

CHAPTER ONE

INVENTORIES

Introduction

 Dear learner! In this chapter, you will deal about the concept of inventory. The effect of inventory in the current period statement and the following period statements will be presented. Finally the inventory systems and the cost determination of the inventories in store and the items sold will be discussed in detail. Have a nice reading!

Chapter Objectives! After studying this chapter you should be able to meet these learning objectives:

- Explain the meaning of inventories;
- Describe the effect of inventory on the financial statements of the current period and the following period;
- Identify and describe the two principal inventory systems
- Describe how to determine the cost of inventory;
- Identify the most common inventory costing methods under a periodic system and perpetual system.
- value inventories at the lower of cost or market price;
- Understand the need for estimating inventories using retail and gross profit method.

1.1. Nature and effect of Inventories on financial statements

1.1.1. Meaning of inventories

Dear learner, can you give your definition of inventories?

Inventories are asset items held for sale in the ordinary course of business or goods that will be used or consumed in the production of goods to be sold. For any company that makes or sales merchandise, inventory is an extremely important asset. Managing this asset is a challenging task. It requires not only protecting the goods from theft or loss but also ensuring that

operations are highly efficient. Further, as you will see in this chapter, proper accounting of inventory is essential because misstatements will affect net income in at least two years.

They are mainly divided into two major categories:

- Inventories of merchandising businesses; and
- Inventories of manufacturing businesses

i. ***Inventories of merchandising businesses:*** are merchandise purchased for resale in the normal course of business. These types of inventories are called ***merchandise inventories***.

ii. ***Inventories of manufacturing business:*** manufacturing businesses are businesses that produce physical output. They normally have three types of inventories. These are:

- Raw material inventory
- Work in process inventory
- Finished goods inventory

1. ***Raw material inventory*** – is the cost assigned to goods and materials on hand but not placed into production. Raw materials include the wood to make a chair or other office furniture's, the steel to make a car etc.

2. ***Work in process inventory-*** is the cost of raw material on which production has been started but not completed, and the direct labor cost applied specifically to this material and allocated manufacturing overhead costs. In simple terms, work in process inventory refers to the cost of those items that started in production but not yet completed.

3. ***Finished goods inventory*** – is the cost identified with the completed but unsold units on hand at the end of each period.

In this chapter, only the determination of the inventory of merchandise purchased for resale commonly called ***merchandise inventory*** will be discussed.

1.1.2. Internal Control of Inventories

For various reasons, management is vitally interested in inventory planning and control. Whether a company manufactures or merchandises goods, it needs an accurate accounting system with up-to-date records. It may lose sales and customers if it does not stock products in the desired style, quality, and quantity. Further, companies must monitor inventory levels carefully to limit the financing costs of carrying large amounts of inventory. In a perfect world, companies would like a continuous record of both their inventory levels and their cost of goods sold. The popularity and affordability of computerized accounting software makes the perpetual system cost-effective for many kinds of businesses. Companies now started to incorporate the recording of sales with optical scanners at the cash register into perpetual inventory systems.

However, many companies cannot afford a complete perpetual system. But, most companies need current information regarding their inventory levels, to protect against stock-outs or over-purchasing and to aid in preparation of monthly or quarterly financial data. As a result, these companies use a **modified perpetual inventory system**. This system provides detailed inventory records of increases and decreases in quantities only not dollar amounts. It is merely a memorandum device outside the double-entry system, which helps in determining the level of inventory at any point in time.

Whether a company maintains a complete perpetual inventory in quantities and dollars or a modified perpetual inventory system, it probably takes a physical inventory once a year. No matter what type of inventory records companies use, they all face the danger of loss and error. Waste, breakage, theft, improper entry, failure to prepare or record requisitions, and other similar possibilities may cause the inventory records to differ from the actual inventory on hand. Thus, **all companies** need periodic verification of the inventory records by actual count, weight, or measurement, with the counts compared with the detailed inventory records. Finally, a company corrects the records to agree with the quantities actually on hand.

Insofar as possible, companies should take the physical inventory near the end of their fiscal year, to properly report inventory quantities in their annual accounting reports. Because this is not always possible, however, physical inventories taken within two or three months of the year's end are satisfactory, if a company maintains detailed inventory records with a fair degree of accuracy.

Two primary objectives of control over inventory are as follows:

- ® Safeguarding the inventory from damage or theft.
- ® Reporting inventory in the financial statements.

Safeguarding Inventory - Controls for safeguarding inventory begin as soon as the inventory is ordered. The following documents are often used for inventory control:

- ↳ Purchase order
- ↳ Receiving report
- ↳ Vendor's invoice

The **purchase order** authorizes the purchase of the inventory from an approved vendor. As soon as the inventory is received, a receiving report is completed. The **receiving report** establishes an initial record of the receipt of the inventory. To make sure the inventory received is what was ordered, the receiving report is compared with the company's purchase order. The price, quantity, and description of the item on the purchase order and receiving report are then compared to the **vendor's invoice**. If the receiving report, purchase order, and vendor's invoice agree, the inventory is recorded in the accounting records. If any differences exist, they should be investigated and reconciled.

Recording inventory using a perpetual inventory system is also an effective means of control. The amount of inventory is always available in the subsidiary inventory ledger. This helps keep inventory quantities at proper levels. For example, comparing inventory quantities with maximum and minimum levels allows for the timely re-ordering of inventory and prevents ordering excess inventory.

Finally, controls for safeguarding inventory should include security measures to prevent damage and customer or employee theft. Some examples of security measures include the following:

- ® Storing inventory in areas that are restricted to only authorized employees.

- ® Locking high-priced inventory in cabinets.
- ® Using two-way mirrors, cameras, security tags, and guards.

Reporting Inventory - A physical inventory or count of inventory should be taken near year-end to make sure that the quantity of inventory reported in the financial statements is accurate. After the quantity of inventory on hand is determined, the cost of the inventory is assigned for reporting in the financial statements. Most companies assign costs to inventory using one of three inventory cost flow assumption.

1.1.3. Importance of Inventories

Merchandise purchased and sold is the most active elements in a merchandising business, i.e. in wholesale and retail type of businesses. This is due to the following reasons:

1. The sale of merchandise is the principal source of revenue for them.
2. The cost of merchandise sold is the largest deductions from sales.
3. Inventories (ending inventories) are the largest of the current assets or those firms.

Because of the above reasons inventories have effects on the current and following period's financial statements. If inventories are misstated (overstated or understated), the financial statements of the business will be distorted.

1.2. The Effect of Inventory on the Financial Statements

1.2.1. The effect of inventory on the current period's financial statements

Ending inventory is the cost of merchandise on hand at the end of the accounting period. Let us see its effect on current period's financial statements.

The effect of ending inventory is reflected in both income statements and balance sheets. First, let us see its effect on the income statement:

Income Statement

- (a). Ending inventory is used in calculating cost of goods sold in the income statement
- $$\text{Cost of goods (merchandise) sold} = \text{Beginning inventory} + \text{Net purchase} - \text{Ending inventory}.$$

As you see, ending inventory is a deduction in calculation cost of merchandise sold. So, it has an indirect (negative) relationship to cost of merchandise sold, i.e. if ending inventory is understated, the cost of merchandise sold will be overstated, and if ending inventory is overstated, the cost of merchandise sold will be understated.

Note: there exists an inverse or negative relationship between ending inventory and cost of merchandise sold.

- (b). The cost of the merchandises sold will then subsequently be used in calculating the gross profit of the enterprise.

$$\text{Gross Profit} = \text{Net sales} - \text{Cost of merchandise sold}$$

Here, the cost of merchandise sold had indirect relationship to gross profit. So, the effect of ending inventory on gross profit is the opposites of the effect on cost of merchandise sold. That is, if ending inventory is understated, the gross profit will be understated and if ending inventory to overstated, the gross profit will be overstated.

- (c). Operating income = Gross Profit – Expenses

Gross profit and operating income have direct relationships. Thus, the effect of ending inventory on net income is the same as its effect on gross profit.

Note: there exists positive or direct relationship between ending inventory and gross profit as well as operating income (net income).

Balance Sheet

A balance sheet is a financial statement that lists all assets, liabilities and capitals of an organization on a specific date. The ending inventory of an organization affects the two major components of a balance sheet:

1. **Current Assets** - Ending inventory is part of current assets, even the largest. Therefore, it has a direct (positive) relationship to current assets. If ending inventory balance is understated (overstated), the total current assets will be understated (overstated). Since current assets are part of total assets, ending inventory has direct relationship to total assets.
2. **Liabilities:** No effect on liabilities. Inventory misstatement has no effect on liabilities.
3. **Owners' equity** - The net income will be transferred to the owners' equity at the end of accounting period. Closing income summary account does this. Therefore, net income has direct relationship with owners' equity at the end of accounting period. The effect-ending inventory on owners' equity is the same as its effect on net income, i.e. if ending inventory is understated (Overstated), the owners' equity will be understated (Overstated).

Illustration:

The effect of inventory on the Current Period's financial statements

An error in the determination of the inventory amount at the end of the period will cause an equal misstatement of gross profit and net income, and the amount reported for both assets and owner's equity in the balance sheet will be incorrect by the same amount. The effects of understatements and overstatements of merchandise inventory at the end of the period are demonstrated in the following three sets of condensed income statements and balance sheets.

The first set of statements is based on a correct ending inventory of Birr 30,000; the second set, on an incorrect ending inventory of Birr 22,000; and the third set, on an incorrect ending inventory of Birr 37,000. In all three cases, net sales are Birr 200,000, merchandise available for sale is Birr 140,000, and expenses are Birr 55,000.

Case -1 Ending inventory correctly stated as Birr 30,000.

Income statement:

Net sales -----Birr 200,000

Cost of merchandise sold -----Birr110,000

Gross profit -----Birr 90,000

Expenses -----55,000

Net income-----**Birr 35,000**

Balance sheet:

Merchandise inventory ----- Birr 30,000

Other assets -----Birr80,000

Total assets -----Birr110,000

Liabilities ----- Birr 30,000

Owner's equity ----- Birr80,000

Total equity ----- **Birr110,000**

Case-2 – Ending inventory incorrectly stated at Birr 22,000. This results in understatement of Birr 8000.

Income statement

Net sales ----- 200,000

Cost merchandise sold 118,000

Gross profit----- Birr 82,000

Balance sheet

Merchandise inventory 22,000

Other assets 80,000

Total assets 102,000

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Expenses -----	<u>55,000</u>	liabilities	30,000
Net Income	<u>27,000</u>	Owner's equity	<u>72,000</u>
		Total equity	<u>102,000</u>

Case 3 Ending inventory incorrectly stated Birr 37,000 this results in overstatement of Birr 7,000

<u>Income statement</u>	<u>Balance sheet</u>
Net sales ----- 200,000	Merchandise inventory 37,000
Cost merchandise sold--- <u>103,000</u>	Other assets..... <u>80,000</u>
Gross profit----- Birr 97,000	Total asset <u>117,000</u>
Expenses ----- <u>55,000</u>	Liabilities..... 30,000
Net Income <u>42,000</u>	Owner's equity <u>87,000</u>
	Total equity <u>117,000</u>

The variation in allocating the Birr 140,000 of merchandise cost are summarized as follows

<u>Merchandise Available</u>	<u>Total Inventory</u>	<u>Sold</u>
1. Inventory correctly stated	Birr 140,000	Birr30,000 Birr110,000
2. Inventory understated by Birr Birr8000	Birr 140,000	Birr 22,000 Birr118,000
3. Inventory overstated by Birr 7,000	Birr 140,000	Birr 37,000 Birr 103,000

The effect of the errors on net income, assets and owner's equity may also be summarized as follows:

- When the ending inventory is understated, the net income for the period, the asset and owner's equity will be understated.
- When the ending inventory is overstated, the net income, the asset and the owner's equity will be overstated.

1.2.2. Effect of Ending Inventory on the Following Period's Financial Statement

The ending inventory of the current period will become the beginning inventory for the following period. So, it will have the same effect as beginning inventory of the current period. Let us summarize it.

Income Statement of the Following Period

a) Ending inventory is used in calculating cost of goods sold in the income statement

Cost of goods (merchandise) sold = Beginning inventory + Net purchase – Ending inventory.

As you see, ending inventory of the previous period will become beginning inventory of the following period. Therefore, when ending inventory of the current period increases, it means that beginning inventory of the next period increases too. Due to this cost of goods sold of the next period increases.

Note: there exists a direct or positive relationship between ending inventory of the previous period and cost of merchandise sold of the following period. I.e. when ending inventory of the previous period increases, beginning inventory and cost of merchandise sold of the next period increases.

b) The cost of the merchandises sold of the following period will then subsequently be used in calculating the gross profit of that period.

Gross Profit = Net sales – Cost of merchandise sold

In this case, you have to note that, ending inventory of the previous period has increased cost of goods sold of the following period. Therefore, gross profit of the following period will decrease as cost of the goods sold increase.

Note: there exists an indirect or negative relationship between ending inventory of the previous period and gross profit of the following period. I.e. when ending inventory of the previous period increases, cost of merchandise sold of the following period increases and gross profit of the next period decreases.

c) ***Operating income = Gross Profit – Operating Expenses***

The effect of ending inventory on the following period's operating income is the same with that of gross profit.

Balance sheet of the following period

The ending inventory of the current period will not have an effect on the following period's balance sheet items. This is because the balance sheet of the following period reports only ending inventory of that period instead of ending inventory of the previous period.

1.3.Inventory Systems: Periodic Vs Perpetual

Dear learner, Can you guess as to how companies determine their cost of inventory?

In the previous sections, you have seen the meaning and effect of inventory on financial statements. The next question that you would probably ask is what techniques we can apply to calculate that balance of inventory. In this section, you are going to see the systems applied to determine cost and physical quantity of inventory.

There are two principal system of inventory accounting. These are:

1. Periodic Inventory system
2. Perpetual Inventory system.

1. Periodic inventory system

Periodic inventory system is a system of accounting for merchandise in which inventory at the balance sheet date is determined by counting and pricing the goods on hand. The cost of goods sold is determined by subtracting the ending inventory from the cost of goods available for sale. Physical inventory must be taken in order to determine the cost of inventory at the end of the period. A periodic system of inventory accounting requires that acquisition of merchandise be recorded by debits to a purchase account. When merchandise is sold to a customer, the only accounting entry is a debit to cash or account receivable and a credit to sales for the sales price of the goods sold. No entry is made to reduce the inventory by the cost of the goods sold. Under this system, the inventory account remains unchanged until the end of the accounting period. At years end, all the goods on hand are counted and priced at cost; the cost figure is then entered in the accounts as the amount of the year-end inventory.

The periodic inventory system is likely to be used by a business that sells a variety of merchandise with low unit prices, such as grocery, hard ware and drugs. To maintain perpetual inventory records in such a business may be considered too time consuming and expensive.

The journal entries to be prepared are:

1. At the time of purchase of merchandise:

Purchases -----XX

Accounts payable or cash -----XX

2. At the time of sale of merchandise:

Accounts receivable or cash -----XX

Sales -----XX

3. To record purchase returns and allowance:

Accounts payable or cash -----XX

Purchase returns and allowance -----XX

4. To close beginning inventory:

Income Summary -----XX

Merchandise inventory (beginning) -----XX

5. *To record ending inventory:*

Merchandise inventory (ending) -----XX

Income summary -----XX

2. Perpetual inventory system

Under the perpetual inventory system, the inventory is kept continuously up to date, hence the name, perpetual inventory, the perpetual inventory system uses accounting records that continuously disclose the amount of the inventory. A separate account for each type of merchandise is maintained in a subsidiary ledger. Regardless of the care with which the perpetual inventory records are maintained, their accuracy must be tested by taking a physical inventory of each type of commodity at least once a year. Businesses selling a relatively small number of high unit cost items, such as office equipment, automobiles, television, sets are more likely to use the perpetual system.

As merchandise is acquired its cost is added to an inventory account, as goods are sold, their cost is transferred out of inventory and in to a cost of goods sold account. This continuous updating of the inventory account explains the name perpetual inventory system.

Journal entries to be prepared are:

1. *At the time of purchase of merchandise:*

Merchandise inventory -----XX

Accounts payable/cash -----XX

2. *At the time of sale of merchandise*

Accounts receivable or cash -----XX

Sale -----XX

(To record the sale of merchandise)

Cost of goods sold -----XX

Merchandise inventory -----XX

(To record the cost of merchandise sold)

3. To record purchase returns and allowances

Accounts payable or cash -----XX

Merchandise inventory -----XX

Note: No adjusting entry or closing entry for merchandise inventory is needed at the end of each accounting period under perpetual inventory system.

Illustration: Consider the following transactions recorded under periodic and perpetual system

Suppose on January 1, 2006; FENTAW Merchandising Company had 120 units of merchandises that cost Br. 8 per Unit. The following transactions were completed during 2006.

February 5: Purchased on credit 150 units of at Br. 10 per unit

February 9: Returned 20 defective units from February 5 purchases to the supplier.

June 15: Purchased for cash 230 units of merchandise at Br. 9 per unit.

September 6: Sold 220 units for each at a price of Br. 15 per unit. These goods are 120 units from the beginning inventory and 100 units for February purchases.

December 31: 260 units are left on hand, 30 units from February 5 purchases.

Required: Prepare general journal entries for FENTAW Company to record the above transactions and adjusting or closing entry for merchandise inventory on December 31,

- Periodic inventory system
- Perpetual inventory system

Solution

a) Periodic inventory system

February 5; Purchases (150 x Br. 10) -----1,500
 Account payable -----1,500
 February 9: Account payable (20 x Br. 10) ----- 200
 Purchase returns and allowances -----200
 June 15; Purchases (230 x Br. 9) -----2,070
 Cash-----2,070
 September 6: Cash (220 x Br. 15) -----3,300
 Sales -----3,300
 December 31: To record or close the merchandise inventory account
 Income summary (120 x Br. 8) -----960
 Merchandise inventory (beginning) -----960

 Merchandise inventory (ending) -----2,370
 Income summary [(30xBr.10) + (230 x Br. 9) -----2,370

b) Perpetual inventory system

February 5: Merchandise inventory -----1,500
 Accounts payable -----1,500
 February 9: Accounts payable -----200
 Merchandise inventory -----200
 June 15: Merchandise inventory-----2070
 Cash -----2,070

4. September 6: At the time of sale of merchandise

i. To record the sales

Cash -----3,300
 Sales-----3,300

ii. To record cost of merchandise sold

(120 x Br.8) + (100 x Br.10)= Br. 960 + Br. 1,000=Br. 1,960

Cost of merchandise sold -----1,960
 Merchandise inventory -----1960

December 31: No entry is needed to record or close merchandise inventory account.

1.4. Determining The Cost of Inventory

In the previous section we have discussed the meaning and concepts of inventory. In this section, we will discuss the determination of the cost of inventory. Usually, the amount and size of inventories to be recorded and reported are large in number. Due to this, assigning a monetary value for these bulky merchandise inventories could be a complex activity. Considering this fact, we will apply various inventory cost flow assumptions. This section discusses about the inventory costing methods and assumptions.

1.4.1. Cost of Merchandise Inventories

Dear learner, which costs should be included as the cost of merchandise inventories?

Regardless of whether the perpetual or periodic system is used, it is necessary to assign dollar amounts to the physical quantities of goods sold and goods remaining in ending inventory. Unless each item of inventory is specifically identified and traced through the system, assigning dollars is accompanied by making an assumption regarding how goods and their associated costs flow through the system.

Costs included in merchandise inventory are those expenditures necessary, directly or indirectly, to bring an item to a salable condition and location. In other words, cost of an inventory item includes its invoice price minus any discount, plus any added or incidental costs necessary to put it in a place and condition for sale. Added or incidental costs can include import duties, transportation-in, storage, insurance against losses while the goods are in transit, and so on.

Minor costs that are difficult to allocate to specific inventory items may be excluded from inventory cost and treated as operating expenses of the period. This is based on materiality principle or the cost-to-benefit constraint.

1.4.2. Inventory Costing Methods

How do you think a cost is assigned for inventories remaining at hand at the end of the period?

One of the most important decisions in accounting for inventory is determining the per unit costs assigned to inventory items. When all units are purchased at the same unit cost, this process is

simple since the same unit cost is applied to determine the cost of goods sold and ending inventory.

However, when identical items are purchased at different costs, a question arises as to what amounts are included in the cost of merchandise sold and what amounts remain in inventory. Periodic inventory system determines cost of merchandise sold and inventory at the end of the period. We must recorded cost of merchandise sold and reductions in inventory as sales occur when perpetual inventory system is used. How we assign these costs to inventory and cost of merchandise sold affects the reported amounts for both systems.

There are four methods commonly used in assigning costs to inventory and cost of merchandise sold. These are:

1. Specific identification
2. First-in-first-out (FIFO)
3. Last-in-first-out (LIFO)
4. Weighted average

Inventory costing methods under periodic inventory system

Illustration:

Alex Company has the following merchandises:

Jan-1	Beginning inventory	80 units@ Br. 60=	Br.4, 800
Feb. 16	Purchase	400 units@ 56=	22,400
Sep. 2	Purchase	160 units@ 50=	8,000
Nov. 26	Purchase	320 units@ 46=	14,720
Dec. 4	Purchase	<u>240</u> units@ 40=	<u>9,600</u>
	Total	<u>1200</u> Units	<u>Br.59,520</u>

The ending inventory consists of 320 units.

1. Specific Identification Method

When each item in inventory can be directly identified with a specific purchase and its invoice, we can use specific identification (also called specific invoice pricing) to assign costs. This method is appropriate when the variety of merchandise carried in stock is small and the volume of sales is relatively small. We can specifically identify the items sold and the items on hand.

Example

From the above illustration, the ending inventory consists of 320 units, 80 units from each of the last purchases. So, the items on hand are specifically known from which purchases they are:

Cost of ending inventories under specific identification method.

Br. 40 x 80	=	Br.3,200
Br. 46 x 80	=	3,680
Br. 50 x 80	=	4,000
Br. <u>56</u> x 80	=	<u>4,480</u>
<u>320 units</u>		Br. <u>15,360</u>

Cost of Ending inventory cost = Br. 15,360

The cost of merchandise sold = Cost of goods available for sale – Ending inventory

$$= \text{Br. } 59,520 - \text{Br. } 15,360$$

$$= \text{Br. } \underline{\underline{44,160}}$$

2. First-in, First-out (FIFO)

This method of assigning cost to inventory and the goods sold assumes inventory items are sold in the order acquired. This means the cost flow is in the order in which the expenditures were made. So, to determine the cost of ending inventory, we have to start from the most recent purchase and continue to the next recent. Because the first purchased items (old purchases) are the first to be sold they are used (included) in the computation of cost of goods sold.

For example, easily spoiled goods such as fruits, vegetables etc., must be sold near the time of their acquisition. So, the inventory on hand will be from the recent purchases. As an example, consider the previous illustration.

The cost of ending inventory under FIFO method

$$= \text{Br. } 40 \times 240 = 9,600$$

$$= \text{Br. } 46 \times 80 = \underline{3,680}$$

$$400 \text{ units } \underline{\text{Br. } 13,280}$$

Cost of Ending inventory: Br.13,280

Cost of merchandise sold = Br.59, 520 - Br.13,280

$$= \underline{\text{Br. } 46,240}$$

3. Last-in first-out (LIFO)

The last in first out method, commonly known as LIFO, is one of the most interesting methods of pricing inventories. The title of this method suggests that the most recently acquired goods are sold first, and that the ending inventory consists of “old” goods acquired in the earliest purchases. Although this assumption is not in accordance with the physical movement of merchandise in most business, there is a strong logical argument to support the LIFO method.

In calculating the cost of goods sold, we will start from the earliest purchases.

As an example, take the previous illustration

The cost-ending inventory under LIFO method

$$= \text{Br. } 60 \times 80 = \text{Br. } 4,800$$

$$= \text{Br. } 56 \times 240 = \underline{13,440}$$

$$320 \text{ units } \text{Br. } 18,240$$

Ending inventory cost = Br.18, 240

Cost of merchandise sold = Br.59, 520 – Br.18, 240

Br.41, 280**4. Weighted Average Method**

Weighted average method is based on the assumption that costs should be charged against revenue in accordance with the weighted average unit costs of the merchandise sold. This method of assigning cost requires computing the average cost per unit of merchandise available for sale. That means the cost flow is an average of the expenditures.

To calculate the cost of ending inventory, we will calculate first the cost per unit of goods available for sale.

$$\text{Average cost per unit} = \frac{\text{Cost of goods available for sale}}{\text{Total units available for sale}}$$

Then the weighted average unit cost is multiplied by units on hand at the end of the period to calculate the cost of ending inventory. Also, the same average unit cost is applied in the computation of cost of goods sold.

$$\text{Weighted average unit cost} = \text{Br. } \frac{59,520}{1,200} = \text{Br. } 49.60$$

$$\text{Ending inventory cost} = \text{Br. } 49.60 \times 320 = \underline{\text{Br. } 15,872}$$

$$\text{Cost of merchandise sold} = \text{Br. } 59,520 - \text{Br. } 15,872 = \underline{\text{Br. } 43,648}$$

Comparison of Inventory Costing Methods

Dear learners, what can you notice from each inventory costing technique?

All four of the inventory methods described above are acceptable for financial reporting purposes and also for the purpose of computing taxable income. Each inventory method has certain advantages and disadvantages. In the final analysis, the selection of inventory methods is a managerial decision. The methods used in the valuations of inventories should be disclosed in a footnote to the financial statement.

Let us now look briefly at the major advantages and shortcomings of each inventory pricing methods.

1. Specific identification method: this is the only method in which the allocation of costs between ending inventory and the cost of goods sold exactly parallels the physical flow of merchandise. As states earlier, if each unit of merchandise is unique and has a different cost, this is only practical method.

When the inventory consists of many identical items, however, the specific identification method has a number of shortcomings. First, if the items are identical, it may be difficult to make the specific identification necessary to apply the method. In addition, this method assigns different costs to identical items. This, In turn, permits the manipulation of reported net income merely by selecting which items to deliver in filling sales orders.

2. First-in-First out: It assigns the oldest purchase costs to the cost of goods sold and the close of the most recent purchases to ending inventory. As a result inventory is valued relatively cost to its current replacement cost. During a period of rising price, however, the “older” costs assigned to the cost of goods sold may be less than the cost actually paid by the company to restock its inventory. Thus, some accountants feel that the FIFO method tends to understate the cost of goods sold and overstate net income. Whether or not this method actually “overstates” net income is a value judgment. During rising price, FIFO results in the lowest cost of goods sold and the highest amount of gross profit. This outcome is characteristic of the FIFO during a period of rising prices.
3. Last-in-fist out: A recent survey of large corporations shows the last-in-first out (LIFO) to be the most widely used of all inventory pricing methods. Sales revenue reflects current prices; therefore, we believe that the cost of goods sold should reflect the current cost of merchandise. The LIFO methods comes closest to this objective by assigning to the cost of goods sold the prices paid for the most recent purchase of merchandise.

Income tax considerations however provide another reason for the popularity of the LIFO method. In the common situation of rising prices, these “most recent” costs are also the highest costs. By reporting a higher cost of good sold than results from the other inventory valuation

methods, the LIFO method usually results lower taxable income. In short, if inventory costs are rising, a company can reduce the amount of its income tax obligation by using the LIFO method in its income tax return. There is one significant short coming to the LIFO method. The valuation of the asset inventory is based up on the company's "oldest" inventory acquisition costs. After the company has been in business for many years, these oldest costs may greatly understate the current replacement of the inventory. Thus, when an inventory is valued by the LIFO method, the company also should disclose the current replacement cost of the inventory in a note to the financial statements

4. Average cost: Identical items will have the same accounting values only under the average cost method. The average cost method properly recognizes that when a customer buys an item, it is not necessary to know exactly which item the customer happened to select from the bin in order measure the gross profit on the sale. Therefore, the average cost method avoids the shortcomings of the specific identification methods. It is not necessary to keep track of the specific items sold end of these still in inventory.

A shortcoming in the average cost method is that changes in current replacement costs of inventory are concealed because these costs are average with older costs. Thus, neither the valuation of ending inventory nor the cost of goods sold will quickly reflect change in the current replacement cost of merchandise.

Inventory Costing Methods under Perpetual Inventory System

Under perpetual inventory systems, we will apply the inventory costing methods each time sale of merchandise is made. We calculate the cost of goods (merchandises) sold and inventory on hand at the time of each sale. This means the merchandise inventory account is continually updated to reflect purchase and sales.

Illustration:

The beginning inventory, purchases and sales of Ahmed Company for the month of September were as follows:

		<u>Units</u>	<u>Cost</u>
Sept.1	Inventory	20	Br.10.00
6	Sale	10	
10	Purchase	10	Br.12.00
20	Sale	8	
25	Purchase	8	Br.12.50
27	Sale	10	
30	Purchase	15	Br.14.00

1. First-in First-out Method (FIFO)

Assignment of costs to goods sold and inventory-using FIFO is the same for both the perpetual and periodic inventory systems. This is because each withdrawal of goods is from the oldest stock on hand. The oldest is the same whether we use periodic inventory system or perpetual inventory system. Let us calculate the cost of goods sold and ending inventory under perpetual inventory system from the above illustration.

Perpetual – FIFO

Date	Purchase			Cost of merchandise sold			Inventory		
	Qty.	Unit cost	Total cost	Qty	Unit cost	Total cost	Qty	Unit cost	Total cost
Jan. 1	-	-	-	-	-	-	20	Br. 10.00	Br. 200.00
6	-	-	-	10	Br.10.00	Br. 100.00	10	10.00	100.00
10	10	Br. 12.00	Br.120.00	-	-	-	10	10.00	100.00
							10	12.00	120.00
20	-	-	-	8	10.00	80.00	2	10.00	20.00
							10	12.00	120.00
25	8	12.50	100.00	-	-	-	2	10.00	20.00
							10	12.00	120.00
							8	12.50	100.00
27	-	-	-	2	10.00	20.00	2	12.00	24.00
				8	12.00	96.00	8	12.50	100.00
30	15	14.00	210.00	-	-	-	2	12.00	24.00
							8	12.50	100.00
							15	14.00	210.00
				28		Br. 296.00	25		Br. 334.00

So, the cost of merchandise sold and ending inventory under perpetual – FIFO method are Br. 296 and Br. 334 respectively.

Let us see them under periodic – FIFO method:

Units on hand = units available for sale – units sold

$$= (20 + 10 + 8 + 15) - (10+8+10)$$

$$= 53 - 28 = \underline{25}$$

Cost of ending inventory = Br. 14 x 15 = Br.210

$$\text{Br. } 12.50 \times 8 = 100$$

$$\text{Br. } 12 \times 2 = \underline{24}$$

$$\text{Br. } \underline{\underline{334}}$$

Cost of goods available for sale = Br. 200 + Br. 120+Br.100+Br.210=Br.630

Cost of goods sold = Br.630 – Br. 334

$$= \underline{\underline{\text{Br.296}}}$$

So, the results of cost of goods sold and ending inventory under both periodic inventory systems is the same

2. Last-in, First-out Method (LIFO)

Unlike FIFO method, different results may occur under periodic and perpetual inventory system. The most recent purchase change when new purchase occurs.

Let us calculate first the cost of goods sold and ending inventory for the above illustration under perpetual inventory system. Then, we will see the results under periodic inventory system.

Date	Purchase			Cost of merchandise sold			Inventory		
	Qty.	Unit cost	Total cost	Qty	Unit cost	Total cost	Qty	Unit cost	Total cost
Jan. 1	-	-	-	-	-	-	20	Br. 10.00	Br. 200.00
6	-	-	-	10	Br. 10.00	Br. 100.00	10	10.00	100.00
10	10	Br. 12.00	Br.120.00	-	-	-	10	10.00	100.00
							10	12.00	120.00
20	-	-	-	8	12.00	96.00	10	10.00	100.00
							2	12.00	24.00
25	8	12.50	100.00	-	-	-	10	10.00	100.00
							2	12.00	24.00
							8	12.50	100.00
27	-	-	-	8	12.50	100.00	10	10.00	100.00
				2	12.00	24.00			
30	15	14.00	210.00	-	-	-	10	10.00	100.00
							15	14.00	210.00
				28		Br. 320.00	25		Br. 310.00

So, the cost of merchandise sold and ending inventory under perpetual inventory system are Br.320 and Br. 310 respectively.

The results under periodic inventory system are:

Cost of ending inventory = Br. 10 x 20 = Br. 200

= Br 12 x 5 = Br 60

= Br. 260

Cost of merchandise sold = Br. 630 – 260

= Br.370

As you can see from the above illustration, under LIFO method the results are different under periodic & perpetual inventory systems.

3. Weighted Average Cost Method

Under this method, the average unit cost is calculated each time purchased is made to be applied on the sales made after the purchases. The results may be different under periodic and perpetual inventory system.

Let us calculate the cost of merchandise sold and ending inventory comes out from the previous illustration under perpetual inventory system.

Average Cost Method (Moving Average)

Date	Purchase			Cost of merchandise sold			Inventory		
	Qty.	Unit cost	Total cost	Qty	Unit cost	Total cost	Qty	Unit cost	Total cost
Jan. 1	-	-	-	-	-	-	20	Br. 10.00	Br. 200.00
6	-	-	-	10	Br.10.00	Br. 100.00	10	10.00	100.00
10	10	Br. 12.00	Br.120.00	-	-	-	20	11.00 =220/20	220.00
20	-	-	-	8	11.00	88.00	12	11.00	132.00
25	8	12.50	100.00	-	-	-	20	11.60 =232/20	232.00
27	-	-	-	10	11.60	116.00	10	11.60	116.00
30	15	14.00	210.00	-	-	-	25	13.04 =326/25	326.00
				28		Br. 304.00	25		Br. 326.00

So, the cost of goods sold and ending inventory under perpetual inventory system are Br. 304.00 and Br. 326.00, respectively.

The results under periodic inventory system are:

$$\text{Weighted average unit cost} = \frac{\text{Br.630}}{53} = \text{Br.11.89}$$

$$\text{Ending inventory cost} = \text{Br. 11.89} \times 25$$

$$= \underline{\text{Br. 297}}$$

$$\text{Cost of merchandise sold} = \text{Br.630} - \text{Br.297}$$

$$= \text{Br. } \underline{\underline{333}}$$

So, the result is different under periodic and perpetual inventory systems.

1.4. Valuation of Inventory at other than cost

In the previous section, you learnt that there are several methods a company could use to determine the cost of inventory at the end of a period and the corresponding cost of goods sold for the period. In the practical world, various conditions make it difficult or sometimes impossible to strictly apply accounting theories. Due to this, there are adjustments and modifications to be made to make the accounting information fair and valuable. In this section, you will see some inventory valuation and estimation techniques. The essence of this section is to equip you with all the necessary techniques and steps to be followed in estimating and valuing inventories.

This section deals with lower of cost or market (LCM) inventory valuation as well as Retail and gross method of inventory estimation.

1.4.1. Inventory Valuation: Lower of Cost or Market (LCM) Method

It was explained how costs are assigned to ending inventory and cost of goods sold using one of the four costing methods (FIFO, LIFO, weighted average, or specific identification).

Yet, the cost of inventory is not necessarily the amount always reported on a balance sheet. Accounting principles require that inventory to be reported at cost. However sometimes it might be necessary to value inventories at a value other than cost. Especially, when there exists a significant difference in historical purchasing price and current market cost of inventories.

One alternative technique of inventory valuation is based on a comparison of the market value of inventories against their cost and taking whichever is lower. Merchandise inventory is then said to be reported on the balance sheet at the lower of cost or market (LCM).

In applying LCM, cost is the acquisition price of inventory computed using one of the **historical** cost methods – specific identification, FIFO, LIFO, and Weighted average. Where as, market is defined as the **current** market value (cost) of replacing inventory. It is the current cost of purchasing the same inventory items in the usual manner. It is important to know that market is not defined as the sales prices.

A decline in market cost reflects a loss of value in inventory. This is because the recorded cost of inventory is higher than the current market cost. When this occurs, a loss is recognized. This is done by recognizing the decline in merchandise inventory from recorded cost to market value at the end of the period.

LCM is applied in one of three ways:

- (1) *Separately to individual items*
- (2) *To major categories of items*
- (3) *To the whole of inventories*

The less similar the items that make up inventory are, the more likely it is that companies apply LCM to individual items. Advances in technology further encourage the individual item application.

Illustration

The following are the inventory of XYZ Company, retailer.

<i>Inventory Items</i>	<i>units on had</i>	<i><u>Per Unit</u> <u>Cost</u> <u>market</u></i>	
Cycles:			
Roadster	50	Br. 15,000	Br. 14,000
Sprint	20	9,000	9,500
Off Road:			
Trax-4	10	10,000	11,000
Blaz'm	6	16,000	14,500

Let us see LCM computation under the three ways:

(1) Separately to each individual item

<i>Inventory item</i>	<i>Total cost</i>	<i>Total market</i>	<i>LCM</i>
Roadster	Br.750,000	Br.700,000	Br.700,000
Sprint	180,000	190,000	180,000
Categories sub total	Br.930,000	Br.890,000	
Trax-4	100,000	110,000	100,000
Blaz'm	96,000	87,000	87,000
Categories sub total	Br. 196,000	Br. 197,000	
Totals	<u>Br.1,126,000</u>	<u>Br.1,087,000</u>	<u>Br.1,067,000</u>

(2) Major categories of items

<i>Inventory</i>	<i>Categories total cost</i>	<i>Categories</i>	
		<i>Total market</i>	<i>LCM</i>
Cycles	Br. 930,000	Br.890,000	Br. 890,000
Off. Road	196,000	197,000	196,000
Totals	<u>Br.1,126,000</u>	<u>Br.1,087,000</u>	<u>Br. 1,086,000</u>

- When LCM is applied to the whole inventory, the market cost is Br. 1087,000. Since this market cost is Br. 37,000 lower than Br. 1,126,000 recorded cost, it is the amount reported for inventory on the balance sheet.
- When LCM is applied to individual items of inventory, the marked cost is Br. 1,067,000. Since market is again less than Br. 1,126,000 cost, it is the amount reported for inventory.
- When LCM is applied to the major categories of inventories, the market is Br. 1,086,000 which is also lower than cost.

1.6. Estimating Inventory Cost

Dear learner, In the practical world sometimes things make it necessary to estimate our inventories, what conditions do you think make companies to estimate their inventories?

In practice, an inventory amount is estimated for some purposes. When it is impossible to take a physical inventory or to maintain perpetual inventory records.

Example

- 1) Interim financial statements are needed. It may be too costly, to take physical inventory. This is especially the case when periodic inventory system is used.
- 2) When a catastrophe such as a fire, flood etc has destroyed the inventory. In such case, to ask claims from insurance companies, there is a need of estimating inventory.

There are two common techniques of inventory cost estimation; retail method and the gross profit method. Let us first see the retail method of inventory cost estimation:

1.6.1. Retail Method of Inventory Estimation

The retail method of inventory is widely used by department stores and other types of retail business. To use the retail inventory method, a store must maintain records showing the beginning inventory at cost and at retail. The term “at retail” means the marked selling prices of all items in the store. The records also must show the purchases during the period both at cost and at retail. The only other information needed is the net sales for the month. The amount of the net sales, of course, is equal to the amount recorded in the sales revenue account during the period minus any sales returns and sales discounts. The records described above enable us know the amount of goods available for sale, stated both at cost and at retail selling prices. With this information, all we need to do is to deduct the net sales for the month from the retail sales value of the goods available for sale. The result will be the ending inventory at retail selling price.

Generally, the steps to be followed to apply this method are:

1. Calculate the cost to retail ratio by using the following formula

$$\frac{\text{Cost of merchandise available for sale}}{\text{Retail price of merchandise available for sale}}$$

2. Calculate the ending inventory at retail price

Ending inventory at retail price = retail price of merchandise available for sale **less** Sales

3. Calculate the estimated cost of ending inventory

Estimated cost of ending inventory = Cost to retail ratio (calculated in step-1) X **Ending inventory at retail** (calculated in step-2)

Example

Cost
31

Retail

Sept. 1, beginning inventory	Br. 35,000	Br. 50,000
Purchases in September (net)	125,000	150,000
Sales in September (net)	140,000	

$$(1) \text{ Cost retail ratio} = \frac{\text{Br.}35,000 + \text{Br.}125,000}{\text{Br.}50,000 + \text{Br.}150,000} = 0.80$$

This implies that for every one Birr retail price 0.80 birr or 80 cents is the cost of that inventory and the remaining 20 cents is gross profit.

$$(2) \text{ Ending inventory at retail} = (\text{Br.}50,000 + \text{Br.}150,000) - 140,000$$

$$= \underline{\text{Br.}60,000}$$

$$(3) \text{ Estimated ending inventory at cost} = 0.80 \times \text{Br.}60,000$$

$$= \underline{\text{Br.}48,000}$$

1.6.2. Gross Profit Method

Dear learner, Can you guess probably how can we use the concept of gross profit to estimate inventory cost?

The gross profit method is a quick, simple technique for estimating inventory, and can be used in almost all types and sizes of business. In using this method, it is assumed that the rate of gross profit earned in the preceding year will remain the same for the current year. When we know the rate of gross profit, we can divide the dollar amount of net sales in to two elements.

1. The gross profit
2. The cost of goods sold

We view net sale as 100%. If gross profit, for example, is 40%, the cost of goods sold must be 60%. In other words, the cost of goods sold percentage is determined by deducting the gross profit percentage from 100%.

When the gross profit percentage is known, the ending inventory can be estimated by the following steps.

- (1) The gross profit rate is estimated and then estimated gross profit is calculated in birr value.

$$\text{Estimated gross profit (in Birr)} = \text{Gross profit rate} \times \text{sales}$$

- (2) Cost of merchandise sold is estimated

$$\text{Estimated cost of merchandise sold} = \text{sales} - \text{Estimated gross profit}$$

- (3) Calculate the estimated cost of ending inventory

Estimated cost of ending inventory is equal to:

$$\text{Cost of merchandise available for sale} - \text{Estimated cost of merchandise sold.}$$

Please recall that cost of merchandises available for sale is the sum of cost of beginning inventory and net cost of purchases.

Example Assume that a company has beginning inventory of Birr 50,000 on Jan 1. During the month of January, net purchases amounts to Birr 20,000 and net sales total Birr 30,000. Assume that the company's normal gross profit rate is 40% of net sales. It follows that the cost percentage is 60%. Using these facts, the inventory on January 31 may be estimated as follows:

Goods available for sale:

Beginning inventory, Jan 1 -----Birr 50,000

Net purchases -----Birr 20,000

Cost of goods available for sale -----Birr 70,000

Deduct: estimated cost of goods sold:

Net sales -----30,000

Cost percentage (100%-40 %) -----60%

Estimated cost of goods sold -----18,000

Estimated ending inventory, Jan 31 -----Birr52,000

The gross profit method of estimating inventory has several uses apart from the preparation of monthly financial statements. If an inventory is destroyed by fire, the company must determine the amount of inventory on hand at the date of the fire in order to file an insurance claim. The most convenient way to determine this inventory amount is often the gross profit method.

Chapter Two

Plant Assets and Intangible Assets

Introduction

Dear Learner! Do you remember that assets are categorized into two major classes?

Assets, in general, are classified as current assets and plant assets. Plant assets are major expenditures for many companies. They make up a large part of assets on the balance sheet. Plant assets are future benefits for any organizations. It is helpful to think of a plant asset as an amount of usefulness contributing to the operations of a company throughout the asset's life. While the plant assets are used in the operation of the business, their value gradually decline. An accounting method to account for such decline in service capacity of plant assets is called depreciation, and this will be discussed in this chapter. You will also study how depreciation is computed and recorded.

Additional expenditures are incurred to make the plant assets render better service. Hence, you will be introduced with the revenue and capital expenditures. The accounting treatment at time of disposing plant assets will also be explained. The basic plant assets disposal methods such as selling, exchanging for other asset, and discarding are included in the discussion.

In this chapter, you will also learn about accounting for intangible assets and natural resources, which are non-current assets like plant assets.

After having studied and worked through this chapter, you will be able to:

- ⇒ Identify Nature of plant assets
- ⇒ Compute depreciation for plant assets using various depreciation methods
- ⇒ Record depreciation expense in the accounting records
- ⇒ Distinguish expenses from expenditures that should be capitalized
- ⇒ Recognize additional expenditures made on plant assets;
- ⇒ Record the disposal of a plant asset.
- ⇒ Record the cost and amortization of intangible assets,
- ⇒ Identify the cost component of natural resources, and record the costs and depletion of natural resources.

⇒ Identify Presentation of fixed assets and intangible assets on the balance sheet

1.1. Nature of Plant Assets

Businesses purchase and use a variety of fixed assets, such as equipment, furniture, tools, machinery, buildings, and land. Fixed assets are long-term or relatively permanent assets. They are tangible assets because they exist physically. They are owned and used by the business and are not offered for sale as part of normal operations. Other descriptive titles for these assets are plant assets or property, plant, and equipment. The fixed assets of a business can be a significant part of the total assets.

Plant assets are often a significant portion of the total assets of a company.

Classifying Costs

A cost that has been incurred may be classified as a plant asset, an investment, or an expense. The following diagram shows how to determine the proper classification of a cost and, thus, how it should be recorded. As shown in the diagram, classifying a cost involves the following steps:

Step 1: Is the purchased item (cost) long-lived?

- ⇒ If yes, the item is capitalized as an asset on the balance sheet as either a fixed asset or an investment. Proceed to Step 2.
- ⇒ If no, the item is classified and recorded as an expense.

Step 2: Is the asset used in normal operations?

- ⇒ If yes, the asset is classified and recorded as a plant asset.
- ⇒ If no, the asset is classified and recorded as an investment.

Costs that are classified and recorded as plant or fixed assets include the purchase of land, buildings, or equipment. Such assets normally last more than a year and are used in the normal operations. However, standby equipment for use during peak periods or when other equipment breaks down is still classified as a fixed asset even though it is not used very often. In contrast, fixed assets that have been abandoned or are no longer used in operations are not fixed assets. Although fixed assets may be sold, they should not be offered for sale as part of normal operations. For example, cars and trucks offered for sale by an automotive dealership are not fixed assets of the dealership. On the other hand, a tow truck used in the normal operations of the dealership is a fixed asset of the dealership.

Investments are long-lived assets that are not used in the normal operations and are held for future resale. Such assets are reported on the balance sheet in a section entitled Investments. For example, undeveloped land acquired for future resale would be classified and reported as an investment, not land.

Cost of Plant Assets

The costs of acquiring plant assets include all amounts spent to get the asset in place and ready for use. For example, freight costs and the costs of installing equipment are part of the asset's total cost. The following table summarizes some of the common costs of acquiring fixed assets. These costs are recorded by debiting the related fixed asset account, such as Land, Building, Land Improvements, or Machinery and Equipment.

Cost of Acquiring Fixed Assets

Building	Machinery & Equipment	Land
<ul style="list-style-type: none"> • Architects' fees • Engineers' fee • Insurance cost incurred during construction • Interest on money borrowed to finance construction • Walkways to and around the building • Sales tax • Repairs and (purchase of existing building) • Modifying for use • Permits from government agencies 	<ul style="list-style-type: none"> • Sales taxes • Freight • Installation • Repairs and reconditioning (purchase of used equipment) • Insurance while in transit • Assembly • Modifying for use • Testing for use • Permits from government agencies 	<ul style="list-style-type: none"> • Purchase price • Sales tax • Permits from government agencies • Broker's commissions • Title fees • Surveying fees • Delinquent real estate taxes • Removing unwanted building less any salvage • Grading and leveling • Paving a public street bordering the land

Land improvements

- Trees and shrubs
- Fences
- Outdoor lighting
- Paved parking areas

Only costs necessary for preparing the fixed asset for use are included as a cost of the asset. Unnecessary costs that do not increase the asset's usefulness are recorded as an expense. For example, the following costs are included as an expense:

- ⇒ Vandalism - Deliberate destruction, defacement or damage of public or other people's property.
- ⇒ Mistakes in installation
- ⇒ Uninsured theft
- ⇒ Damage during unpacking and installing
- ⇒ Fines for not obtaining proper permits from governmental agencies

A company may incur costs associated with constructing a fixed asset such as a new building. The direct costs incurred in the construction, such as labor and materials, should be capitalized as a debit to an account entitled Construction in Progress. When the construction is complete, the costs are reclassified by crediting Construction in Progress and debiting the proper fixed asset account such as Building. For some companies, construction in progress can be significant.

The acquisition cost of land includes the negotiated cash price plus other costs such as the cost of land surveys, legal fees, title fees, broker's commissions, cost of preparing the land to build on, and even the demolition costs of old structures that might be torn down to get the land ready for its intended use.

1.2. Accounting for Depreciation

Plant assets, with the exception of land, lose their ability, over time, to provide services. Because land has an unlimited life, it is not depreciated. As plant assets are used in the operations of a business, their value to provide service decreases through usage and the passage of time.

This cost allocation of plant asset, called depreciation, is recorded in the accounting books periodically.

Depreciation means the allocation of the cost of a plant asset to the periods that benefit from the services of the asset.

The term depreciation is used to describe the gradual conversion of the cost of the asset into an expense.

Depreciation is not a process of valuation. Accounting records are kept in accordance with the cost principle; they are not indicators of changing price levels. It is possible that, through an advantageous buy and specific market conditions the market value of a building may rise. Nevertheless, depreciation must continue to be recorded because it is the result of an allocation, not a valuation process. The adjusting entry to record depreciation debits Depreciation Expense and credit as contra asset account entitled Accumulated Depreciation or Allowance for Depreciation. The use of a contra asset account allows the original cost to remain unchanged in the plant asset account.

Depreciation can be caused by physical or functional factors.

⇒ *Physical depreciation* factors include wear and tear during use or from exposure to weather.

⇒ *Functional depreciation* factors include obsolescence and changes in customer needs that cause the asset to no longer provide services for which it was intended. For example, equipment may become obsolete due to changing technology.

Two common misunderstandings exist about *depreciation* as used in accounting include:

1. Depreciation does not measure a decline in the market value of a plant asset. Instead, depreciation is an allocation of a plant asset's cost to expense over the asset's useful life. Thus, the book value of a plant asset (cost less accumulated depreciation) usually does not agree with the asset's market value. This is justified in accounting because a plant asset is for use in a company's operations rather than for resale.
2. Depreciation does not provide cash to replace plant assets as they wear out. This misunderstanding may occur because depreciation, unlike most expenses, does not require an outlay of cash when it is recorded.

? Dear Learners! Would you have more cash if you depreciated your car?

The answer is no. Depreciation does not affect your cash flows. Likewise, depreciation does not affect the cash flows of a business. However, depreciation is subtracted in determining net income.

2.2.1. Factors in Computing Depreciation Expense

Three factors determine the depreciation expense for a plant asset. These three factors are as follows:

- ⇒ The plant asset's initial cost
- ⇒ The plant asset's expected useful life
- ⇒ The plant asset's estimated residual value
- ⇒ The plant asset's estimated depreciable cost

The initial cost of a plant asset is determined using the purchase price and all amounts spent to get the asset in place and ready for use. The expected useful life of a plant asset is estimated at the time the asset is placed into service. Estimates of expected useful lives are available from industry trade associations. The Internal Revenue Service also publishes guidelines for useful lives, which may be helpful for financial reporting purposes. However, it is not uncommon for different companies to use a different useful life for similar assets.

The residual value of a plant asset at the end of its useful life is estimated at the time the asset is placed into service. Residual value is sometimes referred to as scrap value, salvage value, or trade-in value. The difference between a plant asset's initial cost and its residual value is called the asset's depreciable cost. The depreciable cost is the amount of the asset's cost that is allocated over its useful life as depreciation expense. If a fixed asset has no residual value, then its entire cost should be allocated to depreciation.

Periodic depreciation Expense

For an asset placed into or taken out of service during the first half of a month, many companies compute depreciation on the asset for the entire month. That is, the asset is treated as having been purchased or sold on the first day of that month. Likewise, purchases and sales during the second half of a month are treated as having occurred on the first day of the next month. To simplify, this practice is used in this chapter. The four depreciation methods used most often are as follows:

1. Straight-line depreciation
2. Double-declining-balance depreciation
3. Sum-of-the-years-digits method
4. Units-of-production depreciation

(1) Straight-Line Method

The **straight-line method** provides for the same (uniform/even) amount of depreciation expense for each accounting period (year) of the asset's useful life. It is the most widely used depreciation method. To illustrate, assume that equipment was purchased on January 1 as follows:

Initial cost	\$24,000
Expected useful life	5 years
Estimated residual value	\$2,000

The annual straight-line depreciation of \$4,400 is computed below.

$$\text{Annual Depreciation} = \frac{\text{Cost-Residual Value}}{\text{Useful Life}} = \frac{\$24,000 - \$2,000}{5 \text{ Years}} = \underline{\underline{\$4,400 \text{ per year}}}$$

The computation of straight-line depreciation may be simplified by converting the annual depreciation to a percentage of depreciable cost. The depreciation rate may also be expressed as a fraction. For example, the annual straight-line rate for an asset with a three-year useful life is 1/3. The straight-line percentage is determined by dividing 100% by the number of years of expected useful life, as shown below.

Expected Years of Useful Life	Straight-Line Percentage
2 years	50% (100%/2)
3 years	33.33% (100%/3)
5 years	20% (100%/5)
8 years	12.5% (100%/8)
10 years	10% (100%/10)
20 years	5% (100%/20)
25 years	4% (100%/25)

For the preceding equipment, the annual depreciation of \$4,400 can be computed by multiplying the depreciable cost of \$22,000 by 20% (100%/5). As shown above, the straight-line method is

simple to use. When an asset's revenues are about the same from period to period, straight-line depreciation provides a good matching of depreciation expense with the asset's revenues.

(2) Double-Declining-Balance Method

The double-declining-balance method provides for a declining periodic expense over the expected useful life of the asset. The double-declining-balance method is applied in three steps.

Step 1: Determine the straight-line percentage using the expected useful life.

Step 2: Determine the double-declining-balance rate by multiplying the straight-line rate from Step 1 by two.

Step 3: Compute the depreciation expense by multiplying the double-declining-balance rate from Step 2 times the book value of the asset.

To illustrate, the equipment purchased in the preceding example is used to compute double-declining-balance depreciation. For the first year, the depreciation is \$9,600, as shown below.

Step 1: Straight-line percentage = 20% (100%/5)

Step 2: Double-declining-balance rate = 40% (20% x 2)

Step 3: Depreciation expense = \$9,600 (\$24,000 x 40%)

For the first year, the book value of the equipment is its initial cost of \$24,000. After the first year, the book value (cost minus accumulated depreciation) declines and, thus, the depreciation also declines. The double-declining-balance depreciation for the full five-year life of the equipment is shown below.

Year	Cost	Acc. Dep. At beginning of year	Book value at beginning of year	Rate	Depreciation for year	Book value at end of year
1	\$24,000		\$24,000	40%	\$9,600	\$14,400
2	\$24,000	\$9,600	14,400	40%	5,760	8,640
3	\$24,000	15,360	8,640	40%	3,456	5,184
4	\$24,000	18,816	5,184	40%	2,073.6	3,110
5	\$24,000	20,889.60	3,110.4	40%	1,110.4	2,000

When the double-declining-balance method is used, the estimated residual value is not considered. However, the asset should not be depreciated below its estimated residual value.

In the above example, the estimated residual value was \$2,000. Therefore, the depreciation for the fifth year is \$1,110.40 (\$3,110.40 - \$2,000.00) instead of \$1,244.16 (40% x \$3,110.40).

The double-declining-balance method provides a higher depreciation in the first year of the asset's use, followed by declining depreciation amounts. For this reason, the double-declining-balance method is called an **accelerated depreciation method**. An asset's revenues are often greater in the early years of its use than in later years. In such cases, the double-declining-balance method provides a good matching of depreciation expense with the asset's revenues.

(3) Sum-of-the-Years-Digits Depreciation

Under the sum-of-the-years-digits method, depreciation expense is determined by multiplying the original cost of the asset less its estimated residual value by a smaller fraction each year. Thus, the sum-of-the-years-digits method is similar to the double-declining-balance method in that the depreciation expense declines each year. The basic idea behind the sum of the years' digits method is that more service benefits are received in the early years of an asset's life when it is new, and fewer benefits are received each year as the asset grows older. Many assets are efficient when first purchased but become less efficient as time passes. The denominator of the fraction used in determining the depreciation expense is the sum of the digits of the years of the asset's useful life. For example, an asset with a useful life of five years would have a denominator of 15 (5+4+3+2+1). The denominator can also be determined using the following formula where N is the useful life of the asset:

$$\text{Sum of Years of Useful Life} = \frac{N(N + 1)}{2} = \frac{5(5 + 1)}{2} = 15$$

The numerator of the fraction is the number of years of useful life remaining at the beginning of each year for which depreciation is being computed. Thus, the numerator decreases each year by 1. For a useful life of five years, the numerator is 5 the first year, 4 the second year, 3 the third year, and so on. To illustrate, the equipment example from the illustrations for the straight-line and double-declining-balance methods is used as follows: Using the sum-of-the-years-digits method, the depreciation is computed as shown below.

Year	Cost less Residual value	Rate	Depreciation for year	Accumulated Dep. at End of year	Book value at end of year
1	\$22,000	5/15	\$7,333.33	\$7,333.33	\$16,666.67
2	22,000	4/15	5,866.67	13,200.00	10,800.00

3	22,000	3/15	4,400.00	17,600.00	6,400.00
4	22,000	2/15	2,933.33	20,533.33	3,466.67
5	22,000	1/15	1,466.67	22,000.00	2,000.00

At one time, the sum-of-the-years-digits method of depreciation was widely used. However, current tax law changes have limited its use. A recent edition of **Accounting Trends & Techniques** reported that only 1%–2% of the surveyed companies now use this method for financial reporting purposes.

NB. The above illustration for the sum of year's digit method is based on the assumption that the first use of the asset coincide with the beginning of the fiscal period. When the first use of the asset does not coincide with the beginning of a fiscal year, it is necessary to allocate each full year's depreciation b/n the two fiscal years benefited. Assuming that the asset in the example was placed in service after four months of the fiscal year had been elapsed, the depreciation for that fiscal year would be \$ 4,888.89 computed as follows:

First year depreciation = $5/15 \times (24,000 - 2,000) \times 8/12$ \$ 4,888.89

Therefore, the depreciation for the second year would be \$6,355.55

Computed as follows:

= $5/15 \times (24,000 - 2,000) \times 4/12$ \$2,444.44

= $4/15 \times (24,000 - 2,000) \times 8/12$ 3,911.11

Total, second fiscal year depreciation..... \$6,355.55

(4) Units-of-Production Method

This method yields a depreciation charge that varies with the amount of assets usage. To apply this method, the length of life of the assets is expressed in terms of productive capacity, such as hours, miles, number of units etc. Depreciation is first computed for the appropriate unit of production and the depreciation for each accounting period is then determined by multiplying the unit depreciation by the number of units used.

The units-of-production method is applied in two steps.

Step 1: Determine the depreciation per unit as:

$$\text{Depreciation per Unit} = \frac{\text{Cost} - \text{Residual Value}}{\text{Total Units of Production}}$$

Step 2: Compute the depreciation expense as:

Depreciation Expense = Depreciation per Unit x Total Units of Production Used
--

To illustrate, assume that the equipment in the preceding example is expected to have a useful life of 10,000 operating hours. During the year, the equipment was operated 2,100 hours. The units-of-production depreciation for the year is \$4,620, as shown below.

Step 1: Determine the depreciation per unit as:

$$\text{Depreciation per Hour} = \frac{\text{Cost} - \text{Residual Value}}{\text{Total Units of Production}} = \frac{\$24,000 - \$2,000}{10,000 \text{ Hours}} = \$2.20 \text{ per Hour}$$

Step 2: Compute the depreciation expense as:

$$\text{Depreciation Expense} = \text{Depreciation per Unit} \times \text{Total Units of Production Used}$$

$$\text{Depreciation Expense} = \$2.20 \text{ per Hour} \times 2,100 \text{ Hours} = \underline{\underline{\$4,620}}$$

Assume that the equipment was operated during the year 2 through 5: 1,500 hours, 2,600 hours, 1,800 hours and 2,000 hours. Hence, using the units-of-production method, the depreciation is computed as shown below.

Year	Hours operated	Rate	Annual Dep. end of Year	Acc. Dep. at end of Year	Book Value at end of Year
1	2,100	\$2.20	\$4,620	\$4,620	\$19,380
2	1,500	2.20	3,300	7,920	16,080
3	2,600	2.20	5,720	13,620	10,380
4	1,800	2.20	3,960	17,600	6,400

5	2,000	2.20	4,400	22,000	2,000
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The units-of-production method is often used when a fixed asset's in-service time(or use) varies from year to year. In such cases, the units-of-production method matches depreciation expense with the asset's revenues.

Comparing Depreciation Methods

The three depreciation methods are summarized in following show. All three methods allocate a portion of the total cost of an asset to an accounting period, while never depreciating an asset below its residual value.

Method	Useful life	Depreciable cost	Depreciation rate	Depreciation Expense
Straight-line	Years	Cost less residual value	Straight-line rate*	Constant
Units of production	Total units of production	Cost less residual value	(cost-residual value)/total units of production	Variable
Double declining balance	years	Declining book value, but not below residual value	Straight-line rate* X 2	Declining
*straight-line rate =(1/useful life)				

The straight-line method provides for the same periodic amounts of depreciation expense over the life of the asset. The units-of-production method provides for periodic amounts of depreciation expense that vary; depending on the amount the asset is used. The double-declining-balance method and sum-of-years-digits method provide for a higher depreciation amount in the first year of the asset's use, followed by declining amounts.

2.2.2. Revising Depreciation Estimates

Estimates of residual values and useful lives of plant assets may change due to abnormal wear and tear or obsolescence. When new estimates are determined, they are used to determine the

depreciation expense in future periods. The depreciation expense recorded in earlier years is not affected.

To illustrate, assume the following data for a machine that was purchased on January 1, 2011.

Initial machine cost	\$140,000
Expected useful life	5 years
Estimated residual value	\$10,000
Annual depreciation using the straight-line method $[(\$140,000 - \$10,000)/5 \text{ years}]$	\$26,000

At the end of 2012, the machine's book value (un-depreciated cost) is \$88,000, as shown below.

Initial machine cost	\$140,000
Less accumulated depreciation (\$26,000 per year x 2 years)	<u>52,000</u>
Book value (un depreciated cost), end of second year	<u>\$88,000</u>

During 2013, the company estimates that the machine's remaining useful life is eight years (instead of three) and that its residual value is \$8,000 (instead of \$10,000). The depreciation expense for each of the remaining eight years is \$10,000, computed as follows:

Book value (un depreciated cost), end of second year	\$88,000
Less revised estimated residual value	<u>8,000</u>
Revised remaining depreciable cost	<u>\$80,000</u>
Revised annual depreciation expense $[(\$88,000 - \$8,000)/8 \text{ years}]$	<u>\$10,000</u>

2.2.3. Recording Depreciation

The amount by which a fixed asset decreases is an expense of the business. The amount of depreciation expense should be recorded each fiscal period. If depreciation expense is not recorded, the income statement will not contain all the expenses of the business. This will cause the net income to be reported higher than it should be. Income tax laws allow a business to

deduct depreciation as an expense in determining net income. If depreciation expenses are not included on the income tax reports, the business will pay more income taxes than it should be.

Depreciation may be recorded by an entry at the end of each month, or the adjustment may be delayed until the end of the year.

To record the periodic cost expiration (allocation) of plant asset, the expense account, depreciation expense is debited and the part of the entry that records the decrease in the plant asset is credited to a contra asset account entitled Accumulated Depreciation or Allowance for Depreciation. The use of this contra asset account permits the original cost to remain unchanged in the plant asset account. This facilitates the computation of periodic depreciation, the listing of both cost and accumulated depreciation on the balance sheet, and reporting required for property and income tax purposes.

NB. An exception to the general procedure of recording depreciation monthly or annually is often made when a plant asset is sold, traded-in, or discarded.

1.3. Capital Expenditures and Revenue Expenditures

Once a fixed asset has been acquired and placed in service, costs may be incurred for ordinary maintenance and repairs. In addition, costs may be incurred for improving an asset or for extraordinary repairs that extend the asset's useful life. Costs that benefit only the current period are called *revenue expenditures*. Costs that improve the asset or extend its useful life are *capital expenditures*. Capital Expenditures- are expenditures that improve the operating efficiency (or capacity) or costs incurred to achieve greater future benefits.

⇒ **Ordinary Maintenance and Repairs:** Costs related to the ordinary maintenance and repairs of a fixed asset are recorded as an expense of the current period. Such expenditures are revenue expenditures and are recorded as increases to Repairs and Maintenance Expense. For example, \$400 paid for a tune-up of a delivery truck is recorded as follows:

Repair and maintenance expense	\$ 400
Cash	400

⇒ **Asset Improvements:** After a fixed asset has been placed in service, costs may be incurred to improve the asset. For example, the service value of a delivery truck might be improved by adding a \$5,500 hydraulic lift to allow for easier and quicker loading of cargo. Such costs are

capital expenditures and are recorded as increases to the fixed asset account. In the case of the hydraulic lift, the expenditure is recorded as follows:

Delivery truck	\$5,500
Cash	5,500

Because the cost of the delivery truck has increased, depreciation for the truck would also change over its remaining useful life.

⇒ **Extraordinary Repairs:** After a fixed asset has been placed in service, costs may be incurred to extend the asset's useful life. For example, the engine of a forklift that is near the end of its useful life may be overhauled at a cost of \$4,500, extending its useful life by eight years. Such costs are *capital expenditures* and are recorded as a decrease in an accumulated depreciation account. In the case of the forklift, the expenditure is recorded as follows:

Accumulated depreciation- Forklift	4,500
Cash	4,500

⇒ Because the forklift's remaining useful life has changed, depreciation for the forklift would also change based on the new book value of the forklift.

The accounting for revenue and capital expenditures is summarized below.

1.4. Disposal of Plant Assets

Plant assets that are no longer useful may be **discarded, sold or exchanged**. In such cases, the plant asset is removed from the accounts. Just because a plant asset is fully depreciated, however, does not mean that it should be removed from the accounts. If a plant asset is still being used, its cost and accumulated depreciation should remain in the ledger even if the asset is fully depreciated. This maintains accountability for the asset in the ledger. If the asset was removed from the ledger, the accounts would contain no evidence of the continued existence of the asset. In addition, cost and accumulated depreciation data on such assets are often needed for property tax and income tax reports.

NB: The entry to record the disposal of a plant asset removes the cost of the asset and its accumulated depreciation from the accounts.

(a) Discarding Plant Assets

If a plant asset is no longer used and has no residual value, it is discarded. For example, assume that a plant asset that is fully depreciated and has no residual value is discarded. The entry to record the discarding removes the asset and its related accumulated depreciation from the ledger. To illustrate, assume that equipment acquired at a cost of \$25,000 is fully depreciated at December 31, 2009. On February 14, 2010, the equipment is discarded. The entry to record the discard is as follows:

Feb 14	Accumulated Depreciation - Equipment	25,000
	Equipment	25,000

(To write off equipment discarded)

If an asset has not been fully depreciated, depreciation should be recorded before removing the asset from the accounting records.

To illustrate, assume that equipment costing \$6,000 with no estimated residual value is depreciated at a straight-line rate of 10%. On December 31, 2010, the accumulated depreciation balance, after adjusting entries, is \$4,750. On March 24, 2011, the asset is removed from service and discarded. The entry to record the depreciation for the three months of 2011 before the asset is discarded is as follows:

Mar 24	Depreciation expense _ equipment	150
	Accumulated Depreciation _ Equipment	150

To record current depreciation on equipment discarded ($600 \times 3/12$)

The discarding of the equipment is then recorded as follows:

Mar 24	Accumulated Depreciation _ equipment	4,900
	Loss on disposal of equipment	1,100
	Equipment	6,000

To write off equipment discarded

The loss of \$1,100 is recorded because the balance of the accumulated depreciation account (\$4,900) is less than the balance in the equipment account (\$6,000). Losses on the discarding of

plant assets are non-operating items and are normally reported in the "**Other Expense**" section of the income statement.

(b) Selling Plant Assets

The entry to record the sale of a plant asset is similar to the entries for discarding an asset. The only difference is that the receipt of cash is also recorded. If the selling price is more than the book value of the asset, a gain is recorded. If the selling price is less than the book value, a loss is recorded.

To illustrate, assume that equipment is purchased at a cost of \$10,000 with no estimated residual value and is depreciated at a straight-line rate of 10%. The equipment is sold for cash on October 12 of the eighth year of its use. The balance of the accumulated depreciation account as of the preceding December 31 is \$7,000.

The entry to update the depreciation for the nine months of the current year is as follows:

Oct	12	Depreciation expense _ equipment	750	
		Accumulated Depreciation _ Equipment		750
		<i>(To record current depreciation on equipment sold (10,000x9/12x10%))</i>		

After the current depreciation is recorded, the book value of the asset is \$2,250 (\$10,000 - \$7,750). The entries to record the sale, assuming three different selling prices, are as follows:

Sold at book value, for \$2,250. No gain or loss.

Oct	12	Cash	2,250	
		Accumulated Depreciation _ Equipment	7,750	
		Equipment		10,000

Sold below book value, for \$1,000. Loss of \$1,250

Oct	12	Cash	1,000	
		Accumulated Depreciation _ Equipment	7,750	
		Loss on sale of Equipment	1,250	
		Equipment		10,000

Sold above book value, for \$2,800. Gain of \$550.

Oct	12	Cash	2,800	
		Accumulated Depreciation _ Equipment	7,750	
		Equipment		10,000
		Gain on sale of Equipment		550

(c) Exchanging Similar Plant Assets

Old equipment is often traded in for new equipment having a similar use. In such cases, the seller allows the buyer an amount for the old equipment traded in. This amount, called the trade-in allowance, may be either greater or less than the book value of the old equipment. The remaining balance - the amount owed is either paid in cash or recorded as a liability. It is normally called **boot**, which is its tax name. Accounting for the exchange of similar assets depends on whether the transaction has commercial substance.

An exchange has commercial substance if future cash flows change as a result of the exchange. If an exchange of similar assets has commercial substance, a gain or loss is recognized based on the difference between the book value of the asset given up (exchanged) and the fair market value of the asset received. In such cases, the exchange is accounted for similar to that of a sale of a fixed asset.

Gain on Exchange

To illustrate a gain on an exchange of similar assets, assume the following:

Similar equipment acquired (new):

Price (fair market value) of new equipment	\$5,000
Trade-in allowance on old equipment	<u>1,100</u>
Cash paid at June 19, date of exchange	<u>\$3,900</u>

Equipment traded in (old):

Cost of old equipment	\$4,000
---------------------------------	---------

Accumulated depreciation at date of exchange	<u>3,200</u>
Book value at June 19, date of exchange	<u>\$800</u>

The entry to record this exchange and payment of cash is as follows:

June 19: Accumulated Depreciation—Equipment	3,200
Equipment (new equipment)	5,000
Equipment (old equipment)	4,000
Cash	3,900
Gain on Exchange of Equipment	300

The gain on the exchange, \$300, is the difference between the fair market value of the new asset of \$5,000 and the book value of the old asset traded in of \$800 plus the cash paid of \$3,900 as shown below.

Price (fair market value) of new equipment		\$5,000
Less assets given up in exchange:		
Book value of old equipment (\$4,000 - \$3,200) . . .	\$ 800	
Cash paid on the exchange	<u>3,900</u>	<u>4,700</u>
Gain on exchange of assets		<u>\$ 300</u>

Loss on Exchange

To illustrate a loss on an exchange of similar assets, assume that instead of a trade-in allowance of \$1,100, a trade-in allowance of only \$675 was allowed in the preceding example. In this case, the cash paid on the exchange is \$4,325 as shown below.

Price (fair market value) of new equipment	\$5,000
Trade-in allowance of old equipment	<u>675</u>
Cash paid at June 19, date of exchange	<u>\$4,325</u>

The entry to record this exchange and payment of cash is as follows:

June 19: Accumulated Depreciation—Equipment	3,200
Equipment (new equipment)	5,000
Loss on Exchange of Equipment	125
Equipment (old equipment)	4,000
Cash	4,325

The loss on the exchange, \$125, is the difference between the fair market value of the new asset of \$5,000 and the book value of the old asset traded in of \$800 plus the cash paid of \$4,325 as shown below.

Price (fair market value) of new equipment		\$5,000
Less assets given up in exchange:		
Book value of old equipment (\$4,000 - \$3,200) . . .	\$ 800	
Cash paid on the exchange	<u>4,325</u>	<u>5,125</u>
Loss on exchange of assets		<u><u>\$ (125)</u></u>

In those cases where an asset exchange lacks commercial substance, no gain is recognized on the exchange. Instead, the cost of the new asset is adjusted for any gain. For example, in the first illustration, the gain of \$300 would be subtracted from the purchase price of \$5,000 and the new asset would be recorded at \$4,700. Accounting for the exchange of assets that lack commercial substance will be discussed in next advanced accounting courses. The exchange of similar assets also involves complex tax issues that will be discussed in the future.

1.5. Leasing of Plant Assets

A *lease* is a contract for the use of an asset for a period of time. Leases are often used in business. For example, automobiles, computers, medical equipment, buildings, and airplanes are often leased.

The two parties to a lease contract are as follows:

- ⊖ The **lessor** is the party who owns the asset.
- ⊖ The **lessee** is the party to whom the rights to use the asset are granted by the lessor.

Under a lease contract, the lessee pays rent on a periodic basis for the lease term. The lessee accounts for a lease contract in one of two ways depending on how the lease contract is classified. A lease contract can be classified as either a:

- ⊖ Capital lease or
- ⊖ Operating lease

A **capital lease** is accounted for as if the lessee has purchased the asset. The lessee debits an asset account for the fair market value of the asset and credits a long-term lease liability account. The asset is then written off as an expense (amortized) over the life of the capital lease.

An **operating lease** is accounted for as if the lessee is renting the asset for the lease term. The lessee records operating lease payments by debiting Rent Expense and crediting Cash. The lessee's future lease obligations are not recorded in the accounts. However, such obligations are disclosed in notes to the financial statements.

1.6. Internal Controls of Plant Assets

The term property, plant, and equipment include all tangible assets with a service life of more than one year that is used in the operation of the business and are not acquired for the purpose of resale. For most entities, property, plant and equipment represent a material amount in the financial statements. When the audit is ongoing engagement, the auditor is able to focus his or her efforts on the current year's activity since the assets acquired in earlier years were subjected to audit tests at the time of acquisitions.

There are four types of property, plant, and equipment transactions in fixed assets.

- (1) Acquisition of capital assets for cash, or other non-monetary considerations (exchange by other fixed assets);
- (2) Disposition of capital (fixed assets) through sale, exchange, retirement, or abandonment;
- (3) Depreciation of capital assets over their useful economic life; and
- (4) Leasing of capital assets

The property, plant and equipment subsidiary ledger is record of all capital assets owned by the entity. It contains information of the cost of the asset, the date acquired, the method of depreciation, and accumulated depreciation. The subsidiary ledger also includes the calculation of depreciation expense for both financial statements and income tax purposes. The subsidiary ledger should be reconciled to the general ledger control account on a monthly basis.

The control procedures for the plant assets:

- Validity and authorization

- Completeness
- Existence of adequate segregation of duties

1.7.Intangible Assets

As the word intangible suggests, asset in this classification have no physical substance, Leading examples are good will, patents, trademarks, copy rights etc.

In brief intangible assets are assets, which are used in the operation of the business but which have no physical substance and are non-current.

Patents, copyrights, trademarks, and goodwill are long-lived assets that are used in the operations of a business and are not held for sale.

The accounting for intangible assets is similar to that for fixed assets. The major issues are:

- Determining the initial cost.
- Determining the **amortization**, this is the amount of cost to transfer to expense.

Amortization results from the passage of time or a decline in the usefulness of the intangible asset.

Patents: Manufacturers may acquire exclusive rights to produce and sell goods with one or more unique features. Such rights are granted by patents, which the federal government issues to inventors. These rights continue in effect for 20 years. A business may purchase patent rights from others, or it may obtain patents developed by its own research and development.

The initial cost of a purchased patent, including any legal fees, is debited to an asset account. This cost is written off, or amortized, over the years of the patent's expected useful life. The expected useful life of a patent may be less than its legal life. For example, a patent may become worthless due to changing technology or consumer tastes.

Patent amortization is normally computed using the straight-line method. The amortization is recorded by debiting an amortization expense account and crediting the patents account. A separate contra asset account is usually not used for intangible assets.

To illustrate

Assume that on Jan 2, 2002 MOHA Soft Drink Bottling company purchased a patent on a unique bottle cap for Br. 54,000.

The entry to record the patent would be as follows: 2002

Jan 2. Patent.....	54,000
Cash.....	54,000

To record the purchase of Bottle cap patent

Assume that MOHA's management determines that, although the patent for the bottle cap will last for seventeen years, the product using the cap will be sold only for the next six years. The entry to record the annual amortization would be as follows:

Amortization Expense.....	9,000.00
Patent.....	9,000.00

To record annual amortization of patent (Br. 54000/ 6 years)

Note that the patent account is reduced directly by the amount of the amortization expense. This is in contrast to other long-term asset accounts in which depreciation or depletion is accumulated in a separate contra account.

If the patent becomes worthless before it is fully amortized, the remaining carrying value is written off as a loss. For instance, assume that after the first two years MOHA soft Drink Bottling Company's chief competitor's offers a bottle with a new type of cap that makes MOHA's cap obsolete. The entry to record the loss is:

Loss on patent.....	36,000.00
Patent.....	36,000.00

To record the loss resulting from patents becoming worthless.

Some companies develop their own patents through research and development. In such cases, any research and development costs are usually recorded as current operating expenses in the period in which they are incurred. This accounting for research and development costs is justified on the basis that any future benefits from research and development are highly uncertain.

Copyrights and Trademarks

The exclusive right to publish and sell a literary, artistic or musical composition is granted by a **copyright**. Copyrights are issued by the federal government and extend for 70 years beyond the author's death. The costs of a copyright include all costs of creating the work plus any other costs of obtaining the copyright. A copyright that is purchased is recorded at the price paid for it. Copyrights are amortized over their estimated useful lives.

A **trademark** is a name, term, or symbol used to identify a business and its products. Most businesses identify their trademarks with ® in their advertisements and on their products. Under federal law, businesses can protect their trademarks by registering them for 10 years and renewing the registration for 10-year periods. Like a copyright, the legal costs of registering a trademark are recorded as an asset.

If a trademark is purchased from another business, its cost is recorded as an asset. In such cases, the cost of the trademark is considered to have an indefinite useful life. Thus, trademarks are not amortized. Instead, trademarks are reviewed periodically for impaired value. When a trademark is impaired, the trademark should be written down and a loss recognized.

Goodwill

Goodwill refers to an intangible asset of a business that is created from such favorable factors as location, product quality, reputation, and managerial skill. Goodwill allows a business to earn a greater rate of return than normal. Generally accepted accounting principles (GAAP) allow goodwill to be recorded only if it is objectively determined by a transaction. An example of such a transaction is the purchase of a business at a price in excess of the fair value of its **net assets (assets - liabilities)**. The excess is recorded as goodwill and reported as an intangible asset.

Unlike patents and copyrights, goodwill is not amortized. However, a loss should be recorded if the future prospects of the purchased firm become impaired. This loss would normally be disclosed in the "**Other Expense**" section of the income statement.

To illustrate, assume that on December 31 GenuineCompany has determined that \$250,000 of the goodwill created from the purchase of electronic Systems is impaired. The entry to record the impairment is as follows:

Dec.	31	Loss from impaired goodwill	250,000	
		Goodwill (to record impaired goodwill)		250,000

Summary of the characteristics of intangible assets:

Intangible asset	Description	Amortization period	Periodic expense
Patent	Exclusive right to benefit from an innovation	Estimated useful life not to exceed legal life	Amortization expense
Copyright	Exclusive right to benefit from a literary, artistic, or musical composition	Estimated useful life not to exceed legal life	Amortization expense
Trademark	Exclusive use of a name, term, or symbol	None	Impairment loss if fair value less than carrying value(impaired)
Goodwill	Excess of purchase price of a business over the fair value of its net assets	None	Impairment loss if fair value less than carrying value(impaired)

Solved Problem

On December 31, it was estimated that goodwill of \$40,000 was impaired. In addition, a patent with an estimated useful economic life of 12 years was acquired for \$84,000 on July 1.

Required:

- Journalize the adjusting entry on December 31 for the impaired goodwill.
- Journalize the adjusting entry on December 31 for the amortization of the patent rights.

Solution:

- Dec. 31 loss from impaired goodwill.....40,000
 Goodwill.....40,000

b. Dec. 31	Amortization expense-patent.....	3,500
	Patents.....	3,500

1.8. Natural Resources

The fixed assets of some companies include timber, metal ores, minerals, or other natural resources. As these resources are harvested or mined and then sold, a portion of their cost is debited to an expense account. This process of transferring the cost of natural resources to an expense account is called **depletion**.

Depletion is the accounting measure used to allocate the acquisition cost of natural resources. Depletion differs from depreciation because depletion focuses specifically on the physical use and exhaustion of the natural resources, while depreciation focuses more broadly on any reduction of the economic value of a plant or fixed asset. The costs of natural resources are usually classified as long-term assets.

Depletion expense is the measure of that portion of long-term assets that is used up in a particular period.

Depletion is determined as follows:

- Here it is assumed that there is no significant residual value left after all the natural resource is extracted.

Step 1: Determine the depletion rate as:

$$\text{Depletion Rate} = \frac{\text{Cost of Resource}}{\text{Estimated Total Units of Resource}}$$

Step 2: Multiply the depletion rate by the quantity extracted from the resource during the period.

$$\text{Depletion Expense} = \text{Depletion Rate} \times \text{Quantity Extracted}$$

To illustrate, assume that KLM Company purchased mining rights as follows:

Cost of mineral deposit	\$400,000
Estimated total units of resource	1,000,000 tons
Tons mined during 1 st year	90,000 tons

The depletion expense of \$36,000 for the year is computed, as shown below.

Step 1:
$$\text{Depletion Rate} = \frac{\text{Cost of Resource}}{\text{Estimated Total Units of Resource}} = \frac{\$400,000}{1,000,000 \text{ Tons}} = \$0.40 \text{ per Ton}$$

Step 2: Depletion Expense = \$0.40 per Ton x 90,000 Tons = **\$36,000**

The adjusting entry to record the depletion is shown below.

Dec	31	Depletion Expense	36,000	
		Accumulated Depletion		36,000
		(to record depletion of mineral deposit)		

Like the accumulated depreciation account, Accumulated Depletion is a *contra asset account*. It is reported on the balance sheet as a deduction from the cost of the mineral deposit.

1.9. Presentation of Plant Assets and Intangible Assets on the Financial Statement

In the income statement, depreciation and amortization expense should be reported separately or disclosed in a note. A description of the methods used in computing depreciation should also be reported.

In the balance sheet, each class of fixed assets should be disclosed on the face of the statement or in the notes. The related accumulated depreciation should also be disclosed, either by class or in total. The fixed assets may be shown at their book value (cost less accumulated depreciation), which can also be described as their net amount. If there are many classes of fixed assets, a single amount may be presented in the balance sheet, supported by a note with a separate listing. Fixed assets may be reported under the more descriptive caption of property, plant, and equipment.

Intangible assets are usually reported in the balance sheet in a separate section following fixed assets. The balance of each class of intangible assets should be disclosed net of any amortization. The balance sheet presentation for Genuine Company's fixed and intangible assets is shown below.

Genuine Company Balance sheet December 31,2013			
Property, plant and equipment:			
Land.....		\$ 1,850,000	
Buildings.....	\$ 2,650,000		
Less accumulated depreciation	<u>420,000</u>	2,230,000	
Office equipment	\$ 350,000		
Less accumulated depreciation	<u>102,000</u>	<u>248,000</u>	
Total property, plant and equipment			\$ 4,328,000
Intangible assets:			
Patents			140,000

The cost and related accumulated depletion of mineral rights are normally shown as part of the Fixed Assets section of the balance sheet. The mineral rights may be shown net of depletion on the face of the balance sheet. In such cases, a supporting note discloses the accumulated depletion.

Chapter Three

Current Liabilities

Introduction

 **Dear learner!** In the previous chapter, you have learnt the basic accounting principles and practices that are useful in accounting for the acquisition, use, and disposal of plant assets, as well as the accounting for intangible assets and natural resources. In this chapter, you will be acquainted with the basics of accounting for current liabilities and payroll and payroll taxes. A few of common types of current liabilities such as notes payable, accounts payable, and payroll related liabilities will be discussed in this Chapter.

Learning Objectives

After studying this chapter, you should be able to:

- Explain a current liability
- Identify the major types of current liabilities.
- Record current liabilities
- Perform payroll related accounting activities
- Compute and record the payroll for a pay period.
- Determine employer liabilities for payroll, including liabilities arising from employee earnings and deductions from earnings.
- Describe and record employer payroll taxes.
- Journalize entries for employee fringe benefits, including vacation pay and pensions
- Explain the financial statement presentation and analysis of current liabilities.

3.1 The Nature of Liabilities

FASB defines liabilities as follows:

Liabilities are the probable future sacrifices of economic benefits arising from present obligations of a company to transfer assets or provide services in the future as a result of past transactions or events.

The FASB also explained two of the terms. The word **probable** refers to what can be expected or believed based on available evidence or logic. The word **obligation** refers to duties imposed legally or socially which one is bound to do by contract, promise, or moral responsibility. In other words, liabilities include both legal and non-legal (but not illegal) obligations. Legal

liabilities are incurred in transactions that are contractual-based on written or oral agreements to pay cash or to provide goods or services to other entities in the future. Legal liabilities include such items as accounts payable, notes payable, and sales tax payable. The non-legal group (also called accounting liabilities) includes those obligations where there is no legal requirement for assets to be transferred, but a transfer of assets typically occurs as a part of the normal operations of a business. Non-legal liabilities include equitable and constructive obligations, such as the liability to employees for vacation pay or year-end bonuses. These are obligations that a company accepts by paying them every year even though it is not contractually required and has not announced a policy to do so.

There are three characteristics of a liability for a company:

1. A liability involves a responsibility that will be settled by the probable future transfer or use of assets at a specified or determinable date, on occurrence of a specific event, or on demand.
2. The responsibility obligates the company so that it has little or no discretion to avoid the future sacrifice.
3. The transaction or other event obligating the company has already happened.

Liabilities generally are classified as either current or long-term. We discuss the issues relate to current liabilities in this chapter.

Current liabilities are obligations of a company that it expects to liquidate by using existing current assets or creating other current liabilities within one year or the normal operating cycle, whichever is longer. The usual criterion is one year.

For certain companies, however, where the operating cycle - from cash to inventory to receivables and back to cash - is longer than a year, the length of the operating cycle determines the classification of the liability. Many current liabilities, such as accounts payable, wages payable, warranty obligations, and notes payable, are incurred (and paid) during the operating cycle. Most current liabilities arise from two basic transactions:

- Receiving goods or services prior to making payment
- Receiving payment prior to delivering goods or services.

In addition, a current liability, Salaries Payable, arises as a result of accrued salaries for sales, as well as general and administrative, personnel.

3.2 Classification of Current Liabilities

A company reports its current liabilities in the first section of its liabilities on its balance sheet. Many current liabilities are easily identifiable and have a “contractual” amount. Some current liabilities, though identifiable, have amounts that depend on operations. Others require that amounts be estimated. The primary types of current liabilities are classified in three groups, as shown in the following exhibit, although some types might fit in more than one category.

3.2.1. Accounts Payable

Accounts payable transactions have been described and illustrated in earlier chapters (in Principles of Accounting I). These transactions involved a variety of purchases on account, including the purchase of merchandise and supplies. For most companies, accounts payable is the largest current liability.

3.2.2. Short-Term Notes Payable

Companies record obligations in the form of written notes as notes payable. Notes payable are often used instead of accounts payable because they give the lender formal proof of the obligation in case legal remedies are needed to collect the debt.

Companies frequently issue notes payable to meet short-term financing needs. Notes payable usually require the borrower to pay interest. Notes are issued for varying periods of time. Those due for payment within one year of the balance sheet date are usually classified as current liabilities.

Notes may be issued to purchase merchandise or other assets. Notes may also be issued to creditors to satisfy an account payable created earlier. To illustrate, assume that Sunshine Company issued a 90-day, 12% note for \$1,000, dated August 1, 2013, to Nature Company for a \$1,000 overdue account. The entry to record the issuance of the note is as follows:

Aug.	1	Accounts payable – Nature Co.	1,000	
		Notes payable		1,000
		(issued a 90-day, 12% note on account)		

When the note matures, the entry to record the payment of \$1,000 plus \$30 interest ($\$1,000 \times 12\% \times 90/360$) is as follows:

Oct.	30	Notes payable	1,000	
------	----	---------------	-------	--

		Interest expense	30	
		Cash		1,030
		(paid principal and interest due on note)		

The interest expense is reported in the "*Other Expense*" section of the income statement for the year ended December 31, 2014. The interest expense account is closed at December 31.

Each note transaction affects a debtor (borrower) and creditor (lender). The following illustration shows how the same transactions are recorded by the debtor and creditor. In this illustration, the debtor (borrower) is **Bowden Co.**, and the creditor (lender) is **Coker Co.**

	Bowden Co. (Borrower)	Coker Co. (creditor)
May 1: Bowden Co. purchased merchandise on account from Coker Co. \$ 10,000, 2/10, n/30. The merchandise cost Coker Co. \$ 7,500.	Merchandise inventory 10,000 Accounts payable 10,000	Accounts receivable 10,000 Sales 10,000 Cost of merchandise sold 7,500 Merchandise inventory 7,500
May 31: Bowden Co. issued a 60-day, 12% note for \$10,000 to Coker Co. on account	Accounts payable 10,000 Notes payable 10,000	Notes receivable 10,000 Accounts receivable 10,000
July 30: Bowden Co. paid Coker Co. the amount due on the note of May 31. Interest: \$10,000 x 60/360	Notes payable 10,000 Interest expense 200 Cash 10,200	Cash 10,200 Interest revenue 200 Notes receivable 10,000

A company may borrow from a bank by issuing a note. To illustrate, assume that on September 19, 2013 Nature Company issues a \$4,000, 90-day, 15% note to Awash International Bank. The entry to record the issuance of the note is as follows:

Sept.	19	Cash	4,000	
		Notes payable		4,000
		(issued a 90-day, 15% note to AIB)		

On the due date of the note (December 18), Nature Company owes \$4,000 plus interest of \$150 (\$4,000 x 15% x 90/360). The entry to record the payment of the note is as follows:

Dec.	18	Notes payable	4,000	
------	----	---------------	-------	--

		Interest expense	150	
		Cash		4,150
		(paid principal and interest due on the note)		

In some cases, a discounted note may be issued rather than an interest-bearing note. A discounted note has the following characteristics:

- ✓ The creditor (lender) requires an interest rate, called the *discount rate*.
- ✓ Interest, called the *discount*, is computed on the face amount of the note.
- ✓ The debtor (borrower) receives the face amount of the note less the discount, called the *proceeds*.
- ✓ The debtor pays the *face amount* of the note on the due date.

To illustrate, assume that on August 10, 2013, Sunshine Company issues a \$20,000, 90-day discounted note to Awash International Bank. The discount rate is 15%, and the amount of the discount is \$750 ($\$20,000 \times 15\% \times 90/360$). Thus, the proceeds received by Sunshine Company are \$19,250. The entry by Sunshine Company is as follows:

Aug.	10	Cash	19,250	
		Interest expense	750	
		Notes payable		20,000
		(issued a 90-day discounted note to AIB at 15% discount rate)		

The entry when Sunshine Company pays the discounted note on November 8 is as follows:

Nov.	8	Notes payable	20,000	
		Cash		20,000
		(paid note due)		

3.2.3. Current Portion of Long-Term Debt

Long-term liabilities are often paid back in periodic payments, called **installments**. Companies often have a portion of long-term debt that comes due in the current year. That amount is

considered a current liability. The installments due after the coming year are classified as a long-term liability.

To illustrate, ABC Corporation reported the following debt payments schedule in its Dec 31, 2007, annual report to shareholders:

Fiscal year ending	
2008	\$ 775,000
2009	789,000
2010	337,000
2011	56,000
2012	0
Thereafter	550,000,000
Total principal payments	\$551,957,000

The debt of \$775,000 due in 2008 would be reported as a current liability on the Dec 31, 2007, balance sheet. The remaining debt would be reported as a long-term liability on the balance sheet.

Other current liabilities that have been discussed in earlier chapters include accrued expenses, unearned revenue, and interest payable. The accounting for wages and salaries, termed *payroll accounting*, is discussed next.

3.3 ETHIOPIAN PAYROLL SYSTEM

After completing this section, you will be able to;

- Define basic terms and documents involved in payroll accounting
- Explain the need for payroll accounting
- Calculate total earnings, deductions and net pay of employees
- Record payroll related liabilities

In accounting, payroll refers to the amount paid employees for services they provided during the period.

Payroll accounting is important for the following reasons:

- ✓ Employees are sensitive to payroll errors and irregularities.
- ✓ Good employee morale requires payroll to be paid timely and accurately.
- ✓ Payroll is subject to federal and state regulations. Both federal and state governments require that detailed payroll records be kept.

- ✓ Payroll often represents the largest expense that a company incurs.
- ✓ Adequate payroll system safeguards the financial resources of the organization from misuse and theft.

Accounting systems for payroll and payroll taxes are concerned with the records and reports associated with the ***employer-employee relationship***. It is important that the accounting system provide safeguard to ensure that payments are in accord with management's general plans and its specific authorizations.

All employees of an organization expect and are entitled to receive their remuneration at regular intervals following the close of each payroll period. Regardless of the number of employees and the difficulties in computing the amounts to be paid, the payroll system must be designed to process the necessary data quickly and assure payment of the correct amount to each employee.

The system must also provide adequate safeguards against unauthorized payments to employees and other misappropriations of funds. Various federal, state, and local laws require employers to keep accurate payroll records and to prepare reports and submit to the appropriate governmental units. The law also requires employers to remit the amounts withheld from its employees and for taxes imposed on it. These records must be kept for specified periods of time and be available for inspection by those responsible for enforcement of the laws. Besides, payroll data may be useful in negotiations with labor unions, in settling employee grievances, and in determining rights to vacations, sick leaves, and retirement pensions.

Here, in this section, we are going to discuss deeply and work-through the major concepts that are common to most payroll systems such as the employee's earnings record, payroll sheet (or register), and journal entries related to payroll. Each of these concepts is illustrated and discussed by taking into account the current tax law of the country. As much as possible it attempts to give you adequate knowledge about payroll systems in Ethiopia, however, if you come across any confusion or difficulties you can consult the authorities in the Ministry of Finance or Revenue Administration in your locality, or refer the various proclamations especially; Proclamation No. 979/2016 and Proclamation No. 983/2016.

1.3.1. Definition of Payroll Related Terms

Payroll accounting involves so many generally accepted and standardized terms. This helps to attain uniformity in the system both within the organization and with other related parties. The following are the most common terms used in payroll accounting:

1. **Salary and Wages:** salary and wages are usually used interchangeably. However, the term wages is more correctly used to refer to payments to unskilled-manual labor. It is usually paid based on the number of hours worked or the number of units produced. Therefore, wages are usually paid when a particular piece of work is completed weekly.

On the other hand, salaries refers to payments to employees who render managerial, administrative or similar services, and they are usually paid to skilled labor on a monthly or yearly basis.

Both wages and salaries are related to an 'employee,' that is, individual who works primarily to one organization and whose activities are under the direct supervision of the employer.

2. **Pay Period:** a pay period refers to the length of time covered by each payroll payment.
3. **Pay Day:** - is the day on which wages or salaries are paid to employees. This is usually on the last day of the pay period.
4. **A payroll Register (sheet):** is the list of employees of a business along with each employee's gross earning; deductions and net pay (take home pay) for a particular pay period. Then input for payroll register is the employees work hour duration summarized from any of the following sources:

Attendance sheets: is where employees sign at the time of arrival in the working area. It is usually placed in offices and administrative areas.

Punched (clock) cards; is an electronically recorded card, where each employee will have his/her own card for registering both at the time entering and leaving the working place. This mechanism is commonly placed at the gated of manufacturing plants.

Time cards: is more or less similar to punched card except that the time is manually written in hand written format by the employee.

5. **Gross Earnings:** it is the total amount of income earned by employees from different sources.

Gross Earning = Basic Salary +allowances + Overtime Earning

6. **Payroll Deductions:** are deductions from the gross earnings of an employee such as employment income taxes (withholding taxes), labor union dues, fines, credit association pays etc.
7. **Employment Income Tax:** are taxes collected from the earnings of employees by the employer organization as per the regulations of the government. These have to be submitted (paid) to the government because employer organization is only acting as an agent of the government in collecting these taxes for employees.
8. **Pension contribution:**employersdeducts some amount of money from employees to provide some benefits to the employees after retirement and during old age, with a view to create a feeling of security about the old age to create a feeling of security about the old age. Pensions and provident funds benefits are called retirement benefits. Permanent employees of an organization governed by the existing regulations of the Ethiopian civil servants are expected to pay or contributed 7% of their monthly basic salary to the government pension trust fund. This amount should be withheld by the employer from the basic salary of each employee on every payroll and latter be paid to the respective government body.
On the other hand, the employer is also expected to contribute 11% of the basic salary of every civil permanent employee towards the same fund. This amount is said to be payroll tax expense to the employer.
Consequently, the total contribution to the pension trust fund of the Ethiopian government is equal to 18% of the total basic salary of all civil permanent employees of an organization.
9. **Net Pay:** **Net pay** is the earning of an employee's after all deductions have been made. This is take home pay amount collected by an employee on the pay day.
10. **Pay Check:** a business can pay payroll by witting a check for the amount of the net pay. A check is prepared in the name of each employee and handed to employee. Alternatively a check for the total net pay of all employees can be prepared so it will be paid in cash at the organization for each employee.

As per article 12 of the income tax proclamation, **employment incomes** include the following:

- Salary, wages, allowance, bonus, commission, gratuity, or other remuneration received by an employee in respect of a past, current, or future employment;

- The value of fringe benefits received by an employee in respect of a past, current, or future employment;
- An amount received by an employee on termination of employment, whether paid voluntarily, under an agreement, or as a result of legal proceedings, including any compensation for redundancy or loss of employment, or a golden handshake payment.

1.3.2. Possible Components of a Payroll Register

1. **Employee Number:** number assigned to employees for identification purpose when a relatively large number of employees are involved in a payroll register.
2. **Name of Employees**
3. **Earnings:** Money earned by an employee from various sources. This may include.
 - (a) **Basic Salary-** a flat monthly salary of an employee for carrying out the normal work of employment and subject to change when the employee is promoted.
 - (b) **Allowances-** money paid monthly to an employee for special reasons, like:
 - ✓ **Position allowance-** a monthly paid to an employee of earning a particular office responsibility.
 - ✓ **Housing allowance-** a monthly allowance given to cover housing costs of the individual employee when the employment contract requires the employer to provide housing but the employer fails to do so.
 - ✓ **Hardship allowance-** a sum of money given to an employee to compensate for an inconvenient circumstance caused by the employer. For instance, unexpected transfer to a different and distant work area or location.
 - ✓ **Desert allowance-** a monthly allowance given to an employee because of assignment to a relatively hot region.
 - ✓ **Transportation (fuel) allowance-** a monthly allowance to an employee to cover cost of transportation up to her workplace if the employer has committed itself to provide transportation service.

Overtime Earning: is the work done in excess of the normal daily hours of work. Normal hours of work shall not exceed 8 hours a day or 40 hours a week.

Overtime earnings are therefore the amount paid to an employee for overtime work performed. Normal hours of work; means that the time during which a worker actually performs work or avails himself/herself for work in accordance with law, collective agreement or work rules.

The overtime earnings are calculated with the following formula

Over time earnings (OTE) = OT hrs worked x ordinary hourly rate x OT rate.

According to article 68 of proclamation no.307/2003 and the amended proclamation no.494/2006, the following are set aside about overtime pay.

	Time of work done	Over time rate
1	6 am morning to 10 pm evening	1.25 times ordinary hourly rate
2	10 pm evening to 6 am morning	1.5 times ordinary hourly rate
3	Weekly rest days(Sunday and / or Saturday)	2 times ordinary hourly rate
4	public holiday	2.5 times ordinary hourly rate

Ordinary hourly rate = $\frac{\text{Basic Salary}}{\text{Normal Hours of Work}}$

4. Gross Earning = Basic Salary +allowances + Overtime Earning

5. Deductions: are subtractions made from the earnings of employees required by the government or permitted by the employee himself. These include:

(a) Employment Income Tax:

An employer paying employment income to an employee who is subject to employment income tax shall withhold tax from the gross amount of each payment of employment income at the rate applicable. In Ethiopia income tax is charged on the gross earnings of the employee at the rates indicated under Schedule A of the Proclamation No. 979/2016 - Income tax proclamation. An

employee shall not be allowed a deduction for any expenditure incurred in deriving employment income. Employment income shall not include exempt income.

The tax proclamation also provides some exemptions. Exemption, in this context, refers to income, which is not subject to tax. As per the proclamation, there are lists of income exempted from employment income tax:

Proclamation No. 979/2016 states that the following are not taxable

- ✓ An amount paid by an employer to cover the actual cost of medical treatment of an employee.
- ✓ Transportation allowance granted under a contract of employment
- ✓ Hardship allowance
- ✓ Reimbursed traveling expense and per diem (incurred on duty)
- ✓ Food and beverages provided for free to an employee by an employer conducting a mining, manufacturing or agricultural business.
- ✓ Contributions by an employer to a pension, provident fund or other retirement fund for the benefit of an employee provided for the monthly total of contributions does not exceed 15% of the monthly income
- ✓ An amount as compensation for personal injury or the death of another person
- ✓ Salaries paid to domestic servants

1.3.3. Employment income tax computation

Employment income tax is calculated using the following rates;

Employment Income (per month) in birr	Income Tax rate
0 – 600	0
601 - 1,650	10%
1,651 - 3,200	15%
3,201 -5,250	20%
5,251- 7,800	25%
7,801 – 10,900	30%
Greater than 10,900	35%

The most widely used employment income tax computation methods are progression and deduction.

A. Progression method

The amount of tax is calculated for each layer of tax brackets by multiplying the given rate under schedule for each additional layer. Assume that AtoGetenetAbebe earned an amount of birr 5,800 subject to income tax ;his employment income tax is calculated as follows.

Earning x tax rate (%) = income tax

600 x 0 00.00

1050 x 10 105

1550 x 15 232.5

2050x20 410

550x 25137.5

5,800885

B. Deduction method

In preparation of payroll and computing the employment income tax,the following short cut formula can be used.

Income tax = (gross taxable income x tax rate)-deduction

Employment income tax(per month)		Tax rate (%)	Deduction(in birr)
Over birr	To birr		
0	600	0% (Exempt threshold)	0
601	1,650	10%	60
1,651	3,200	15%	142.5
3,201	5,250	20%	302.5
5,251	7,800	25%	565
7,801	10,900	30%	955
>10,900		35%	1,500

Example; we can calculate the income tax of AtoGetenetAbebe given in the previous example who earn the amount of birr 5,800 using deduction method as follows.

Income tax = (gross taxable income x tax rate)-deduction

Income tax = 5,800x 25% - 565

= **Birr 885**

The deduction the above table from the income tax payable computed as follows:

→ 60 = 600*10%-0 %(600-0)

→ 142.5= 1650*15%-10 %(1650-600) -0 %(600-0)

→ 302.5= 20% 3200*20%-15 %(3200-1650) -10 %(1650-600) -0 %(600-0)

→ 565=5250*25%-20 %(5250-3200) -15 %(3200-1650) -10 %(1650-600) -0 %(600-0)

→ 955=7800*30%-25 %(7800-5250) -20 %(5250-3200) -15 %(3200-1650) -10 %(1650-600) -0 %(600-0)

(b) Pension Contribution:

The employer deducts pension contribution from Permanent employees of an organization 7% of their monthly basic salary to the government pension trust fund. This amount should be withheld by the employer from the basic salary of each employee on every payroll and latter be paid to the respective government body.

(c) Other Deductions:

In addition to the above two kinds of deductions from employees earnings, employees may individually authorize deductions such as deductions to pay health or life insurance premiums, to pay loans from the employer or credit association to pay for donation or charitable organizations; contributions to social affairs like "Idir" "Equb"; etc.

Each of the major other deductions may be put in special column in the payroll register. The sum of all the above-mentioned deductions (income tax, pension contribution, and other deductions) gives the total deduction from the gross earnings of an employee.

6. Net Pay:

This amount is held in one column of the payroll register representing the excess of gross earnings over the total deductions of an employee. The column net pay total shows the grand total around that will be received by employees. It is called take **home pay**.

7. Signature:

Unless some other document is used; the payroll sheet may be designed to allow a column of a signature of the employees after collection of the net pay.

Major Procedures or Activities Involved in Accounting for Payroll

1. Gathering the necessary data - all the relevant information about every employee should be gathered. This activity requires reviewing various documents and to do so some arithmetic work.
2. Including the names of employees along with the gathered data such as earnings, deductions, and net pays in the appropriate columns of the payroll register.
3. Totaling and proving the payroll register. It must be proved that the grand total earnings equal to the sum of the grand totals of deductions and net pays in the register.
4. The accuracy and authenticity of the information summarized in the payroll should be verified by different person from the one who compiles it.
5. The payroll is approved by the authorized personnel
6. Paying the payroll either in cash or issuing a check for every individual employee for the net amount payable to each employee.
7. Recording the payment of the payroll and recognition of the withholding tax liabilities.
8. Recording the payroll tax expense of the employer
9. Paying and recording withholding and payroll tax liabilities to the concerned authority in our case to the Inland Revenue Authority, on time.

Illustration of a Payroll Register

Addis Garment Factory, a public business organization, pays the salary of its employees according to the Ethiopian calendar month. The forth-coming data related to the month of January, 2016.

S/ N	Name of Employee	Basic salary	House Allowance	Hardship allowance	OT hours worked	Duration of work
01	HabitamuB elaye	8,600	400		15	Up to 10:00pm.
02	FasilAbiy	2,500	200	300	12	6 hours up to 10:00pm. 6 hours on public holiday
03	Eden Dawit	1,600	-		6	Weekly Rest days
04	AbdiTekel	500	100		-	-
05	Mohamed Ali	900	100	200	20	15 hours on weekly rest days & 5 hours during public holidays

Additional information

The management of the organization usually expects all workers to work 160 hours in a month and during the month of January, 2017 all workers have done as expected. Besides, all workers of the organization are permanent employees except AbdiTekel. Fasil and Habitamu agreed to contribute monthly of Br 300 each for a charity organization (for Hope project).

Instructions: Based on the above information:

1. Prepare a payroll register for the organization for the month of January, 2017.

2. Record the payment of salary as of January 31, 2017 using cash.
3. Record the payroll tax expense for the month of January.
4. Record the payment of the claim of the Charitable organization that arose from January, 2017 payroll assuming that the payment was made on February 5, 2017.
5. Assuming that the withholding taxes and payroll taxes of the month of January, 2017 have been paid on February 6, 2017, record the required journal entry.

6. **Solution**

1. A payroll is registered in the payroll register. A payroll register is a multi-columnar form used to organize the payroll data of an organization at the end of each pay period. A payroll register would include: Employee number, names of employees, earnings of each employee, deductions, net pay, and signature. Hence, these inputs should be prepared as follows:

a) **Overtime earning (OT)**

$$\text{OT} = \text{OT hours worked} \times (\text{ordinary hourly rate} \times \text{OT rate})$$

$$\text{Ordinary hourly rate} = \text{basic salary} \div \text{required monthly working hours}$$

S/N	Name of Employee	Basic Salary	Required Monthly Working Hours	Ordinary Hourly Rate
01	HabituBelaye	8,600	160 hours	Br 8,600/160 = Br 53.75
02	FasilAbiy	2,500	160 hours	Br 2,500/160 = Br 15.625
03	Eden Dawit	1,600	160 hours	Br 1,600/160 = Br 10.00
04	AbdiTekel	500	160 hours	Br 500/ 160 = Br 3.125
05	Mohamed Ali	900	160 hours	Br 900/160 = Br 5.625

01. HabituBelaye

$$\text{OT} = \text{OT hours worked} \times (\text{ordinary hourly rate} \times \text{OT rate})$$

$$\text{OT} = 15 \text{ hrs} \times (\text{Br } 53.75 \times 1.25) = \underline{\underline{\text{Br } 1,007.80}}$$

02.

$$\text{03. FasilAbiy OT} = 6 \text{ hrs} \times (\text{Br } 15.625 \times 1.25) = \text{Br } 117.19$$

$$+ \text{OT} = 6 \text{ hrs} \times (\text{Br } 15.625 \times 2.5) = \text{Br } 234.38$$

Br 351.57

04. Eden Dawit .OT = 6 hrs x (Br 10.00 x 2.0) = **Br 120.00**

05. Mohamed Ali

$$\text{OT} = 15 \text{ hrs} \times (\text{Br } 5.625 \times 2.0) = \text{Br } 168.75$$

$$+ \text{OT} = 5 \text{ hrs} \times (\text{Br } 5.625 \times 2.5) = \text{Br } 70.31 \quad \text{Br } 239.06$$

b) Gross Earnings

Gross Earnings: is total amount of money earned by an employee from various sources.

Example includes basic salary, allowance, and overtime.

$$\text{Gross earnings} = \text{Basic salary} + \text{Allowance} + \text{OT earnings}$$

S/ N	Name of Employee	Basic Salary	House Allowance	Hardship allowance	OT Earnings	Gross Earnings
01	HabituBelaye	8,600	400		1,007.80	10,007.8
02	FasilAbiy	2,500	200	300	351.57	3,351.57
03	Eden Dawit	1,600	-		120.00	1,720
04	AbdiTekel	500	100		-	600
05	Mohamed Ali	<u>900</u>	<u>100</u>	<u>200</u>	<u>239.06</u>	<u>1,439.06</u>
Total		<u>14,100</u>	<u>800</u>	<u>500</u>	<u>1,718.43</u>	<u>17,118.43</u>

c) Deductions and net pay

$$\text{Gross Taxable Income} = \text{Gross Earnings} - \text{Non Taxable Allowances}$$

$$\text{Pension Contribution} = 7\% \times \text{Basic Salary} \rightarrow \text{from employees' basic salary}$$

S/N	Name of Employee	Gross Earnings	Non Taxable Allowances	Gross Taxable Income
01	HabituBelaye	10,007.8	-	10,007.8
02	FasilAbiy	3,351.57	300	3,051.57
03	Eden Dawit	1,720	-	1,720.00

04	AbdiTekel	600	-	600.00
05	Mohamed Ali	<u>1,439.06</u>	<u>200</u>	<u>1,239.06</u>
Total		<u>17,118.43</u>	<u>500</u>	<u>16,618.43</u>

01. HabituBelaye: Income tax and pension

			Gross Earnings
Income tax = (gross taxable income x tax rate)-deduction			10,007.80
Income tax	= (10,007.8 X 30%) – 955	= Br 2,047.34	
Pension contribution	= 7% x 8,600	= 602.00	
Charity contribution	(other deduction)	= <u>300.00</u>	
Total Deductions			<u>2,949.34</u>
Net Pay			<u>Br 7,058.46</u>

02. FasilAbiy

Gross Earning Income			Br 3,351.57
Income tax	= (3,051.57X15%) – 142.5	= Br 315.24	
Pension contribution	= 7% x 2,500	= 175.00	
Charity contribution	(other deduction)	= <u>300.00</u>	
Total Deductions			<u>790.24</u>
Net Pay			<u>Br 2,561.33</u>

03. Eden Dawit

Gross Earning Income			Br 1,720.00
Income tax	= (1,720.00X15%) – 142.5	= Br 115.50	
Pension contribution	= 7% x 1,600	= <u>112.00</u>	
Total Deductions			<u>227.50</u>
Net Pay			<u>Br 1,492.50</u>

04. AbdiTekel

Gross Earning Income		Br 600.00
Income tax	= (600X 0%)	= 0.00
Pension contribution	= no pension (b/c not permanent)	= <u>0.00</u>
Total Deductions		<u>0.00</u>
Net Pay		<u>Br 600.00</u>

05. Mohamed Ali

Gross Earning Income		Br 1,439.06
Income tax	= (1,239.06X 10%) – 60*	= Br 63.90
Pension contribution	= 7% x 900	= <u>63.00</u>
Total Deductions		<u>126.90</u>
Net Pay		<u>Br 1,312.16</u>

*hardship allowance of Mohamed birr 200 is not taxable

2. Record the payment of salary as of January 31, 2017 using cash.

Salaries expense..... 17,118.43

Income tax payable2,541.98

Pension contribution payable 952.00

Charity contribution 600.00

Cash 13,024.45

3. Record the payroll tax expense for the month of January.

Payroll tax expense = 11% of basic salary of permanent of employees (from employer)**Payroll tax expense = 11% x 13,600 = 1,496**

Payroll tax expense 1,496

Pension contribution payable 1,496

*From employees = 7% x 13,600 = 952.00**+ From employer = 11% x 13,600 = 1,496.00***Total pension contribution towards the gov't pension trust fund = 2,448.00**

4. Record the payment of the claim of the Charitable organization that arose from January, 2017 payroll assuming that the payment was made on February 5, 2017.

Charity contribution	600.00	
Cash		600.00

5. Assuming that the withholding taxes and payroll taxes of the month of January, 2017 have been paid on February 6, 2017, record the required journal entry.

Income tax payable	2,541.98	
Pension contribution payable	2,448.00	
Cash		4,989.98

Addis Garment Factory Payroll Sheet For the month ended January 31, 2017												
S/N	Name of Employee	Earnings				Gross Earnings	Deductions			Total Deduction	Net Pay	Signature
		Basic Salary	House Allowance	Hardship allowance	OT Earnings		Employment Income Tax	Pension Contribution	Other Deductions			
01	Habitamu B	8,600	400		1,007.80	10,007.8	2,047.34	602.00	300.00	2,949.34	7,058.46	
02	FasilAbiy	2,500	200	300	351.57	3,351.57	315.24	175.00	300.00	790.24	2,561.33	
03	Eden Dawit	1,600	-		120.00	1,720	115.50	112.00	-	227.50	1,492.50	
04	AbdiTekel	500	100		-	600	0.00	0.00	-	0.00	600.00	
05	Mohamed A	<u>900</u>	<u>100</u>	<u>200</u>	<u>239.06</u>	<u>1,439.06</u>	<u>63.90</u>	<u>63.00</u>	-	<u>126.90</u>	<u>1,312.16</u>	
Total		<u>14,100</u>	<u>800.00</u>	<u>500</u>	<u>1,718.43</u>	<u>17,118.43</u>	<u>2,541.98</u>	<u>952.00</u>	<u>600.00</u>	<u>4,093.98</u>	<u>13,024.45</u>	

1.3.4. Internal Controls For Payroll Systems

The cash payment controls, internal control of cash, also apply to payrolls. Some examples of payroll controls include the following:

- ✓ If a check-signing machine is used, blank payroll checks and access to the machine should be restricted to prevent their theft or misuse.
- ✓ The hiring and firing of employees should be properly authorized and approved in writing.
- ✓ All changes in pay rates should be properly authorized and approved in writing.
- ✓ Employees should be observed when arriving for work to verify that employees are “checking in” for work only once and only for themselves. Employees may “checkin” for work by using a time card or by swiping their employee ID card.
- ✓ Payroll checks should be distributed by someone other than employee supervisors.
- ✓ A special payroll bank account should be used.

3.4 Presentation of Liabilities on the Balance Sheet

Conceptually, a company should report its three main balance sheet elements - assets, liabilities, and equity - in homogeneous classes. This disclosure is helpful to users in assessing the nature, amount, timing, and liquidity of its resources and obligations. A company can report liabilities and assets as items in its balance sheet in various ways.

Current liabilities are the first category under liabilities on the balance sheet. Each of the principal types of current liabilities is listed separately.

In addition, companies disclose the terms of notes payable and other key information about the individual items in the notes to the financial statements.

Companies seldom list current liabilities in the order of liquidity. The reason is that varying maturity dates may exist for specific obligations such as notes payable.

A more common method of presenting current liabilities is to list them by **order of magnitude**, with the largest ones first.

Items within the current liability section typically may be listed:

- (1) in the order of their average length of maturity,
- (2) according to amount (largest to smallest), or
- (3) in the order of liquidation preference - that is, in the order of their legal claims against assets. A popular way of presenting these items is as follows:

Principles of Accounting

II

- ® Accounts payable
- ® Notes payable
- ® Accrued liability items
- ® Unearned revenue items
- ® Other current liabilities

Other Current Liabilities may include:

- » Accrued payroll
- » Accrued interest
- » Accrued taxes
- » Miscellaneous, etc.

A company includes any major issue affecting its current liabilities in a note to its financial statements. This presentation is made so that the notes and other supplemental information about current liabilities meet the requirement of **full disclosure**.

To illustrate, look at balance sheet of ABC Company showing how it reports its current liabilities

	May 30, 2004	May 25, 2003
(millions of dollars)		
Liabilities (in part)		
Current liabilities:		
Accounts payable	\$1,145	\$1,303
Current portion of long term debt	233	105
Notes payable	583	1,236
Other current liabilities	<u>796</u>	<u>800</u>
Total current liabilities	<u>\$2,757</u>	<u>\$3,444</u>



Other current liabilities:		
Accrued payroll	\$230	\$243
Accrued interest	186	178
Accrued taxes	249	129
Miscellaneous	<u>131</u>	<u>250</u>
Total other current liabilities	<u>\$796</u>	<u>\$ 800</u>

Chapter Four

Accounting for Partnerships

Introduction

 **Dear Learners!** As you have learnt in Principles of Accounting I there are four most common legal forms for organizing and operating a business. These are *Sole Proprietorship, Corporation, Partnership and Limited Liability Company*. In this section, the characteristics of proprietorships, partnerships, and limited liability companies are described. A **partnership** is an association of two or more persons who co-own a business for profit. This definition comes from the **Uniform Partnership Act¹**, which nearly every state in the United States has adopted to regulate partnership practice. Forming a partnership is easy. It requires no permission from the government and no legal procedures. When two persons decide to go into business together, a partnership is automatically formed. A partnership brings together the assets and the experience of the partners. Business opportunities may open up to a partnership as two or more individuals pool their talents and know-how. Their partnership may offer a fuller range of goods and services than any one person can offer alone. Partnerships come in all sizes. Many have fewer than 10 partners. Some medical and law firms have 20 or more. The largest accounting firms have over 2,000 partners. Partnerships are less widely used than proprietorships.

Chapter Objectives! After studying this chapter, you should be able to:

- Identify the characteristics of a partnership
- Account for the partners' investments in a partnership
- Allocate profits and losses to the partners
- Account for the admission of a new partner
- Account for a partner's withdrawal from the firm
- Account for the liquidation of a partnership
- Prepare partnership financial statements

4.1. Basic Characteristics of Partnership

4.1.1. As per USA Partnership Act:- A person cannot be forced to join a partnership, and partners cannot be forced to accept another person as a partner. The following characteristics distinguish partnerships from sole proprietorships and corporations.

1. **The Written Agreement** - A business partnership is like a marriage. To be successful, the partners must cooperate. But business partners don't vow (swear) to remain together for life. To lower the chances that any partner might misunderstand how the business is run, partners may draw up a *partnership agreement* which is also called the *articles of partnership*. This agreement is a contract between the partners, so transactions involving the agreement are governed by contract law. The articles of partnership should make the following points clear:
 - ✎ Name, location, and nature of the business
 - ✎ Name, capital investment, and duties of each partner
 - ✎ Method of sharing profits and losses among the partners
 - ✎ Withdrawals of assets allowed to the partners
 - ✎ Procedures for admitting new partners
 - ✎ Procedures for settling up with a partner who withdraws from the firm
 - ✎ Procedures for liquidating the partnership - selling the assets, paying the liabilities, and disbursing remaining cash to the partners.
2. **Moderate to form.** A partnership requires only an agreement between two or more persons to organize. However, the *partnership agreement*, sometimes called the *articles of partnership*, includes matters such as amounts to be invested, limits on withdrawals, distributions of income and losses, and admission and withdrawal of partners. Thus, an attorney is often used in forming a partnership.
3. **No limitation on legal liability.** The partners are personally liable for any debts or legal claims against the company. Therefore, creditors can take the personal assets of the partners if the business debts exceed the partners' investment in the company.
4. **Not taxable.** For federal income tax purposes, a partnership is not taxed. Instead, the company's income or loss is "passed through" to the partners' individual income tax returns. However, partnerships must still report revenues, expenses, and income or loss annually to the Tax Authority.
5. **Limited life.** When a partner dies or retires, the partnership ceases to exist. Likewise, the admission of a new partner dissolves the old partnership, and a new partnership must be formed if operations are to continue.
6. **Limited ability to raise capital (funds).** The ability to raise capital (funds) for the company is limited to what the partners can provide from personal resources or through borrowing.

In addition to the above characteristics, some *unique aspects of partnerships* are as follows:

1. **Co-ownership of partnership properly.** The property invested in a partnership by a partner becomes the joint property of all the partners. When a partnership is dissolved, each partner's share of the partnership assets is the balance in their capital account.
2. **Mutual agency.** Each partner is an agent of the partnership and may act on behalf of the entire partnership. Thus, any liabilities created by one partner become liabilities of all the partners.
3. **Participation in income.** Net income and net loss are distributed among the partners according to their partnership agreement. If the partnership agreement does not provide for distribution of income and losses, then income and losses are divided equally among the partners.

A partnership may be organized as a limited partnership. A limited partnership is a unique legal form that provides partners who are not involved in the operations of the partnership with limited liability. In such a form, at least one general partner operates the partnership and has unlimited liability. The remaining partners are considered limited partners.

Limited Liability Companies

A limited liability company (LLC) is a form of legal entity that provides limited liability to its owners, but is treated as a partnership for tax purposes. The LLC is a relatively new form of business entity that has become widely used for small companies. LLCs, which may be owned by one or more persons or entities, are designed to overcome some of the disadvantages of a partnership.

Characteristics of an LLC include the following:

1. **Moderate to form.** An LLC requires an agreement among the owners who are called members. The operating agreement, sometimes called articles of organization, includes matters such as amounts to be invested, limits on withdrawals, distributions of income and losses, and admission and withdrawal of members.
2. **Limited legal liability.** The members have limited liability even if they are active in the company. Thus, the members' personal assets are legally protected against creditor claims made against the LLC. That is, only the members' investments in the company are subject to claims of creditors.

3. **Not taxable.** An LLC may elect to be treated as a partnership for tax purposes. In this way, income passes through the LLC and is taxed on the individual members' tax returns.
4. **Unlimited life.** Most LLC operating agreements specify continuity of life for the LLC, even when a member withdraws or new members join the LLC.
5. **Moderate ability to raise capital (funds).** Because of their limited liability, LLCs are attractive to many investors, thus, allowing for greater access to capital (funds) than is normally the case in a partnership.

An LLC may elect to operate as a *member-managed* or a *manager-managed* company. In a member-managed LLC, individual members may legally bind the LLC, like partners bind a partnership. In a manager-managed LLC, only authorized members may legally bind the LLC. Thus, in a manager-managed LLC, members may share in the income of the LLC without concern for managing the company. As a result, manager-managed LLCs are attractive to many investors.

Characteristics of proprietorships, partnerships, and limited liability companies

Organizational form	Ease of formation	Legal liability	Taxation	Limitation on life of entity	Access to capital
Proprietorship	Simple	No limitation	Nontaxable(pass-through) entity	Limited	Limited
Partnership	Moderate	No limitation	Nontaxable(pass-through) entity	Limited	Limited
Limited liability company	Moderate	Limited liability	Nontaxable(pass-through) entity by election	Unlimited	Moderate

4.1.2. As per the Ethiopian Commercial Code [of 1960]

Art. 227: A partnership is an ordinary partnership within the meaning of this Title where it does not have characteristics which make it a business as organization covered by another Title of this Code.

[Art. 228 - 268] - Of the 1960 Ethiopian Commercial Code.

Advantages and Disadvantages of Partnerships

The following exhibit lists the advantages and disadvantages of partnerships (compared with proprietorships and corporations). A partnership is really a “multiple proprietorship.” Most features of a proprietorship also apply to a partnership - in particular, limited life and unlimited liability.

Partnership Advantages	Partnership Disadvantages
<i>Versus Proprietorships:</i> <ol style="list-style-type: none"> 1. Can raise more capital. 2. Brings together the expertise of more than one person. 3. $1 + 1 > 2$ in a good partnership. If the partners work well together, they can add more value than by working alone. 	<ol style="list-style-type: none"> 1. Partnership agreement may be difficult to formulate. Each time a new partner is admitted or a partner withdraws, the business needs a new partnership agreement. 2. Relationships among partners may be fragile. 3. Mutual agency and unlimited personal liability create personal obligations for each partner.
<i>Versus Corporations:</i> <ol style="list-style-type: none"> 4. Less expensive to organize than a corporation, which requires a charter from the state. 5. No taxation of business income, which is taxed to the partners as individuals. 	

4.2. Equity Reporting for Partnerships

Accounting for a partnership is much like accounting for a sole proprietorship. But a partnership has more than one owner, so it needs more than one owner’s equity account. Every partner in the business has an individual owner’s equity account. Often these accounts carry the **name** of the particular partner and the word **capital**. For example, the owner’s equity account for **TamiruYayeh** would read “**Tamiru, Capital**”.

Similarly, each partner has a withdrawal account. If the number of partners is large, the general ledger may contain the single account Partners’ Capital, or Owners’ Equity. A subsidiary ledger can be used for individual partner accounts.

NB: *The only way a partnership’s chart of accounts is different from sole proprietorship’s is that a partnership has multiple capital and drawing accounts.*

4.3. Formation of Partnerships

In forming a partnership, the investments of each partner are recorded in separate entries. The assets contributed by a partner are debited to the partnership asset accounts. If any liabilities are assumed by the partnership, the partnership liability accounts are credited. The partner's capital account is credited for the net amount.

To illustrate, let's consider the following two examples:

Example 1: Assume that Joseph Stevens and Earl Foster, owners of competing hardware stores, agree to combine their businesses in a partnership. Stevens agrees to contribute the following:

Cash	\$ 7,200	Office equipment	\$2,500
Accounts receivable	16,300	Allowance for doubtful accounts	1,500
Merchandise inventory	28,700	Accounts payable	2,600
Store equipment	5,400		

The entry to record the assets and liabilities contributed by Stevens is as follows:

April	1	Cash	7,200	
		Accounts receivable	16,300	
		Merchandise inventory	28,700	
		Store equipment	5,400	
		Office equipment	2,500	
		Allowance for doubtful accounts		1,500
		Accounts payable		2,600
		Joseph Stevens, Capital		56,000

In the preceding entry, the noncash assets are recorded at values agreed upon by the partners. These values are normally based on *current market values*. As a result, the book value of the assets contributed by the partners normally differs from that recorded by the new partnership. To illustrate, the store equipment contributed by Stevens may have had a book value of \$3,500 in Stevens' ledger (cost of \$10,000 less accumulated depreciation of \$6,500). However, the store equipment is recorded at its current market value of \$5,400 in the preceding entry. The contributions of Foster would be recorded in an entry similar to the entry for Stevens.

Example 2: Assume that Dave Benz and Joan Hanna form a partnership to sell computer software. The partners agree on the following values:

Benz's Contributions

Cash, \$10,000; Inventory, \$70,000; and Accounts Payable, \$85,000

(The appraiser believes that the current market values for these items equal Benz's values.)

Accounts receivable, \$30,000, less allowance for doubtful accounts of \$5,000

Computer equipment - cost, \$800,000; accumulated depreciation, \$200,000; current market value, \$450,000

Hanna's Contributions

Cash, \$5,000

Computer software: cost, \$18,000; market value, \$100,000

The partnership records the initial investments at current market value because the partnership is buying the assets and assuming the liabilities at their current market values. The partnership entries are as follows:

Benz's Investment:

June	1	Cash	10,000	
		Accounts receivable	30,000	
		Inventories	70,000	
		Computer equipment	450,000	
		Allowance for doubtful accounts		5,000
		Accounts payable		85,000
		Benz, Capital (\$560,000 – 90,000)		470,000
		(to record Benz's investment in the partnership)		

Hanna's Investment

June	1	Cash	5,000	
		Computer software	100,000	
		Hanna, Capital		105,000
		(to record Hanna's investment in the partnership)		

4.4. Dividing Partnership net Income and Net Loss

Allocating profits and losses among partners is one of the most challenging aspects of managing a partnership. If the partners have not drawn up an agreement or if the agreement does not state how the partners will divide profits and losses, then they share equally. If the agreement specifies a method for dividing profits but not losses, then losses are shared in the same proportion as

profits. For example, a partner who gets 75% of the profits likewise absorbs 75% of any losses. Partners may agree to any profit-and-loss-sharing method they desire.

Typical arrangements for dividing profits and losses among the partners include the following:

1. Sharing based on a stated fraction for each partner, such as 1:1 (50% to 50%), 2:1 (2/3 to 1/3) or 4:3:3 (which means 40% to partner 1, 30% to Partner 2, and 30% to Partner 3), etc;
2. Sharing based on each partner's capital contribution; and
3. Sharing based on a combination of each partner's stated fraction, capital contribution (*Investments*), and *Services* to the partnership; such as
 - ⇒ Partner salary allowances
 - ⇒ Interest on capital investments
 - ⇒ Any remaining income equally

1. Sharing based on a Stated Fraction

Partners may state a particular fraction of the total profits and losses each individual partner will share. Suppose the partnership agreement of Ahmed and Belay allocates 2/3 of the business profits and losses to Ahmed and 1/3 to Belay. This sharing rule can also be expressed as 2:1. If net income for the year is \$90,000 and all revenue and expense accounts have been closed, the Income Summary account has a credit balance of \$90,000:

Income Summary	
Bal.	90,000

The entry to close the profit to the partners' capital accounts is

Dec.	31	Income summary	90,000	
		Ahmed, Capital (\$90,000 x 2/3)		60,000
		Belay, Capital (\$ 90,000 x 1/3)		30,000
		(To allocate net income to partners)		

Consider the effect of this entry. Does Ahmed get \$60,000 cash and Belay \$30,000 cash? No. The increase in the partners' capital accounts cannot be linked to any particular asset, including cash. Instead, the entry indicates that Ahmed's ownership in all the assets of the business increased by \$60,000 and Belay's by \$30,000.

If the year's operations resulted in a net loss of \$66,000, the Income Summary account would have a debit balance of \$66,000. In that case, the entry to close the loss to the partners' capital accounts would be

Dec.	31	Ahmed, Capital ($\$90,000 \times 2/3$)	44,000	
		Belay, Capital ($\$90,000 \times 1/3$)	22,000	
		Income summary		66,000
		(To allocate net loss to partners)		

2. Sharing based on each Partner's Capital Contribution

To illustrate, assume that the partnership agreement of John and Kedir provides for the share of profits or losses based on their capital balance as of January 1:

Capital, John = \$150,000

Capital, Kedir = \$250,000

The partnership's net income for the first year is \$800,000, and the partners share this profit as follows:

	John	Kedir
John share of NI: $\$150,000 / \$400,000 \times \$800,000$	<u>\$300,000</u>	
Kedir share of NI: $\$250,000 / \$400,000 \times \$800,000$		<u>\$500,000</u>

For this allocation, the closing entry is

Dec.	31	Income summary	800,000	
		John, Capital		300,000
		Kedir, Capital		500,000
		(To allocate net income to partners)		

3. Sharing based on a Combination of each partner's Stated Fraction, Investments, and Services

One partner may contribute more capital. Another partner may put more work into the business. Even among partners who log equal time, one person's experience may command a greater share

of income. To reward the harder-working or the more-valuable person, the profits and losses may be divided based on a combination of contributed capital and service to the business.

A partnership agreement may divide income not only based upon services, but also based upon the amount invested by each partner. In doing so, the partnership may pay interest on the capital balance of each partner. In this way, partners with more invested in the partnership are rewarded by receiving more of the partnership income.

Example 1

Assume that Dawit and Elias formed a partnership in which Dawit invested \$60,000 and Elias \$40,000, for a total of \$100,000. But Elias devotes more time to the partnership and earns the larger salary. Accordingly, the two partners have agreed to share profits as follows:

- The first \$50,000 of partnership profits is allocated on the basis of the partners' capital contributions.
- The next \$60,000 is allocated on the basis of service, with Randolph receiving \$24,000 and Scott \$36,000.
- Any remaining amount will be allocated equally.

The partnership's net income for the first year is \$125,000, and the partners share this profit as follows:

	Dawit	Elias	Total NI	NI Remaining for Allocation
Sharing of first \$50,000 of NI, based on capital contributions:				<u>\$125,000</u>
Dawit ($\$60,000/\$100,000 \times \$50,000$)	\$30,000			
Elias ($\$40,000/\$100,000 \times \$50,000$)		\$20,000	50,000	\$75,000
Sharing of next \$60,000, based on service:	\$24,000	\$36,000	60,000	15,000
Remainder shared equally:				
Dawit ($\$15,000 \times 1/2$)	7,500			
Elias ($\$15,000 \times 1/2$)	<u> </u>	<u>7,500</u>	<u>15,000</u>	<u> 0</u>
Net income allocated to the partners	<u>\$61,500</u>	<u>\$63,500</u>	<u>\$125,000</u>	<u>\$ 0</u>

For this allocation, the closing entry is

Dec. 31	Income Summary	125,000	
	Dawit, Capital		61,500
	Elias, Capital		63,500

	<i>To allocate net income to partners</i>	
--	---	--

Example 2

Assume that the partnership agreement for Abebe and Feisal provides for the following:

- Monthly Salary Allowance Abebe \$5,000 and Feisal \$4,000
- Interest of 12% on each partner's capital balance as of January 1. Their beginning capital balance is as follows:
 Capital, Abebe = \$160,000
 Capital, Feisal = \$120,000
- Remaining income: Divided Equally

The \$150,000 net income for the year is divided as follows:

	Abebe	Feisal	Total NI	NI Remaining for Allocation
Annual salary allowance (monthly salary x 12)	\$60,000	\$48,000	108,000	\$42,000
Interest allowance (12% x \$160,000; 12% x \$120,000)	19,200	14,400	33,600	8,400
Remaining income: Divided Equally	<u>4,200</u>	<u>4,200</u>	<u>8,400</u>	<u>0</u>
Net income allocated to the partners	<u>\$83,400</u>	<u>\$66,600</u>	<u>\$150,000</u>	<u>\$ 0</u>

For this allocation, the closing entry is

Dec. 31	Income Summary	150,000	
	Abebe, Capital		83,400
	Feisal, Capital		66,600
	<i>To allocate net income to partners</i>		

4.5. Admission of New Partners s

Many partnerships provide for admitting new partners and for partner withdrawals by amending the existing partnership agreement. In this way, the company may continue operating without having to form a new partnership and prepare a new partnership agreement.

A partner may be admitted to a partnership by either of the following:

- ⇒ Purchasing an interest from one or more of the existing partners
- ⇒ Contributing assets to the partnership

Two Methods for Admitting a Partner

When a new partner is admitted by *purchasing an interest* from one or more of the existing partners, the total assets and the total owners' equity of the partnership are not affected. The capital (equity) of the new partner is recorded by transferring capital (equity) from the existing partners.

When a new partner is admitted by *contributing assets* to the partnership, the total assets and the total owners' equity of the partnership are increased. The capital (equity) of the new partner is recorded as the amount of assets contributed to the partnership by the new partner.

Purchasing an Interest from Existing Partners

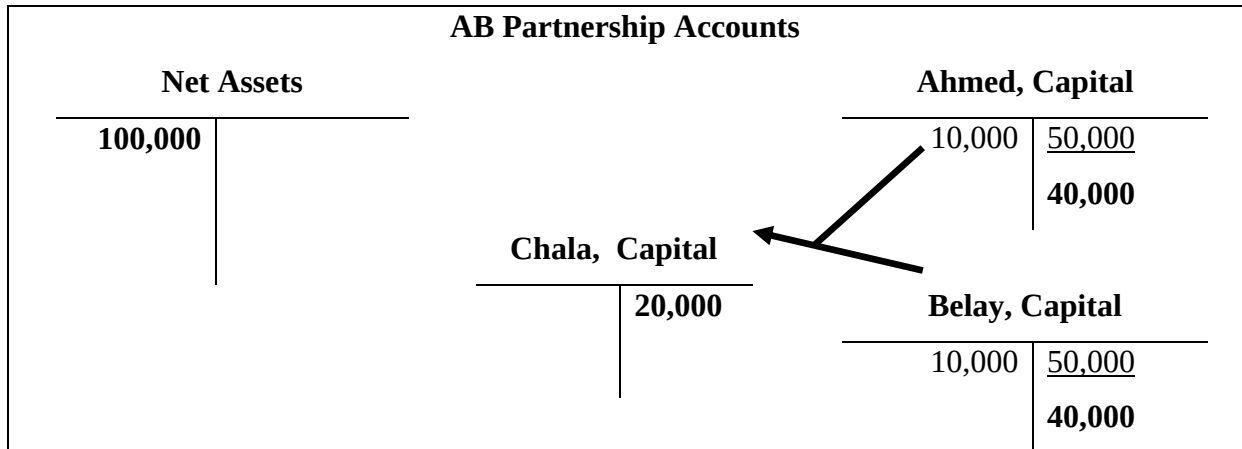
When a new partner is admitted by purchasing an interest from one or more of the existing partners, the transaction is between the new and existing partners acting as individuals. The admission of the new partner is recorded by transferring owners' equity amounts from the capital accounts of the selling partners to the capital account of the new partner.

To illustrate, assume that on June 1, 2014 Ahmed and Belay each sell one-fifth ($1/5^{\text{th}}$) of their partnership equity of AB Partnership to Chala for \$10,000 in cash. On June 1, the partnership has net assets of \$100,000 and both existing partners have capital balances of \$50,000 each. This transaction is between Ahmed, Belay and Chala.

The only entry required by AB Partnership is to record the transfer of capital (equity) from Ahmed and Belay to Chala, as shown below.

June 1	Ahmed, Capital ($1/5 * \$50,000$)	10,000	
	Belay, Capital ($1/5 * \$50,000$)	10,000	
	Chala, Capital ($1/5 * \$100,000$)		20,000

The effect of the transaction on the partnership accounts is shown in the following diagram:



After Chala is admitted to AB, the total owners' equity is still \$100,000. Chala has a one-fifth (20%) interest and a capital balance of \$20,000. Ahmed and Belay each own two-fifths (40%) interest and have capital balances of \$40,000 each. Even though Chala has a one-fifth (20%) interest in the partnership, he may not be entitled to a one-fifth share of the partnership net income. The division of the net income or net loss is made according to the new or amended partnership agreement.

The preceding entry is not affected by the amount paid by Chala for the one-fifth interest. For example, if Chala had paid \$15,000 to Ahmed and Belay instead of \$10,000, the entry would still be the same. This is because the transaction is between Ahmed, Belay, and Chala, rather than the partnership. Any gain or loss by Ahmed and Belay on the sale of their partnership interest is theirs as individuals and does not affect the partnership.

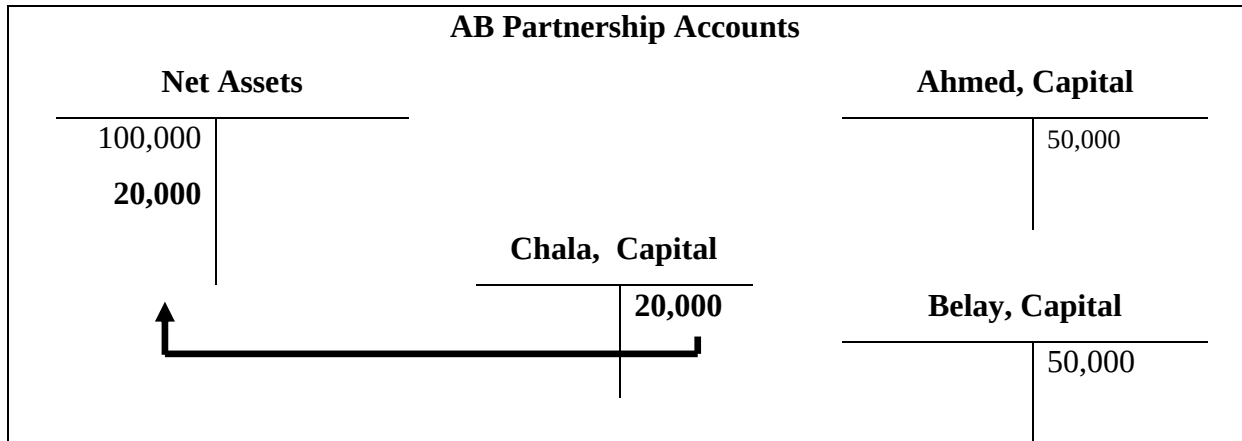
Contributing Assets to a Partnership

When a new partner is admitted by contributing assets to the partnership, the total assets and the total owners' equity of the partnership are increased. This is because the transaction is between the new partner and the partnership.

To illustrate, assume that instead of purchasing a one-fifth ownership in AB Partnership directly from Ahmed and Belay, Chala contributes \$20,000 cash to Partnership for ownership equity of \$20,000. The entry to record this transaction is as follows:

June 1	Cash	20,000	
	Chala, Capital		20,000

The effect of the transaction on the partnership accounts is shown in the following diagram:



After the admission of Chala, the net assets and total owners' equity of the Partnership increase to \$120,000, of which Chala has a \$20,000 interest. In contrast, in the prior example, the net assets and total owners' equity of the Partnership did not change from \$100,000.

Revaluation of Assets

Before a new partner is admitted, the balances of a partnership's asset accounts should be stated at current values. If necessary, the accounts should be adjusted. Any net adjustment (increase or decrease) in asset values is divided among the capital accounts of the existing partners similar to the division of income.

To illustrate, assume that in the preceding example the balance of the merchandise inventory account is \$14,000 and the current replacement value is \$17,000. If Ahmed and Belay share net income equally, the revaluation is recorded as follows:

June 1	Merchandise Inventory	3,000	
	Ahmed, Capital		1,500
	Belay, Capital		1,500

Failure to adjust the partnership accounts for current values before admission of a new partner may result in the new partner sharing in asset gains or losses that arose in prior periods.

Partner Bonuses

A new partner may pay existing partners a bonus to join a partnership. In other cases, existing partners may pay a new partner a bonus to join the partnership. Bonuses are usually paid because of higher than normal profits the new or existing partners are expected to contribute in the future. For example, a new partner may bring *special qualities or skills* to the partnership. Celebrities such as *actors, musicians, or sports figures* often provide name recognition that is expected to increase a partnership's profits.

Partner bonuses are illustrated in the following exhibit. Existing partners receive a bonus when the ownership interest received by the new partner is less than the amount paid. In contrast, the new partner receives a bonus when the ownership interest received by the new partner is greater than the amount paid.

Partner Bonuses

To illustrate, assume that on March 1, 2014 the JK Partnership of John and Kamer is considering a new partner, Leila. After the assets of the partnership have been adjusted to current market values, the capital balances of John and Kamer are as follows:

John, Capital	\$20,000
Kamer, Capital	<u>24,000</u>
Total owners' equity before admitting Leila	<u>\$44,000</u>

John and Kamer agree to admit Leila to the partnership for \$31,000. In return, Leila will receive one-third equity in the partnership and will share equally with John and Kamer in partnership income or losses. In this case, Leila is paying John and Kamer a \$6,000 bonus to join the partnership, computed as follows:

John, Capital	\$20,000
Kamer, Capital	24,000
Leila's Contribution	<u>31,000</u>
Total owners' equity after admitting Leila	<u>\$75,000</u>

Leila's Capital = Total owners' equity after admitting Leila X Leila's equity interest after admission

Total OE	\$75,000
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Leila's equity interest	<u>X 1/3</u>
Leila's Capital	<u>\$25,000</u>

Bonus paid to John and Kamer = Leila's Contribution - Leila's Capital

Leila's Contribution	\$31,000
<i>Less:</i> Leila's Capital	<u>(25,000)</u>
Bonus paid to John and Kamer	<u>\$6,000</u>

The \$6,000 bonus paid by Leila increases John's and Kamer's capital accounts. It is distributed to the capital accounts of John and Kamer according to their income-sharing ratio. Assuming that John and Kamer share profits and losses equally, the entry to record the admission of Leila to the partnership is as follows:

Mar. 1	Cash	31,000	
	Leila, Capital		25,000
	John Capital (\$6,000x1/2)		3,000
	Kamer, Capital (\$6,000x1/2)		3,000

Existing partners may agree to pay the new partner a bonus to join a partnership. To illustrate, assume that after adjusting assets to market values, the capital balances of Nuru and Olad are as follows:

Nuru, Capital	\$80,000
Olad, Capital	<u>40,000</u>
Total owners' equity before admitting Peter	<u>\$120,000</u>

Nuru and Olad agree to admit Peter to the partnership on June 1, 2014 for an investment of \$30,000. In return, Peter will receive a one-fourth ($1/4^{\text{th}}$) equity interest in the Partnership and will share in one-fourth ($1/4^{\text{th}}$) of the profits and losses. In this case, Nuru and Olad are paying Peter a \$7,500 bonus to join the partnership, computed as follows:

Nuru, Capital	\$80,000
Olad, Capital	40,000
Peter's Contribution	<u>30,000</u>
Total owners' equity after admitting Peter	<u>\$150,000</u>

Peter's Capital = Total owners' equity after admitting Peter X Peter's equity interest after admission

Total OE	\$150,000
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Peter's equity interest	<u>X 1/4</u>
Peter's Capital	<u>\$37,500</u>

Bonus paid to Peter = Peter's Capital - Peter's Contribution

Peter's Capital	\$37,500
<i>Les:</i> Peter's Contribution	<u>(30,000)</u>
Bonus paid to Peter	<u>\$7,500</u>

The \$7,500 bonus paid to Peter decreases Nuru's and Olad's capital accounts. It is distributed to the capital accounts of Nuru and Olad according to their income-sharing ratio. Assuming that the income-sharing ratio of Nuru and Olad was 2:1 before the admission of Peter, the entry to record the admission of Peter to the partnership is as follows:

June 1	Cash	30,000	
	Nuru, Capital (\$7,500x2/3)	5,000	
	Olad Capital (\$7,500x1/3)	2,500	
	Peter, Capital		37,500

4.6. Withdrawal or Death of Partners

Withdrawal of a Partner - A partner may retire or withdraw from a partnership. In such cases, the withdrawing partner's interest is normally sold to the: (1) Existing partners or (2) Partnership. If the *existing partners purchase* the withdrawing partner's interest, the purchase and sale of the partnership interest is between the partners as individuals. The only entry on the partnership's records is to debit the capital account of the partner withdrawing and to credit the capital account of the partner or partners buying the additional interest.

If the *partnership purchases* the withdrawing partner's interest, the assets and the owners' equity of the partnership are reduced by the purchase price. Before the purchase, the asset accounts should be adjusted to current values. The net amount of any adjustment should be divided among the capital accounts of the partners according to their income-sharing ratio.

The entry to record the purchase debits the capital account of the withdrawing partner and credits Cash for the amount of the purchase. If not enough partnership cash is available to pay the

withdrawing partner, a liability may be created (credited) for the amount owed the withdrawing partner.

A partner generally cannot withdraw without permission of the remaining partners, nor can a partner be forced to withdraw by the other partners. In this sense, a partnership is like a marriage, “for better or for worse.”

Death of a Partner - When a partner dies, the partnership accounts should be closed as of the date of death. The net income for the current period should then be determined and divided among the partners' capital accounts. The asset accounts should also be adjusted to current values and the amount of any adjustment divided among the capital accounts of the partners.

After the income is divided and any assets revalued, an entry is recorded to close the deceased partner's capital account. The entry debits the deceased partner's capital account for its balance and credits a liability account, which is payable to the deceased's estate. The remaining partner or partners may then decide to continue the business or liquidate it.

4.7. Liquidating Partnerships

When a partnership goes out of business, it sells the assets, pays the creditors, and distributes the remaining cash or other assets to the partners. This winding-up process is called the *liquidation of the partnership*. Although *liquidating* refers to the payment of liabilities, it includes the entire winding-up process.

A partnership may be liquidated if:

- ✓ The objectives sought in forming the partnership have been achieved;
- ✓ The time period for which the partnership was formed expires (ends);
- ✓ Newly enacted government laws have made the partnerships activities illegal;
- ✓ The partnership becomes bankrupt; or etc.

The partnership agreement should indicate the procedures to be followed in case of liquidation. Usually, the books (records) are adjusted and closed, with the income or loss distributed to the partners and the assets are sold.

When the partnership goes out of business and the normal operations are discontinued, the accounts should be adjusted and closed. The only accounts remaining open will be the asset, contra asset, liability, and owners' equity accounts. The liquidation process is illustrated in the following exhibit. The steps in the liquidation process are as follows:

Step 1: Sell the partnership assets. This step is called *realization*.

Step 2: Distribute any gains or losses from realization to the partners based on their income-sharing ratio.

Step 3: Pay the claims of creditors using the cash from step 1 realization.

Step 4: Distribute the remaining cash to the partners based on the balances in their capital accounts.

NB: in liquidation, cash is distributed to partners according to their capital balances.

To avoid excessive detail in our illustrations, we include only two asset categories — **Cash** and **Noncash Assets** — and a single liability category — **Liabilities**. Our examples assume that the business sells the noncash assets in a single transaction and pays the liabilities in a single transaction.

To illustrate, assume that Farah, Girma, and Hanna decide to liquidate their FGH Partnership. On April 9, 2014 after discontinuing business operations of the partnership and closing the accounts, the following trial balance is prepared:

FGH Partnership Post-Closing Trial Balance April 9, 2014		
	<u>Debit Balance</u>	<u>Credit Balance</u>
Cash	\$11,000	
Noncash Assets	64,000	
Liabilities		\$ 9,000
Farah, Capital		22,000
Girma, Capital		22,000
Hanna, Capital		<u>22,000</u>
Total	<u>\$ 75,000</u>	<u>\$ 75,000</u>

Farah, Girma, and Hanna share income and losses in a ratio of 5:3:2 (50%, 30%, and 20%). To simplify, assume that all noncash assets are sold in a single transaction and that all liabilities are

paid at one time. In addition, Noncash Assets and Liabilities will be used as account titles in place of the various asset, contra asset, and liability accounts.

Case One: Gain on Realization - Sale of Noncash Assets at a Gain

Assume that Farah, Girma, and Hanna sell all noncash assets for \$72,000. Thus, a gain of \$8,000 (\$72,000 - \$64,000) is realized. The partnership is liquidated during April as follows:

Step 1: Sale of assets: \$72,000 is realized from sale of all the noncash assets.

Step 2: Division of gain: The gain of \$8,000 is distributed to Farah, Girma, and Hanna in the income-sharing ratio of 5:3:2. Thus, the partner capital accounts are credited as follows:

Farah = (\$8,000 x 50%) = \$4,000 → \$22,000 + \$4,000 = \$26,000

Girma = (\$8,000 x 30%) = \$2,400 → \$22,000 + \$2,400 = \$24,400

Hanna = (\$8,000 x 20%) = \$1,600 → \$22,000 + \$1,600 = \$23,600

Step 3: Payment of liabilities: Creditors are paid \$9,000.

Step 4: Distribution of cash to partners: The remaining cash of \$74,000 is distributed to the partners according to their capital balances as follows:

Farah = \$26,000

Girma = \$24,400

Hanna = \$23,600

A statement of partnership liquidation, which summarizes the liquidation process, is shown below:

FGH Partnership						
Statement of Partnership Liquidation						
For Period April 10–30, 2010						
			Capital			
	Noncash		Farah	Girma	Hanna	
Cash +	Assets	= Liabilities	+ (50%)	+ (30%)	+ (20%)	

Principles of Accounting
II

Balances before realization	\$11,000	\$64,000	\$9,000	\$22,000	\$22,000	\$22,000
Sales of asset and division of gain	<u>+72,000</u>	<u>-64,000</u>	————	<u>+4,000</u>	<u>+2,400</u>	<u>+1,600</u>
Balance after realization	\$83,000	\$ 0	\$9,000	\$26,000	\$24,400	\$23,600
Payment of liabilities	<u>-9,000</u>	————	<u>-9,000</u>	————	————	————
Balance after payment of liabilities	\$74,000	\$ 0	\$ 0	\$26,000	\$24,400	\$23,600
Cash distribution to partners	<u>-74,000</u>	————	————	<u>-26,000</u>	<u>-24,400</u>	<u>-23,600</u>
Final balance	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

The entries to record the steps in the liquidating process are as follows:

Sale of assets (Step 1):

	Cash	72,000	
	Noncash asset		64,000
	Gain on realization		8,000

Division of gain (Step 2):

	Gain on Realization	8,000	
	Farah, Capital		4,000
	Girma, Capital		2,400
	Hanna, Capital		1,600

Payment of liabilities (Step 3):

	Liabilities	9,000	
	Cash		9,000

Distribution of cash to partners (Step 4):

	Farah, Capital	26,000	
	Girma, Capital	24,400	
	Hanna, Capital	23,600	

		Cash			74,000
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As shown in the schedule, the cash is distributed to the partners based on the balances of their capital accounts. These balances are determined after the gain on realization has been divided among the partners and the liabilities paid. The income-sharing ratio should not be used as a basis for distributing the cash to partners.

Case Two: Loss on Realization - Sale of Noncash Assets at a Loss; No Capital Deficiency

Assume that Farah, Girma, and Hanna sell all noncash assets for \$44,000. Thus, a loss of \$20,000 (\$64,000 - \$44,000) is realized. The liquidation of the partnership is as follows:

Step 1: Sale of assets: \$44,000 is realized from the sale of all the noncash assets.

Step 2: Division of loss: The loss of \$20,000 is distributed to Farah, Girma, and Hanna in the income-sharing ratio of 5:3:2. Thus, the partner capital accounts are debited as follows:

Farah = (\$20,000 x 50%) = \$10,000 → \$22,000 - \$10,000 = \$12,000

Girma = (\$20,000 x 30%) = \$6,000 → \$22,000 - \$6,000 = \$16,000

Hanna = (\$20,000 x 20%) = \$4,000 → \$22,000 - \$4,000 = \$18,000

Step 3: Payment of liabilities: Creditors are paid \$9,000.

Step 4: Distribution of cash to partners: The remaining cash of \$46,000 is distributed to the partners according to their capital balances as follows:

Farah = \$12,000

Girma = \$16,000

Hanna = \$18,000

The steps in liquidating the partnership are summarized in the statement of partnership liquidation shown below:

FGH Partnership						
Statement of Partnership Liquidation						
For Period April 10–30, 2010						
				Capital		
				Farah	Girma	Hanna
				+ (50%)	+ (30%)	+ (20%)
Cash +	Noncash Assets	=	Liabilities			

Principles of Accounting
II

Balances before realization	\$11,000	\$64,000	\$9,000	\$22,000	\$22,000	\$22,000
Sales of asset and division of loss	<u>+44,000</u>	<u>-64,000</u>	————	<u>-10,000</u>	<u>-6,000</u>	<u>-4,000</u>
Balance after realization	\$55,000	\$ 0	\$9,000	\$12,000	\$16,000	\$18,000
Payment of liabilities	<u>-9,000</u>	————	<u>-9,000</u>	————	————	————
Balance after payment of liabilities	\$46,000	\$ 0	\$ 0	\$12,000	\$16,000	\$18,000
Cash distribution to partners	<u>-46,000</u>	————	————	<u>-12,000</u>	<u>-16,000</u>	<u>-18,000</u>
Final balance	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

	Cash	44,000	
	Loss on realization	20,000	
	Noncash assets		64,000

Division of loss (Step 2):

	Farah, Capital		10,000	
	Girma, Capital		6,000	
	Hanna, Capital		4,000	
	Loss on Realization			20,000

Payment of liabilities (Step 3):

	Liabilities	9,000	
	Cash		9,000

Distribution of cash to partners (Step 4):

	Farah, Capital		12,000	
	Girma, Capital		16,000	
	Hanna, Capital		18,000	
	Cash			46,000

Case Three: Loss on Realization - Sale of Noncash Assets at a Loss; Capital Deficiency

The share of a loss on realization may be greater than the balance in a partner's capital account.

The resulting debit balance in the capital account is called a **deficiency**. It represents a claim of the partnership against the partner.

To illustrate, assume that Farah, Girma, and Hanna sell all noncash assets for \$10,000. Thus, a loss of \$54,000 (\$64,000 - \$10,000) is realized. The liquidation of the partnership is as follows:

Step 1: Sale of assets: \$10,000 is realized from the sale of all the noncash assets.

Step 2: Division of loss: The loss of \$54,000 is distributed to Farah, Girma, and Hanna in the income-sharing ratio of 5:3:2. Thus, the partner capital accounts are debited as follows:

Farah = (\$54,000 x 50%) = \$27,000 → \$22,000 - \$27,000 = (\$5,000)

Girma = (\$54,000 x 30%) = \$16,200 → \$22,000 - \$16,200 = \$5,800

Hanna = (\$54,000 x 20%) = \$10,800 → \$22,000 - \$10,800 = \$11,200

Step 3: Payment of liabilities: Creditors are paid \$9,000.

Step 4: Distribution of cash to partners: The share of the loss allocated to Farah, \$27,000 (50% x \$54,000), exceeds the \$22,000 balance in his capital account. This \$5,000 deficiency represents an amount that Farah owes the partnership. Assuming that Farah pays the deficiency, the cash of \$17,000 is distributed to the partners according to their capital balances as follows:

Farah = \$ 0

Girma = \$5,800

Hanna = \$11,200

The steps in liquidating the partnership are summarized in the statement of partnership liquidation shown below:

FGH Partnership					
Statement of Partnership Liquidation					
For Period April 10–30, 2010					
			Capital		
	Noncash		Farah	Girma	Hanna
Cash +	Assets	= Liabilities	+ (50%)	+ (30%)	+ (20%)

Principles of Accounting
II

Balances before realization	\$11,000	\$64,000	\$9,000	\$22,000	\$22,000	\$22,000
Sales of asset and division of loss	<u>+10,000</u>	<u>-64,000</u>	—	<u>-27,000</u>	<u>-16,200</u>	<u>-10,800</u>
Balance after realization	\$21,000	\$ 0	\$9,000	\$(5,000)	\$5,800	\$11,200
Payment of liabilities	<u>-9,000</u>	—	<u>-9,000</u>	—	—	—
Balance after payment of liabilities	\$12,000	\$ 0	\$ 0	\$(5,000)	\$5,800	\$11,200
Receipt of deficiency	<u>+5,000</u>	—	—	<u>+5,000</u>	—	—
Balances	\$17,000	—	\$ 0	\$ 0	\$5,800	\$11,200
Cash distribution to partners	<u>-17,000</u>	—	—	—	<u>-5,800</u>	<u>-11,200</u>
Final balance	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

Sale of assets (Step 1):

	Cash	10,000	
	Loss on realization	54,000	
	Noncash assets		64,000

Division of loss (Step 2):

	Farah, Capital	27,000	
	Girma, Capital	16,200	
	Hanna, Capital	10,800	
	Loss on Realization		54,000

Payment of liabilities (Step 3):

	Liabilities	9,000	
	Cash		9,000

Receipt of deficiency (Step 4):

	Cash	5,000	
	Farah, Capital		5,000

Distribution of cash to partners (Step 4):

	Girma, Capital	5,800	
	Hanna, Capital	11,200	
	Cash		17,000

If the deficient partner does not pay the partnership their deficiency, there will not be sufficient partnership cash to pay the remaining partners in full. Any uncollected deficiency becomes a loss to the partnership and is divided among the remaining partners' capital balances based on their income-sharing ratio. The cash balance will then equal the sum of the capital account balances. The cash can then be distributed to the remaining partners, based on the balances of their capital accounts.

To illustrate, assume that in the preceding example Farah could not pay his deficiency. The deficiency would be allocated to Girma and Hanna based on their income-sharing ratio of 3:2. The remaining cash of \$12,000 would then be distributed to Girma (\$2,800) and Hanna (\$9,200) as shown below.

	Capital Balances Before (Deficiency)	Allocated (Deficiency)	Capital Balances After Deficiency
Farah	\$(5,000)	\$5,000	\$ 0
Girma	5,800	(3,000)*	2,800
	11,200	(2,000)**	9,200
Hanna	<u>\$12,000</u>		<u>\$12,000</u>

*\$3,000 = [$\$5,000 \times (3/5)$] or [$\$5,000 \times 60\%$]
 **\$2,000 = [$\$5,000 \times (2/5)$] or [$\$5,000 \times 40\%$]

The entries to allocate Farah's deficiency and distribute the cash are as follows:

Allocation of deficiency:

	Girma, Capital		3,000	
	Hanna, Capital		2,000	
	Cash			5,000

Distribution of cash to partners:

	Girma, Capital		2,800	
	Hanna, Capital		9,200	
	Cash			12,000

Errors in Liquidation

Incorrectly distributing cash to partners is an error that may occur in liquidating a partnership. Such errors occur if distributing cash to partners is confused with the dividing of gains and losses on realization.

Realized gains and losses on the sale of assets should be divided among the partners' capital accounts in the same manner as the net income or net loss from normal business operations - using the income-sharing ratio. In contrast, the distribution of cash to partners in liquidation is the reverse of the contribution of assets by partners. Thus, distributing cash to partners in liquidation is based on the credit balances in the partners' capital accounts after all gains and losses on realization have been divided and any partner deficiencies have been paid or allocated.

Statement of Partnership Equity

Reporting changes in partnership capital accounts is similar to that for a proprietorship. The primary difference is that there is a capital account for each partner. The changes in partner capital accounts for a period of time are reported in a statement of partnership equity. The following illustrates a statement of partnership equity for Investors Associates, a partnership of Daniel and Baker. Each partner's capital account is shown as a separate column. The partner capital accounts may change due to capital additions, net income, or withdrawals.

Investors Associates Statement of Partnership Equity For the Year Ended December 31, 2010			
	Daniel	Baker	Total Partnership

	<u>Capital</u>	<u>Capital</u>	<u>Capital</u>
Balance, January 1,2010	\$245,000	\$365,000	\$610,000
Capital additions	50,000		50,000
Net income for the year	40,000	80,000	120,000
Less partner withdrawals	<u>(5,000)</u>	<u>(45,000)</u>	<u>(50,000)</u>
Balance, December 31,2010	<u>\$330,000</u>	<u>\$400,000</u>	<u>\$730,000</u>

The equity reporting for an LLC is similar to that of a partnership. Instead of a statement of partnership capital, a *statement of members' equity* is prepared. The statement of members' equity reports the changes in member equity for a period. The statement is similar to above, except that the columns represent member equity rather than partner equity.

Chapter Five

Accounting for Corporations

Introduction

 **Dear Learners!** A **corporation** is a legal entity, distinct and separate from the individuals who create and operate it. As a legal entity, a corporation may acquire, own, and dispose of property in its own name. It may also incur liabilities and enter into contracts. Most importantly, it can sell shares of ownership, called stock. This characteristic gives corporations the ability to raise large amounts of capital.

The **stockholders** or **shareholders** who own the stock own the corporation. They can buy and sell stock without affecting the corporation's operations or continued existence. Corporations whose shares of stock are traded in public markets are called **public corporations**. Corporations whose shares are not traded publicly are usually owned by a small group of investors and are called **non-public** or **private** corporations. Example: The **Coca-Cola Company** is a well-known **public corporation**.

Learning Objectives

After studying this chapter, you should be able to:

- Describe the nature of the corporate form of organization.
- Describe the two main sources of stockholders' equity.
- Describe and illustrate the characteristics of stock, classes of stock, and entries for issuing stock.
- Describe and illustrate the accounting for cash dividends and stock dividends.
- Describe and illustrate the accounting for treasury stock transactions.
- Describe and illustrate the reporting of stockholders' equity.

5.1. Basic Characteristics of Corporations [Share Companies and PLCs]

The stockholders control a corporation by electing a board of directors. This board meets periodically to establish corporate policies. It also selects the chief executive officer (CEO) and other major officers to manage the corporation's day-to-day affairs.

5.1.1. As per the Ethiopian Commercial Code [of 1960]

[Art. 304] - *Definition of Share Company*

(1) A share company is a company whose capital is fixed in advance and divided into shares and whose liabilities are met only by the assets of the company.

(2) The members shall be liable only to the extent of their share holding.

All aspects of **a share company** as per *the Ethiopian Commercial Code of 1960* are stated in the **Code** on **Articles 305 - 509**. Please refer to these articles.

5.1.2. As per USA Corporate Law

Separate Entity: As a separate entity, a corporation is subject to taxes. For example, corporations must pay federal income taxes on their income. Thus, corporate income that is distributed to stockholders in the form of dividends has already been taxed. In turn, stockholders must pay income taxes on the dividends they receive. This double taxation of corporate earnings is a major disadvantage of the corporate form.

Limited Stockholders' Liability: The stockholders of a corporation have limited liability. This means that creditors usually may not go beyond the assets of the corporation to satisfy their claims. Thus, the financial loss that a stockholder may suffer is limited to the amount invested. The advantages and disadvantages of the corporate form are listed in the following table.

Continuous Life and Transferability of Ownership: The owners' equity of a corporation is divided into shares of stock. Corporations have continuous lives regardless of who owns the stock. Stockholders may sell or trade stock to another person, give it away, or bequeath it in a will. Transfer of the stock does not affect the continuity of the corporation. Proprietorships and partnerships end when their ownership changes.

No Mutual Agency: Mutual agency means that all owners act as agents of the business. A contract signed by one owner is binding for the whole company. Mutual agency operates in partnerships but not in corporations.

Corporate Taxation: Corporations are separate taxable entities. They pay Corporations pay federal and state income taxes just as individuals do. Corporate earnings are subject to double taxation. First, corporations pay income taxes on corporate income. Then, stockholders pay

personal income tax on the cash dividends they receive from corporations. Proprietorships and partnerships pay no business income tax. Instead, the tax falls solely on the owners.

Government Regulation: Because stockholders have only limited liability for corporation debts, outsiders can look no further than the corporation for payment of its debts. To protect persons who do business with corporations government agencies monitor corporations. This government regulation creates some expenses not borne by proprietorships or partnerships.

Advantages and Disadvantages of the Corporation

Advantages	Explanation
<i>Separate legal existence</i>	A corporation exists separately from its owners.
<i>Continuous life</i>	A corporation's life is separate from its owners; therefore, it exists indefinitely.
<i>Raising large</i>	The corporate form is suited for raising large amounts of money from amounts of capital shareholders.
<i>Ownership rights are easily transferable</i>	A corporation sells shares of ownership, called stock. The stockholders of a public company can transfer their shares of stock to other stockholders through stock markets, such as the New York Stock Exchange.
<i>Limited liability</i>	A corporation's creditors usually may not go beyond the assets of the corporation to satisfy their claims. Thus, the financial loss that a stockholder may suffer is limited to the amount invested.
<i>No mutual agency of the stockholders</i>	Mutual agency operates in partnerships but not in corporations.

Disadvantages	Explanation
<i>Owner is separate from management</i>	Stockholders control management through a board of directors. The board of directors should represent shareholder interests; however, the board is often more closely tied to management than to shareholders. As a result, the board of directors and management may not always behave in the best interests of

	stockholders.
Double taxation	As a separate legal entity, a corporation is subject to taxation. Thus, net income of dividends distributed as dividends will be taxed once at the corporation level and then again at the individual level.
Regulatory costs	Corporations must satisfy many requirements such as those required by the Sarbanes-Oxley Act of 2002; and government regulation creates some expenses not borne by proprietorships or partnerships.

Forming a Corporation

The first step in forming a corporation is to file an application of **incorporation** with the state. State incorporation laws differ, and corporations often organize in those states with the more favorable laws. After the application of incorporation has been approved, the state grants a charter or articles of incorporation. The articles of incorporation formally create the corporation.

The corporate management and board of directors then prepare a set of **bylaws**, which are the rules and procedures for conducting the corporation's affairs. Costs may be incurred in organizing a corporation. These costs include legal fees, taxes, state incorporation fees, license fees, and promotional costs. Such costs are debited to an expense account entitled Organizational Expenses.

To illustrate, a corporation's organizing costs of \$8,500,000 on January 5 are recorded as shown below:

Jan. 5	Organizational Expenses	8,500,000	
	Cash		8,500,000
	<i>Paid costs of organizing the corporation</i>		

5.2. Stockholders' Equity

The owners' equity in a corporation is called *stockholders' equity*, *shareholders' equity*, *shareholders' investment*, or *capital*. In the balance sheet, stockholders' equity is reported by its two main sources.

- ⇒ Capital contributed to the corporation by the stockholders, called ***paid-in capital /contributed capital***.
- ⇒ Net income retained in the business, called ***retained earnings***.

A Stockholders' Equity section of a balance sheet is shown below.

Stockholders' Equity		
Paid-in capital:		
Common stock	\$330,000	
Retained earnings	<u>80,000</u>	
Total stockholders' equity		\$410,000

The paid-in capital contributed by the stockholders is recorded in separate accounts for each class of stock. If there is only one class of stock, the account is entitled **Common Stock** or **Capital Stock**.

Retained earnings is a corporation's cumulative net income that has not been distributed as dividends. Dividends are distributions of a corporation's earnings to stockholders. Sometimes retained earnings that are not distributed as dividends are referred to in the financial statements as earnings retained for use in the business and earnings reinvested in the business.

Net income increases retained earnings, while a net loss and dividends decrease retained earnings. The net increase or decrease in retained earnings for a period is recorded by the following closing entries:

- ⇒ The balance of Income Summary (the net income or net loss) is transferred to Retained Earnings. For net income, Income Summary is debited and Retained Earnings is credited. For a net loss, Retained Earnings is debited and Income Summary is credited.
- ⇒ The balance of the dividends account, which is similar to the drawing account for a proprietorship, is transferred to Retained Earnings. Retained Earnings is debited and Dividends is credited for the balance of the dividends account.

Most companies generate net income. In addition, most companies do not pay out all of their net income in dividends. As a result, Retained Earnings normally has a credit balance. However, in

some cases, a debit balance in Retained Earnings may occur. A debit balance in Retained Earnings is called a deficit. Such a balance often results from cumulated net losses. In the Stockholders' Equity section, a deficit is deducted from paid-in capital in determining total stockholders' equity.

The balance of Retained Earnings does not represent surplus cash or cash left over for dividends. This is because cash generated from operations is normally used to improve or expand operations. As cash is used, its balance decreases; however, the balance of the retained earnings account is unaffected. As a result, over time the balance in Retained Earnings becomes less and less related to the balance of Cash.

Paid-In Capital from Issuing Stock

The two main sources of stockholders' equity are paid-in capital (or contributed capital) and retained earnings. The main source of paid-in capital is from issuing stock.

Characteristics of Stock

The number of shares of stock that a corporation is authorized to issue is stated in its **charter**. The term issued refers to the shares issued to the stockholders. A corporation may reacquire some of the stock that it has issued. The stock remaining in the hands of stockholders is then called outstanding stock. The relationship between authorized, issued, and outstanding stock is shown in the graphic at the left.

Upon request, corporations may issue **stock certificates** to stockholders to document their ownership. Printed on a stock certificate is the name of the company, the name of the stockholder, and the number of shares owned. The stock certificate may also indicate a dollar amount assigned to each share of stock, called **par value**. Stock may be issued without par, in which case it is called **no-par stock**. In some states, the board of directors of a corporation is required to assign **a stated value** to no-par stock.

Corporations have limited liability and, thus, creditors have no claim against stockholders' personal assets. To protect creditors, however, some states require corporations to maintain a

minimum amount of paid-in capital. This minimum amount, called legal capital, usually includes the par or stated value of the shares issued.

The major rights that accompany ownership of a share of stock are as follows:

- ⇒ The right to vote in matters concerning the corporation.
- ⇒ The right to share in distributions of earnings.
- ⇒ The right to share in assets on liquidation.

These stock rights normally vary with the class of stock as discussed below.

Summary: definition of terms

Bylaws - Constitution for governing a corporation.

Charter - Document that gives the state's permission to form a corporation.

Stock - Shares into which the owners' equity of a corporation is divided.

Stockholder - A person who owns the stock of a corporation; also called shareholder.

Authorization of Stock - Provision in a corporate charter that gives the state's permission for the corporation to issue - that is, to sell - a certain number of shares of stock.

Board of Directors - Group elected by the stockholders to set policy and to appoint the officers.

On Ethiopian Commercial Code of 1960

[Art 313] Memorandum of association - formation of a company shall be by public memorandum.

[Art 313] Articles of association - govern the operation of the company shall be drawn up by the founders in accordance with the law.

5.3. Classes of Shares (Ethiopia vs. USA)

The two primary classes of paid-in capital are **common stock** and **preferred stock**. Common stock is the basic form of capital stock. The owners of a corporation are the common stockholders. When only one class of stock is issued, it is called common stock. Each share of common stock has equal rights. A corporation may also issue one or more classes of stock with various preference rights such as a preference to dividends. Such a stock is called a preferred

stock. The dividend rights of preferred stock are stated either as dollars per share or as a percent of par. For example, a \$50 par value preferred stock with a \$4 per share dividend may be described as either:

\$4 preferred stock, \$50 par

or

8% preferred stock, \$50 par

In some cases, preferred stock may receive additional dividends if certain conditions are met. Such stock, called participating preferred stock, is not often used.

Because they have first rights (preference) to any dividends, preferred stockholders have a greater chance of receiving dividends than common stockholders. However, since dividends are normally based on earnings, a corporation cannot guarantee dividends even to preferred stockholders.

Ethiopian Commercial Code of 1960 → about Classes of Shares

Art. 335. - Classes of shares.

(1) The memorandum of association or an amendment thereto by a general meeting may provide for the setting-up of several classes of shares with different rights.

Art. 336. - Preference shares.

(1) A share company may create preference shares either in the memorandum of association or by resolution of an extraordinary general meeting. Such shares enjoy a preference over other shares, such as a preferred right of subscription in the event of future issues, or rights of priority over profits, or assets or both.

The payment of dividends is authorized by the corporation's board of directors. When authorized, the directors are said to have **declared a dividend**. **Cumulative preferred stock** has a right to receive regular dividends that were not declared (paid) in prior years. Noncumulative preferred stock does not have this right.

Cumulative preferred stock dividends that have not been paid in prior years are said to be in arrears. Any preferred dividends in arrears must be paid before any common stock dividends are paid. In addition, any dividends in arrears are normally disclosed in notes to the financial statements.

To illustrate, assume that a corporation has issued the following preferred and common stock:

1,000 shares of \$4 cumulative preferred stock, \$50 par

4,000 shares of common stock, \$15 par

The corporation was organized on January 1, 2008, and paid no dividends in 2008 and 2009. In 2010, the corporation paid dividends of \$22,000. Exhibit below shows how the \$22,000 of dividends paid in 2010 is distributed between the preferred and common stockholders.

In addition to dividend preference, preferred stock may be given preferences to assets if the corporation goes out of business and is liquidated. However, claims of creditors must be satisfied first. Preferred stockholders are next in line to receive any remaining assets, followed by the common stockholders.

Ethiopian Commercial Code of 1960 ➔ about Dividends

Art. 337. — *Dividend shares.*

- (1) A company may repay, from profits or reserve funds, without reducing the capital, to shareholders the par value of their shares.**
- (2) Shareholders whose shares are thus redeemed shall receive dividend shares (actions de jouissance). These shares do not confer any right to that part of the dividend representing the statutory interest, nor to repayment of contributions upon the dissolution of the company. They retain however a right of vote, unless otherwise provided in the memorandum of association, a right to that part of the dividend exceeding the statutory interest and a right to distribution of a share of the surplus in the winding-up.**

5.4. Issuing Shares (Ethiopia vs. USA)

A separate account is used for recording the amount of each class of stock issued to investors in a corporation. For example, assume that a corporation is authorized to issue 10,000 shares of \$100 par preferred stock and 100,000 shares of \$20 par common stock. The corporation issued 5,000 shares of

preferred stock and 50,000 shares of common stock at par for cash. The corporation's entry to record the stock issue is as follows:

	Cash	1,500,000	
	Preferred stock		500,000
	Common stock		1,000,000
	(issued preferred stock and common stock at par for cash)		

Stock is often issued by a corporation at a price other than its par. The price at which stock is sold depends on a variety of factors, such as the following:

- ⇒ The financial condition, earnings record, and dividend record of the corporation.
- ⇒ An investor expectation of the corporation's potential earning power.
- ⇒ General business and economic conditions and expectations.

If stock is issued (sold) for a price that is more than its par, the stock has been sold at **a premium**. For example, if common stock with a par of \$50 is sold for \$60 per share, the stock has sold at a premium of \$10. If stock is issued (sold) for a price that is less than its par, the stock has been sold at **a discount**. For example, if common stock with a par of \$50 is sold for \$45 per share, the stock has sold at a discount of \$5. Many states do not permit stock to be sold at a discount. In other states, stock may be sold at a discount in only unusual cases.

Premium on Stock

When stock is issued at a premium, Cash is debited for the amount received. Common Stock or Preferred Stock is credited for the paramount. The excess of the amount paid over par is part of the paid-in capital. An account entitled "***Paid-In Capital in Excess of Par— Common/Preferred***" is credited for this amount. It is also called "***Additional Paid-In Capital — Common/Preferred***".

To illustrate, assume that Caldwell Company issues 2,000 shares of \$50 par common stock for cash at \$55. The entry to record this transaction is as follows:

Jun. 15	Cash	110,000	
	Common Stock		110,000
	Paid-In Capital in Excess of Par - Common		
	<i>Issued \$50 par common stock at \$55.</i>		

When stock is issued in exchange for assets other than cash, such as land, buildings, and equipment, the assets acquired are recorded at their fair market value. If this value cannot be determined, the fair market price of the stock issued is used.

To illustrate, assume that a corporation acquired land with a fair market value that cannot be determined. In exchange, the corporation issued 10,000 shares of its \$10 par common. If the stock has a market price of \$12 per share, the transaction is recorded as follows:

		Land	120,000	
		Common stock		100,000
		Paid in capital in excess of par		20,000
		(issued \$10 par common stock, valued at \$12 per share for land)		

No-Par Stock

In most states, no-par preferred and common stock may be issued. When no-par stock is issued, Cash is debited and Common Stock is credited for the proceeds. As no-par stock is issued over time, this entry is the same even if the issuing price varies.

To illustrate, assume that on January 9 a corporation issues 10,000 shares of no-par common stock at \$40 a share. On June 27, the corporation issues an additional 1,000 shares at \$36. The entries to record these issuances of the no-par stock are as follows:

Jan	9	Cash	400,000	
		Common stock		400,000
		(issued 10,000 shares of no-par common at \$40)		
June.	27	Cash	36,000	
		Common stock		36,000
		(issued 1,000 shares of no par common at \$36)		

In some states, no-par stock may be assigned **a stated value** per share. The stated value is recorded like a par value. Any excess of the proceeds over the stated value is credited to ***Paid-in Capital in Excess of Stated Value***.

To illustrate, assume that in the preceding example the no-par common stock is assigned a stated value of \$25. The issuance of the stock on January 9 and June 27 is recorded as follows:

Jan	9	Cash	400,000	
		Common stock		250,000
		Paid in capital in excess of stated value		150,000
		(issued 10,000 shares of no-par common at \$40:stated value \$25)		
June.	27	Cash	36,000	
		Common stock		25,000
		Paid in capital in excess of stated value		11,000
		(issued 1,000 shares of no par common at \$36: stated value,\$25)		

Ethiopian Commercial Code of 1960 → about Issuing Shares

Art. 326. — Price at which shares issued.

- (1) Shares may not be issued at a price lower than their par value.
- (2) Shares may be issued at a price greater than their par value where such issue is provided by the memorandum or articles of association or decided by an extraordinary general meeting. The difference between the par value and the price at which shares are issued shall be known as a premium.

Art. 327. — Shares issued before registration of the company in the commercial register.

Shares issued before the registration of the company in the commercial register shall be null and void, but liabilities arising thereunder shall not be affected.

5.5. Treasury Stock Transactions (Ethiopia vs. USA)

Treasury stock is stock that a corporation has issued and then reacquired. A corporation may reacquire (purchase) its own stock for a variety of reasons including the following:

- ⇒ To provide shares for resale to employees

- ⇒ To reissue as bonuses to employees, or
- ⇒ To support the market price of the stock

The **cost method**² is normally used for recording the purchase and resale of treasury stock. Using the cost method, *Treasury Stock* is debited for the cost (purchase price) of the stock. When the stock is resold, *Treasury Stock* is credited for its cost. Any difference between the cost and the selling price is debited or credited to ***Paid-In Capital from Sale of Treasury Stock***.

To illustrate, assume that a corporation has the following paid-in capital on January 1:

Common stock, \$25 par (20,000 shares authorized and issued)	\$500,000
Excess of issue price over par	<u>150,000</u>
	<u><u>\$650,000</u></u>

On February 13, the corporation purchases 1,000 shares of its common stock at \$45 per share. The entry to record the purchase of the treasury stock is as follows:

Feb.	13	Treasury stock	45,000	
		Cash		45,000
		(purchased 1,000 shares of treasury stock at \$45)		

On April 29, the corporation sells 600 shares of the treasury stock for \$60. The entry to record the sale is as follows:

Apr.	29	Cash	36,000	
		Treasury stock		27,000
		Paid-in capital from sales of treasury stock		9,000
		(sold 600 shares of treasury stock at \$60)		

A sale of treasury stock may result in a decrease in paid-in capital. To the extent that Paid-In Capital from Sale of Treasury Stock has a credit balance, it is debited for any such decrease. Any remaining decrease is then debited to the retained earnings account.

To illustrate, assume that on October 4, the corporation sells the remaining 400 shares of treasury stock for \$40 per share. The entry to record the sale is as follows:

Oct.	4	Cash	16,000	
		Paid-in capital from sales of treasury stock	2,000	

²Another method that is infrequently used, called the **par value method**, is discussed in advanced accounting courses.

		Treasury stock (sold 400 shares of treasury stock at \$40)		18,000
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Ethiopian Commercial Code of 1960 → about Treasury Stock Transactions

Art. 332. — *Purchase by the company of its own shares.*

- (1) A company may acquire its own shares where:
 - (a) the acquisition has been authorised by a meeting of the shareholders; and
 - (b) the purchase price is made from the net profits of the company; and
 - (c) the shares are fully paid.
- (2) The directors may not dispose of shares thus purchased and the voting rights on such shares shall be suspended.
- (3) The provisions of sub-art. (1) shall not apply where the purchase has been decided by an extraordinary general meeting to reduce the capital.
- (4) The provisions of this Article shall apply where a company receives its own shares in pledge.

5.6. Accounting for Dividends (Ethiopia vs. USA)

When a board of directors declares a cash dividend, it authorizes the distribution of cash to stockholders. When a board of directors declares a stock dividend, it authorizes the distribution of its stock. In both cases, declaring a dividend reduces the retained earnings of the corporation. In rare cases, when a corporation is reducing its operations or going out of business, a dividend may be a distribution of paid-in capital. Such a dividend is called *aliquidating dividend*.

Cash Dividends

A cash distribution of earnings by a corporation to its shareholders is a cash dividend. Although dividends may be paid in other assets, cash dividends are the most common. Three conditions for a cash dividend are as follows:

- ⇒ Sufficient retained earnings
- ⇒ Sufficient cash
- ⇒ Formal action by the board of directors

There must be a sufficient (large enough) balance in Retained Earnings to declare a cash dividend. That is, the balance of Retained Earnings must be large enough so that the dividend

does not create a debit balance in the retained earnings account. However, a large Retained Earnings balance does not mean that there is cash available to pay dividends. This is because the balances of Cash and Retained Earnings are often unrelated.

Even if there are sufficient retained earnings and cash, a corporation's board of directors is not required to pay dividends. Nevertheless, many corporations pay quarterly cash dividends to make their stock more attractive to investors. ***Special or extra dividends*** may also be paid when a corporation experiences higher than normal profits.

Three dates included in a dividend announcement are as follows:

⇒ **Date of declaration**

⇒ **Date of record**

⇒ **Date of payment**

The ***date of declaration*** is the date the board of directors formally authorizes the payment of the dividend. On this date, the corporation incurs the liability to pay the amount of the dividend.

The ***date of record*** is the date the corporation uses to determine which stockholders will receive the dividend. During the period of time between the date of declaration and the date of record, the stock price is quoted as selling ***with-dividends***. This means that any investors purchasing the stock before the date of record will receive the dividend.

The ***date of payment*** is the date the corporation will pay the dividend to the stockholders who owned the stock on the date of record. During the period of time between the record date and the payment date, the stock price is quoted as selling ***ex-dividends***. This means that since the date of record has passed, any new investors will not receive the dividend.

To illustrate, assume that on October 1 Hiber Corporation declares the cash dividends shown below with a date of record of November 10 and a date of payment of December 2.

	Dividend per Share	Total Dividends
Preferred stock, \$100 par, 5,000 shares outstanding	\$2.50	\$12,500
Common stock, \$10 par, 100,000 shares outstanding	\$0.30	<u>30,000</u>
Total		<u><u>\$42,500</u></u>

On October 1, the declaration date, Hiber Corporation records the following entry:

Oct.	1	Cash dividends Cash dividends payable (declared cash dividends)	42,500	42,500
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On November 10, the date of record, **no entry** is necessary. This date merely determines which stockholders will receive the dividends.

On December 2, the date of payment, Hiber Corporation records the payment of the dividends as follows:

Dec.	2	Cash dividends payable Cash (paid cash dividends)	42,500	42,500
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At the end of the accounting period, the balance in Cash Dividends will be transferred to Retained Earnings as part of the closing process. This closing entry debits Retained Earnings and credits Cash Dividends for the balance of the cash dividends account. If the cash dividends have not been paid by the end of the period, Cash Dividends Payable will be reported on the balance sheet as a current liability.

Stock Dividends

A **stock dividend** is a distribution of shares of stock to stockholders. Stock dividends are normally declared only on common stock and issued to common stockholders. The recording of a stock dividend affects only stockholders' equity. Specifically, the amount of the stock dividend is transferred from Retained Earnings to Paid-in Capital. The amount transferred is normally the fair value (market price) of the shares issued in the stock dividend. The use of fair market value is justified as long as the number of shares issued for the stock dividend is small (less than 25% of the shares outstanding).

To illustrate, assume that the stockholders' equity accounts of Hander Corporation as of December 15 are as follows:

Common Stock, \$20 par (2,000,000 shares issued)	\$40,000,000
Paid-In Capital in Excess of Par—Common Stock	9,000,000
Retained Earnings	26,600,000

On December 15, Hander Corporation declares a stock dividend of 5% or 100,000 shares (2,000,000 shares x 5%) to be issued on January 10 to stockholders of record on December 31. The market price of the stock on December 15 (the date of declaration) is \$31 per share.

The entry to record the stock dividend is as follows:

Dec.	15	Stock dividends	3,100,000	
		Stock dividends distributable		2,000,000
		Paid-in capital in excess of par—common stock		1,100,000
		<i>(Declared 5% (100,000 shares) stock dividend on \$20 par common stock with a market price of \$31 per share)</i>		

After the preceding entry is recorded, Stock Dividends will have a debit balance of \$3,100,000. Like cash dividends, the stock dividends account is closed to Retained Earnings at the end of the accounting period. This closing entry debits Retained Earnings and credits Stock Dividends.

At the end of the period, *the stock dividends distributable* and *paid-in capital in excess of par—common stock* accounts are reported in the Paid-in Capital section of the balance sheet. Thus, the effect of the preceding stock dividend is to transfer \$3,100,000 of retained earnings to paid-in capital.

On January 10, the stock dividend is distributed to stockholders by issuing 100,000 shares of common stock. The issuance of the stock is recorded by the following entry:

Jan.	10	Stock dividends distributable	2,000,000	
		Common stock		2,000,000
		<i>(issued stock as stock dividend)</i>		

A stock dividend does not change the assets, liabilities, or total stockholders' equity of a corporation. Likewise, a stock dividend does not change an individual stock-holder's proportionate interest (equity) in the corporation.

To illustrate, assume a stockholder owns 1,000 of a corporation's 10,000 shares outstanding. If the corporation declares a 6% stock dividend, the stockholder's proportionate interest will not change as shown below.

	Before Stock Dividend	After Stock Dividend
Total shares issued	10,000	10,600 [10,000 + (10,000 × 6%)]
Number of shares owned	1,000	1,060 [1,000 + (1,000 × 6%)]
Proportionate ownership	10% (1,000/10,000)	10% (1,060/10,600)

Ethiopian Commercial Code of 1960 ➔ about Accounting for Dividends (Art 337 - 338, and Art 458)

Art 337 stated above - please refer back.

Art. 338. — *Paying up of cash shares.*

- (1) Shares subscribed in cash shall be paid up upon subscription as to one fourth of their par value or a greater amount if so provided in the memorandum of association and, where appropriate, as to the whole of the premium. They may only be registered shares until they are fully paid.
- (2) Payment of the balance may be spread over a period of five years from the date of registration of the company.
- (3) Where shares have been issued by existing companies before the coming into force of this Code, the period of five years shall run from the date of coming into force.

Art. 458. — *Payment of dividends. Rights of shareholders.*

- (1) Dividends may only be paid to shareholders from net profit shown in the approved balance sheet.
- (2) Dividends distributed contrary to the provisions of sub-art. (1) shall be treated as fictitious dividends and the persons making the distribution shall be criminally and civilly liable.
- (3) The date and methods of payment of dividends shall be decided by the general meeting.
- (4) Up to the date fixed for payment, the general meeting may for good reason vary or cancel decisions of a preceding general meeting concerning the distribution of dividends or reserves.
- (5) A shareholder shall become a creditor of the company for the amount of the dividend from the date fixed for payment.

5.7. Earnings per Common Share

The final segment of a corporate income statement presents the company's earnings per share abbreviated as EPS. EPS is the most widely used of all accounting statistics. EPS reports the amount of net income for each share of the company's outstanding common stock. It is a key measure of success in business. EPS is computed as follows:

$$\text{EARNINGS PER SHARE} = \frac{\text{NET INCOME} - \text{PREFERRED DIVIDENDS}}{\text{AVERAGE NUMBER OF COMMON SHARES OUTSTANDING}}$$

5.8. Reporting Shareholders' Equity on the Balance Sheet (Ethiopia Vs USA)

As with other sections of the balance sheet, alternative terms and formats may be used in reporting stockholders' equity. Also, changes in retained earnings and paid-in capital may be reported in separate statements or notes to the financial statements.

Two methods for reporting Stockholders' Equity in the Balance Sheet

- Method 1.** Each class of stock is reported, followed by its related paid-in capital accounts. Retained earnings is then reported followed by a deduction for treasury stock.
- Method 2.** The stock accounts are reported, followed by the paid-in capital reported as a single item, Additional paid-in capital. Retained earnings is then reported followed by a deduction for treasury stock.

Method 1

Stockholders' Equity			
Paid-in capital			
Preferred 10% stock, \$50 par (2,000 shares authorized and issued).....	\$100,000		
Excess of issue price over par.....	<u>10,000</u>	\$110,000	
Common stock, \$20 par (50,000 shares authorized, 45,000 shares issued).....	\$900,000		
Excess of issue price over par	<u>190,000</u>	1,090,000	
From sale of treasury stock.....		<u>2,000</u>	
Total paid-in capital.....			\$1,202,000
Retained earnings			<u>350,000</u>
Total.....			\$1,552,000
Deduct treasury stock (600 shares at cost).....			<u>27,000</u>
Total stockholders' equity.....			<u>\$1,525,000</u>

Method 2

Stockholders' Equity		
Contributed capital		
Preferred 10% stock, \$50 par (2,000 shares authorized and issued).....	\$100,000	
Common stock, \$20 par (50,000 shares authorized, 45,000 shares issued).....	\$900,000	
Additional paid-in capital.....	<u>202,000</u>	
Total contributed capital.....		\$1,202,000
Retained earnings		<u>350,000</u>
Total.....		<u>\$1,552,000</u>
Deduct treasury stock (600 shares at cost).....		<u>27,000</u>
Total stockholders' equity.....		<u>\$1,525,000</u>

Significant changes in stockholders' equity during a period may also be presented in a statement of stockholders' equity or in the notes to the financial statements. The statement of stockholders' equity is illustrated later in this section. Relevant rights and privileges of the various classes of stock outstanding should also be reported.

Examples include dividend and liquidation preferences, conversion rights, and redemption rights. Such information may be disclosed on the face of the balance sheet or in the notes to the financial statements.

Statement of Stockholders' Equity

When the only change in stockholders' equity is due to net income or net loss and dividends, a retained earnings statement is sufficient. However, when a corporation also has changes in stock and paid-in capital accounts, a statement of stockholders' equity is normally prepared. A statement of stockholders' equity is normally prepared in a columnar format. Each column is a major stockholders' equity classification. Changes in each classification are then described in the left-hand column.

	Preferred stock	Common stock	Additional Paid-In Capital	Retained Earning	Treasury stock	Total
Balance, January 1, 2010	\$100,000	\$850,000	\$177,000	\$245,000	\$(17,000)	\$1,355,000
Net Income				180,000		180,000
Dividend on Preferred stock				(10,000)		(10,000)
Dividend on common stock				(65,000)		(65,000)
Issuance of additional common stock.		50,000	25,000			75,000
Purchase of treasury stock.....					(10,000)	(10,000)
Balance, December 31, 2010	<u>\$100,000</u>	<u>\$900,000</u>	<u>\$202,000</u>	<u>\$350,000</u>	<u>\$(27,000)</u>	<u>\$1,525,000</u>

Ethiopian Commercial Code of 1960 → about Reporting Shareholders' Equity on the Balance Sheet

Art. 448. — *Drawing-up of the balance sheet and profit and loss account.*

- (1) The balance sheet and profit and loss account shall be prepared each year in the same form as in preceding years and the methods of valuation shall remain the same, unless the general meeting adopts variations in the mode of presentation of the accounts or the methods of valuation on the reasoned advice of the auditors.
- (2) The profit and loss account shall show under separate heads losses or profits arising out of the company's various activities.