

## Chapter 4

### 4-1

- a. Marketable securities are valued at book or market, whichever is lower. Hence marketable securities are probably assessed at close to market value. Near-cash must also be close to market value. Cash, of course, by definition is at market value.
- b. Fixed Assets are valued at historical cost. Hence they were probably purchased for the gross book value of fixed assets, i.e.  $5486+199 = \$5685$ .

From the value of \$2016 for accumulated depreciation, we see that about 36.75% of the value of the depreciable fixed assets has been written off in depreciation. Hence, if we can assume that Coca-Cola uses straight-line depreciation, about two-fifths of the life of the estimated life of these assets is over. If we know the average life of assets in this industry, we can use that to estimate the age of these assets.

- c. There are several reasons why current assets are more prominent in Coca-Cola's balance sheet than fixed assets. One, there is a large amount of cash and near-cash: this might be due to impending expansion, perhaps investment in bottling operations. Two, the Other Assets item includes investment in other Coca-Cola companies, which are primarily manufacturing operations, such as bottlers. Hence, if the fixed assets and current assets parts of these investments were included, the ratio of fixed to current assets would probably be larger.
- d. Even though the companies were sold off, Coca-Cola presumably still has some ownership stake in these companies. To the extent that Coca-Cola does not have a majority stake in these companies, they would not be consolidated into Coca-Cola's balance sheet. If these companies were primarily manufacturing companies, their relatively large fixed-asset structure would not appear on Coca-Cola's balance sheet anymore.

### 4-2

- a. Total interest-bearing debt would equal short-term borrowings plus long-term borrowings, i.e.  $4462+687 = 5149\text{m}$ .
- b. The paid-up capital represents the amount that Coca-Cola originally obtained for the equity that it issued. This amount equals \$3060m.
- c. The larger the amount of time that has elapsed since the equity was originally issued, the greater the proportion of shareholder equity that would be represented by Retained Earnings, particularly for a firm that has plowed back a lot of its earnings into its operations.
- d. The book value of equity is \$8.403 billion, which is much less than the market value of \$140 billion. This is because a large portion of Coca-Cola's market value is the present value of future growth and brand name value. This is not reflected in the book value.

### 4-3

Coca-Cola's brand name value does not appear in its balance sheet. Even though there is an item called "Non-depreciable Fixed Assets," it is too small, and cannot represent the brand name value; it's probably land. One way to adjust the balance sheet to reflect the value of this asset is for Coca-Cola to set up a separate subsidiary that would buy the

rights to the brand name. The brand name value would then show up as an asset for the subsidiary, which would then be reflected in Coca-Cola's balance sheet as well, even if the financial statements were consolidated.

4-4

a. The net working capital equals the difference between Current Assets and Current Liabilities, i.e.  $6380 - 8640 = - 2260$ .

Non-cash working capital removes Cash and Near Cash from the Current Assets computation and interest-bearing short-term borrowings from the liabilities side. This gives us  $- 2260 - 1648 + 4462 = 554$ .

b. The current ratio equals  $\text{Current Assets/Current Liabilities} = 6380/8640 = 73.84\%$

c. The firm's quick ratio equals  $(1648+159)/8640 = 20.91\%$

d. It is possible to draw some preliminary conclusions about Coca Cola's riskiness to a supplier or a short-term lender from these numbers. The conclusions would be negative since the current and quick ratios are low. However, we should also look at the standard for the industry. Manufacturing firms tend to have high working capital requirements because of inventories. Since Coca-Cola has sold off many of its manufacturing operations, its working capital requirements would be lower than before, and this might explain the low current ratio.

4-5

Operating Income

	<u>1997</u>	<u>1998</u>
Revenues	18868	18813
Less COGS	6105	5562
Less Selling, G&A expenses	7852	8284
equals Operating Earnings	4911	4967

The difference seems to be mainly due to the much lower level of COGS in 1998. COGS as a percentage of Sales is 32.36% in 1997, versus 29.56% in 1998

4-6

If advertising is used mainly to build up Coca-Cola's brand name, then these expenses should be capitalized, rather than included in operating expenses. To find the current capitalized value of past advertising expenses, we would add up the unamortized portions from past years. If we assume that these expenditures are to be amortized straight-line over a nine-year life, then the entire unamortized portion of advertising expenditures ten years ago would be amortized in this period. One-tenth of the advertising expenditures eight years ago would be amortized this period, with one-tenth remaining unamortized, and so on.

Let us assume that it is the end of 2000, and we wish to compute the capitalized value of Advertising for 2000

Year expenditure incurred	Amount of Advertising expenditures to be included in Capitalized Advertising Asset for	Amount Amortized this year

	2000	
1992	1/10	1/10
1993	2/10	1/10
1994	3/10	1/10
1995	4/10	1/10
1996	5/10	1/10
1997	6/10	1/10
1998	7/10	1/10
1999	8/10	1/10
2000	9/10	1/10

4-7

The effective tax rate in 1997 was  $1926/(4911-258+1312) = 32.28\%$ , while the same quantity for 1998 was  $1665/(4967-277+508) = 32.03\%$ , which is almost the same. The difference may reflect differences between the tax and reporting books.

4-8

The pre-tax operating margin for 1997 was  $4911/18868$  or  $26.02\%$ , while the number for 1998 was  $4967/18813$  or  $26.40\%$

The net margin or after-tax operating margin was  $(4911-1926)/18868 = 15.82\%$  for 1997, and  $(4967-1665)/18813$  or  $17.55\%$  for 1998, using actual taxes paid.

If we use the marginal tax rate, then the net margin is  $26.02(1-0.3228) = 17.62\%$  for 1997, and  $26.4(1-0.3203) = 17.94\%$  for 1998.

The margins look very similar in both years. There are no strong conclusions you can draw about profitability.

4-9

a. The return on equity is defined as  $\text{Net Income}/\text{Book Value of Equity}$ . Using beginning of 1998 value of equity, this was  $3533/7274 = 48.57\%$

b. The pre-tax return on capital equals  $\text{EBIT}/\text{Total Capital} = 4967/(7274+3875) = 44.55\%$

c. The after-tax return on capital equals  $44.55(1-0.3203) = 30.28\%$

4-10

a. The book value of equity at the end of 1999 would be, in millions

Book Value of equity, end of 1998	1500
Less Share repurchase	400
Add Net Income for 1999	150
Less Dividends Paid	50
Book Value, end of 1999	1200

b. The return on equity, using beginning book value equals  $150/1500 = 10\%$

c. The return on equity, using average book value of equity =  $150 \times 2 / (1500 + 1200) = 11.11\%$

4-11

Year	Operating Lease Expense	Present Value at 7%
1	90	84.11215
2	90	78.60949
3	85	69.38532
4	80	61.03162
5	80	57.03889
6-10	75	219.2538
	Sum of present values	569.4313

The debt value of operating leases is \$569.4313 million. Including this amount in debt, the book value debt to equity ratio becomes 569/1000 or 0.5694

4-12

If EBIT (with operating leases expensed) equals \$200 million, and we wish to capitalize operating leases and compute adjusted operating income, we need to make an assumption regarding the depreciation on the asset created by the operating lease capitalization. A convenient assumption is that the interest expense equals the difference between the actual operating lease payment and the depreciation on the asset. Hence the total amount to be expensed in the computation of net income is the actual lease payment.

However, in order to compute operating income alone, we need to add back the imputed interest payment, which would be 7% of the value of the capitalized operating leases as of one year ago. This would have been  $(569.4313 + 85)/1.07 = 611.62$ . Seven percent of this equals \$42.81. Adjusted operating income is, therefore, \$242.81.

4-13

If the book value of capital is \$1 billion, and the reported debt to capital ratio is 10%, the book value of debt equals \$100 million. If the present value of lease commitments is \$750 million, the revised debt to capital ratio is  $(100+750)/(1000+750) = 48.57\%$ .

The after-tax return on capital is  $0.25 \times 1000/1750 = 14.29\%$

4-14

Year	R&D Expenses	Current Year Amortization	Unamortized amount	Percentage of Original Expense Unamortized
-5	50	10	0	0
-4	60	12	12	0
-3	70	14	14	20
-2	80	16	32	40
-1	90	18	54	60
Current year	100		<u>100</u>	80
Sum		70	212	

I am assuming that the current year's R&D expense will not be amortized this year.

- The value of the research asset equals \$212 million.
- The amount of R&D amortization this year is \$70 millions.
- The adjustment to operating income is to reduce it by 100-80 or \$20 m.

4-15

Capital Invested is \$1500 million. The value of the research asset is \$1000 million. Hence the adjusted value of capital invested is \$2500 million. EBIT(1-t) originally calculated was \$1500 million; adjusted EBIT(1-t) equals approximately  $1500 + 250 - 150 = 1600$ ; hence Stellar Computer's adjusted return on capital is  $1600/2500 = 64\%$ .