UNIVERSITY OF RICHMOND
Robins School of Business™

FINANCIAL STATEMENTS AND CASH FLOW

FIN 360: PRINCIPLES OF FINANCIAL MANAGEMENT

FINANCIAL STATEMENTS

Financial Statements are reports that provide information on the firm's conditions and activities. The three primary statements include:

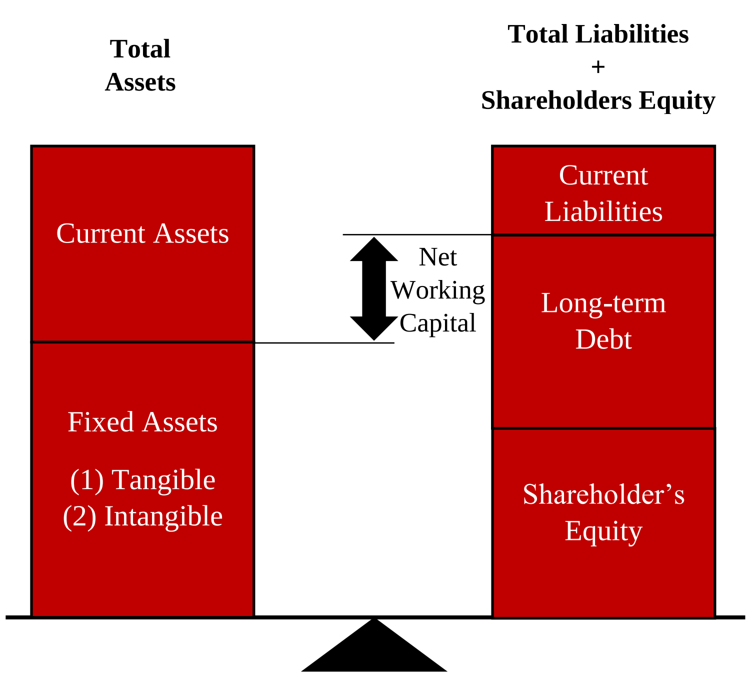
1. **Balance Sheet**
2. **Income Statement**
3. **Statement of Cash Flow**

> A publicly traded corporation's financial statements are available on the [Security and Exchange Commission's website](), in the firm's annual **10-K filing**.

THE BALANCE SHEET

A firm's **Balance Sheet** summarizes what a firm owns (**assets**), what it owes (**liabilities**) and the difference between the two (**equity**- what remains for shareholders after all assets are used to pay liabilities at cost) at a point in time.

Figure 1: Balance Sheet Diagram



- **Tangible assets** include land, factories, equipment.
- **Intangible assets** include patents, copyrights, goodwill, and brand.

The balance sheet must always balance. From the figure, we observe the **balance sheet identity**:

Assets = Liabilities + Equity

which implies

Equity = Assets – Liabilities

Assets are therefore financed or "paid for" by a mix of borrowing (liabilities) and owners contributing capital (equity). Equity represents a **residual value**, and the shareholders are **residual claimants**, able to collect the remainder of assets after debts are paid.

Net Working Capital is the current assets of a firm in excess of its current liabilities[1], or

NWC = Current Assets – Current Liabilities

"Current" in this sense generally refers to accounts that are expected to be used or settled within the year. Net working capital is usually positive in a healthy firm, implying it has short-term capital to "work with." A positive NWC generally indicates that the cash received over the next 12 months exceeds the cash to be paid out over that same period.

On the balance sheet, assets are generally listed from *most liquid* to *least liquid*. **Liquidity** is the degree to which assets can be (1) quickly sold (2) without a significant loss in value. Highly liquid firms may be less likely to experience financial distress, but may earn lower returns since liquidity is relatively safer.

Figure 2: The Balance Sheet

THE COCA-COLA COMPANY AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(In millions except par value)

December 31,	2021	2020
ASSETS		
Current Assets		
Cash and cash equivalents	**$ 9,684**	$ 6,795
Short-term investments	**1,242**	1,771
Total Cash, Cash Equivalents and Short-Term Investments	**10,926**	8,566
Marketable securities	**1,699**	2,348
Trade accounts receivable, less allowances of $516 and $526, respectively	**3,512**	3,144
Inventories	**3,414**	3,266
Prepaid expenses and other current assets	**2,994**	1,916
Total Current Assets	**22,545**	19,240
Equity method investments	**17,598**	19,273
Other investments	**818**	812
Other noncurrent assets	**6,731**	6,184
Deferred income tax assets	**2,129**	2,460
Property, plant and equipment — net	**9,920**	10,777
Trademarks with indefinite lives	**14,465**	10,395
Goodwill	**19,363**	17,506
Other intangible assets	**785**	649
Total Assets	**$ 94,354**	$ 87,296
LIABILITIES AND EQUITY		
Current Liabilities		
Accounts payable and accrued expenses	**$ 14,619**	$ 11,145
Loans and notes payable	**3,307**	2,183
Current maturities of long-term debt	**1,338**	485
Accrued income taxes	**686**	788
Total Current Liabilities	**19,950**	14,601
Long-term debt	**38,116**	40,125
Other noncurrent liabilities	**8,607**	9,453
Deferred income tax liabilities	**2,821**	1,833
The Coca-Cola Company Shareowners' Equity		
Common stock, $0.25 par value; authorized — 11,200 shares; issued — 7,040 shares	**1,760**	1,760
Capital surplus	**18,116**	17,601
Reinvested earnings	**69,094**	66,555
Accumulated other comprehensive income (loss)	**(14,330)**	(14,601)
Treasury stock, at cost — 2,715 and 2,738 shares, respectively	**(51,641)**	(52,016)
Equity Attributable to Shareowners of The Coca-Cola Company	**22,999**	19,299
Equity attributable to noncontrolling interests	**1,861**	1,985
Total Equity	**24,860**	21,284
Total Liabilities and Equity	**$ 94,354**	$ 87,296

Refer to Notes to Consolidated Financial Statements.

❓ Reference the balance sheet above. Verify the balance sheet identity. What was the firm's net working capital in 2021? Did this increase or decrease from 2020? What is the book value of the residual claim, and what does this mean?

BOOK VALUES VS. MARKET VALUES

The values on the balance sheet are **book values** "on the firm's books." The values are cumulative since the beginning of the firm, stated primarily at historical original cost.

The **market values** are the values at which the assets, liabilities, and equity are estimated to be worth *today*.

> EXAMPLE: A railroad company purchased land 5 years ago for $70 million. That land is now worth $75 million. On the balance sheet, the book value of $70 million would be recorded, but the land could potentially be sold at the $75 million market value.

> EXAMPLE: Coca-Cola's book value of equity was about $25 billion in 2021. The market value of its equity (number of shares outstanding × price per share) was about $253 billion at the same time. *Why do you think this is possible?*

Given market values represent current and forward-looking conditions of the firm, these values are generally more relevant for financial decision making.

The Income Statement

The **Income Statement** measures the profitability of a firm over a period of time by recording its revenues and expenses.

Net Income (or Loss) = Revenues – Expenses

Figure 3: The Income Statement

THE COCA-COLA COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(In millions except per share data)

Year Ended December 31,	2021	2020	2019
Net Operating Revenues	$ **38,655**	$ 33,014	$ 37,266
Cost of goods sold	**15,357**	13,433	14,619
Gross Profit	**23,298**	19,581	22,647
Selling, general and administrative expenses	**12,144**	9,731	12,103
Other operating charges	**846**	853	458
Operating Income	**10,308**	8,997	10,086
Interest income	**276**	370	563
Interest expense	**1,597**	1,437	946
Equity income (loss) — net	**1,438**	978	1,049
Other income (loss) — net	**2,000**	841	34
Income Before Income Taxes	**12,425**	9,749	10,786
Income taxes	**2,621**	1,981	1,801
Consolidated Net Income	**9,804**	7,768	8,985
Less: Net income (loss) attributable to noncontrolling interests	**33**	21	65
Net Income Attributable to Shareowners of The Coca-Cola Company	$ **9,771**	$ 7,747	$ 8,920
Basic Net Income Per Share[1]	$ **2.26**	$ 1.80	$ 2.09
Diluted Net Income Per Share[1]	$ **2.25**	$ 1.79	$ 2.07
Average Shares Outstanding — Basic	**4,315**	4,295	4,276
Effect of dilutive securities	**25**	28	38
Average Shares Outstanding — Diluted	**4,340**	4,323	4,314

[1] Calculated based on net income attributable to shareowners of The Coca-Cola Company.

Refer to Notes to Consolidated Financial Statements.

BALANCE SHEET AND INCOME STATEMENT ITEMS

Financial statements, while following **Generally Accepted Accounting Principles (GAAP)**, can significantly vary in their presentation. Below is an alphabetical list of items and on which statement they appear. It is important to know where these items are found and what they mean.

Figure 4: Common Accounting Statement Items

Statement	Item	Definition
B/S	Accounts payable	Short term debt owed to suppliers before payment made
B/S	Accounts receivable	Short term funds customers owe the company for invoiced products/services
B/S	Accumulated other comprehensive income	Unrealized gains (losses) from investments or currency transactions
B/S	Cash and equivalents	Cash and highly liquid current assets
B/S	Common stock and additional paid in capital	Stock issued and surplus received above issue price
I/S	Cost of goods sold	Total amount paid directly related to sale of goods sold
B/S	Deferred revenue	Money received in advance for goods or services to be provided later
I/S	Gross margin	Net sales less COGS
I/S	Income before provision for income taxes	Pretax income
B/S	Inventories	Raw materials used to produce goods and finished goods available for sale
B/S	Long term debt	Debt with maturities greater than 12 months
B/S	Marketable securities - long term	Longer term securities held by the firm that may be bought/sold in markets
B/S	Marketable securities - short term	Shorter term securities held by the firm that may be bought/sold in markets
I/S	Net income	Firm's profit, or income less expenses
I/S	Net sales	Revenue, income from sale of goods and services net of returns and discounts
I/S	Operating income	Sales less operating expenses and before taxes
B/S	Other current assets	Other assets owned that can be converted into cash relatively quickly
B/S	Other current liabilities	Other liabilities due within the near term
B/S	Other non-trade receivables	Amounts to be collected by entities other than normal customers
B/S	Property, plant, and equipment, net	Physical long term assets including machinery, equipment, buildings, and land
I/S	Provision for income taxes	Amount estimated to be paid in taxes this period, or "income tax expense"
I/S	Research and development	Innovative activities to develop new products and services
B/S	Retained earnings	Portion of the firm's cumulative profit held for future use
I/S	Selling, general, and administrative expense	Operating expenses not included in production of goods (rent, salaries, marketing)
B/S	Short term debt	Debt due in the near term
B/S	Total assets	Sum of all assets
B/S	Total current assets	Sum of all assets due to be collected soon
B/S	Total current liabilities	Sum of all liabilities payable soon
B/S	Total liabilities and shareholders' equity	Sum of all liabilities and shareholders' equity
B/S	Total non-current assets	Sum of all non-current or longer term assets
B/S	Total non-current liabilities	Sum of all liabilities payable except short term liabilities
B/S	Total shareholders' equity	Sum of all shareholders' equity

You will need to recall the definitions of each of these financial statement items, as well as where they appear in financial statements. The Excel file *Balance Sheet and Income Statement Review* available at josephfarizo.com/fin360.html has practice quizzes, definitions, and sample statements that you will find useful to review. You should be able to construct these statements on your own.

CASH FLOW

The income statement reports *accounting income*. Cash flow can differ substantially from accounting income, in part due to accrual accounting and the matching principle.

Accrual accounting: GAAP usually requires that revenue is recognized at the time of sale, not necessarily at the time of collection.

EXAMPLE:

- A landscape company clears land for a general contractor at the end of the year. The contractor is required to pay $7,000 within 90 days. The landscape company immediately recognizes the $7,000 sale as income prior to closing their books for that year even though the cash will not be received until the following year.

Matching principle: The costs associated with producing a product are recognized when the product is sold. The matching principle also occurs when the expense of an asset's cost is matched to the use of that asset over time.

EXAMPLE:

- A clothing manufacturer records COGS expense upon selling a t-shirt, even though the raw materials for that t-shirt were purchased years ago.

- A movie production company pays $40 million *in cash* for a new studio. On the income statement, the firm might recognize a $1 million **depreciation expense** in the first year and recognize a $1 million depreciation expense for the next 40 years rather than a $40 million expense all at once as it depletes the use of the asset.

Net income *excludes* cash spent on new fixed assets and investments while *including* money spent on interest and financing (even though the choice to borrow money may be independent of the firm's operations.)

Cash Flow is the difference in the number of dollars that came into the firm and the number of dollars that left the firm over a period. In finance, we are far more concerned with cash flow than accounting income. It gives a true picture of what the company is generating, independent of non-cash items.

> The third financial statement, the *Statement of Cash Flow*, shows cash provided and used by operating, investing, and financing activities. We are <u>not</u> using these statements here. Rather, we will compute how cash flows generated from assets flow to the two “financiers” of the assets: lenders and owners. These cash flows are <u>not</u> shown in the *Statement of Cash Flow*.

THE CASH FLOW IDENTITY

The **cash flow identity** is analogous to the balance sheet identity, and shows that the cash flows generated by assets flows to the two suppliers of capital, the debtholders and equity holders.

Cash Flow From Assets (CFFA) can be represented as:

CFFA = Operating Cash Flow – Net Capital Spending – Change in NWC

Operating Cash Flow	Net Capital Spending	Change in NWC
Earnings Before Interest and Taxes	Ending Net Fixed Assets	Ending NWC
+ Depreciation	− Beginning Net Fixed Assets	− Beginning NWC
– Taxes	+ Depreciation	

- **Operating Cash Flow** results from day-to-day activities of producing and selling products or services. We add back the non-cash depreciation expense to *EBIT*, then subtract the taxes paid in cash. Alternatively:

$$OCF = NI + DEP + Interest$$

- **Net Capital Spending** is money spent on fixed assets less money earned from the sale of fixed assets. We add back the non-cash depreciation charged to the fixed assets over that period.

- **Change in NWC** is how the difference in current assets and current liabilities changes from one period to the next.

    - ↑ **NWC→** a cash *outflow*: ↑**CA** (paying cash to acquire short term assets) and/or ↓**CL** (paying off short term liabilities)

    - ↓ **NWC→** a cash *inflow*: ↓**CA** (cash accepted instead of receivables) and ↑**CL** (accumulating payables while delaying an immediate cash payment)

We can verify the cash flow identity by computing CFFA using the formula above and making sure it equates to the sum of the Cash Flow to Creditors and Cash Flow to Stockholders Formulas:

CFFA = Cash Flow to Creditors + Cash Flow to Stockholders

Cash Flow to Creditors	Cash Flow to Stockholders
Interest Paid	Dividends Paid
− Net New Borrowing	− Net New Equity Raised

- **Cash Flow to Creditors** includes any interest paid (cash flow *to* the creditors *from* the firm) minus any new borrowing (cash flow *from* creditors *to* the firm). New borrowing is identified as an increase in long term debt on the balance sheet, often as the firm issues corporate bonds.

- **Cash Flow to Stockholders** includes dividends paid (cash flow *to* the stockholders *from* the firm) minus any new stock issued (cash flow *from* stockholders *to* the firm). New equity raised is identified as an increase in stockholders' equity on the balance sheet, often as the firm issues new stock to raise money.

PRACTICE: Using the balance sheet and income statement below, determine the CFFA for this firm and verify the cash flow identity.

		2022		2021
ASSETS				
Current assets				
Cash and cash equivalents	$	160	$	104
Accounts receivable		688		455
Inventories		555		553
Total current assets	$	1,403	$	1,112
Fixed Assets				
Net plant and equipment	$	1,709	$	1,644
Total assets	**$**	**3,112**	**$**	**2,756**
LIABILITIES AND EQUITY				
Current liabilities				
Accounts payable, other accrued liab.	$	266	$	232
Notes payable		123		196
Total current liabilities	$	389	$	428
Long term debt	$	454	$	408
Owners Equity				
Common stock and paid-in surplus	$	640	$	600
Retained earnings		1,629		1,320
	$	2,269	$	1,920
Total liabilities and equity	**$**	**3,112**	**$**	**2,756**

	2022	2021
Net sales	$ 1,509	$ 1,322
Cost of goods sold	750	701
Depreciation	65	53
Earnings before interest and taxes	$ 694	$ 568
Interest paid	70	66
Taxable income	$ 624	$ 502
Taxes	212	176
Net income	$ 412	$ 326
Dividends	$ 103	$ 82
Addition to retained earnings	309	244

This problem is presented in Excel. Follow The Excel file *Cash Flow From Assets* available at josephfarizo.com/fin360.html to see how to solve the problem *and* for unlimited randomized additional practice problems.

As you work this problem, think about what positive and negative values mean, as well as how you interpret the final results.

SOLUTION: First, we'll compute CFFA using the formula in Step 1:

CFFA = Operating Cash Flow – Net Capital Spending – Change in NWC

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$[(\quad) - (\quad)]$

$-[(\quad) - (\quad)]$

CFFA = – – =

Step 2: We'll verify that CFFA equals the sum of the cash flow to creditors and shareholders.

CFFA = Cash Flow to Creditors + Cash Flow to Stockholders

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CFFA = + =

INTERPRETATION: This firm has positive operating cash flows, is investing in growth (increasing the size of NFA), and is investing in NWC (growing current assets while paying short term liabilities). It is paying its debt (interest expense) and dividends to shareholders, but has borrowed and issued stock to grow. This appears to be a somewhat "cash flow healthy" and growing firm.

REFERENCES

[1] See discussion at https://pages.stern.nyu.edu/~adamodar/New_Home_Page/CFTheory/deriv/ch14der.html