It is derived based on accepted practices. It may not indicate the true “value” of a firm or project to an investor.
- This is primarily true because there are various non-cash flow expenses. These expenses are taken for various reasons (many tax related) but do not represent actual cash drains for the firm.

22

After-tax cash flows

- In valuing assets, it is important to determine the cash flow it generates (the amount of money the investor has available to use).
- Since most of finance deals with valuation, it is this cash-flow that matters to us.
- Therefore, we usually convert “profit” to “after-tax cash flows” before using the numbers.

23

After-tax cash flows

- In general,
 - After-tax cash flows equal the net income plus non-cash flow expenses.
 - (In this book, this is the definition of net cash flow.)
- (In later chapters we will see that you must calculate the net income value based on the firm if it had no interest expense.)

24

Modifying Accounting Data for Managerial Decisions

- Traditional financial statements are designed more for use by creditors and tax collectors than for use by managers and equity analysts.
- To judge managerial performance one needs to compare managers' ability to generate operating income (EBIT) with the operating assets under their control.

25

Operating/Non-operating assets

- Operating assets consist of cash, marketable securities, accounts receivable, inventories, and fixed assets necessary to operate the business.
- Non-operating assets include cash and marketable securities above the level required for normal operations, investments in subsidiaries, land held for future use, and other nonessential assets.

26

Net operating profit after taxes

- Net income does not always reflect the true performance of a company's operations or the effectiveness of its managers.
- A better measurement for comparing managers' performance is net operating profit after taxes (NOPAT) (the amount of profit a company would generate if it had no debt and held no non-operating assets).
 - $\text{NOPAT} = \text{EBIT}(1 - \text{Tax rate})$.

27

Free Cash Flow

- Free cash flow is the cash flow actually available for distribution to all investors (stockholders and debtholders) after the company has made all the investments in fixed assets, new products, and working capital necessary to sustain ongoing operations.
- Note that the value of a company depends on its expected future free cash flows (FCF).

28

Free Cash Flow

Operating cash flow =
NOPAT + Depreciation and amortization

Gross investment in operating capital =
Net investment + Depreciation and amort.

29

Free Cash Flow

FCF = Operating cash flow –
gross investment in operating capital

FCF = NOPAT –
Net investment in operating capital

30

Including stock prices

- Traditional accounting data does not deal with stock prices.
- Since the primary goal of management is to maximize the firm's stock price, analysts have come up with adjustments that provide alternative measures of performance.
- Market Value Added (MVA) and Economic Value Added (EVA) are two of the measures.

31

Market Value Added (MVA)

- Managers try to maximize the difference between the market value of the firm's stock and the amount of equity capital supplied by shareholders.
- This difference is called the Market Value Added.
- $MVA =$
 $\text{Mkt value of stock} - \text{Eq supplied by shareholders}$
- $MVA =$
 $(\text{Shares out})(\text{Stock price}) - \text{Total common equity}.$
- The higher its MVA, the better the job management has done for the firm's shareholders.

32

Economic Value Added (EVA)

- EVA is an estimate of a business's true economic profit for the year.
- EVA differs from accounting profit.
 - EVA represents the residual income that remains after the cost of all capital, **including equity capital**, has been deducted.
 - Accounting profit is determined without imposing a charge for equity.

33

Economic Value Added (EVA)

- EVA provides a good measure of the extent to which the firm has added to shareholder value.
- EVA can be determined for divisions as well as for the company as a whole, so it provides a useful basis for determining managerial compensation at all levels.
- $EVA = NOPAT - \text{After-tax dollar cost of capital}$
- $EVA = EBIT (1 - T) - (\text{inv supplied op cap})(\text{after-tax \% cost of cap})$

34

MVA and EVA

- MVA measures the effects of managerial actions since the very inception of a company.
- Economic Value Added (EVA) focuses on managerial effectiveness in a given year.

35

MVA and EVA

- A company with a history of negative EVAs will probably have a negative MVA, and vice versa if it has a history of positive EVAs.
- Although, a firm with a history of negative EVAs could have a positive MVA, if investors expect a future turnaround. The key reason is that stock price depends more on expected future performance than on historical performance.

36

Federal Taxes

- The marginal tax rate is the tax applicable to the last unit of income.
- The average tax rate is calculated as taxes paid divided by taxable income.
- A capital gain or loss on the sale of capital assets (such as stocks, bonds, and real estate) have historically received special tax treatment.

37

Federal Taxes

- The tax system favors debt financing over equity financing.
 - Interest paid is a tax-deductible business expense. Dividends on common and preferred stock are not deductible.
- Depreciation plays an important role in income tax calculations-the larger it is, the lower taxable income and tax bill, hence the higher cash flow from operations.

38

What's ahead

- Now that you've refreshed your knowledge of accounting and understand some of the changes necessary for financial analysis, you are ready to start using the data to analyze firms.
- The next section of the course examines financial ratios and how they are used to determine the financial health of a company.