Chapter 2

FINANCIAL STATEMENTS AND CASH FLOW

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# CHAPTER WEB SITES

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| 2.1 | [CNN Money Website: money.cnn.com](http://www.money.cnn.com/) |
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| 2.3 | [IRS Website: www.irs.gov](http://www.irs.gov/) |
| End-of-chapter material | [Yahoo Finance Website: finance.yahoo.com](http://www.finance.yahoo.com/)  [Coca-Cola Website: www.coca-cola.com](http://www.coca-cola.com/)  [Cooper Tires Website: www.coopertires.com](http://www.coopertires.com/) |

# CHAPTER ORGANIZATION

* 1. The Balance Sheet

Accounting Liquidity

Debt versus Equity

Value versus Cost

* 1. The Income Statement

Generally Accepted Accounting Principles

Noncash Items

Time and Costs

* 1. Taxes

Corporate Tax Rates

Average versus Marginal Tax Rates

* 1. Net Working Capital
  2. Cash Flow of the Firm
  3. The Accounting Statement of Cash Flows

Cash Flow from Operating Activities

Cash Flow from Investing Activities

Cash Flow from Financing Activities

# ANNOTATED CHAPTER OUTLINE

## Slide 2.1 Chapter 2 Title Slide

## Slide 2.2 Key Concepts and Skills

## Slide 2.3 Chapter Outline

## Slide 2.4 The Balance Sheet

The balance sheet provides a snapshot of the firm’s financial position at a specific point in time. Thus, it is commonly referred to as a “stock” statement, whereas the income statement would be considered a “flow” statement since it covers a period of time.

The balance sheet identity is: Assets ≡ Liabilities + Stockholders’ Equity

## Slide 2.5 Take Notice! (on the following Balance Sheet)

Some key points for students to learn from the balance sheet include the facts that:

Assets exactly equal liabilities + equity

Assets are listed in order of liquidity

Cash and A/R, for example, are more liquid than property plant and equipment

Liabilities are listed in the order in which they come due

## Slide 2.6 U.S. Composite Corporation Balance Sheet

Assets exactly equal the sum of liabilities and equity.

Assets: The Left-Hand Side

Assets are divided into several categories. Make sure that students recall the difference between current and fixed assets, as well as tangible and intangible assets.

Assets are listed in order of liquidity or how long it typically takes for the specific asset to be converted to cash, with those taking the shortest time being listed first.

Liabilities and Equity: The Right-Hand Side

This portion of the balance sheet represents the sources of funds used to finance the purchase of assets. (Refer to Chapter 1 for a lengthier discussion of this point.)

**Lecture Tip**: It may be helpful to review the slide from Chapter 1, which highlights the general composition of a balance sheet.

Since sources and uses must equal, the balance sheet is an equality:

Assets ≡ Liabilities + Stockholders’ Equity

**Lecture Tip:** Students sometimes find it difficult to see the relationship between the decisions made by financial managers and the values that subsequently appear on the firm’s balance sheet. One way to help them see the “big picture” is to emphasize that all finance decisions are either investment decisions or financing decisions. Investment decisions involve the purchase and sale of any assets (not just financial assets). Investment decisions show up on the left-hand side of the balance sheet. Financing decisions involve the choice of whether to borrow money to buy the assets or to issue new ownership shares. Financing decisions show up on the right-hand side of the balance sheet. A useful example might be the purchase of a house or car where the acquisition can be divided into asset, liability and equity components.

## Slide 2.7 Balance Sheet Analysis

There are three primary concerns that need to be addressed when analyzing a balance sheet: liquidity, debt versus equity, and market value versus historical cost.

## Slide 2.8 Accounting Liquidity

Liquidity is a measure of how easily an asset can be converted to cash. Since assets are listed in ascending order of how long it takes to be converted to cash, they are, by definition, listed in descending order of liquidity (i.e., most liquid listed first). The listed order of liabilities, however, reflects time to maturity.

It is important to point out to students that liquidity has two components: (1) how long it takes to convert to cash and (2) the value that must be relinquished to convert to cash quickly. Any asset can be converted to cash quickly if you are willing to lower the price enough.

It is also important to point out that owning more liquid assets makes it easier to meet short-term obligations; however, they also provide lower returns. Consequently, too much liquidity can be just as detrimental to shareholder wealth maximization as too little liquidity.

**Lecture Tip:** Some students get a little confused when they try to understand that excessive cash holdings can be undesirable. Occasionally, they leave an accounting principles class with the belief that a large current ratio is, in and of itself, a good thing. Short-term creditors like a company to have a large current ratio, but that doesn’t mean that excess cash is good for the firm.

You may wish to mention that a cash balance is a use of funds and, therefore, has an opportunity cost. Ask what a company could do with cash if it were not sitting idle. It could be paid to stockholders, invested in productive assets, or used to reduce debt. Students need to understand that a change in a firm’s cash account is not the same as cash flow, regardless of what the “Statement of Cash Flows” may imply.

## Slide 2.9 Debt versus Equity

Interest and principal payments on debt are required by law to be paid before cash may be paid to stockholders. The company’s gains and losses are magnified as the company increases the amount of debt in the capital structure. This is why we call the use of debt “financial leverage.”  
  
The balance sheet identity can be rewritten to illustrate that owners’ equity is just what is left after all debts are paid.  
  
Owners’ Equity ≡ Assets – Liabilities

Therefore, equity holders are referred to as residual claimants.

Since debt and equity may have different costs (i.e., interest rates or returns), then the selection of how the business is capitalized has substantial impact on profitability.

**Lecture Tip:** You may find it useful at this point to spend a few minutes reinforcing the concepts of owners’ equity and retained earnings. The students should recall that owners’ equity consists of the common stock account, paid-in surplus, retained earnings and treasury stock. It is important to remind students that the firm’s net income belongs to the owners. It can either be paid out in dividends or reinvested in the firm. When it is reinvested in the firm, it becomes additional equity investment and shows up in the retained earnings account.

## Slide 2.10 Value versus Cost

* + - 1. Under current accounting standards, financial statements are reported on a historical cost (i.e., book value) basis. However, book values are generally not all that useful for making decisions about the future because of the historical nature of the numbers.
      2. Example: A piece of property purchased years ago may be reflected on the books at a very low historical value even though it is presently worth far more than previously recorded.
      3. Also, some of the most important assets and liabilities don’t show up on the balance sheet. For example, the people that work for a firm can be very valuable assets, but they aren’t included on the balance sheet. This is especially true in service industries.
      4. Market value is the value of an asset at present. It may be higher or lower than reflected historically in a firm’s books. Market value is a more accurate basis on which to make financial decisions, but is not in accordance with US GAAP.

**Lecture Tip:** Accounting, or historical, costs are not very important to financial managers, while market values are. Some students have difficulty recognizing that the passage of time and changing circumstances will almost always mean that the price an asset would fetch if sold today is quite different from its book value. Sometimes an example or two of familiar instances are enough to make the point. For example, pointing out the differences between market values and historical costs of used cars and houses may help.

Some students recognize the difference between book values and market values, but do not understand why market values are the more important numbers for decision-making. The simplest answer is that market value represents the cash price people are willing and able to pay. After all, it is cash that must ultimately be paid or received for investments, interest, principal, dividends and so forth. The key, particularly in later chapters, is to recognize that market values are a better measure of opportunity costs.

## Slide 2.11 The Income Statement

As mentioned earlier, the income statement measures flows over a period of time. Specifically, it measures revenues collected relative to the costs associated with those revenues (matching principle). The difference between these two is the firm’s income. Thus, the income statement takes the following form:

Revenue – Expenses ≡ Income

## Slide 2.12 –

## Slide 2.14 U.S.C.C. Income Statement

This series of slides walks through the various sections of the income statement, pointing out that the general operation of the business is reflected in the top portion, with non-operating impacts (including taxes) being reflected in the lower portion.

The “bottom line” is net income, which provides a measure of the overall earnings of the firm.

**Lecture Tip:** It was noted previously that investment decisions are reflected on the left-hand side of the balance sheet, and financing decisions are reflected on the right-hand side of the balance sheet. You could also point out that the income statement reflects investment decisions in the “top half,” from sales to EBIT. Financing decisions are reflected in the “bottom half,” from EBIT to net income and earnings per share.

## Slide 2.15 Income Statement Analysis

As with the balance sheet, there are things to remember when trying to interpret the income statement: GAAP, non-cash items, and time and costs.

## Slide 2.16 GAAP

* + - 1. Remember that GAAP requires that we recognize revenue when it is earned, not when the cash is received, and we match costs to revenues (i.e., the matching principle). Thus, income is reported when it is earned, not when cash is actually generated from the transaction. Consequently, net income is NOT cash flow.

## Slide 2.17 Noncash Items

* + - 1. The matching principle also creates the recognition of noncash items. For example, when we purchase a machine, the cash flow occurs immediately, but we recognize the expense of the machine over time as it is used in the production process (i.e., depreciation).
      2. The largest noncash deduction for most firms is depreciation; however, other noncash items include amortization and deferred taxes. Noncash expenses reduce taxes and net income, but do not actually represent a cash outflow. Noncash deductions are part of the reason that net income is not equivalent to cash flow.

**Lecture Tip:** In March 2004, Global Crossing reported record quarterly earnings of $24.88 **billion** on revenues of $719 **million**. These earnings came about because GAAP allowed recognition of non-cash items related to the firm’s emergence from bankruptcy. According to The Wall Street Journal Online (Global Crossing Scores A Bankruptcy Bonanza, March 11, 2004), $8 billion of the profit was from the ability to eliminate the liabilities associated with contracts with equipment vendors that were renegotiated during bankruptcy. Another $16 billion came from eliminating the common and preferred shares that previously existed. Most of the remainder of the “profit” came from the liabilities associated with contracts between Global Crossing and other phone companies that were eliminated during the bankruptcy proceedings. If these non-cash “revenues” were eliminated from the calculations, then the firm would have had a net loss of approximately $3 million. Clearly, GAAP doesn’t always provide a clear view of earnings.

Arthur Levitt, former chair of the SEC referred to the use of improving accounting results by manipulating non-cash accounts as “cookie jar accounting”. When income is higher than anticipated, a company might make an entry to add a” cookie” to the jar, reducing income. When you need extra income to meet market expectations, you take a “cookie” from the jar, increasing income. Cookie jar accounting, or manipulation of non-cash accounts has been the downfall of many substantial companies.

**Ethics Note:** Publicly traded firms have to file audited annual reports, but that doesn’t mean that “accounting irregularities” never slip by the auditors. Companies that deliberately manipulate financial statements may benefit in the short run, but it eventually comes back to haunt them. Toshiba is a great example of accounting problems. In April of 2015, a committee was established to examine potential accounting problems. On July 20, 2015, the company announced it would revise operating profits down by more than $1 billion. The next day, the president, Hisao Tanaka, resigned. However, that wasn’t the end. In November, the company revealed $1.3 billion in impairment losses at a U.S. nuclear subsidiary. It was widely reported that subordinates were pushed to cover up weak financial results. However, by 2016, Toshiba was able to round a corner and turn a profit.

Other companies, such as Enron, WorldCom, etc. have fared much worse. There was a string of accounting problems at the start of this century, and these, along with the terrorist attacks, led to much of the market decline during the early 2000s. As discussed in a prior lecture tip, these issues have led to the adoption of Sarbanes-Oxley, which although potentially beneficial from an information standpoint, has come with its own problems.

**Lecture Tip:** Students sometimes fail to grasp the distinction between the economic life of an asset, the useful life of an asset for accounting purposes, and the useful life of an asset for tax purposes. “Economic life” refers to the period of time that the asset is expected to generate cash flows and must be considered when capital budgeting decisions are made. “Useful life” for accounting purposes is largely determined by the firm’s accountants, with guidance from GAAP, and it affects the depreciation expense on the balance sheets and income statements that are used for business purposes. “Useful life” for tax purposes is determined by the Internal Revenue Service and is based on different asset categories. This is also important for capital budgeting because it determines the tax consequences of depreciation, which affects cash flow.

## Slide 2.18 Time and Costs

* + - 1. We need to plan for both short-run cash flows and long-run cash flows. In the short run, some costs are fixed regardless of output, and other costs are variable. For example, fixed assets are generally fixed in the short run, while inputs such as labor and raw materials are variable. In the long run, all costs are variable. It is important to identify these costs when doing a capital budgeting analysis.

**Lecture Tip:** Distinguishing between fixed and variable costs can have important implications for estimating cash flows. It is sometimes helpful to remind students that variable costs are cash outflows that vary with the level of output, while fixed costs do not. Another important thing to point out is that the definition of short run and long run varies for different types of businesses.

## Slide 2.19 Costs and Purpose

Generally, financial accountants don’t distinguish between costs as fixed and variable. Rather, they treat costs as product cost or period costs. Product costs are all of the costs of producing a firm’s good or service such as raw materials, direct labor and manufacturing overhead. Period costs are costs that are allocated to a time period such as selling, general and administrative costs.

**Lecture Tip:** Students often have difficulty comprehending the difference between product and period costs. Sometimes it is useful to present them as inventoriable and non-inventoriable costs.

## Slide 2.20 Taxes

You can go the IRS website and show the students how to search for the most up-to-date tax information.

The tax code is constantly changing with the decisions of Congress. Since corporations pay taxes, we need to be aware of these changes.

**Lecture Tip:** The text notes the ever-changing nature of the tax code. This can be illustrated by the changes in the dividend tax rate. From 1913-1936, dividends were not taxed. From 1936-1939, dividends were taxed at the individual’s income tax rate. From 1939-1953, dividends were exempt from tax once more. From 1954-2003, they went back to being taxed at the individual’s income tax rate. However, starting in 2003, dividends are now taxed at 15%.

Tax rates affect the firm’s cash flow and, therefore, the firm’s value. Since we want to maximize firm value, we need to include taxes in our decisions.

Marginal tax rate – rate paid on next dollar of income

Average tax rate = tax bill / taxable income

Since decisions create incremental income, we want to use the marginal rate in our decisions.

* + 1. Corporate Tax Rates
       1. It’s important to point out to students that corporations (and individuals) do not pay a flat rate on their income, but corporate rates are not strictly increasing either. Rates are progressive to a point, then decline to a point, such that the largest firms end up paying a rate (marginal = average) of 35 percent.

The average rate rises to the marginal rate at $50 million of taxable income. The “surcharges” at 39% and 38% offset the initial lower marginal rates.

* + 1. Average versus Marginal Tax Rates

## Slide 2.21 Marginal versus Average Tax Rates

This slide provides an in-class example for calculating taxes and rates, with the answers given in the notes to the slide. Appropriate tax rates may be found in Table 2.3.

**Lecture Tip:** It is useful to stress the situations in which marginal tax rates are relevant and those in which average tax rates are relevant. For purposes of computing a company’s total tax liability, the average tax rate is the correct rate to apply to before tax profits. However, in evaluating the cash flows that would be generated from a new investment, the marginal tax rate is the appropriate rate to use. This is because the new investment will generate cash flows that will be taxed above the company’s existing profit.

## Slide 2.22 Net Working Capital

* + - 1. The difference between a firm’s current assets and its current liabilities.

## Slide 2.23 U.S.C.C. Balance Sheet: Net Working Capital

Since a firm needs current assets (e.g., inventory) to generate sales, as the firm grows, so generally does its net working capital.

Net Working Capital is crucially important to a firm because it is the pool of funds that enable day to day operation. If NWC becomes imbalanced, it is because one of the three responsibilities of the financial manager, short term asset and liability management, has become ineffective.

## Slide 2.24 Cash Flow of the Firm

Cash is the lifeblood of a business and is, therefore, the most important item that can be extracted from financial statements.

We generate cash flow from assets, then use this cash flow to reward creditors and stockholders. In conjunction with the balance sheet identity, we know that the cash flow from assets must, therefore, equal the cash flows to creditors and stockholders:

CF(A) ≡ CF(B) + CF(S)

Stated explicitly, the cash flow identity is:

Cash Flow from Assets = Cash Flow to Creditors + Cash Flow to Stockholders

## Slide 2.25–

## Slide 2.30 U.S.C.C. Financial Cash Flow

These slides provide a walkthrough of the calculation of the components of cash flow.

CF(A) = operating cash flow – net capital spending – changes in net working capital

Operating cash flow (OCF) = EBIT + depreciation – taxes

* + - 1. Net capital spending (NCS) = purchases of fixed assets – sales of fixed assets
         1. or

NCS = ending net fixed assets – beginning net fixed assets + depreciation

* + - 1. Changes in NWC = ending NWC – beginning NWC

Cash Flow to Creditors and Stockholders

* + - 1. Cash flow to creditors = interest paid + retirement of debt – proceeds from new debt
         1. or
      2. Cash flow to creditors = interest paid – net new borrowing
      3. = interest paid – (ending long-term debt – beginning long-term debt)
      4. Cash flow to stockholders = dividends paid + stock repurchases – proceeds from new stock issues
         1. or
      5. Cash flow to stockholders = dividends paid – net new equity raised = dividends paid – (ending common stock, APIC & Treasury stock – beginning common stock, APIC & Treasury stock)
      6. It is important to point out that changes in retained earnings are not included in “net new equity raised.”

**Lecture Tip:** Textbooks make financial statement analysis seem reasonably straightforward. However, it is not always as easy to classify the numbers that appear on the consolidated financial statements of an actual corporation.

Consider the 2013 McGraw-Hill Education Annual Report. (or the most recent one available)You can go to the  [McGraw-Hill website (http://www.mheducation.com).](http://www.mheducation.com/)

1. The following questions may arise from looking at the financial statements:  
   How do you account for “prepublication costs,” “investments and other assets,” and “goodwill and other intangible assets?” Are they included in net capital spending, or are they accounting numbers with no real impact on cash flows?
2. How should the “other liabilities” be accounted for? Again, which accounts truly provide changes in cash flows, and which accounts are just used for accounting purposes without an actual change in cash flows.
3. How do “accumulated other comprehensive income” and “unearned compensation on restricted stock” affect cash flows?

The cash flow identity does not appear to hold when applied in a reasonable fashion based on the information provided. It is important to point out that financial managers have a lot more information available to them than what is provided in the consolidated statements of an annual report. The manager will have the information available to compute cash flow from assets, and if it is done carefully, the cash flow identity will hold.

## Slide 2.31 The Statement of Cash Flows

There is an official accounting statement called the Statement of Cash Flows, which explains the change in the cash account on the firm’s balance sheets between two periods. The statement typically has three components: cash flows from operating activities, cash flows from investing activities, and cash flows from financing activities.

It is helpful to think of cash inflows and outflows:

Sources and Uses of cash

Activities that bring cash in are *sources*. Firms raise cash by selling assets, borrowing money, or selling securities.

* + - 1. Activities that involve cash outflows are *uses*. Firms use cash to buy assets, pay off debt, repurchase stock, or pay dividends.

There are some mechanical rules for determining Sources and Uses:

* + - 1. Sources:
         1. Decrease in asset account
         2. Increase in liabilities or equity account
      2. Uses:
         1. Increase in asset account
         2. Decrease in liabilities or equity account

## Slide 2.32 U.S.C.C. Cash Flow from Operating Activities

Operating Activities

+ Net Income

+ Depreciation

± Deferred Taxes

+ Decrease in current asset accounts (except cash)

+ Increase in current liability accounts (except notes payable)

- Increase in current asset accounts (except cash)

- Decrease in current liability accounts (except notes payable)

It may be good to note that cash flow from operations effectively accounts for interest expense since it is subtracted prior to net income; however, this flow is more generally related to financing activities.

## Slide 2.33 U.S.C.C. Cash Flow from Investing Activities

Investment Activities

+ Ending net fixed assets

- Beginning net fixed assets

+ Depreciation

## Slide 2.34 U.S.C.C. Cash Flow from Financing Activities

Financing Activities

± Change in notes payable

± Change in long-term debt

± Change in common stock

- Dividends

## Slide 2.35 U.S.C.C. Statement of Cash Flows

Putting it all together:  
± Net cash flow from operating activities

± Net cash flow from investing activities

± Net cash flow from financing activities

= Net increase (decrease) in cash over the period

## Slide 2.36 Quick Quiz

## Slide 2.37 Sources of Information

This slide provides hyperlinks to a variety of sources of financial information.