

Ch 2

THE ACCOUNTING EQUATION

$$\text{Assets} = \text{Liabilities} + \text{Owner's Equity}$$

OR

The Cost of the
Items Used in
Running a Business

=

Where the Funds to
Buy Those Items
Came From, Either
Creditors or the
Owner

Example: A business buys a \$20,000 delivery van by using \$5,000 of the owner's money as a down payment and financing the rest.

$$\begin{aligned} \text{Assets} &= \text{Liabilities} + \text{Owner's Equity} \\ \$20,000 &= \$15,000 + 5,000 \end{aligned}$$

EVENTS/CONDITIONS RECORDED IN ACCOUNTING RECORDS

- 1. Receipt of cash**
- 2. Payment of cash**
- 3. Events that create a legal obligation to pay out cash (or other assets) in the future**
- 4. Events that obligate another party to pay you cash (or other assets) in the future**
- 5. Sale of a product or completion of a service for a customer—this is known as earning revenue**
- 6. The use of products or services in running your business—this is known as incurring an expense**

Types of Accounts

What are each and where are they found?

1. Assets

2. Liabilities

3. Owner's Equity

4. Revenues

5. Expenses

Relationship Between Liabilities and Owner's Equity

	Assets	=	Liabilities	+	Owner's Equity
Company A	100,000	=	95,000	+	5,000
Company B	100,000	=	90,000	+	10,000

CHART OF ACCOUNTS

Larry Sharp, M. D.

The following information pertains to the medical practice of Larry Sharp, M. D. Using the information, develop a chart of accounts for Dr. Sharp. Remember to number the accounts using a flexible system of indexing, as described in your textbook.

1. Dr. Sharp is the sole owner of his medical practice.
2. Dr. Sharp has the following assets that are used in the business: \$15,000 in cash, \$1,200 worth of supplies, and medical equipment that cost \$8,900.
3. Dr. Sharp buys all of his medical supplies on account and pays for them within 30 days of the purchase.
4. In payment for his services, Dr. Sharp will accept cash or will bill his patients.
5. Dr. Sharp rents his office space. His lease agreement requires him to pay his own utilities.
6. Dr. Sharp is required to carry malpractice insurance, which is paid at the beginning of each year.
7. Dr. Sharp has one receptionist and one medical assistant who work for him full-time. Each year, he buys the receptionist and assistant flowers on their birthdays.
8. To keep current on medical advances, Dr. Sharp frequently attends medical seminars. These seminars can cost as much as \$10,000 each year.

SAMPLE CHART OF ACCOUNTS

Larry Sharp, M. D.

Assets

- 10 Cash**
- 11 Accounts Receivable**
- 12 Supplies**
- 13 Prepaid Insurance**
- 14 Medical Equipment**

Liabilities

- 21 Accounts Payable**

Owner's Equity

- 31 Larry Sharp, Capital**
- 32 Larry Sharp, Drawing**

Revenues

- 41 Fees Earned**

Expenses

- 51 Wages Expense**
- 52 Rent Expense**
- 53 Utilities Expense**
- 54 Medical Seminar Expense**
- 55 Supplies Expense**
- 56 Miscellaneous Expense**

FINANCIAL STATEMENTS

Income Statement

Revenues	(from the work sheet)
<u>- Expenses</u>	(from the work sheet)
<u>Net Income</u>	

Statement of Owner's Equity

Beginning Capital Balance	(from the work sheet or owner's capital account in the ledger)
+ Investments	(from the owner's capital account in the ledger)
+ Net Income	(from the income statement)
<u>- Drawing</u>	(from the work sheet)
<u>Ending Capital Balance</u>	

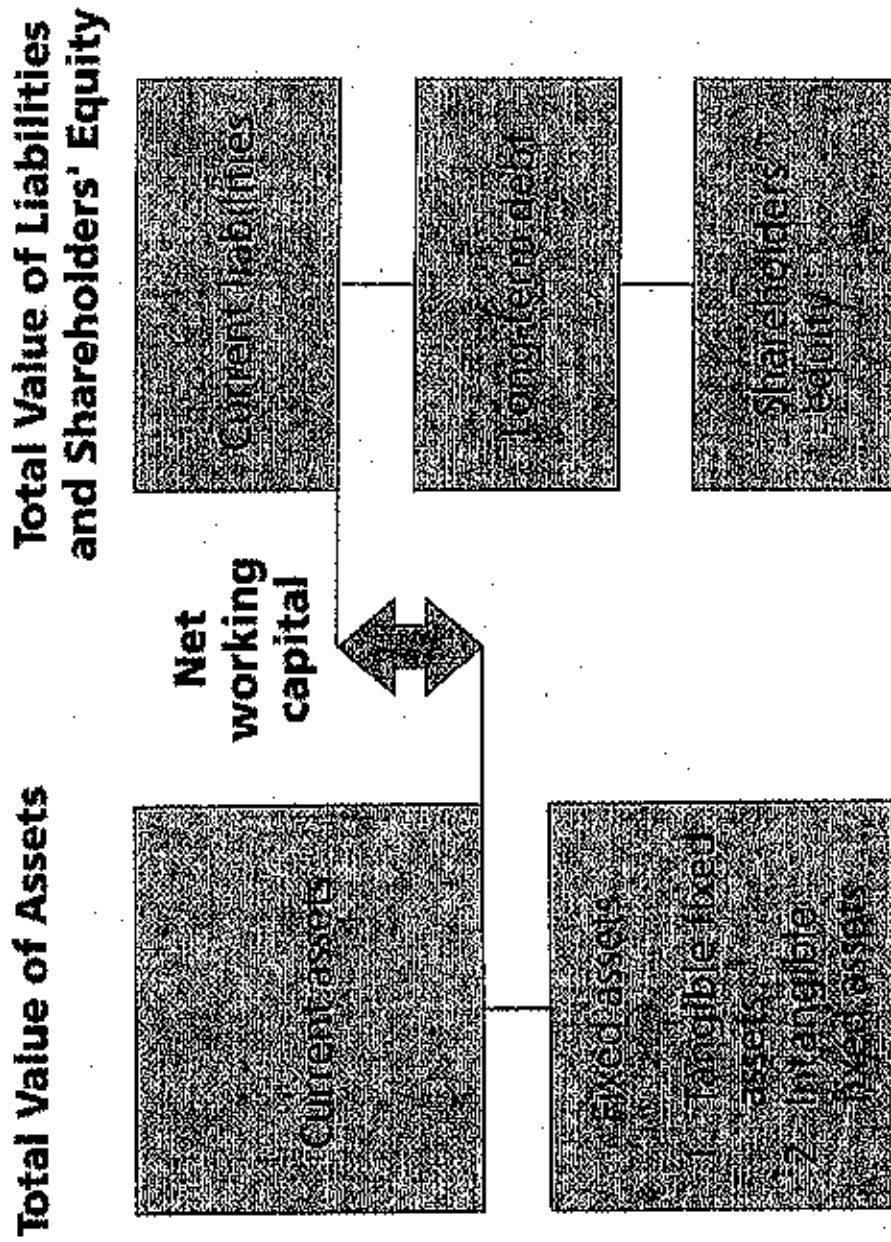
Balance Sheet

Current Assets	(from the work sheet)
<u>+ Property, Plant & Equip.</u>	(from the work sheet)
<u>Total Assets</u>	
Current Liabilities	(from the work sheet)
<u>+ Long-Term Liabilities</u>	(from the work sheet)
Total Liabilities	
<u>+ Capital Balance</u>	(from statement of owner's equity)
<u>Total Liabilities and Owner's Equity</u>	

2.3 Balance Sheet

- The balance sheet is a snapshot of the firm's assets and liabilities at a given point in time
- Assets are listed in order of liquidity
 - Ease of conversion to cash
 - Without significant loss of value
- Balance Sheet Identity
 - $\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$

2.4 The Balance Sheet - Figure 2.1



2.5 Net Working Capital and Liquidity

- Net Working Capital
 - Current Assets – Current Liabilities
 - Positive when the cash that will be received over the next 12 months exceeds the cash that will be paid out
 - Usually positive in a healthy firm
- Liquidity
 - Ability to convert to cash quickly without a significant loss in value
 - Liquid firms are less likely to experience financial distress
 - But, liquid assets earn a lower return
 - Trade to find balance between liquid and illiquid assets

2.6 US Corporation Balance Sheet – Table 2.1

U.S. CORPORATION				
Balance Sheets as of December 31, 2001 and 2002				
(\$ in millions)				
	2001	2002	2001	2002
Assets	Liabilities and Owners Equity			
Current assets			Current liabilities	
Cash	\$ 104	\$ 160	Accounts payable	\$ 232
Accounts receivable	455	688	Notes payable	196
Inventory	<u>553</u>	<u>555</u>	Total	<u>\$ 428</u>
Total	<u>\$1,112</u>	<u>\$1,403</u>		<u>\$ 389</u>
Fixed assets			Long-term debt	\$ 408
Net plant and equipment	<u>\$1,644</u>	<u>\$1,709</u>	Owners equity	
			Common stock and paid-in surplus	600
			Retained earnings	<u>1,320</u>
			Total	<u>\$1,920</u>
Total assets	<u>\$2,756</u>	<u>\$3,112</u>	Total liabilities and owners equity	<u>\$2,756</u>
				<u>\$3,112</u>



2.7 Market Vs. Book Value

- The balance sheet provides the book value of the assets, liabilities and equity.
- Market value is the price at which the assets, liabilities or equity can actually be bought or sold.
- Market value and book value are often very different. Why?
- Which is more important to the decision-making process?

2.8 Example 2.2 Klingon Corporation

KLINGON CORPORATION				
Balance Sheets				
Market Value versus Book Value				
	Book	Market	Book	Market
Assets		Liabilities and Shareholders' Equity		
NWC	\$ 400	\$ 600	LTD	\$ 500
NFA	700	1,000	SE	1,100
	1,100	1,600		1,600

Assets = Liabilities + Owner's Equity
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OWNER'S EQUITY ACCOUNTS

Account	Used to Record
Capital	Owner's Investments
Drawing	Owner's Withdrawals
Revenue	Revenues from Customers
Expense	Expenses Incurred in Running the Business

Dixie Machinery
Statement of Owner's Equity
For the Year Ended December 31, 20—

Bill McCowan, capital, January 1.....		\$2,370
Net income.....	\$3,850	
Less withdrawals	<u>1,100</u>	
Increase in owner's equity		<u>2,750</u>
Bill McCowan, capital, December 31 ...		<u>\$5,120</u>

2.9 Income Statement

- The income statement is more like a video of the firm's operations for a specified period of time.
- You generally report revenues first and then deduct any expenses for the period
- Matching principle – GAAP say to show revenue when it accrues and match the expenses required to generate the revenue

2.10 US Corporation Income Statement – Table 2.2

U.S. CORPORATION	
2002 Income Statement	
(\$ in millions)	
Net sales	\$1,509
Cost of goods sold	750
Depreciation	65
Earnings before interest and taxes	\$ 694
Interest paid	70
Taxable income	\$ 624
Taxes	212
Net income	\$ 412
Dividends	\$103
Addition to retained earnings	309

2.12 Taxes

- The one thing we can rely on with taxes is that they are always changing
- Marginal vs. average tax rates
 - Marginal – the percentage paid on the next dollar earned
 - Average – the tax bill / taxable income
- Other taxes



2.13 Example: Marginal Vs. Average Rates

- Suppose your firm earns \$4 million in taxable income.
 - What is the firm's tax liability?
 - What is the average tax rate?
 - What is the marginal tax rate?
- If you are considering a project that will increase the firm's taxable income by \$1 million, what tax rate should you use in your analysis?

2.14 The Concept of Cash Flow

- Cash flow is one of the most important pieces of information that a financial manager can derive from financial statements
- The statement of cash flows does not provide us with the same information that we are looking at here
- We will look at how cash is generated from utilizing assets and how it is paid to those that finance the purchase of the assets

STATEMENT OF CASH FLOWS

PURPOSE: Report cash received and cash paid in the course of doing business.

Cash flows are divided into the following categories:

1. **Cash flows from operating activities**
OPERATING ACTIVITIES: Cash received or paid in
 - * Providing services to a customer
 - * Buying and selling a product

2. **Cash flows from investing activities**
INVESTING ACTIVITIES: Cash received or paid in
 - * Buying or selling long-term assets

3. **Cash flows from financing activities**
FINANCING ACTIVITIES: Cash received or paid due to
 - * Investments and withdrawals by owner
 - * Borrowing and repaying cash

WHY ARE CASH FLOWS IMPORTANT?

Cash is what pays the bills.

You must sell your product and collect cash from your customers in time to:

- 1. Pay suppliers for merchandise purchases.**
- 2. Pay the bank on any loans.**
- 3. Pay employees their wages.**
- 4. Pay taxes.**
- 5. Purchase new equipment as needed.**

Analyzing where a company's cash is coming from and where it is being spent may assist in detecting future profit potential and/or future financial problems.

SECTIONS OF THE STATEMENT OF CASH FLOWS

Cash Flows from Operating Activities—Report cash received and paid in the daily operations of the business, including:

1. Cash received from customers
2. Cash paid to suppliers

Cash Flows from Investing Activities—Report cash received and paid as a result of the sale and purchase of investments. The investments reported in this section can be divided into two categories:

1. Investments in YOURSELF, for example:
 - a. Purchase of fixed assets
 - b. Sale of fixed assets
2. Investments in OTHERS, for example:
 - a. Purchase of equity or debt securities of another corporation
 - b. Sale of equity or debt securities held as investments
 - c. Making of a loan to another company
 - d. Collection of principal payments on a loan made to another company

(Continued)

SECTIONS OF THE STATEMENT OF CASH FLOWS

(Concluded)

Cash Flows from Financing Activities—Report cash received and paid as a result of the activities to obtain and repay funds used to finance the operations of a company. Financing activities can be divided into two categories:

- 1. EQUITY financing:**
 - a. Issuing shares of stock
 - b. Retiring shares of stock
 - c. Purchasing shares of treasury stock
 - d. Selling shares of treasury stock
 - e. Paying cash dividends on stock
- 2. DEBT financing:**
 - a. Borrowing cash
 - b. Repaying principal on a loan

2.15 Cash Flow From Assets

- Cash Flow From Assets (CFFA) = Cash Flow to Creditors + Cash Flow to Stockholders
- Cash Flow From Assets = Operating Cash Flow – Net Capital Spending – Changes in NWC

2.16 Example: US Corporation

- $OCF (I/S) = EBIT + \text{depreciation} - \text{taxes} = \547
- $NCS (B/S \text{ and } I/S) = \text{ending net fixed assets} - \text{beginning net fixed assets} + \text{depreciation} = \130
- $\text{Changes in NWC (B/S)} = \text{ending NWC} - \text{beginning NWC} = \330
- $CFFA = 547 - 130 - 330 = \87
- $CF \text{ to Creditors (B/S and I/S)} = \text{interest paid} - \text{net new borrowing} = \24
- $CF \text{ to Stockholders (B/S and I/S)} = \text{dividends paid} - \text{net new equity raised} = \63
- $CFFA = 24 + 63 = \$87$

2.17 Cash Flow Summary Table 2.5

I. The cash flow identity

Cash flow from assets = Cash flow to creditors (bondholders)
+ Cash flow to stockholders (owners)

II. Cash flow from assets

Cash flow from assets = Operating cash flow
- Net capital spending
- Change in net working capital (NWC)

where:

Operating cash flow = Earnings before interest and taxes (EBIT)
+ Depreciation - Taxes

Net capital spending = Ending net fixed assets - Beginning net fixed assets
+ Depreciation

Change in NWC = Ending NWC - Beginning NWC

III. Cash flow to creditors (bondholders)

Cash flow to creditors = Interest paid - Net new borrowing

IV. Cash flow to stockholders (owners)

Cash flow to stockholders = Dividends paid - Net new equity raised