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Financial Accounting II

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COURSE INTRODUCTION

Dear students, welcome to this module that enables you to study the course Financial Accounting II.This module will provide you essential and interesting insights about the advanced topics of financial accounting. The module has been presented in easily understandable way that can help you to grasp the subject matter by yourselves.

Financial Accounting II is the continuation course of Financial Accounting I. Like, the first part, it basically deals with theories and application of Financial Accounting peculiarly for business organizations. The module has been presented in seven coherent and consecutive chapters.

The first two chapters deal with long term investments and long term debts that show the relation ship between the investors and the investees.When an investor makes an investment on financial instruments issued by the investees for relatively long period of time; it is the long term investment for the investor. On the contrary, the one that issues those instruments treats them as long term debts.

The third chapter analyzes and reports owners' equity for corporation and states about accounting for capital stocks, dividends, retained earnings and earnings per share.

Chapter four, Accounting For leases, deals with the concepts of leases, different types of leases and their accounting treatment, and disclosures of events concerning leases.

Chapter Five, Accounting for Income taxes, describes the insights of income taxes, temporary differences and permanent differences and their effects on taxable income of the business enterprises. It also deals with the difference between taxable income and pretax accounting income.

Chapter Six, Accounting for changes in accounting principles, estimates, and correction of errors, deals with the effects of changes of accounting principles, estimates, and correction of errors on periodic

financial statements; and provides know how to make their accounting treatment. Moreover, it helps the learners to distinguish the differences among changes in accounting principles, changes in accounting estimates and correction of errors.

Chapter Seven, Analysis of Financial Statements, discusses on how to make analysis of financial data disclosed of financial statements to evaluate the financial performance and financial strength of the business firms using the application of ratio and component percentage parameters.

This module contains activities, self assessment questions and comprehensive illustrative questions which can help you to master the course. Answer keys are given for illustrative questions and for the self assessment questions of the first three chapters. More ever model type questions are presented in multiple choice, discussion exercises and problems forms. We strongly advise you to attempt the questions by yourself before you refer to the suggested answers and browse the notes in the module back.

Assignments are included from all the Chapters. You are required to submit to the accounting department when you are asked to do so. Four assignments are given; the first two assignments are to be collected when you come to attend the tutorial class, and the next two assignments are going to be submitted before you sit the final exam of this course.

GENERAL OBJECTIVES OF THE COURSE

Upon completion of this course, you will be able to:

- .Understand why firms invest in debt and equity securities
- Know the accounting treatment of various types of long term debts
- Describe the accounting for capital stock, dividends, retained earnings and earning per share.
- Describe the concept of leases, types of leases and their accounting treatment
- Describe about income taxes, differences between taxable income and pretax accounting income and the causes of their differences.
- Explain the effects of changes in accounting principles, estimates and correction of errors on financial statements, and
- Know how to make analysis of financial statements and evaluate the financial performance and financial strength of the business firms

CHAPTER ONE
LONG-TERM INVESTMENTS

INTRODUCTION

Suppose senior management at your employer, Ambassel Trading, asks for your advice on the following accounting matter. Ambassel Trading had cash available at the beginning of the current fiscal year that was not needed for operating or to acquire fixed assets, so it purchased 10, 000 shares of NIB bank Common stock at Br. 20, per share. At the end of the year, NIB bank reported earnings of Br. 3 per share and paid dividends of Br. 1 per share. NIB bank's common stock is traded in the market, and at the end of the fiscal year has a market price of Br. 24 per share.

Management asks for your advice on

a) what amount Ambassel Trading should report on its balance sheet for its investment in NIB bank and

b) What amount Ambassel Trading should report as income in the current year from its investment in NIB bank.

Dear Colleague, your response to the senior management may be based on the nature of the investment. For some investors, the investments in financial instruments issued by other companies represent ongoing affiliations with the companies whose securities are acquired. Other investments, though, are made not to obtain a favorable business relationship with another firm but simply to earn a return from the dividends or interest the securities pay or from increases in the market price of the securities.

With such diversity in investment objectives, it is understandable that not a single accounting method is adequate to report every investment. As you will discover when reading this chapter, investments are accounted for in different ways, depending on the nature of the investment relation ships.

Learning Objectives:

Upon completion of this chapter, you will be able to:

- Understand classification criteria and the initial recording of investment securities at the date of acquisition.
- Know the conceptual basis for the accounting treatment of various types of investments.
- Account for common stock investments using the cost method, and describe the circumstances under which the cost method should be used.
- Account for common stock investments using the equity method , and describe the circumstances under which the equity method should be used.
- Appreciate why firms invest in debt and equity securities.
- Understand how to account for stock dividends, stock splits, and stock warrants received by the investor.

1.1 INVESTMENTS IN FINANCIAL INSTRUMENTS

Temporary investment of idle cash: Companies invest in the securities of other companies and government agencies for a variety of reasons. Companies often have cash on hand that is not needed at present but needed in the near future. Rather than allowing the idle cash to remain in a non interest-bearing account, companies find temporary investments where they can earn a return. These investments are usually low risk and can be quickly and easily converted to cash.

These short- term investments are often in the securities of federal, state, and local government agencies but can also be in the securities of other companies.

Long-term investments to increase earnings: A second reason firms invest in the securities of other firms, especially in securities representing

ownership interest, is to develop a beneficial inter company relationship that will increase the profitability of the investing company, both directly and indirectly.

1. 1. 1. Accounting Issues

There are three broad issues in accounting for investments

1) Classification issues
2) Valuation and investment income measurement issues
3) Disclosure issues.

Classification issues: Classification involves management's intended holding period for an investment. Is it a temporary investment because it would otherwise be idle cash or is it a long-term investment? If it is a long-term investment in a debt security, does management intend to hold the investment until the debt matures? Classification is important because different accounting valuation methods are used for different classifications.

Valuation and Investment Income Measurement: Various valuation methods are used to determine the carrying value of investments, and this determination in turn affects the measurement of income and owners' equity. In addition to the other valuation methods, the new valuation method, fair value, is used to value investments in certain classifications. Because using fair value as a valuation method results in increasing or decreasing the carrying value of investments by the amount of the holding gains and losses associated with the investments, there are consequences for income measurement. Should these holding gains and losses be included in income, or should they be treated as a separate increase or decrease to owners' equity until the investment is sold and they are realized?

Disclosure: Since different classifications of investments are accounted for differently, there are differing disclosure requirements for each.

1. 1. 2. Long-Term Investments in Securities

Long-term investments: are investments that do not meet the two requirements for short-term investments. This means long-term investments include investments in bonds and stocks that aren't marketable or, if marketable, aren't intended to be converted in to cash in the short term. Long-term investments also include funds earmarked for a special purpose. Examples are bond sinking funds and investments in land or other assets not used in the company's operations.

Long-term investments are reported in the non current section of the balance sheet, often in its own separate section titled Long-Term Investments.

A security: is a share, participation, or other interest in the property or assets of the issuer, or an obligation of the issuer, that

1) is represented by an instrument issued in bearer or registered form or is registered in records maintained to record transfers to and from the issuer.
2) is of a type commonly dealt with on stock exchanges or is an instrument that is commonly recognized as a medium for investment.
3) either is one of a class or series of shares, participations, interests, or obligations, or by its terms, is divisible into such a class or series.

Securities are either debt securities or equity securities.

A **debt security** is any security representing a creditor relationship with an entity. Common examples of debt securities include US Treasury securities, municipal securities, corporate bonds, convertible debt, and commercial paper. Preferred stock that must be redeemed or that is redeemable at the option of the investor is also classified as a debt security. Trade accounts receivable and loan receivables arising from consumer, commercial and real estate lending activities are not debt securities; they do not meet the definition of a security.

An **equity security** is any security representing an ownership interest in an entity, or the right to acquire or to dispose of an ownership right at a fixed price. Common examples of equity securities include common, preferred, and other capital stock.

Warrants, rights, and options to purchase (call options) or to sell (put options) equity securities at fixed or determinable prices are also classified as equity securities.

Activity- 1

1- Give at least two examples of assets classified as long-term investments.

2-What are the requirements for a security to be classified as a long-term investment?

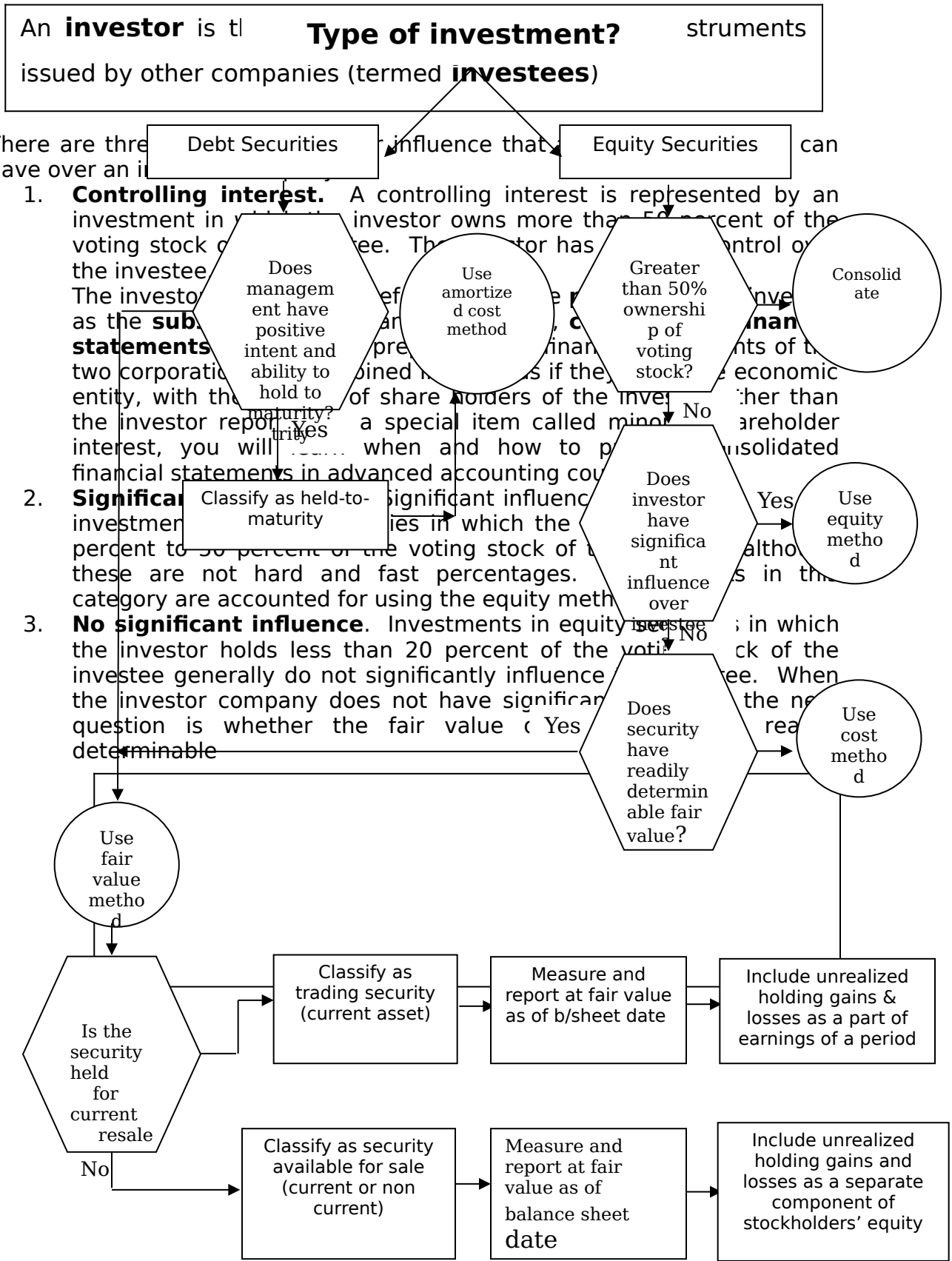
You can compare your answer for activity- 1 with the following:

1. Long-term investments include funds earmarked for a special purpose, bonds and stocks that do not meet the requirements of current assets, and other assets that are not used in the regular operations of the business.
2. A stock investment is classified as a long-term investment if it is not marketable or, if marketable, it is not held as an available source of cash to meet the needs of current operations.

1.2 ACCOUNTING FOR LONG-TERM INVESTMENTS IN EQUITY SECURITIES.

Dear colleague, I think you are now aware of what long-term investment is. Well, you can also easily understand the decision process for deciding how to account for investments from the flow diagram show in Exhibit 1.1.

The first question to be answered is, what amount of influence does the investor company have over the investee company? This is generally determined by assessing the percentage of voting rights the investor company has of the total voting rights outstanding for the investee company.



There are thre influence that can have over an i

1. **Controlling interest.** A controlling interest is represented by an investment in which the investor owns more than 50 percent of the voting stock o ee. The tor has ntrol o the investee The investo ef e inve as the **sub** ar , **c nan statements** pre inan nts of t two corporatio ined s if they e economic entity, with the of share olders of the inve her than the investor repor a special item called mino areholder interest, you will when and how to p nsolidated financial statements in advanced accounting cou
2. **Significa** significant influenc investmen ies in which the percent to 50 percent of the voting stock of t altho these are not hard and fast percentages. s in th category are accounted for using the equity meth
3. **No significant influence**. Investments in equity sec s in which the investor holds less than 20 percent of the voti ck of the investee generally do not significantly influence ee. When the investor company does not have significan the ne question is whether the fair value c rea determinable

No

Yes

Exhibit 1.1
Flow diagram of decision process for determining method of accounting for investments.
Fair value is determinable when there is a quoted market price for an instrument. When the fair value is readily determinable, the fair value method be used to measure the carrying value of the security. If fair value is not readily determinable, the investment is accounted for using the cost method.

 What are the alternative methods used in accounting for investments in equity securities?

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1. 2. 1. Acquisition cost

The cost of an investment in securities includes the acquisition price plus brokerage fees and any other expenditure incurred in the transaction. If assets other than cash are given in payment for the securities and the current fair value of such noncash assets is unknown, the current market price of the securities may be used to establish the cost of the securities acquired and the value of the noncash assets given in exchange. When neither a market price for the securities nor the current fair value of the assets given in exchange is known, accountants may rely on independent appraisals to establish values for recording the transaction.

If two or more securities are acquired for a lump sum, the total cost should be allocated among the various securities. If the various securities acquired are publicly traded, the existing market prices serve as the basis for apportionment of the total cost. This type of cost apportionment is termed **relative market value allocation**.

For example, assume that X company acquires from Y company 100 units of five shares of common stock and one share of preferred stock each, at a price of $240 a unit, when the common stock is trading at $30 and the preferred stock at $100 a share.

The portion of the cost allocated to the common stock is $\$24{,}000 \times \frac{150}{250} = \$14{,}400$, and

The portion allocated to the preferred stock is $\frac{100}{250} \times 24{,}000 = \$9{,}600$

* the price of one unit of five shares of common stock

$(\$30 \times 5)$ .....$ 150

The price of one unit of

One share of preferred stock $100

Current Market Price $250

If only one class of the stock is publicly traded, that class usually is recorded at its market value, and the remaining portion of the cost is considered as the cost of the other class.

When either class of stock trades in the open market, the apportionment of the cost may have to be delayed until current fair values or market values of the securities are established.

1. 2 .2. Measuring Return on an investment

What is the "**return**" on an investment in common stock?

- One point of view is that investor's return consists of the stream of dividends received from the investment.
- A second point of view is that the investor's return consists of a proportionate share of the net income (minus preferred dividends, if any) of the investee, without regard to whether this income is distributed in the form of dividends during the accounting period.

Supporting this point of view is the fact that the earnings of the investee that are not distributed as dividends are retained by the investee, with a resultant increase in the investee's stockholders' equity.

- A third interpretation of the investor's return consists of the dividends received plus (or minus) the change in the market value of the investment.

1. 2. 3. Holdings of Less than 20%

Dear colleague, as we discuss it earlier, when an investor has an interest of less than 20% of the total outstanding common stock of an investee, it is presumed that the investor has little or no influence over the investee. In this case, the investor cannot influence the investee's dividend policy and either the fair value method or the cost method is used to value the investment.

Fair value Method

If market prices are available, the investment is valued and reported subsequent to acquisition using the fair value method. The fair value method requires that companies classify equity securities at acquisition as **available-for- sale securities** or **trading securities**.

Because equity securities have no maturity date, they cannot be classified as held-to-maturity

Available-for-sale securities (SAS)

Securities available-for-sale (SAS) when acquired are recorded at cost

To illustrate, assume that on January 3, 1999, ABC Company purchased common stock of three companies, each investment representing less than a 20% interest:

	Cost
X- Company	$259,700
Y-Company	317,500
Z-Company	141,350
Total Cost	$718,550

These investments would be recorded as follows:

Jan. 3, 1999 Investment in SAS 718, 550

Cash 718, 550

On December 6, 1999 ABC Company receives a cash dividend of $4,200 on its investment in the common stock of Y-company.

The cash dividend is recorded as follows:

Dec.6, 1999 Cash 4, 200

Dividend Revenue 4, 200

All three of the investee companies reported net income for the year but only Y-company declared and paid a dividend to ABC Company. But, as indicated before, when an investor owns less than 20% of the common stock of another corporation, it is presumed that the investor has relatively little influence on the investee. As a result, net income earned by the investee is not

considered as a proper basis for recognizing income from the investment by the investor. The reason is that the investee may choose to retain for use in the business increased net assets resulting from profitable operations. Therefore, net income is not considered earned by the investor until cash dividends are declared by the investee.

At December 31, 1999 ABC's available- for-sale equity security portfolio has the following cost and fair value:

Available-for-sale Equity Security Portfolio
December 31, 1999

Investments	**Cost**	**Fair**	**value**
Unrealized gain (loss)			
X-Company	$259,700	$275,000	$15,300
Y- Company	317,500	304,000	(13,500)
Z-Company	141,350	104,000	(37,350)
Total of portfolio	$718,550	$683,000	(35,550)
Previous securities fair value adjustment balance			-0-
Securities fair value adjustment- Cr.			$(35,550)

For ABC's available-for-sale equity securities portfolio the gross unrealized gains are $15,300 and the gross unrealized losses are $50,850 ($13,500 + $37,350), resulting in a net unrealized loss of $35,550. The fair value of the available-for-sale securities portfolio is $35,550 less than its cost.

As with available-for-sale debt securities, the net unrealized gains and losses related to changes in the fair value of available-for-sale equity securities are recorded in an Unrealized Holding Gain or Loss-Equity account that is reported as a part of other comprehensive income and as a component of stockholders' equity until realized. In this case, ABC Company prepares an adjusting entry debiting the Unrealized Holding Gain or Loss-Equity account and crediting the Securities Fair Value Adjustment account to record the decrease in fair value and to record the loss as follows:

Dec.31, 1999 Unrealized Holding Gain or Loss-Equity ……. 35,550
Securities Fair Value Adjustment-SAS …… 35,550

On March 10, 2000, ABC Company sold all of its X-company common stock receiving net proceeds of $287,220. The realized gain on the sale is computed as follows:

Net proceed from sale ……$287, 220
Cost of X company shares ……(259.700)
Gain on sale of stock ……$27,520

The sale is recorded as follows:

March 10, 2000 Cash ---------- 287,220
Investment in SAS …… 259,700

Gain on sale of stock 27,520

In addition, assume that on June 13, 2000, ABC Company purchased 20,000 shares of C-Company at a market price of $12.75 per share plus brokerage commissions of $1,850 (total cost, $256,850).

On December 31, 2000, ABC's portfolio of available-for-sale securities is as follows:

Available-for-sale Equity Security portfolio
December 31, 2000

Investments	Cost	Fair value	UnrealizedGain(loss)
C-Company	$256,850	$278,350	$21,500
Y-Company `	317,500	362,550	45,050
Z-Company	141,350	139,050	(2,300)
Total portfolio	$715,700	$779,950	64,250
Previous securities fair value adjustment balance –Cr.			(35.550)
Securities fair value adjustment –Dr			$99,800

At December 31, 2000, the fair value of ABC's available-for-sale equity securities portfolio exceeds cost by $64, 250 (unrealized gain). The Securities Fair Value Adjustment account had a credit balance of $35,500 at December 31, 1999. To adjust ABC's December 31, 2000, available for-sale portfolio to fair value requires that the Securities Fair Value Adjustment account be debited for $99,800 ($35,550+$64,250). The entry to record this adjustment is as follows:

Dec. 31, 2000 Securities Fair Value Adjustment (SAS)..... 99, 800
Unrealized Holding Gain or Loss-Equit 99,800

Trading Securities

The accounting entries to record trading equity securities are the same as for available-for-sale equity securities except for recording the unrealized holding gain or loss. For trading equity securities, the unrealized holding gain or loss is reported as part of net income. Thus, the account title Unrealized Holding Gain or Loss-Income is used. When a sale is made, the remainder of the gain or loss is recognized in income.

Activity - 2

On April 5, 2003, Berchaco Ethiopia Purchases a basket of Securities Consisting of 5,000 shares of Dashen Bank common stock and 1,000 shares of Ethiopian Insurance Company, 5 percent, $100 par value preferred stock for a lump sum payment of $132, 000 not including a commission of $1,000. At the date of the purchase, Dashen Bank common stock sell for $12 per share and Ethiopian Insurance Company preferred stock sells for $80 per share.

1- How do you allocate the $133,000 total cost between the securities acquired using the relative market value method?

2- Assume that Management classifies these investments as securities available- for- sale. So, show how the company records the acquisition of the investment in securities.

3- If the securities were to be classified as trading securities; show how the company records the acquisition of the investment in securities.

You can compare your answer for activity 2 with the following

Security	Shares Acquired	Market price per share	Market value	Proportion of market value	Allocation of purchase price
Dashen Bank Common stock	5,000	$12	$60,000	$60,000/$140,000(×133,000)	= $57,000
EIC, preferred stock	1,000	80	80,000	$80,000/$140,000(×133,000)	= 76,000
			$140,000		$133,000

2. Investment in SAS: Dashen Bank Common stock ----------57,000
   Investment in SAS: EIC, preferred stock ----------76,000
   Cash----------133,000
3. If the securities were to be classified as trading securities, the entry would be the same except that in each case, the individual investments would be classified as investments in TS.

Cost Method

When market prices are not available, the investment is valued and reported at cost in periods subsequent to acquisition. This approach is often referred to as the cost method.

When the cost method of accounting is used, the investment ledger account is maintained in terms of the cost of the common stock acquired. Revenue is recognized by the investor only to the extent of dividends received. How ever, if a material portion of the dividends received represents a distribution of investee's earnings realized prior to the time the stock was acquired, that portion of the dividends is a return of capital (a liquidating dividend), not revenue.

For example, Assume that X Company acquired 15% of the outstanding common stock of Y Company, early in year 1. During year 1, Y Company reported net income of $100,000 and paid a cash dividend of $150,000. Because the dividend exceeded by a material amount the net income of Y for the period X owned Y common stock, X records the dividend as follows:

Cash ($150,000 × 0.15) 22,500
Dividend revenue 15,000
Investment in Y Co., Common Stock 7,500
To record receipt of dividend, including distribution of $7,500 in excess of net income since the investment was acquired.

Changes in the net assets of the investee are disregarded unless a significant and permanent impairment of value of the investment occurs. Finally, long-term investment in marketable equity securities may be written down to a lower of cost or market.

1. 2. 4. Holdings Between 20% and 50%

Although an investor corporation my hold an interest of less than 50% in an investee corporation and thus not possess legal control, its investment in voting stock gives it the ability to exercise significant influence over operating and financial policies of an investee.

The ability to exercise influence may be indicated in several ways. Examples would be: representation on the board of directors, participation in policy-making processes, material intercompany transactions, interchange of managerial personnel, or technological dependency.

Another important consideration is the extent of ownership by an investor in relation to the concentration of other shareholdings. However, substantial or majority ownership of the voting stock of an investee by another investor doesn't necessarily preclude the ability to exercise significant influence by the investor.

Generally, investments representing 20% or more of the voting stock of an investee usually are accounted for by the equity method of accounting.

Equity Method

Under the **equity method,** a substantive economic relationship is acknowledged between the investor and the investee.

The investment is originally recorded at the cost of the shares acquired but is subsequently adjusted each period for changes in the net assets of the investee. That is, the investment's carrying amount is periodically increased (decreased) by the investor's proportionate share of the earnings (losses) of the investee and decreased by all dividends received by the investor from the investee. The equity method recognizes that investee's earnings increase

investee's net assets, and that investee's losses and dividends decrease these net assets.

To illustrate, assume that East African Group purchased 25% of the common stock of Nyala Insurance Company on January 1, 2004, for $850, 000 cash.
The acquisition was recorded at cost as follows:

1) Long-Term Investment in Nyala Insurance 850,000
   Cash 850,000

Note that the investment is recorded in a separate account rather than in a portfolio account. Therefore, we will follow the practice of creating a separate account for every equity-method investment. For all other investments, a single account is used for the entire portfolio.
During 2004 Nyala Insurance Co. earned net income of $124,400,25% of which belongs to East African Group (0.25× $124,400 = $31,100). On November 1, Nyala Insurance declared and paid a cash dividend of $60,000($15,000 to east African Group).

2) Long-term investment in Nyala Insurance 31, 100
   Income from investment in Nyala Insurance 31, 100
3) Cash 15,000
   Long term investment in Nyala Insurance 15,000

Note that unlike the fair value method, the equity method recognizes income not when a cash dividend is declared and paid but when income is earned by the investee, as shown in entry (2). In 2004, East African Group recognizes as income its share ($31,100) of the net income reported by Nyala Insurance and increases its investment account by that amount. The dividend paid by Nyala Insurance, recorded by entry (3), is a distribution of the income and therefore reduces the amount of East African Group's investment.

Assume also that Nyala Insurance Company reported a net loss of $6,000 in 2005 and paid no dividends. Under the equity method; East African Group would recognize it share of the loss ($1,500 = 25% × $6,000) as follows:

Loss from Investment in Nyala Insurance 1,500
   Long-term Investment in Nyla Insurance 1,500

Thus, East African Group's income statement would include a $1,500 investment loss for 2005, and the balance of its investment in Nyala Insurance account would be reduced by $1,500.

Equity method investments are carried on the balance sheet at acquisition cost plus the investor's share of the investee's income, less the investor's share of the investee's losses and dividends.

East African Group's 2004 financial statements would include the following items for its investment in Nyala Insurance Company.

Balance sheet

Long-term investment in Nyala Insurance
Company (Equity method) ..... $ 866, 100

Income statement

Income from investment in Nyala Insurance
Company (Equity method) ..... $ 31,100

Expanded Illustration of the Equity Method

Under the equity method, periodic investor revenue consists of the investor's proportionate share of investee's earnings (adjusted to eliminate inter company gains and losses) and amortization of the difference between the investor's initial cost and the investor's proportionate share of the underlying book value of the investee at date of acquisition. And, if the investee's net income includes extraordinary items, the investor treats a proportionate share of the extraordinary items as an extraordinary item, rather than as ordinary investment revenue before extraordinary items.

To illustrate, assume that on January 1, 1999, Investor Company purchased 250,000 shares of Investee company's 1,000,000 shares of outstanding common stock for $8,500,000. Investee Company's total net worth or book value was $30,000,000 at the date of Investor Company's 25% investment. Investor company thereby paid $1,000,000($8,500,000 – 0.25($30,000,000) in excess of book value. It was determined that $600,000 of this is attributable to its share of **undervalued depreciable assets** of Investee company and $400,000 to **unrecorded goodwill**. Investor company estimated the average remaining life of the undervalued assets to be 10 years and decided up on a 40-year amortization period for goodwill (the maximum length of time allowed). For the year 1999, Investee Company reported net income of $2,800,000 including an extraordinary loss of $400,000 and paid dividends at June30, 1999 of $500,000 and at December 31, 1999 of $900,000.

The following entries would be recorded on the books of Investor Company to report its long term investment using the equity method

January 1, 1999 — Investment in investee stock 8,500,000
Cash 8,500,000
(To record the acquisition of 250,000 Shares of Investee Company common Stock)

June 30, 1999 — Cash 125,000
Investment in investee stock 125,000
[To record dividend received ($500,000 \times 0.25$) from investee company]

The entries on December 31, however, are more complex. In addition to the dividend received, Investor Company must recognize its share of Investee Company's income. Both an ordinary and extraordinary component must be recorded by Investor Company, because investee Company's income includes both. Furthermore, Investor Company paid more than the book value for an interest in Investee company's net assets. As a result, this additional cost must be allocated to the proper accounting period.

December 31, 1999 — Investment in investee stock 700,000
Loss from investment (extraordinary) 100,000

Revenue from investment (ordinary) ... 800,000
[To record share of Investee company ordinary income ($3,200,000 × 0.25) and extraordinary loss ($400,000 × 0.25)]

December 31, 1999 Cash.....225,000
Investment in investee stock..... 225,000
[To record dividend received ($900,000 x .25) from Investee Company]

December 31, 1999 Revenue from investment (ordinary) 70,000
Investment in investee stock 70,000
(To record amortization of investment cost in excess of book value represented by:
Undervalued depreciable assets - $600,000÷10=$60,000
Unrecorded goodwill -$400,000÷40 = 10,000
Total $70,000

The investment in Investee Company is represented in the balance sheet of Investor Company at a carrying amount of $8,780,000 computed as shown below:

Investment in Investee Company

Acquisition cost, 1/1/99	$8,500,000	
Plus: Share of 1999 income before extraordinary item	800,000	$ 9,300,000
Less: Share of extraordinary loss	100,000	
Dividends recoved 6/30 and 13/31	350,000	
Amortization of undervalued depreciable assets	60,000	
Amortization of unrecorded goodwill	10,000	520,000
Carrying amount, 12/31/99		$8,780,000

Investee Losses Exceed Carrying Amount

If an investor's share of the investee's losses exceeds the carrying amount of the investment, should the investor recognize additional losses? Ordinarily the investor should discontinue applying the equity method and not recognize additional losses.

If the investor's potential loss is not limited to the amount of its original investment (by guarantee of the investee's obligations or other commitment to provide further financial support), however, or if imminent return to profitable operations by the investee appears to be assured, it is appropriate for the investor to recognize additional losses.

1. 2. 5. Changing From and To the Equity Method

If the investor level of influence of ownership falls below that necessary for continued use of the equity method, a change must be made to the fair value method. And an investment in common stock of an investee that has been accounted for by other than the equity method may become qualified for use of the equity method by an increase in the level of ownership.

1. 2. 6. Disclosures Required Under the Equity Method

The significance of an investment to the investor's financial position and operating results should determine the extent of the disclosures. The following disclosures in the investor's financial statements generally apply to the equity method:

1. The name of each investee and the percentage of ownership of common stock.
2. The accounting policies of the investor with respect to investments in common stock
3. The difference, if any, between the amounts in the investment account and the amount of underlying equity in the net assets of the investee.
4. The aggregate value of each identified investment based on quoted market price (if available).
5. when investments of 20% or more interest are in the aggregate material in relation to the financial position and operating results of an investor, it may be necessary to present summarized information concerning assets, liabilities, and results of operations of the investees, either individually or in groups, as appropriate.

In addition, the investor is expected to disclose the reasons for not using the equity method in cases of 20% or more ownership interest and for using the equity method in cases of less than 20% ownership interest.

Activity- 3

Muger Cement Factory bought 40% of Dire Dawa Cement Factory's outstanding common shares on January 2, 2003, for $540 million. The carryings amount of Dire Dawa Cement Factory's net assets (share holders' equity) at the purchase data totaled $900 million. Book values and fair values were the same for all financial statement items except for inventory and buildings, for which fair values exceeded book values by $ 25 million and $225 million, respectively. All inventories on hand at the acquisition date were sold during 2003. The buildings have average remaining useful lives of 18 years. During 2003, Dire Dawa Cement factory reported net income of $220 million and paid an $80 million cash dividend.

Based on the above data try to:

1) Prepare the appropriate journal entries during 2003 for the investment.

2) Determine the amounts relating to the investment that Muger Cement Factory should report in the 2003 financial statements
   ⇒ a) As an investment in the b/sheet
   b) As investment revenue on the I/statement

Your answers for activity 3 should look like the one shown below:

1. the appropriate journal entries during 2003 for the investment are:

Purchase ($ in million)

Investment in Dire Dawa C.F. Shares ..... .540
    Cash 540

Net income

Investment in Dire Dawa C.F. Shares (40%×$220 million) ...88
    Investment Revenue 88

Dividends

Cash (40%× $80 million) 32
    Investment in Dire Dawa C.F. Shares 32

Inventory

Investment Revenue (higher cost of goods sold during 2003 if beginning inventory had been adjusted to fair value) 10
    Investment in Dire Dawa C.F. Shares (40%×$25 million) 10

Buildings

Investment Revenue [($225 million×40%) ÷ 18 years] 5
    Investment in Dire Dawa C.F. Shares 5

2. The amounts that Muger Cement should report in the 2003 financial statements;
   a) As an investment on the balance sheet :

Investment in Dire Dawa Cement Shares
($ in Millions)

cost	540	
share of income	88	32 Dividends
		10 Inventory
		5 Buildings
Balance	581	

   b) As investment revenue on the income statement

$$\underset{\text{(share of income)}}{\$88\text{million}} - \underset{\text{(adjustments)}}{[\$10+\$5]\text{million}} = \$73\text{million}$$

1.3 ACCOUNTING FOR LONG-TERM INVESTMENTS IN DEBT SECURITIES

Dear colleagues, so far, we have discussed about investments in equity securities and I think you have got a good understanding about what a long-term investment in equity securities is. Now, we will continue to discuss about investments in debt securities.

Debt securities are instruments representing a creditor relationship with an enterprise.

Investments in debt securities are grouped into three separate categories for accounting and reporting purposes.

These categories are as follows:

1. **Held-to-maturity**: Debt securities that the enterprise has the positive intent and ability to hold to maturity
2. **Trading**: Debt security brought and held primarily for sale in the near term to generate income on short term price differences
3. **Available-for-sale**: Debt securities not classified as held-to-maturity or trading securities.

Exhibit.1-2 identifies these categories, along with the accounting and reporting treatments requited for each

Amortized cost is the acquisition cost adjusted for the amortization of discount or premium, if appropriate. **Fair value** is the amount at which a financial instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

Category	Valuation	Unrealized Holding Grains or losses	Other income effects
Held-to-maturity	Amortized cost	Not recognized	Interest when earned; gains & losses from sale
Trading Securities	Fair value	Recognized in net income	Interest when earned; gains & losses from sale
Available-for-sale	Fair value	Recognized as other comprehensive income and as separate component of stock holders' equity.	

Exhibit.1–2 Accounting for debt securities by category

What are the common examples of debt securities?

Held-to-Maturity Securities (HTM)

Only debt securities can be classified as held-to-maturity because, by definition, equity securities have no maturity date. A debt security should be classified as held-to-maturity only if the reporting entity has both (1) the positive intent and (2) the ability to hold those securities to maturity. A company should not classify a debt security as held-to-maturity if the company intends to hold the security for an indefinite period of time. Likewise, if the enterprise anticipates that a sale may be necessary due to changes in interest rates, foreign currency risk, liquidity needs, or other asset-liability management reasons, the security should not be classified as held-to-maturity.
Held-to-maturity securities are accounted for at amortized cost, not fair value. If management intends to hold certain investment securities to maturity and has no plans to sell them, fair values (selling prices) are not relevant for measuring and evaluating the cash flows associated with these securities. Finally, because held-to-maturity securities are not adjusted to fair value, they do not increase the volatility of either reported earnings or reported capital as do trading securities and available-for-sale securities.

To illustrate, assume that XYZ Company purchased $100,000 of 8% bonds of ABC company on January 1, 1998, paying $92,278. The bonds mature January 1, 2003; interest is payable each July 1 and January 1. The discount of $7, 722 ($100,000 -$92,278) provided on effective interest yield of 10%.
The entry to record the acquisition of the investment is;

January 1, 1998	Investment in HTM Securities	92, 278	
	Cash		92,278

Note: Investments acquired at par, at a discount, or at a premium are generally recorded in the accounts at cost, including brokerage and other fees but excluding the accrued interest; generally they are not recorded at maturity value. The use of a separate discount or premium account as a valuation account is acceptable procedure for investments but in practice it has not been widely used.

Investment in HTM securities account is used to indicate the type of debt security purchased. Discounts and premiums on long-term investments in bonds are amortized in a manner similar to discounts and premiums on bonds payable, we will discuss it in chapter two.

Exhibit.1–3 shows the effect of the discount amortization on the interest revenue recorded each period for the investment in ABC company bonds.

8% bonds Purchased to yield 10%

	Cash	Interest	Bond Discount	Caring Amount

Date	Received	Revenue	Amortization	of Bonds
1/1/98				**$92,278**
7/1/98	**$4,000**[a]	**$4,614**[b]	**$614**[c]	92,892[d]
1/1/99	4,000	4,645	645	93,537
7/1/99	4,000	4,677	677	94,214
1/1/00	4,000	4,711	711	94,925
7/1/00	4,000	4,746	746	95,671
1/1/01	4,000	4,783	783	96,454
7/1/01	4,000	4,823	823	97,277
1/1/02	4,000	4,864	864	98,141
7/1/02	4,000	4,907	907	99,048
1/1/03	4,000	4,952	952	100,000
	$40,000	$47,722	$7,722	

a $\$4,000 = \$100,000 \times 0.08 \times 6/12$

b $\$4,614 = \$92,278 \times 0.10 \times 6/12$

c $\$614 = \$4,614 - \$4,000$

d $\$92,892 = \$92,278 + \$614$

Exhibit.1-3: Schedule of Interest Revenue and Bond discount amortization-Effective Interest Method.

Note: the effective interest method is applied to bond investments in a fashion similar to that described for bonds payable.

The effective interest rate or yield is computed at the time of investment and is applied to its beginning carrying amount (book value) for each interest period to compute interest revenue. The investment carrying amount is increased by the amortized discount or decreased by the amortized premium in each period

The journal entry to record the receipt of the first semiannual interest payment of July 1, 1998 (using the data in Exhibit.1-3) is;

July 1, 1998 Cash 4, 000
Investment in HTM securities 614
Interest Revenue 4, 614

Because XYZ Company is on a calendar year basis, it accrues interest and amortizes the discount at December 31, 1998, as follows:

December 31, 1998 Interest Receivable 4,000
Investment in HTM securities..... 645
Interest Revenue 4,645

In addition, the interest and amortization amounts are provided in Exhibit.1-3.

XYZ Company would report the following items related to its investment in ABC bonds in its December 31, 1998 financial statements:

Balance sheet

Current assets:
Interest receivable $4,000
Long-term investments:
Held-to-maturity securities, at amortized cost $93,537

Income statement

Other revenues and gains:

Interest revenue $9,259

The sale of a held-to-maturity debt security close enough to its maturity date that a change in the market interest rates would not significantly affect the security's fair value may be considered a sale at maturity.

If XYZ Company sells its investment in ABC bonds on November 1, 2002, for example, at 99¾ plus accrued interest, the following computations and entries would be made. The discount amortization from July 1, 2002, to November 1, 2002, is $635(4/6× $952).

The entry to record this discount amortization is as follows;

November 1, 2002 Investment in HTM securities 635
Interest Revenue 635

The computation of the realized gain on the sale is shown below:

Selling price of bonds (exclusive of accrued interest)..... $99,750
Less: Book value of bonds on November 1, 2002:
Amortized cost, July 1, 2002 .....$99,048
Add: Discount amortized for the period
July 1, 2002, to November 1, 2002 635
99,683
Gain on sale of bonds $67

The entry to record the sale of the bonds is:

November 1, 2002 Cash 102,417
Interest Revenue (4/6 ×$4,000) 2, 667
Investment- HTM Securities 99,683
Gain on sale of securities 67

The credit to Interest Revenue represents accrued interest for 4 months, for which the purchaser pays cash. The debit to cash represents the selling price of the bonds, $99,750, plus accrued interests of $2,667. The credit to the Investment in HTM securities account represents the book value of the bonds on the date of sale, and the credit to Gain on sale of Securities represents the excess of the selling price over the book value of the bonds.

Activity- 4

On January 1, 2003 Selam Business Group purchased as an investment $700,000 of 12% bonds. Because the 12% stated rate was less than the rate paid by other companies on similar bonds, say 14%, Selam Business Group was able to buy the securities at a "discounted" price of $666,633. Interest is receivable semiannually on June 30 and December 31.

1) Record the journal entry for the purchase of investment securities.

---

2) Record the journal entry for the interest received for the first six months as investment revenue.

You can compare your answer for activity 4 with the following:

1. Investment in HTM securities ----------666, 633
   Cash ----------666,633
2. Cash (stated rate × face amount) ----------42,000
   Investment in HTM securities (difference) ----------4,664
   Interest revenue (Market rate × outstanding balance) ---------46,664

Trading and available-for-sale debt securities are illustrated for short term investments in Financial Accounting I course. However, the fair value method is much less appropriate for long-term investments. By definition, long-term investments are not held to take advantage of short-term fluctuations in market prices. When an investor intends to hold investments in securities for long period of time, the daily changes in market price lose-significance.

1.4 SPECIAL PROBLEMS IN ACCOUNTING FOR LONG-TERM INVESTMENTS IN SECURITIES

1.4.1 Cost Identification

Investments in securities may pose a problem as to which costs should be offset against revenue in the period of sale. For example, assume that an investor acquires 1,000 shares of Z company common stock at a price of $80 a share, and 1,000 shares at $90 a share. Several years later, the investor sells 1,000 shares of Z Company's common stock for $84 a share. Should the investor recognize a $4,000 gain or a 6,000 loss?

The answer to this question requires making a cost flow assumption, as with inventories. Because securities usually are identified by a certificate number, it would be possible to use specific identification of stock certificates to establish the cost of the 1,000 shares sold. However, an alternative cost flow assumption might be adopted. The alternative methods of cost flow include , (1) FIFO-the first shares acquired are assumed to be the first ones sold; (2) LIFO-the last shares acquired are assumed to be the first ones sold; and (3) weighted-average cost each share is assigned the same cost basis.

1.4.2 Accounting for stock Dividends and stock splits

Cash dividends on investments in capital stock of other companies accounted for by the fair value method or the cost method are recognized as earned at the time of the declaration of the cash dividend. Stock dividends, which provide another way a company can make a distribution to stock holders, are not included as investment revenue.

When a stock dividend is issued, the distributing corporation debits retained earnings and credits the appropriate capital stock accounts. The effect of a stock dividend from the issuing corporations view is to capitalize a part of retained earnings. Significantly, a stock dividend does not decrease the assets of the issuing corporation.

From the investor's point of view, the nature of a stock dividend is suggested by its effect on the issuing corporation. The investors neither receive assets from the corporation nor own more of the issuing corporation; they merely have more shares to represent the same prior **proportional ownership**. Thus the receipt of a stock dividend does not increase the carrying value of the holdings but decrease the carrying value per share.

To illustrate, assume that XYZ Company purchased 1,000 shares of common stock, par $5, of ABC Corporation at $90 per share. Subsequently, XYZ Company received a 50 percent common stock dividend. XYZ later sold 200 of the common shares at $75 per share. XYZ's entries are as follows:

At the acquisitions date:
Long-term investments in equity securities, ABC Corp. (1,000 ×$ 90) … 90,000
Cash ……90,000
At date of stock dividend:
Memorandum entry only-Received 50 percent common stock dividend of 500 shares from ABC Corporation, revised cost Per share: $90,000 ÷ (1,000+500 =1,500 shares) = $60
At the date of sale of 200 common shares:
Cash (200 × $75) …… 15,000
Long-term investment in equity securities, ABC Corp. (200 × $60) ……..12,000
Grain on sale of investments ……3,000
(Remaining shares: 1,300 at $60 cost per share)

These procedures are followed for the cost, equity, and fair value methods; the only difference is in the total carrying value. For all three methods, the appropriate total carrying value is divided by the new total number of shares owned to determine the carrying value per share after the stock dividend.

If the stock dividend is of a different class of stock from that on which the dividend is declared, such as preferred stock received as a dividend on common stock, or vice versa, three methods of accounting for the dividend are possible;

1. **Allocation method**: Record the new stock at an amount determined by allocating the carrying value of the old stock between the new stock and the old stock on the basis of the relative market values of the different classes of stock after issuance of the dividend.
2. **Non cost method**: Record the new stock in terms of shares only(as a memorandum entry). When it is sold, recognize the total sale price as a gain.
3. **Market value method**: Record the new stock at its market value upon receipt with an offsetting credit to dividend revenue. This method treats stock of a different class received as a dividend similar to a property dividend.

The allocation method is the most consistent with the historical cost principle. The non cost method is considered to be conservative, and the market value

method is seldom used. You can see the application of the allocation method in the illustration below, which assigns the original cost to the two classes of stock. This method would be followed for the cost, equity, and market value methods, with the appropriate carrying value being allocated.

To illustrate, assume that X Company purchased 100 shares of Y company common stock at $75 per share (total cost, $7,500). Some time later, X company received a stock dividend of 40 shares of Y company preferred stock with a market value of $2,500. At that time the market value of the common stock was $10,000. Using the allocation method, the cost is apportioned, based on the total market value of $12,500 as follows:

$$\text{Cost allocated to common stock} = \$7{,}500 \times \frac{\$10{,}000}{\$12{,}500} = \$6{,}000 \text{ or } \$60 \text{ per share}$$

$$\text{Cost allocated to preferred stock} = \$7{,}500 \times \frac{\$2{,}500}{\$12{,}500} = \$1{,}500 \text{ or } 37.50 \text{ per share}$$

Total cost allocated $7,500

Entry to record receipt of stock dividend by X company:

Investment in preferred stock of Y company (40× $37.50) ...1,500

Investment in common stock of Y company 1,500

Although a stock split is different from a stock dividend from the point of view of the issuer, the two are virtually identical from the point of view of the investor. In both cases, the investor has more shares than before the split or dividend, but at the same total cost. The investor's accounting for a stock split is the same as for a stock dividend of the same class of stock. Only a memorandum entry is made to record the number of new shares received, and the cost (or carrying value) per share is recomputed (we will discuss about stock splits in chapter three).

1.4.3 Property Dividends

When a corporation distributes a dividend in the form of merchandise, securities of other corporations, or other non cash assets, the investor records the property received at its current fair value. Income tax regulations also require the use of current fair value to measure dividend revenue from properly dividends received.

1.4.4. Stock warrants and stock rights

When a corporation is about to offer for sale additional shares of an issue already outstanding, it may forward to present holders of that issue certificates permitting them to purchase additional shares in proportion to their present holdings. These certificates represent rights to purchase additional shares and are called **stock rights**. In rights offerings, right generally are issued on the basis of one right per share, but it may take many rights to purchase one new share.

The certificate representing the stock rights called, a **stock warrant**, states the number of shares that the holder of the right may purchase and also the price at which they may be purchased. If this price is less than the current market value of such shares, the rights have an intrinsic value, and from the time they are issued until they expire they may be purchased and sold like any other security,

Stock rights have three important dates:

1) The date the rights offering is announced
2) The date as of which the certificates or rights are issued
3) The date the rights expire

From the data the right is announced until it is issued, the share of stock and the right are not separable, and the share is described as **rights-on**. After the certificate or right is received and up to the time it expires, the share and right can be sold separately. A share sold separately from an effective stock right is sold **ex-rights**.

When a right is received, the stock holders have actually received nothing that they did not have before, because the shares already owned brought them the right; they have received no distribution of the corporation assets. The carrying amount of the original shares held is now the carrying amount of those shares plus the rights, and it should be allocated between the two on the basis of their total market values at the time the rights are received. If the value allocated to the rights is maintained in a separate account, an entry would be made debiting Investments in SAS (Stock Rights) and crediting Investments in SAS.

Disposition of Rights

The investor who receives rights to purchase additional shares has three alternatives;

1. To exercise the rights by purchasing additional stock
2. To sell the rights
3. To permit them to expire without selling or using them.

If the investor buys additional stock, the carrying amount of the original shares allocated to the rights becomes a part of the carrying amount of the new shares purchased. If the investor sells the rights, the allocated carrying amount compared with the selling price determines the gain or loss on sale. If the investor permits the rights to expire, a loss is suffered, and the investment should be reduced accordingly.

To illustrate, assume the following:

Shares owned before issuance of rights – 100.
Cost of shares owned-$50 a share for a total cost of $5,000.
Rights received – one right for every share owned, or 100 rights; two rights are required to purchase one new share at $50.
Market value at date rights issued; Shares $60 a share
Rights $3 a right

Total market value of shares (100×$60)	$6,000
Total market value of rights (100×$3)	300
Combined market value	$6,300

Cost allocated to stock: $\frac{\$6,000}{\$6,300} \times \$5,000 = \$4,761.90$

Cost allocated to rights: $\frac{\$300}{\$6,300} \times \$5,000 = \frac{\$238.10}{\$5,000.00}$

Cost allocated to each share of stock: $\frac{\$4,761.90}{100} = \$47.619$

Cost allocated to each right: $\frac{\$238.10}{100} = \$2.381$

The reduction in the carrying amount of the stock from $5,000 to $4,761.90 and the acquisition of the rights with an allocated cost of $238.10 would be recorded as follows:

Investments in SAS (Stock Rights) 238.10
    Investment in SAS 238.10

If some of the original shares are later sold, their cost for purpose of determining gain or loss on sale is $47.619 per share, as computed above. If 10 of the original shares are sold at $58 per share, the entry would be:

Cash 580.00
    Investment in SAS 476.19
    Gain on sale of stock 103.81

Entries for stock Rights: Rights may be sold or used to purchase additional stock or permitted to expire. If 40 rights to purchase 20 shares of stock are sold at $3.00 each, the entry is:

Cash 120.00
    Investments in SAS (Stock Rights) 95.24
    Gain on sale of stock Rights 24.76

The amount removed from the stock rights account is the amount allocated to 40 rights, 40× $2.381.

If rights to purchase 20 shares of stock are exercised and 20 additional shares are purchased at the offer price of $50, the entry is:

Investments in SAS 1,095.24
    Cash 1,000.00
    Investments in SAS (Stock Rights) 95.24

If these shares are sold in the future, their cost should be considered to be $1,095.24, or $54.762 per share- the price paid of $50 per share plus the amount allocated to two rights of $4.762.

If the remaining 20 rights are permitted to expire, the amount allocated to these rights should be removed from the general ledger account by this entry:

Loss on expiration to stock rights 47.62
        Investments in SAS (Stock Rights) 47.62

The balance of the general ledger investment accounts are shown below:

Investments in SAS (Stock)

Purchase of original 100 shares at $50 Pershare	5,000.00	Cost allocated to 100rightsreceived	238.10
Purchase of 20 shares byexercisof rights	1,095.24	Sale of 10 shares oforiginalpurchase	476.19
		Balance	5,380.95

	6,095.24		6,095.24
Balance	5,380.95*		

* Analysis of Balance:

90 shares of original purchase, at allocated cost of $47.619 per share	$4,285.71
20 shares purchased through exercise of rights, carried at $ 54.762 Per share (cash paid of $50.00, plus $4.762 for allocated cost of two rights)	1,095.24
Balance of account, as above	$5,380.95

Investments in SAS (Stock Rights)

Cost allocated to 100rights received	238.10	Saleof40rights	95.24
		Exerciseof40rights	95.24
		Expirationof20rights	47.62
	238.10		238.10
Balance	-0-		

Activity- 5

Assume that Mesi Company purchased 500 shares of G-company common stock at $93 per share, a total investment of $46,500. The investment is classified as SAS (Securities available-for-sale). Later in the year of purchase, Mesi Company receives 500 stock rights that entitle if to acquire 100 shares. Each stock right conveys the right to purchase one-fifth of a share of G company common stock. At the date the G company common stock first trades ex rights, it has a market price of $120 per share, and each stock right has a market value of $4.

1. Show the entry to record the investment
   ---
2. Show the allocation of the cost of the investment to the stock right and the held common shares, using the relative market value.
   ---
3. Show the entry to record the receipt of the 500 stock rights for G company common stock
   ---

Your answers for activity- 5 should look like the one shown below:

1. The entry to record the investment is:
   Investment in SAS G- Company common stock ……46,500
   Cash ……46,500
2. To determine the allocation of the cost of the investment to stock rights and the held common shares, the relative market values are used:
   Total market value of common shares held: (500 ×$120)……. $60,000

Total market value of stock rights held: (500 × $4).....2, 000
Total market value of investment $62,000

$$\text{Cost to be allocated to investment in stock rights} = \frac{\$2,000}{\$62,000} \times \$46,500 = \$1,500$$

$$\text{Cost to be allocated to investment in common share} = \frac{\$60,000}{\$62,000} \times \$46,500 = \$45,000$$

Thus, the cost per share common stock is now $\frac{\$45,000}{500 \text{ share}}$, or $90

Per share, and the cost per right is $\frac{\$1,500}{500 \text{ right}}$, or $3 per right

3. The entry to record the receipt of the 500 stock rights for G company common stock is:
Investment in SAS: G company stock Right 1,500
Investment in SAS::G company common stock 1,500

Summary of the Chapter

Companies invest in the securities of other companies and government agencies. There is a temporary investment of idle cash and long-term investment to develop a beneficial inter- company relationship that will increase the profitability of the investing company, both directly and indirectly.

A security is a share, participation, or other interest in the property or assets of the issuer, or an obligation of the issuer. It can be either a debt security or an equity security.

Common examples of debt securities are US Treasury securities, Municipal securities, corporate bonds and commercial papers. However, common examples of equity securities include common stock, preferred stock, and other capital stocks.

The three levels of control or influences that an investor company can have over an investee company are:

1) Controlling interest
2) Significant influence
3) No-significant influence

The accounting methods that are used for equity securities are fair value method, cost method, equity method and consolidated financial statements.

The cost of an investment in securities includes the acquisition price plus brokerage fees and any other expenditure incurred in the transaction. The current market price of the securities may be used to establish the cost of the securities acquired and the value of the non cash assets given in exchange if assets other than cash are given in payment for the securities and the current fair value of such non cash assets is unknown.
Investments in debt securities are grouped in to three separate categories for accounting and reporting purposes:

1. Held –to-Maturity
2. Trading
3. available-for-sale

Classification	Investment in Debt Securities	Investment in Equity securities
Control-greater than 50% ownership of voting stock	Not applicable	Equity method plus consolidation
Significant influence – 20% to 50% ownership of voting stock	Not applicable	Equity method
Debt securities classified as **held to maturity**, and equity securities for which fair value is not readily determinable.	Amortized cost method	Cost method
Debt and equity securities, classified as **trading securities**	Fair value method, with unrealized holding gain or loss included in earnings	
Debt and equity securities classified as **available for sale**	Fair value method, with unrealized holding gain or loss included as a component of stock holders' equity	

Exhibit.1-4 -: Summary of Accounting for long-term investments.
Exhibit.1-4: summarizes the methods of accounting for long-term investments. The mortised cost method is used only for debt securities that the business plans to hold to maturity. The fair value method is used for both debt and equity securities that are held available for sale and trading provided that they do not give the investor significant influence over the investee. If an investor holds enough common stock to exercise significant influence over the investee (usually over 20% or more of the outstanding common shares), then the equity method is required.

If a common stock holding enables the investor to control the investee (usually more than 50% of outstanding common shares), then in addition to using the equity method, the investor must prepare consolidated financial statements.

Stock dividends and stock splits are accounted for only as a memorandum entry for the number of shares received. The original cost per share of the investment is adjusted to reflect the increased number of shares owned. When stock rights are issued by the investee, the investor must allocated the total carrying amount of the investment between the old stock and the stock rights.

Self-Assessment Questions

I- Say True or False

1. Equity securities are represented only by common, preferred, and other capital stock.
2. The fair value accounting methods apprise only to equity securities that are common stock.
3. When an investor uses the cost method to account for an investment in common stock, the carrying value of the investment always remains equal to the acquisition cost of the common stock.
4. The equity method must be used to account for an investment in common stock if the investor can exercise significant influence over the financial and operating policies of the investee.
5. If an investee reports a material extraordinary gain the investor should also report its proportional share of the extraordinary gain in a similar manner in its income statement.
6. Since an investor makes no sacrifice to receive stock rights, no amount is recorded, as a cost of the stock rights.
7. The objective in accounting for a change form either the cost or the fair value method to the equity method of accounting for an investment is to make prior period financial statements appear as if the equity method had been applied during the prior periods.

II - Multiple Choice

1. Depending on an equity security's characteristics, all but which one of the following accounting methods could be used to account for the investment.
   a) Cost c) Fair Value
   b) Equity d) Lower of cost or market

2. An investor receiving a liquidating dividend should recognize it by:
   a) Decreasing the cash account
   b) Decreasing the investment revenue account
   c) Decreasing the investment account
   d) Increasing the investment revenue account

3. The valuation of a share of stock acquired by exercise of a stock right is equal to:
   a) The market value of the stock on the exercise date
   b) The book value of the stock right (s) surrendered
   c) The exercise price for the stock
   d) The book value of the stock right (s) surrendered plus the exercise price of the stock

XY2 company acquired 30% of ABC company's voting stock for $200,000 on January 2,2003 XY2'S 30% interest in ABC gave XY2 the ability to exercise significant influence over ABC'S operating and financial policies. During 2003, ABC earned $100,000 and paid dividends of $50,000. ABC reported earnings of $100,000 for the Six months ended June 30,2004,

and $200,000 for the year ended December 31,2004. On July 1,2004 XY2 Sold half of its stock in ABC for $150,000 cash. ABC paid dividends of $60,000 on October 1, 2004. Based on the above information given, answer question number 4, 5 and 6.

4. Before income taxes what amount should XY2 include in its 2003 income statement as a result of the investment?
   a) $15,000 c) $50,000
   b) $24,000 d) $80,000

5. In XY2'S December 31,2003, balance sheet, what should be the carrying amount
   of this investment?
   a) $200,000 c) $224,000
   b) $209,000 d) $230,000

6. In its 2004 income statement, what amount should XY2 report as gain from the
   sale of half of its investment?
   a) $24,000 c) $35,000
   b) $30,500 d) $45,500

CHAPTER TWO
LONG-TERM DEBT

INTRODUCTION

Assume that a certain company wants to obtain large amount of funds to support expansion. Dear Colleague, do you know what kind of mechanism does the company use to get this much money? You may suggest that the company uses either its earnings or shareholders' investment (stock financing). Companies also issue bonds - long-term debt - to finance their capital.

Long-term debt plays an important role today in our capital markets because companies and governments need large amounts of capital to finance their growth. In many cases, the most effective way to obtain the capital is through the issuance of long-term debt. The purpose of this chapter is to address the basic issues surrounding long-term debt accounting.

Learning Objectives

Upon completion of this chapter, you will be able to:

- Understand the nature of bonds and how to compute the price of a bond at issuance.
- Identify various types of bond issues
- Apply the methods of bond discount and premium amortization.
- Describe the accounting procedures for the extinguishment of debt.
- Describe troubled debt restructurings
- Indicate how-long-term debt is presented and analyzed

2.1 CHARACTERISTICS AND VALUATION OF LONG-TERM DEBT

Long-term debt consists of probable future sacrifices of economic benefits arising from present obligations that are not payable within a year or the operating cycle of the business, whichever is longer. Bonds payable, long-term notes payable, mortgages payable, pension liabilities, and lease liabilities are examples of long-term debt.

Debt capital is an attractive means of financing for the debtor. Creditors do not acquire voting privileges in the debtor company, and debt issuance causes no ownership dilution. Debt capital is obtained more easily than equity capital for many new and risky firms. Interest expense, unlike dividends, is tax-deductible. Furthermore, a firm that earns a return on borrowed funds that exceeds the rate it must pay in interest is using debt to its advantage and is said to be successfully leveraged.

Debt financing often supplies the capital for expansion and takeover activities when issuance of new stock is difficult. The potential increase in profits from expansion can be sufficiently attractive to induce firms that traditionally avoid debt to decrease liability levels.

However, leverage is dangerous if sales or earnings decline and interest expense becomes an increasing percentage of earnings. Business failures are frequently caused by incurring too much debt in expectation of high sales and profits. Such firms often attempt to restructure their debt by extending maturity dates or requesting a reduction in principal or interest.

Incurring long-term debt is often accompanied by considerable formality. For example, the bylaws of corporations usually require approval by the board of directors and the stockholders before bonds can be issued or other long-term debt arrangements can be contracted.

Debt agreements often restrict the operations and financial structure of the borrower to reduce the risk of default. Restrictions include ceilings on dividends and future debt, the maintenance of specific income and liquidity levels, and the establishment of sinking funds that will be available to extinguish the debt. A sinking fund is a cash fund restricted for a specific purpose and classified as an investment violation of the restrictions places

the debtor in technical default, meaning that the debt is due at the creditor's discretion.

Debt is an attractive investment for creditors by providing legally enforceable debt payments, eventual return of principal, and a prior claim to assets up on corporate liquidation. Although debt investments provide, on average, a lower overall return than do equity investments, they are generally less risky. Debt securities with claims on specific assets further reduce the risk.

Valuation of long-term debt

Three general principles are followed in measuring and recording most long-term debs and interest expense;

1. Long-term debts are recorded at the fair value of the goods or services obtained by incurring debt. The market rate of interest is the rate implicit in the transaction and equates the present value of the required future cash payments to the fair value of goods and services. If the fair value of goods and services cannot be determined, the liability is recorded at the present value or required future cash payments discounted at the market interest rate for similar debt instruments.
2. Periodic interest expense is based on the market interest rate on the date of debt issuance and the debt balance at the beginning of the reporting period.
3. The book value of long-term debt at a balance sheet date is the present value of all remaining cash payments required, discounted at the market interest rate at issuance. The rate of interest used for this purpose is not changed during the term of the debt.

 Do you know the difference between long-term debt and short-term debt? Explain

---

2.2 BONDS PAYABLE

2.2.1 Issuing bonds

Bonds are the most common type of long-term debt reported on a company's balance sheet. The main purpose of bonds is to borrow for the long-term when the amount of capital needed is too large for one lender to supply. By using bonds in $100, $1,000 or $10,000 denominations, a large amount of long-term indebtedness can be divided in to many small investing units, thus enabling more than one lender to participate in the loan.

A bond arises from a contract known as a **bond indenture** and represents a promise to pay: (1) a sum of money at a designated maturity date, plus (2) periodic interest at a specified rate on the maturity amount (face value). Individual bonds are evidenced by a paper certificate and typically have a

$1,000 face value. Bond interest payments usually are made semiannually, although the interest rate is generally expressed as an annual rate.

An entire bond issue may be sold to an investment banker who acts as a selling agent in the process of marketing the bonds. In such arrangements, investment bankers may either underwrite the entire issue by guaranteeing a certain sum to the corporation, thus taking the risk of selling the bonds for whatever price they can get (firm underwriting), or they may sell the bond issue for a commission to be deducted from the proceeds of the sale(best efforts underwriting). Alternatively, the issuing company may choose to palace privately a bond issue by selling the bonds directly to a large institution, financial or otherwise, without the aid of an underwriter (private placement).

2.2.2 Classification of Bonds

Investors have a wide variety of investment goals, preferences, and policies. As a result, many different types of bonds are issued. Bonds may be classified by:

1. **Issuing entity**
   a) Industrial bonds: Issued by private for-profit companies.
   b) Municipal bonds: Issued by governmental entities.
2. **Collateral**
   a) Secured bonds: Supported by a lien on specific assets; bond holders have first claim on the proceeds from sale of secured assets.
   b) Debenture bonds; Unsecured; backed only by issuer's Credit; upon bankruptcy of issuer, bondholders become general creditors for distribution of issuer's assets.
3. **Purpose of issue**
   a) Purchase money bonds; issued in full or part payment for property
   b) Refunding bonds: issued to retire existing bonds
   c) Consolidated bonds: issued to replace several existing issues.
4. **Payment of interest**
   a) Ordinarily (term) bonds: provide cash interest at a stated rate.
   b) Income bonds: interest is dependent on issuer's income.
   c) Registered bonds; pay interest only to the person in whose name the bond is recorded or registered.
   d) **Coupon bonds:** pay interest up on receipt of coupons detached from bonds.
5. **Maturity**
   a) Ordinary (term) bonds: mature on a single specified date
   b) Serial bonds: mature on several installment dates.
   c) Callable bonds: issuer can retire bonds before maturity date.
   d) Redeemable bonds: bondholder can compel early redemption.
   e) Convertible bonds: bondholder can convert bonds to equity securities of the issuer.

What are the kinds of promises made in the bond indenture?

2.2.3 Valuation of Bonds payable

Bond Features: Several bond features affect accounting for bonds. To illustrate, assume that late in 2000, ABC Company plans to issue $100,000 of 10 percent term bonds dated January 1, 2001. Each bond has a $1,000 face value. The bonds mature December 31, 2010, and pay interest on June 30 and December 31. Five features specified in the bond indenture do not change:

1. The face (maturity, principal, par) value of a bond is the amount payable when the bond is due ($1,000 per each bond for ABC).
2. The maturity date is the end of the bond term and the due date for the face value (December 31, 2010, for ABC). The length of the bond term reflects the issuer's long-term cash needs, the purpose for which the funds will be used, and the issuer's expected ability to pay principal and interest.
3. The stated (coupon, nominal, contractual) interest rate is the rate that determines periodic interest payments (10% for ABC). This rate is normally set to approximate the rate of interest on bonds of a similar risk class.
4. The interest payment dates are the dates the periodic interest payments are due (June 30 and December 31 for ABC). Semiannual interest payments are common. ABC pays $50 interest on these dates for each bond ($.10 \times \$1{,}000 \times \frac{1}{2}$), regardless of the issue price or market rate of interest at date of issue.
5. The bond (authorization) date is the earliest date the bond can be issued and represents the planned issuance date of the bond issue (January 1, 2001, for ABC)

   Two other features necessary for valuation are dependent on market factors:
6. The market (effective, yield) interest rate is the true compounded rate that equates the price of the bond issue to the present value of the interest payments and face value. This rate is not necessarily the same as the stated rate. The market interest rate depends on several interrelated factors, including the general rate of interest in the economy, the perceived risk of the bond issue, yields on bonds of similar risk, inflation expectations, the overall supply of and demand for bonds, and the bond term. (Assume that this rate is 12 percent for the ABC issue.)
7. The bond issue date is the date the bonds are actually sold to investors. Bonds often are issued after the bond authorization date. (Assume that the issue date is July 1, 2001 for the ABC issue.) When

issuing bonds takes more time than expected, the bonds may be issued after the bond authorization date. The process includes registration with the SEC, negotiations with underwriters, and printing. Changes within the firm and in the economy can pose difficulties in marketing bonds. The issuing company also may delay issuance to take advantage of declining interest rates.

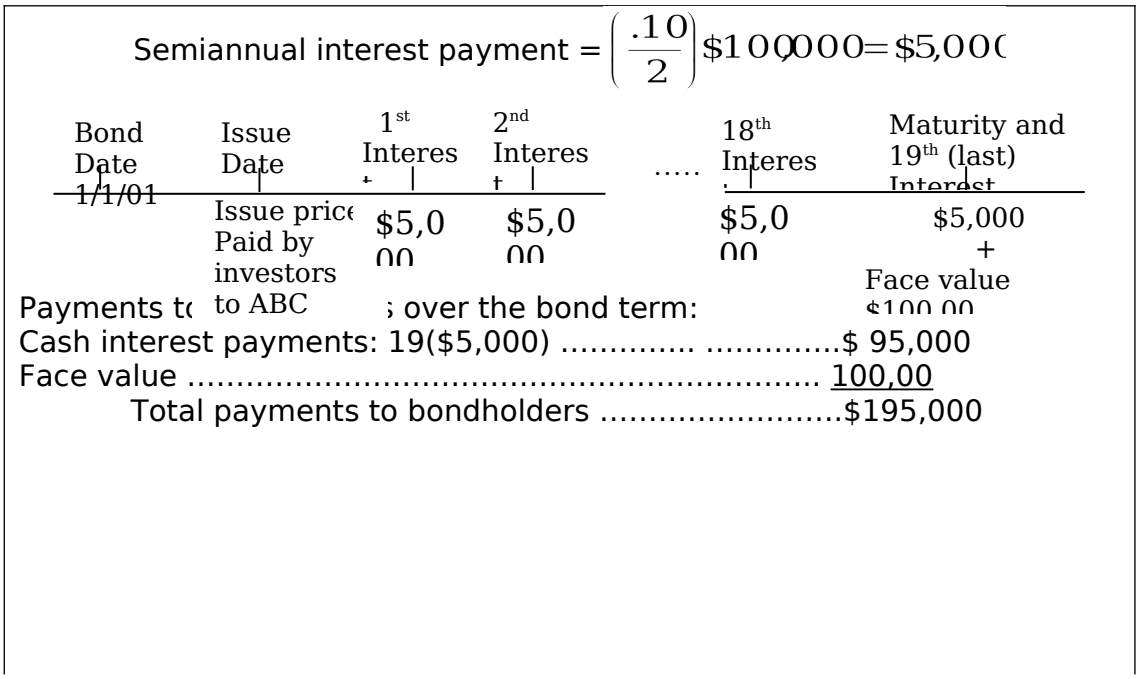


Exhibit.2 .1 ABC Company bond issue

Bond price: the issue price of a bond depends on the relationship between the market and stated interest rates. The two rates are frequently different at issuance. There are three situations:

1. **Market rate = Stated rate**. Here, the interest payments at the stated rate yield a return equal to the market rate for bonds of similar term and risk. The bonds sell at face value.
2. **Market rate > Stated rate**. Here, the issue price must decline below face value to yield the investor a return equal to the market rate. The difference between face value and issue price is called discount on bonds payable.

ABC company bonds sold at a discount because the market rate (12 percent) exceeds the stated rate (10 percent). Investors are unwilling to pay the $1,000 face value (a price that yields 10%) because competing debt securities of the same grade yield 12 percent.

3. **Market rate < Stated rate**. Here the issue price rises above face value until the yield decreases to the market rate. The excess above face value paid by the investor is called premium on bonds payable.

Investors pay a price above face value because the stated rate exceeds the interest rate demanded by the market for similar grade bonds. In order for the ABC bonds to yield 8 percent, an investor must pay more than $1,000 for

each bond. The investor receives interest at 10 percent per year, or $100 per bond, which yields less than 10 percent on the investment if the price for the bond exceeds $1,000.

The terms discount and premium do not imply negative or positive qualities of the bond issue. They merely describe adjustments to the selling price to bring the yield rate in line with the market rate on similar bonds.

A bond entitles the investor to two different types of cash flows: *principal* and *interest*.

The price of a bond issue equals the present value of these payments discounted at the market rate of interest:

ABC bonds:

Present value of principal

$$\left[Pv = \frac{FV}{(1+i)^n} *, pv_{100000} = \frac{\$100{,}000}{(1+6\%)^{19}} \right] \quad \text{.....}$$

$33,051

Present value of interest payments

$$\left[PV = R\left(\frac{1 - (1+i)^{-n}}{i} \right)^{**}_{1} PV_{5{,}000} = 5{,}000\left(\frac{1 - (1+6\%)^{-19}}{6\%} \right) \right] \text{.....}$$

55,791

Price of ABC bonds, July 1, 2001 ..... $88,842

Discount on bonds ($100,000 -$88,842) $11,158

* Present value formula

** Present value formula for ordinary annuity

Investors who purchase the ABC bonds (at a discount) and hold them for the entire term earn 6 percent compounded semiannually on their original investment of $88,542. As shown in Exhibit 2-1, the investors will receive $195,000 from ABC over the bond term in return for their $88,842 investment. The investment yields an annual return of 12 percent.

Accrued Interest: Bond prices exclude accrued interest but the proceeds on bonds sold between interest dates include accrued interest at the stated rate since the last interest date.

Example. If ABC Co. bonds were to sell on August 1, 2001 at 90 percent of face value, total proceeds would be:

Price 90% ($100,000) $90,000

Accrued interest from July/1/01

10% ($100,000) (1÷12) 833

Bond proceeds $90,833

An investor who purchases the bonds on August 1 and holds the bonds five months to December 31 earns only five months' interest. Yet the investor receives six months' worth of interest on December 31. Therefore, the investor must pay one month of interest at purchase. This system facilitates the trading of bonds and ensures that each bondholder ultimately receives interest for the period he or she holds the bonds.

After Issuance: Bond prices and interest rate changes are inversely related. If the general rate of interest in the economy decreases, all bonds on the market become relatively more attractive, and vice versa.
Example: ABC company bonds were sold to yield 12%. If the market interest rate on bonds similar to ABC's falls to 10%, the price of an ABC bond on the market will increase to $1,000 because they pay 10 percent interest.

Firm-specific factors such as changes in income, financial position, and risk also affect bond prices. When firms release a disappointing earnings announcement, for example, the price of their bonds may decline due to a perception of increased risk.

Quoted Bond prices: bond prices quoted as a percentage of face value to accommodate all denominations. A $1,000 bond quoted at 97 sells for $970 (.97× $1,000).

Although issuers usually attempt to set bond rates close to the expected market rate at issuance (minimizing the discount or premium), deep discount bonds and zero coupon bonds are exceptions. *Deep discount bonds* sell for a small fraction of the face value because the stated interest rate is much lower than the market rate. *Zero coupon* bonds provide no separate interest payments. The investor receives only one payment: face value at maturity.

Example: If ABC Co. bonds were zero coupon bonds and were sold to yield 12 percent, the issue price would be $33,051, the present value of the maturity amount.

Deep discount bonds and zeros are issued for a variety of reasons. Issuing companies find the reduced or non existent interest payments attractive. The issue price is small relative to face value, attracting investors, zeros, and all bonds issued at a discount, generally increase in value each year as they approach maturity. For zeros, issuers can deduct this annual increase as interest expense even through no interest is paid. Although the annual increase in value of a zero is taxable, some investors can structure their investment to defer taxes until maturity (for example, through an individual retirement account). When so structured, zeros are popular investment for parents wishing to save for their children's college education. Pension funds, which do not pay taxes, also find these investments attractive.

Activity- 1

1. How does a premium on bonds payable occur? What does it represent?

   ---
2. How does a discount on bonds payable occur? What does it represent?

   You can compare your answer for activity 1 with the following

1. Premium on bonds payable occur when market rate of interest is less than stated rate, and it represents a higher price of bond above face value.
2. Discount on bonds payable occur when market rate of interest is greater than stated rate, and it represents lower price of bond below face value

2.2.4 Fundamental Bond Accounting principles

To demonstrate accounting for bonds, several cases illustrate different reporting situations. In these situations, bonds are issued on the bond date and at the beginning of the fiscal year.
Three different effective (market) interest rates are illustrated.
Common Information: *Bonds issued on bond date, the beginning of fiscal year.* On January 1, 2001, XYZ Company, a calendar year firm, issues $100, 000 of 7 percent term bonds dated January 1, 2001, which pay interest each December 31. The bonds mature on December 31, 2005.

Situation A: effective interest rate = 7 percent
Situation B: effective interest rate = 6 percent
***Situation C*:** effective interest rate = 8 percent

Situation A: **Bonds sell at face value, market and stated rate = 7%**

$$\text{Price} = \left(PV_{100000} = \frac{FV}{(1+i)^n} \right) + \left(PV_{7000\text{annoity}} = R\left(\frac{1-(1+i)^{-n}}{i} \right) \right)$$

$$= \left(\frac{\$100000}{(1+7\%)^5} \right) + \left(\$7000\left(\frac{1-(1+7\%)^{-5}}{7\%} \right) \right)$$

$$= \$71299 + \$28701 = \underline{\$100{,}000}$$

* $100,000 × 0.07 = $7,000

When a bond is issued, the issuer records the maturity value of the bond in bonds payable, a long-term liability account. In this case, the maturity value equals the amount paid by the bondholders XYZ makes the following entries during the bond term:

January 1, 2001 – *Issue bonds*:
Cash 100,000
Bonds payable 100,000
December 31, 2001-2005 - *Interest payment*:
Interest Expense 7,000
Cash ($100,000× .07) 7, 000
December 31, 2005 – *Bond maturity*
Bonds payable 100,000
Cash.....100,000

Interest expense for bonds issued at face value equals the amount of the interest payment. The book value of the bonds remains $100,000 to maturity. Subsequent changes in the market rate of interest are ignored for journal entry purposes. Matured bonds are canceled to prevent re issuance

Situation B: **Bonds sell at a premium, market rate = 6 percent**

$$\text{Price} = \left(\frac{\$100{,}000}{(1+6\%)^5}\right) + \left(\$7{,}000\left(\frac{1-(1+6\%)^{-5}}{6\%}\right)\right)$$

$$= \$74{,}726 + \$29{,}487 = \$104{,}213$$

The bonds sell at a premium because they pay a stated rate that exceeds the yield rate on similar bonds. The initial $4,213 premium is recorded in *premium on bonds payable* ,an adjunct valuation account which increases the net bond liability (an adjunct account has an effect opposite to that of a *contra account*). The present value (which equals book value) at issue date ($104,213) is the amount that, if invested by the issuing company at the effective interest rate, satisfies all payments required on the bond issue, including the face value. The following entry is made to record the issue:

January 1, 2001 – *Issue bonds*:

Cash 104, 213

Bonds payable 100,000

Premium on bonds payable 4,213

Total interest expense over the term of a bond issue equals total cash payments required by the bond (face value and interest) less the aggregate issue price. Total interest expense is not equal to total cash interest when a bond is sold at a premium or discount, as shown for XYZ Company (situation B):

Face value $100,000

Total cash interest .07 ($100,000) (5 years) 35, 000

Total cash payments required by bond 135,000

Issue price 104,213

Total interest expense for bond term $30,787

XYZ Company received $4,213 more than face value at issuance but will pay only face value at maturity. Therefore, the effective rate is less than the stated rate, and total interest expense for XYZ over the bond term is less than total interest paid.

Subsequent to issuance, the premium or discount is completely amortized over the bond term so that net book value equals face value at maturity. Amortized premium reduces periodic interest expense relative to interest paid, and amortized discount increases interest expenses. The net bond liability equals face value plus the remaining unamortized bond premium or less the remaining unamortized bond discount.

Amortization Method: is a method of accounting for debt securities in which long-term investments are recorded at cost and interest income is recognized with appropriate amortization of premium or discount. Two methods of amortizing bond premium and discount are available: the **interest method** and the **straight-line method**. Interest method of amortization is the assignment of interest to each interest period in accordance with the principles of compound interest. Straight-line interest amortization is the assignment of an equal amount of interest to each interest period. The following entries illustrate application of the two methods to the XYZ company bonds:

	Interest method	***Straight-line method***
December 31, 2001:		
Interest expense	6,253*	6,157
Premium on bonds payable	747	843**
Cash ($100,000×7%)	7,000	7,000

* $104,213 (6%)

** $4,213 ÷5 years

December 31,2001:		
Interest expense	6,208***	6,157
Premium on bonds payable	792	843
Cash ($100,000×7%)	7,000	7,000

*** ($104, 213 -$747) (0.06)

Under the interest method, the bonds are disclosed in the long-term liability section of XYZ's December 31, 2002, balance sheet as follows:

Bonds payable	$100,000
Unamortized premium on bonds payable ($4,213 -$747-$792)... ...	2,674
Net book value of bonds payable	$102,674

In practice, most firms disclose the unamortized premium or discount in a footnote or parenthetically in the balance sheet.

Interest expense under the interest method is the product of the effective interest rate (6 percent) and net liability balance at the beginning of the period. Interest expense is therefore a constant percentage of beginning book value. The investor receives part of the original investment back with each interest payment. In 2001, this amount is $747, which reduces the net investment and net bond liability at the beginning of 2002. Consequently, 2002 interest expense is less than that for 2001. The book value of the bonds at December 31, 2002, is the present value of the remaining cash flows:

$$\$102{,}674 = \left(PV_{\$100{,}000} = \frac{\$100{,}000}{(1+6\%)^3} \right) + \left(PV_{\$7{,}000\text{annoity}} = \$7{,}000 \left(\frac{1 - (i+6\%)^{3}}{6\%} \right) \right)$$

An amortization table often is prepared to support bond journal entries. The table gives all the data necessary for journal entries over the term of the bond and each year's ending net liability balance. An amortization table is shown in Exhibit 2-2 for the interest method.

Date	Interest payment	Interest Expense *	Premium Amortization +	Unamortized Premium ≠	Net Bond Liability #
1/1/01				$4,213	$ 104,213
12/31/01	$7,000	$6,253	$ 747	3,466	103,466
12/31/02	7,000	6,208	792	2,674	102,674
13/31/04	7,000	6,160	840	1,834	101,834
12/31/05	7,000	6,110	890	944	100,944
	7,000	6,056	944	0	100,000
	$35,000	$30,787	$4,213		

* (Previous net liability balance) (0.06)
$6,253 = $ 104,213 (.06) for 2001
\+ (Interest payment) – (Interest expense)
$747 = $7,000 – $6,253 for 2001
≠ (previous unamortized premium) – (current-period amortization)
$ 3,466 = $4,213 -$747 at December 31, 2001
\# $100,000 + (current unamortized premium)
$103,466 = $100, 000+$ 3,466 at December 31,2001

Exhibit 2-2 Amortization table for XYZ Company bonds sold at premium-Interest Method

The **straight-line method** is a popular alternative to the interest method that amortizes an equal amount of discount or premium each interest period. Interest expense equals the cash interest paid less premium amortized or plus discount amortized. This method produces a stable dollar amount of interest expense each period rather than a constraint rate of interest each period.

The straight-line method recognizes the average amount of interest each year $\left(\$6{,}157 = \frac{\$30{,}787}{5} \right)$, while the interest method reflects the changing debt balance. The straight-line method is allowed only when interest

expense is not materially different under the two methods. For example, the method seriously misstates interest expense early in the term of a zero coupon bond. Similarly, very long bond terms magnify the differences between the two methods because the initial net liability can be considerably smaller or larger than face value.

Why is interest expense decreased by the amount of premium amortized?

Section C: bonds sell at a discount, Market rate = 8 percent; Accounting by Issuer and Investor.

$$\text{Price} = \left(PV_{\$100{,}000\ 8\%} = \frac{\$100{,}000}{(1+8\%)^5} \right) + \left(PV_{\$7{,}000\ \text{amortiy},8\%} = \$7{,}000 \left(\frac{1-(1+8\%)^{-5}}{8\%} \right) \right)$$

$$= \$68{,}058 + \$27{,}949 = \$96{,}007$$

The XYZ company bonds sell at a discount in this case because the stated rate is less than the yield rate on similar bonds. The discount is recorded in the discount on bonds payable account, a contra liability valuation account, which is subtracted from bonds payable to yield the net liability at present value. Although the primary focus of this chapter is on accounting for the debtor company, we illustrate accounting for the bond holder-investor (creditor) in this example. The investor classifies the bond holdings in an investment account that includes acquisition price and any commissions and taxes on purchase.

Example: the investor in this example is T-Company. When the creditor intends to hold the bonds to maturity (as is assumed here), the accounting for the creditor is parallel to that of the debtor, although the creditor typically uses the net method rather than separately reporting a premium or discount. Also, the amortization period for the creditor runs from the purchase date to maturity, which is often shorter than the issuing company's amortization period.

The entries for the first two years after the sale of the XYZ bonds follow, along with an amortization table (See Exhibit 2-3) and the relevant portion of the balance sheet after two years. Only the interest method is illustrated, although the straight-line method could be used by either firm.

XYZ Company (issuer)	**T-Company** (investor)
January 1, 2001 –*Issue bonds:*	
Cash 96, 007	Investment in bonds.....96,007
Discount on bonds payable 3, 993	Cash 96,007

Bonds payable 100,000

December 31, 2001 – Interest Expense:

Interest expense .....7,681* Cash 7,000

Discount on bonds payable .....681 Investment in bonds 681

Cash ($100,000× 7%) .....7,000 Interest revenue 7,681

* 7, 681 = $96,007(0.08)

December 31, 2002 – *Interest expense:*

Interest expense .....7,735* Cash 7,000

Discount on bonds payable .....735 Investment in bonds 735

Cash ($100,000× 0.07) ....7,000 Interest revenue 7,735

* $7,735 = ($96,007 +681) (0.08)

XYZ Company
Portion of Long-term Debt section of Balance sheet
December 31, 2002

Bonds payable	$100,000
Unamortized discount on bonds payable ($3,993-$681-$735)	(2,577)
Net book value of bonds payable	$97,423

Date	Interest Payment	Interest Expense*	Discount Amortization +	Unamortized Discount ≠	Net bond Liability #
1/1/01				$3,993	$96,007
12/31/01	$ 7,000	$7,681	$681	3,312	96,688
12/31/02	7,000	7,735	735	2,577	97,423
12/31/03	7,000	7,794	794	1,783	98,217
12/31/04	7,000	7,857	857	926	99,074
12/31/05	7,000	7,926	926	0	100,000
	$35,000	$38,993	$3,993		

* (previous net liability balance) (.08). $7,681 = $96,007 (.08) for 2001.
+ (Interest expense) – (Interest payment). $681 = $7,681 - $7,000 for 2001
≠ (previous unamortized discount) – (current period amortization).
$3,312 =$3,993-$681 at Dec.31, 2001.
$100,000–(current unamortized discount). $96,688 =$100,000-$3,312 at Dec.31, 2001.

Exhibit 2-3: Amortization table for XYZ company bonds sold at discount-Interest Method.

The initial $3,993 discount is the amount in excess of the total bond price that the issuer must pay the investor at maturity. Therefore, the discount represents interest, in addition to the cash interest payments required over the bond term. A portion of the discount is recognized (amortized) each period, causing both interest expense and the net bond liability to increase.

Price of bond issue = present value of principal and interest payments

$$= \left(PV_{pr} = \frac{FV}{(1+i)^n} \right) + \left(PV_A = R\left(\frac{1 - (1+i)^{-n}}{i} \right) \right)$$

Where i = effective interest rate per six-month period
n = number of semiannual periods in bond term
FV = Face value of the bond
PV_{pr} = present value of principal
PV_A = present value of annuity
R = Periodic interest payment

Initial discount = Face value-price of bond issue
(effective rate exceeds stated rate)
Or :
Initial premium = price of bond issue-Face value
(stated rate exceeds effective rate)
Net book value of bonds = Face value+ unamortized premium
Or : = Face value-unamortized discount

	Premium	**Discount**
As maturity approaches:		
Unamortized amount	Declines	Declines
Net book value	Declines	Increase
Annual interest expense*	Declines	Increases

* Under interest method. Constant under straight-line method

Two method of Amortizing premium and discount

	Interest Method	**Sraight line method**
Annual interest expense	changes each year	changes over term
Annual interest expense as a percentage of beginning book value	change over term	changes each year

Exhibit 2-4 Summary table: Accounting for bonds, assuming semi-annual Interest payments

When completely amortized, the net bond liability and the bond investment account have increased to $100,000, the maturity amount. Total interest expense over the bond term is $38,993 the sum of cash interest payments ($35,000) and the bond discount ($3,993).

Why is interest expense increased by the amount of discount amortized?

Exhibit 2-4 summarizes several aspects of bond accounting. The exhibit is designed for semiannual interest payments, the usual situation.

Activity -2

East Africa Group (EAG) issued 100, 9 percent, $1,000 bonds on July 1, 2001, yielding 12 percent. The bonds pay interest each December 31 and June 30. The bonds mature five years from the issue date. EAG's fiscal year ends June 30.

Required:

1. Compute the bond issue proceeds, expressed as a percentage of face value.
2. Prepare the journal entry to record the bond issue.
3. Prepare the journal entries to record the first two interest payments under both the interest method and the straight-line method.
4. Provide the balance sheet disclosure of the net bond liability at June 30, 2002, under both methods of amortization.

You can compare your answer for activity 2 with the following

1. the semiannual interest payment is $4,500 ($100,000× 9%/2)

$$\text{Bond proceeds} = \left(\frac{\$100{,}000}{(1+6\%)^{10}}\right) + \$4{,}500\left(\frac{1-(1+6\%)^{-10}}{6\%}\right)$$
$$= \$55{,}839 + \$33{,}120$$
$$= \$88{,}959$$

Proceeds as a percent of face value = $88\frac{23}{24}$ or 89

(round to the nearest number)

2. July 1, 2001

Cash 88, 959
Discount on bonds payable 11,041
Bonds payable 100,000

3. December 31, 2001

	Interest method	straight-line method
Interest expense	5,338*	5,604
Discount on bonds payable		838
	1,104+	
Cash.....	4,500	4,500

* $5,338 = 0.06($88,959)
+ $1,104 =$11,041÷10 semiannual interest periods

June 30, 2002

Interest expense	5,388*	5,604
Discountonbondspayable.....	888	1,104
Cash.....	4,500	4,500

* $5,388 = 0.06 ($88,959 +838)

4. Balance sheet, long term liability section, June 30, 2002:

	Interest method	straight-line method
Bonds payable	$100,000	$100,000

Unamortized discount	9,315*	8,833+
Net bond liability	$90,685	$91,167

* $9,315 = $11,041 - $838 -$888
+ $9,833 = $11,041 -$1,104-$1,104

2.2.5 Bond Issue costs

Bond issue costs include legal, accounting, underwriting, commission, engraving, printing, registration, and promotion costs. These costs are paid by the issuer and reduce the net proceeds from the bond issue, thus raising the effective rate for the issuer.

Bond issue costs are classified as a deferred charge (long-term asset) rather than as a reduction of premium or increase in discount. Over the bond term, the bond issue costs are amortized to expense. The rational for gradual recognition is that the bond issue costs were necessarily incurred to obtain debt financing. The funds obtained presumably contribute to revenue over the bond term. Therefore, the bond issue costs should be recognized over that same period. The straight line method is the most commonly used method, but the interest method also may be used.

To illustrate accounting for bond issue costs, assume that $3,600 is incurred by XYZ Company to issue the bonds in the previous situations. The bond issue costs are amortized by the straight line method at the rate of $720 per year ($3,600/5) XYZ Company makes the following entries in addition to those previously recorded.

January 1, 2001 – *Record bond issue costs*:

Bond issue cost 3,600
Cash 3, 600

December 31, 2001-2005- *Amortize bond issue cost*:

Bond issue expense (3,600/5) 720
Bond issue cost 720

Effects on XYZ company's 2001 income statement and balance sheet:
*Income statement**:*** bond issue expense..... $720
*Balance*sheet:long-termdeferredchar (3,600-$720)=$2880

Why is bond issue costs amortized to expense over the term of the bond?

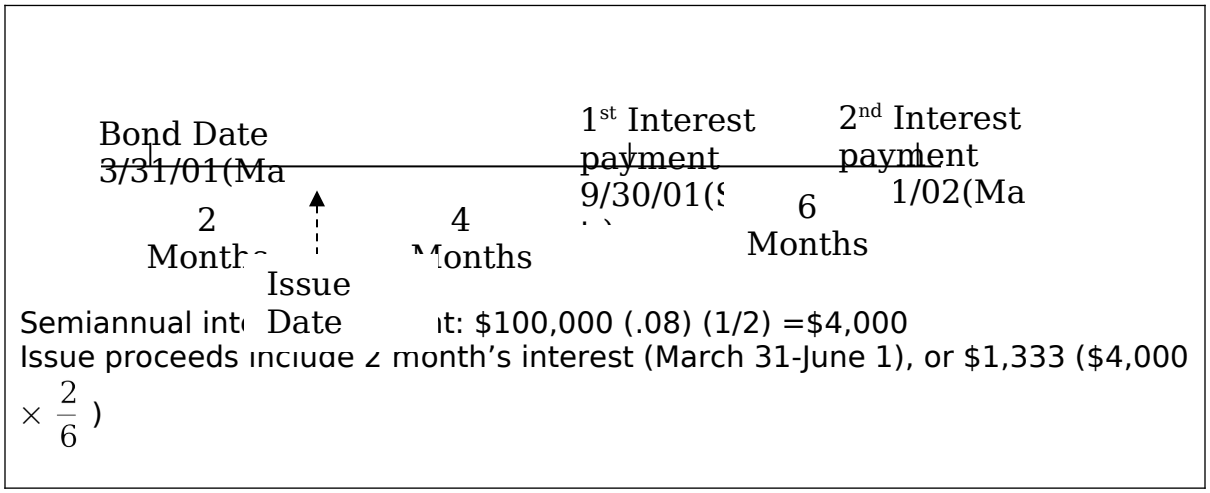
2.2.6 Bonds Issued between Interest Dates

In the previous examples, bonds were issued on an interest date, a schedule we choose to emphasize the accounting principles. However, bonds usually are not issued on an interest date, and semiannual interest payments are more typical. Two new problems arise: accounting for accrued interest from the most recent interest payment date and computing the issue price.

New information for the XYZ company bond issue:

1. The bond date is March 1, 2001 and the maturity date is March 31, 2006.
2. The issue date is June 1, 2001 (between interest dates)
3. The bonds pay interest each September 30 and March 31.
4. The stated rate is 8 percent, and the effective interest rate is 10 percent.
5. Face value is $100, 000.

Exhibit 2-5 illustrates the issuance of the XYZ company bond issue between interest date.



Semiannual int[illegible]t: $100,000 (.08) (1/2) =$4,000

Issue proceeds include 2 month's interest (March 31-June 1), or $1,333 ($4,000 $\times \frac{2}{6}$)

Exhibit 2-5: XYZ company bonds Issued between interest dates.

The price of XYZ company bond issued between interest dates is calculated as follows:

Price of bond at immediately preceding interest date (3/31/01):

Face value $\left[PV_p = \frac{FV}{(1+i)^n} = \frac{\$100,000}{(1+5\%)^{10}} \right]$ $61,391

Interest $\left[PV_A = R\left(\frac{1- (1+i)^{-n}}{i} \right) = 4,000\left(\frac{1- (1+5\%)^{-10}}{5\%} \right) \right]$ ...30,887

Total present value $92,278

Growth in bond present value at yield rate, from 3/31/01 to 6/1/01 $\left[\$92,278(.10) (2/12) \right]$ 1,538

Cash interest at stated rate from 3/31/01 to 6/1/01 [$100, 000 (.08) (2/12)] .....(1,333)

Price of bond at 6/1/01 .....$92,483

The $1,538 growth component is the normal growth in the present value of the bond from March 31 to June 1 and is added for bonds issued at either a discount or a premium. The cash interest is the portion of that return due September 30 as a separate payment. Interest payments reduce the present

value of a bond by the amount of the payment. Therefore, the two months' cash interest is deducted from the bond price.

Interpolation, using the bond prices at the two interest payment dates bordering the issue date, also can be used to determine the issue price.

Price of 3/31/01 (from previous calculation) $92,278

Price at 9/30/01:

Face value $\left[PV_p = \frac{\$100{,}000}{(1+5\%)^9} \right]$ $64,461

Interest $\left[PV_A = \$4{,}000 \left(\frac{1 - (1+5\%)^{-9}}{5\%} \right) \right]$ 28,431

Total present value $92,892

Interpolated price at 6/1/01:

$92,278-2/6 ($92,278 -$92,892) = $92,483

Or:

$92,892 +4/6 (+92,278 -$92,892) = $92,483

What new accounting issues arise when bonds are issued between interest dates?

The bond issue date (June 1) is two months, or 2/6 of a semiannual period after March31. Therefore, 2/6 of the difference from the March 31 and September 30 prices is subtracted from the March 31 price in the first interpolation. In the second interpolation, 4/6 of the difference is added to the September 30 price to account for the addition four months the bond is outstanding. This approach is followed whether the bond is issued at a premium or a discount.

Accrued interest at the stated rate from March 31 to June 1 is collected from the investor, effectively an interest-free loan to the issuer. The initial discount or premium amount is independent of accrued interest and equals face value less, the bond price, as usual. The following entry records the bond issuance by XYZ Company:

June 1, 2001 –*Issue bonds*:

Cash 93,816*

Discount on bonds payable .....7,517+

Interest payable .....1,333≠

Bonds payable 100,000

* $92, 483 + $100,000(8%) (2/12)

+ $100,000 - $92,483

≠ $100,000 (.08) (2/12): two months' accrued interest from the bond date to the issue date is collected from the investor and then is reimbursed on the first interest payment date.

The entry to record the first interest payment after issuance (September 30) takes into account the partial interest period and accrues interest from the previous interest date(March 31). The amortization table constructed for the same bond but assuming issuance on March 31, 2001 is constructed. The interest date immediately preceding the actual issue date is used as the basis for the September 30 entry under the interest method. part of this table, as well as the September 30, 2001, interest entry follows:

Date	Interest Payment	Interest Expense	Discount Amortization	Unamortized Discount	Net bond Liability
3/31/01				$7,722	$92,278*
9/30/01	$4,000+	$4,614≠	$614≠	7,108#	92,892 //
3/31/02	4,000	4,645	645	6,463	93,537

* Price if sold on 3/31/01 to yield 10 percent
+ $100,000 (.08) (1÷2)
≠ $92,278(.10) (1÷2)
$4,614 -$4,000
$7,722-$614
// $92,278+$614 or $100,000 -$7,108

September 30, 2001 – *Interest payment* (Interest method):

Interest payable 1,333
Interest expense 3,076*
Discount on bonds payable .....409+
Cash ($100,000× .08/2) 4,000

* The interest for four months based on the March 31 issue price $3,076 =
$92, 278(.10) (4÷12). Also, $3,076 = $4,614(4÷6).
+ The amortization for four months based on the March 31 issue price; $409 = $614(4÷6). Also, the change in bond value from June 1 to September 30: $409 = $92,892 - $92,483.

After the first interest payment entry, the amortization table above (based on issuance at March 31) is used for the remaining entries during the bond term.

Under the straight-line method of amortization, the bond discount is amortized over the 58 month bond term at $129.60 per month ($7,517/58). The September 30 entry under the straight-line method follows:

September 30, 2001- *Interest payment* (straight-line method):
Interest payable 1,333
Interest expense 3,185
Discount on bonds payable 518*
Cash ($100,000×.08/2) 4,000

* ($7,517/58 month bond term) (4 months)

Activity- 3

Berchako Ethiopia, a calendar-year firm, issued $50,000 of 6 percent bonds on October 1, 2001. The bonds are dated January 1, 2001, pay interest each June 30 and December 31, yield 4% and mature December 31, 2010. $2,000 of bond issue costs was incurred.

Required:

1. Compute the amount of the proceeds from the bond issue. Separate the accrued interest from the bond price.
2. Prepare the Journal entry to record the bond issue.
3. Prepare the journal entry for the first interest payment under the interest method and the straight-line method.

You can compare your answer for activity 3 with the following

1. The semiannual interest payment is $1,500 ($50,000 × .06/2). At July 1, 2001, 19 semiannual interest periods remain in the bond term. One-half of an interest period has elapsed at October 1, the issue date.

   Price at

   July 1, 2001 = $\left[PV_p = \frac{FV}{(1+i)^n}\right] + \left[PV_A = R\left(\frac{1-(1+i)^{-n}}{i}\right)\right]$

   $$= \frac{\$50{,}000}{(1+4\%/2)^{19}} + \$1{,}500\left(\frac{1-\left(1+\frac{4\%}{2}\right)^{-19}}{4\%/2}\right) = \$57{,}839$$

   Growth in bond value to October 1, 2001 = .04($57,839) (3÷2) 578

   Cash interest at stated rate to October 1,2001 =.06 ($50,000) (3÷12) ..... . (750)

   Bond issue price at October 1, 2001 .....$57,667

   Accrued interest to October 1, 2001: $1,500÷2 750

   Bond proceeds $58,417

2. October 1, 2001

   Cash 58,417

   Interest payable 750

   Premium on bonds payable 7,667

   Bonds payable 50,000

   Bond issue costs 2,000

   Cash 2,000

3. There are 9(12) +3 =111 months in the bond term

	Interest Method	**straight-line Method**
December 31, 2001:		
Interest payable	750	750

Interest expense 578*	543	
Premium on bonds payable 172		207+
Cash 1,500		1,500

*$578 = (3/12) (.04) ($57,839)
+ $207 = (3/111) ($7,667)

Bond issue expense 54	54	
Bond issue cost 54		54

$54 = (3/111) ($2,000)

2.3 DEBT SECURITIES WITH EQUITY RIGHTS

Firms issue debt securities that include rights to acquire capital stock. These rights enhance marketability and improve the terms to the issuer. The investor receives a potential right to become a share holder and participate in stock price appreciation in addition to principal and interest payments. Two common examples of this type of hybrid security are nonconvertible bonds with detachable stock warrants and bonds convertible into capital stock.

2.3.1 Bonds with Detachable stock purchase Warrants

A stock warrant conveys the option to purchase from the issuer a specified number of shares of common stock at a designated price per share within a stated time period (the exercise period). The warrant is valuable because it enables the holder to buy stock for less than market value if the market value rises above the designated price. Hence, warrants generally increase the bond price.

Note: Warrants are either detachable or non detachable. If detachable, the warrants are traded as separate securities. If non detachable, the debt security must be surrendered to obtain the stock.

The portion of the bond price must be allocated to the warrants if they are detachable. The allocation is credited to a contributed capital (owners' equity) account calculated on the market values of the two securities on the date of issuance (*the proportional method*). If only the warrants have a readily determinable market value, the bonds are valued at the difference between the total bond price and the market value of the warrants (*the incremental method*).

In contrast, if the stock purchase warrants are not detachable, no separate market for them exists, and the entire bond price is allocated to the bonds.

Once the issue price is allocated to the bonds and detachable warrants, bond accounting is not affected by the warrants. Therefore, the following example of accounting for nonconvertible bonds with detachable stock purchase warrants does not illustrate interest recognition.

Example, Ethiopian Telecommunication Corporation (ETC), issues $100, 000 of 8 percent, 10-year, non convertible bonds with detachable stock purchase warrants. Dashen Bank purchases the entire issue. Each $1,000 bond carries 10 warrants. Each warrant entitles Dashen Bank to purchase one share of $10 par common stock for $15. The bond issue therefore includes 1,000 warrants (100 bonds × 10 warrants per bond). Assume the bond issue sells for 105 exclusive of accrued interest. Shortly after issuance, the warrants trade for $4 each.

Note: par value for common stock is the minimum stock issue price. It appears on the stock certificate, is used in certain dividend calculations and constitutes the minimum capital per share to be retained. Common stock is credited with par value; contributed capital in excess of par is credited with proceeds in excess of par value.

1. **Proportional method** (Both securities have market values.) Shortly after issuance the bonds were quoted at 103 ex-warrants (without warrants attached).

Market value of bonds ($100,000×1.03) $103,000
Market value of warrants ($4× 1,000) 4,000
Total market value of bonds and warrants $107,000

Allocation of proceeds to bonds $\left(\$105{,}000 \times \left(\frac{\$103{,}000}{\$107{,}000}\right)\right)$ ... $101,075

Allocation of proceeds to warrants $\left(\$105{,}000 \times \left(\frac{\$4{,}000}{\$107{,}000}\right)\right)$ ... 3,925

Total proceeds allocated $105,000

ETC (issuer)		Dashen Bank (investor)	
Issuance entry:			
Cash	105,000	Investment in bonds ...	101,075
Bonds payable	100, 000	Investment in detach	
Detachable stock		able stock warrants ...	3,925
Warrants (OE)	3,925	cash.....	105,000
Premium on bonds payable	1,075*		

* $101,075-$100,000

2. **Incremental method** (only one security has a market value). Assume now that not market value is determined for the bonds as separate securities. The warrants trade for $4 each.

ETC (issuer)		Dashen Bank (investor)	
Issuance entry:			
Cash	105, 000	Investment in bonds.....	101,000
Bonds payable	100,000	Investment in detach-	

Detachable stock able stock warrants 4,000
warrants .....4,000* Cash 105,000
Premium on bonds
Payable .....1,000+

* (1,000 warrants) ($4)

+ value allocated to bonds-face value of bonds, or ($105,000 -$4,000)- $100,000.

Under the incremental method, the warrants are credited at market value. The remaining, or incremental, portion of the proceeds ($101,000) is allocated to the bonds. The amount of premium recorded equals the difference between the amount allocated to the bonds and face value.

The entries to account for exercise and expiration under the incremental method example, assuming no subsequent change in the market value of warrants, are as follows:

ETC (issuer) Dashen Bank (investor)

Entry to account for exercise of 900 warrants:

Cash (900×$15) .....13, 500 Investment in common stock.....17,100
Detachable stock warrants .....3,600* Investment in detach-
Common stock (900×$10).....9, 000 able stock warrants 3,600
Contributed capital in Cash 13,500
excess of par 8,100

* $4 (900 warrants)

Entry to account for expiration of remaining 100 warrants:

Detachable stock warrants.....4,00* Loss on investment.....4,00
Contributed capital from Investment in
expiration of detach- detachable
able stock warrants .....4,00 stock warrants 4,00

* $4 (100 warrants)

Detachable stock warrants is reduced by the original amount allocated to it ($4 per warrants), and $3,600 of the resources allocated to warrants is allocated to other owners' equity accounts up on exercise.

An expiration entry is recorded at the end of the exercise period for any warrants that remain outstanding, whether through oversight or because of an unfavorable stock price. The issuing company retains the portion of the bond price originally allocated to the expired warrants.

How is the premium (or discount) computed for bonds issued with detachable warrants?

2.3.2 Convertible Bonds

A convertible bond is exchangeable for capital stock (usually common stock) of the issuer at the option of the investor. Typically, convertible bonds are also callable at a specified redemption, or call, price at the option of the issuer. If the bonds are called, the holders either convert the bonds or accept the call price. Convertible bonds often are marketable at lower interest rates than conventional bonds because investors assign a value to the conversion privilege.

The primary attraction of convertibles to investors is the potential for increased value if the stock appreciates. If it does not, the investor continues to receive both interest and principal (although usually at a lower rate than non convertible bonds would provide.)

Convertible bonds are advantageous to the issuer for several reasons:

- The prospect for raising debt capital often is improved.
- The bonds often pay a lower interest rate than do nonconvertible bonds.
- If the bonds are converted, the face value is never paid.
- Fewer shares may be issued on conversion than in a direct sale of stock.
- The call option protects the issuer from having to issue stock with an aggregate value in excess of the call price.

Convertible bonds are not without disadvantages, however. If the stock price rises, the issuing company foregoes the higher proceeds that would be possible from a direct sale of stock. In the opposite case, the firm must continue to service the debt.

A separate market does not exist for either the bond standing alone or the conversion privilege. There is no objective basis (such as a market or an exchange transaction) for allocating the bond price to the bond and the conversion feature. The value of the conversion feature is contingent on a future stock price that cannot be predicted.

Accounting for interest expense and amortization of premium or discount is not affected by convertibility. The entire bond term is used for amortization because the date of conversion cannot be anticipated. Accounting for interest is omitted in the example that follows.

Example: Assume that ABC Company sells $100,000 of 8 percent convertible bonds for $106,000. Each $1,000 bond is convertible to 10 shares of ABC company $10 par common stock on any interest date after the end of the second year from the date of issuance. (In practice, conversion is generally possible on any date within the conversion period. The restriction on conversion is used only to facilitate the example.)

Issuance entry:

Cash 106,000

Premium on bonds payable 6,000
Bonds payable 100,000

When the bonds are converted, the issuer updates interest expense and amortization of premium or discount to the date of conversion. Then, bonds payable is closed. Two methods are acceptable for recording the stock issued up on conversion:

1. **Book-Value Method**: Record the stock at the book value of the convertible bonds: recognize neither gain nor loss.
2. **Market-Value Method**: Record the stock at the market value of stock or debt, whichever is more reliable. A gain or loss equal to the difference between the market value and the book value of debt is recognized.

The following entries illustrate both methods. Assume that the bonds are converted on an interest date. On the conversion date, the stock price is $110 per share, and $3,000 of premium remains unamortized after updating the premium account.

	Book-value Method	**Market value Method**
Entry for conversion of bonds:		
Bonds payable 100,000	100,000	
Premium on bonds payable 3,000	3,000	
Loss on conversion of bonds		7,000≠
Common stock 10,000*		10,000
Contributed capital in excess of par..		93,000+
	100,000#	

* (100 bonds) (10 shares per bond)($10 par)

\+ Book value of bonds is $103,000; $103,000 - $10,000 = $93,000

≠ Market value of stock issued ($1,000 shares × $110 = $110,000) less book value of bonds ($103,000) equals loss of $7,000

\# $110,000(market value of shares issued) less $10,000 (par value of shares issued)

Under the book-value method, the owners' equity accounts replace the bond accounts for the issuer. Under the market-value method, the owners' equity accounts are credited at the full market value, as if the issued stock were sold on the date of conversion. The gain or loss on conversion is not classified as extraordinary because the investor initiated the conversion. ABC's $7,000 loss is the cash forgoes by issuing shares on bond conversion, but it is not necessarily the economic loss because the market value of the bonds is not considered in the accounting.

If the book value of the bonds is less than the total par of stock issued on conversion, a retained earnings is debited for the difference. For example, if the total par of ABC stock issued is $105,000 (assume $105 par), retained earnings is debited for $2,000 under the book-value method.

The book-value method appears to be more popular. Many accountants view the conversion as the culmination of a single transaction that started when the convertible bonds were issued. The valuation of issued stock thus is restricted to the actual resources received on the bond issue, adjusted for amortization to the date of conversion. Furthermore, this view holds that the gain (loss) under the market-value method is not supported by the value of resources originally received on the bond issue. Others prefer the market-value method because it uses current value to measure the conversion. The valuation of the stock issued is based on the value received if the shares were sold.

Induced Conversion of Convertible Debt: Issuers of convertible debt sometimes changes the conversion provisions after the issuance date to induce prompt conversion. The inducement is an incentive over and above the original shares to be issued on conversion. Common inducements include an increase in the number of shares issued per bond, issuance of stock rights, and cash or other consideration. Declining interest rates and a preference for lower debt levels can prompt an induced conversion.

The issuer recognizes an expense equal to the fair value of consideration in excess of the fair value of the securities issuable under the original conversion terms. The expense is not classified as an extraordinary item because the original debt agreement remains in effect during the inducement period, and the debt is extinguished at the bondholder's option rather than the issuer's. Therefore, this condition applies only to changes in conversion provisions exercisable for a limited time, that is, only changes made to induce prompt conversion.
The expense is recognized only for bonds converted during the limited time period, and the market value of consideration transferred is measured at the date the inducement is accepted.

Example: Africa Insurance Company issued 500, 6 percent convertible bonds issued at face value ($1, 000). Each bond is convertible into 10 shares of $20 par common stock. Some time after issuance, Africa Insurance offers two additional shares of common stock for each bond as an inducement to convert. The offer is open for a two month-period. The bondholders accept the inducement within the required period. The market price of the common stock on the acceptance date (also an interest date) is $110. The entries to record the induced conversion under the book-value and market-value methods are as follows:

	Book-Value Method	**Market-value Method**
Conversion entry:		
Bonds payable	500,000	Bonds payable 500,000
Debt conversion expense	110,000*	Debt conversion expense 110,000
Common stock	120,000⁺	Loss on conversion 50,000≠

Contributed capital in Common stock 120,000
excess of par ..... 490,000 Contributed capital
in excess of par..... 540,000#

* (12 -10)(500)($110) – the market value of two additional shares per bond.
+ 12(500) ($20)
≠ Difference between market value of stock issued ($660,000) and book value of bonds converted ($500,000), less the cost of the inducement ($110,000)
$660,000 - $120,000

The issuer recognizes the market value of the two additional inducement shares per bond as an expense under both methods. Under the book-value method, the expense is effectively capitalized as an increase in owners' equity reflecting the issuance of additional common shares without proceeds.

Note: the additional shares issued are similar to a stock dividend. A stock dividend is the issuance of shares to existing shareholders without proceeds to the issuing firm. Stock dividends reduce retained earnings, just as debt conversion expense does.

Under the market-value method, part of the total loss on conversion is reclassified as debt conversion expense. The increase to owners' equity is measured at the total market value of shares issued. Under either method, if cash is the inducement, the debt conversion expense equals the amount of cash paid.

One view of induced conversions holds that expense recognition is inappropriate for transactions involving a firm and its equity investors. Others see the inducement as an extinguishment implying that market values should be recorded. Yet another view holds that the cost of the inducement should be treated as a reduction of the equity capital provided. However, in SFAS No. 84, the FASB reasoned that a firm incurs a cost not expected under the original agreement when inducing conversion. Were it not for the extra inducement, the conversion would not have occurred.

Activity- 4

Why is a value recorded for detachable warrants but not for the conversion feature of convertible bonds?

You can compare your answer for activity- 4 with the following;

Since detachable stock warrants are traded as separate securities, the portion of the bond price be allocated to the warrants. However, because a separate market does not exist for either the bond standing alone or the conversion feature, there is no objective basis (such as a market or an exchange transaction) for allocating the bond price to the bond and the conversion feature.

2.4 EXTINGUISHMENT OF LONG-TERM DEBT

Firms typically use the proceeds of long-term debt instruments for the entire debt term. At maturity all discount or premium is fully amortized: gains and losses are not recognized on normal retirement. Firms can, however, retire debt before maturity. Early retirement of debt decreases the debt-equity ratio and can facilitate future debt issuance.

The incentives for retiring bonds differ depending on whether interest rates have increased or decreased since the bonds were issued:

1. If interest rates have increased, the bond's market price (the amount paid to retire the bonds early) has fallen, often below net book value. The result is a gain recognized by the issuer on retirement.
2. If interest rates have decreased, the bond's market price has increased. In this case, the issuing company retires higher-interest-rate bonds, thus reducing future interest costs. However, a loss is recognized because the market price of the bond exceeds book value. Many firms take this opportunity to issue lower-rate debt in a refinancing of the higher-rate debt, just as homeowners do when they refinance their home mortgages when rates decline.

The main reporting issues are determining what constitutes a debt extinguishment and how to classify the gain or loss on extinguishment. The gain or loss is the difference between the book value and the market value of the debt on the date of extinguishment.

A liability is derecognized (removed from the balance sheet) only if it is extinguished. A liability is extinguished only if one of the following two criteria is met:

1. The debtor pays the creditor and is relieved of its obligation (paying includes delivery of cash, other financial assets, goods, or services).
2. The debtor is legally released from being the primary obligor under the liability, either judicially or by the creditor.

Debtors may be released (criterion 2) from responsibility for a liability for a variety of reasons. A legal release is accomplished, for example, when a debtor sells a real estate asset that serves as collateral for an assumable mortgage loan. When the buyer assumes the loan, the seller (original debtor) is legally released from the debt. The assumption of the loan by the seller extinguishes the debtor's liability.

The creditor also may release the debtor provided that a third party assumes the obligation and the original debtor becomes secondarily liable. This type

of release also extinguishes the debtor's liability. However, the original debtor becomes a guarantor and may be required to recognize or disclose a contingent liability. If a guarantee contingent liability is recognized (when probable and estimable), the guarantee liability reduces the gain or increase the loss on extinguishment of the original debt.

Accounting for debt extinguishment involves:

- Updating interest expense, discount or premium, and related issue costs to the retirement date.
- Removing the liability accounts.
- Recording the transfer of cash, other resources, or debt securities.
- Recording an extraordinary gain or loss.

Debt extinguishment can be accomplished in a variety of ways, as illustrated in the following sections.

2.4.1 Extinguishment of Bonds by Open-Market purchase or exercise of call privilege.

In an open-market purchase of bonds, the issuer pays the current market price as would any investor purchasing the bonds. If bonds carry a **call privilege**, the issuer may retire the debt by paying the call price during a specified period. The call price places a ceiling on the market price. Investors who purchase callable bonds are at a disadvantage if interest rates decline because they may have to surrender bonds that pay higher interest than do noncallable bonds. For this reason, callable bonds often are issued with higher interest rates. In addition, the call price typically exceeds face value by the call premium that can decline each year of the bond term.
Note: A **call privilege** is the feature of the bond that allows the issuing company to buy back, or call, outstanding bonds from bondholders before their scheduled maturity date. The feature affords the company some protection against being stuck with relatively high-cost debt in the event interest rates fall during the period to maturity.

As a basis for an example, Exhibit 2-6 repeats a portion of the amortization table for XYZ company bonds in Exhibit 2-2. Assume that interest rates have increased since the bonds were issued and assume that on March 1, 2002, XYZ purchases 20 percent ($20,000 face value) of the bonds on the open market at 90. The price decline reflects increased interest rates. If the issue were called instead, the call price would be used in lieu of the market price. Otherwise, the accounting is the same.

Issue date: January 1, 2001	Total face value: $100, 0000
Stated interest rate: 7 percent	Bond date: January 1, 2001

Interest payment date: December 31 Yield rate at issuance: 6 percent
Maturity date: December 31, 2005 Bond issue costs: $3,600

Partial Amortization Table for XZY company Bonds
Sold at premium-Interest Method

Date	Interest payment	Interest expense	Premium Amortization	Unamortized Premium	Net Bond Liability
1/1/01				$4,213	$104,213
12/31/01	$ 7,000	$6,253	$747	3,466	103,466
12/31/02	7,000	6,208	792	2,674	102,674

Exhibit 2-6: Data for open-Market extinguishment
The entries to record the extinguishment under the effective and straight-line methods are as follows

	Interest Method	**Straight-line method**
March 1, 2002 – on portion retired: up date interest and premium amortization:		
Interest expense 207*	205	
Premium on bonds payable 26		28+
Interest payable .....233≠		233

* .06($103,466) (2/12)(.20)
(Market rate at issuance) (Book value on 1/1/02) (2/12 year) (Portion of bond issue retired).
+ $4,213(2/60)(.20)
(Original premium)(2 months /60 month bond term) (Portion of bond issue retired)
≠ $20,000 (.07) (2/12)
(Accrued interest from January 1, 2002)

March 1, 2002 – update bond issue expense:		
Bond issue expense 24*	24	
Bond issue cost 24		24

* $3,600 (2/60) (.20)
(Total issue cost)(2 months /60 months bond term) (Portion of bond issue retired)

March 1, 2002 – Remove relevant accounts and recognize gain:		
Bonds payable 20,000	20,000	
Premium on bonds payable 667*	646+	
Interest payable 233	233	
Cash.....18,233≠		
18,233		

Bondissue cost .....552#
552
Extraordinarygain,bondextinguishment. 2,115//
2,094**
* $3,466(.20)- $26
(Unamortized premium 1/1/02)(Portion of bond issue retired) – (Amount of premium amortized on 3/1/02)
+ $4,213(46/60) (.20)
(Original premium) (46 months remaining /60 month bond term) (Portion of bond issue retired)
≠ $20,000 (.90)+$233 interest payable
3,600(46/60)(.20)
(Total issue cost) (46 months remaining/ 60- month bond term)(Portion of bond issue retired.)
// Book value of bonds retired ($20,000 +$667 =$20,667) less price of bonds ($18, 000) less unexpired bond issue cost on bonds retired ($552) equals the extraordinary gain of $2,115.
** Calculation is similar to interest method

Extinguishment does not affect the accounting for the remaining 80 percent of the bond issue; 80 percent of the values in the amortization table would be used for the remaining bond term, as well as 80 percent of the bond issue costs.

The nature of the Extraordinary Item: The extraordinary gain in the XYZ company example is the difference between the total market price and the book value of the bonds, less the unexpired portion of the bond issue costs relating to the retired bonds. The remaining bond issue costs generate no future benefit. Brokerage fees and other costs of retiring the bonds also decrease the gain (increase the loss).

The extraordinary gain occurs because the market value of the bonds decreased below book value as a result of increased interest rates. However, it can be argued that the bond extinguishment does not alter XYZ's economic position because the debt was retired at market value. A more profitable alternative might be to apply the $18,000 to a higher-yield investment. Retiring low-cost debt when interest rates rise is questionable, especially if additional debt issuances are contemplated.

Sinking-Fund Retirements: Ordinary Gain and Loss Classification

Early retirement of bonds fulfills the sinking-fund requirements of some bond issues. Gains and losses from such extinguishments made to satisfy requirements that must be met within one year of the extinguishment are treated as ordinary income items without regard to the means used to retire the debt.

Example: Assume that XYZ company was required by the bond indenture to retire $20,000 of bonds by December 31,2002, to satisfy a sinking-fund requirement. The date of retirement March 1, 2002, is within one year of the deadline. Therefore, the gain is reported as ordinary. In contrast, if the sinking-fund retirement deadline is May 1, 2004, the gain is classified as extraordinary because retirement did not occur within one year of the required date.

This exemption recognizes the difference between required and discretionary extinguishments and allows one year to complete the necessary arrangements for bond retirement. If an issuer must retire bonds under the indenture and does so within a year of the deadline, it is difficult to argue that the purpose of the retirement is to manipulate income. If bonds are retired two years ahead of schedule, the issuer could have motivations other than meeting a distant deadline.

Treasury Bonds: Regardless of the form extinguishment takes, if the issuer does not cancel its bonds after reacquisition but contemplates reissaunce at a later date, treasury bonds, a contra bond payable account is debited in lieu of bonds payable. When the bonds are reissued, treasury bonds are credited rather than bonds payable, and a new discount or premium is recorded. If bonds are canceled, treasury bond is credited and bonds payable is debited. Like bonds payable, treasury bonds is debited or credited only with face value.

Retirement of convertible Debt: When Convertible bonds are converted, the gain or loss under the market-value method is classified as ordinary. Occasionally, firms retire convertible bonds through open-market purchase or other method. Gains and losses on these retirements are classified as extraordinary.

- Why is the gain or loss on debt retirement made June 30, 2001, to fulfill sinking-fund requirements that must be met by January 1, 2001, classified as ordinary?

2.4.2 Extinguishments of Bonds by Refunding

When a **refunding** takes place, one bond issued is replaced with another bond issued One way of refunding is to issue new bonds in exchange for the old bonds. Cash is involved if the bond issues have different market values. More frequently, however, the proceeds from a new bond issue are used to retire the old issue because the holders of the old issue do not necessarily wish to become the new creditors. In both cases, the accounting for refunding is similar to all other forms of debt extinguishments. The following information illustrates the two situations involving refunding.

1. **Refunding by direct exchange of debt securities**: On January 1, 2001. Ethiopian Electric Power Corporation (EEPCO) issues $100,000 of 10 year, 5 percent bonds at face value with interest payable each June 30 and December 31. On January 1, 2005, the bondholders agreed to exchange their bonds for $90,000 of 20-year, 8 percent bonds with the same interest dates as the 5 percent bonds. The market rate of interest on similar bonds is 8 percent.

   Analysis:

   a) The bondholders receive 10 percent less principal but 60% more in the interest rate.

   b)PV (Market value)of new bonds---------- $90,000

   PV (Market value) of old bonds (12 semiannual periods remain in the old issue):

   Principal $\left(\frac{\$100{,}000}{(1+4\%)^{12}}\right)$ ----------$62,460

   Interest $\left(\$2{,}500\left(\frac{1-(1+4\%)^{-12}}{4\%}\right)\right)$ ----------23,463

   85,923

   Difference: economic loss to EEPCo ---------- $4,077

   January 1, 2005- *Refunding entry*:

   Bonds payable, 5% ----------100,000
   Bonds payable, 8%----------90,000
   Extraordinary gain, bond extinguishments ---------10,000

EEPCo accepts the economic loss to extend the maturity 20 years and to avoid the costs of issuing the new bonds for cash. The creditors receive $2,200 more in interest each year ($7,200-$5,000). EEPCo records a $10,000 accounting gain yet sustains an economic loss of $4,077 because increases in interest rates allow new bonds with a lower face value but a higher present value to replace the old bonds. By refunding the old bonds, EEPCo has committed itself to making a new stream of future cash payments with an increased present value.

This is an example of the problems that arise from using the market rate at issuance to measure the book value of bonds. EEPCo could invest $85,923 at 8 percent and satisfy the remaining payments on the 5 percent bonds. Many accountants view this value as a more appropriate current valuation of the 5 percent bonds, particularly, if EEPCo intends to extinguish the bonds early.

2. **Refunding by issuing new debt and purchasing old debt**: On January 1, 2001, EEPCo issues $100,000 of 10 year, 5 percent bonds at face value with interest payable each June 30 and December 31. On January 1, 2005, EEPCo issues at face value $86,000 of 20 year,

8 percent bonds with the same interest dates as the 5 percent bonds. The market price of the old bonds is 86. The old bonds are retired.

January 1, 2005 – *Issue* 8 *percent bonds*:
Cash ----------86,000
Bonds payable ----------86,000

January 1,2005-*Retire* 5 *percent bonds*:
Bonds payable ----------100,000
Cash----------86,000
Extraordinary gain, bond extinguishments -------14,000

The accounting gain is $14,000, but no economic gain or loss occurs because the 5 percent bonds were extinguished at market value.

Methods of Extinguishment or Retirement	Classification of Gain or Loss
1. Conversion of convertible bonds	Ordinary
2. Induced conversion of convertible bonds (gain, loss, and conversion expense)	Ordinary
3. Direct payment to creditors	Extraordinary
4. Sinking fund purchases made to satisfy sinking-fund requirements that must be met within one year of the purchase.	Ordinary
5. Issuance of equity securities	Extraordinary
6. Retirement of convertible debt	Extraordinary
7. Call	Extraordinary
8. Refunding	Extraordinary
9. Legal release from obligation	Extraordinary

Exhibit 2-7: Summary of Gain and Loss classification on debt extinguishments and Retirements.

Activity- 5

This problem continues the Berchako Ethiopia bond issue from Activity -3. Main points of the problem: Berchako is a calendar year firm; $50,000 of 6 percent bonds were issued on October 1, 2001; the bonds are dated January 1, 2001, pay interest each June 30 and December 31, yielded 4%, and mature December 31, 2010, $2,000 of bond issue costs were incurred. The semiannual interest payment is $1,500, and there are 111 months in the bond term. Additional information: A short segment of the amortization table for the bonds follows (using the interest method):

Date	Payment	Interest expense	Premium Amortization	Unamortized premium	Net Bond Liability
1/1/05				$5,288	$55,288
6/30/05	$1,500	$1,106	$394	4,894	54,894

On May 1, 2005, Berchako Ethiopia purchased and retired $20,000 of the bond at 108.

Required:

1. A verification of the January 1, 2005, net liability balance of $55,288 in the preceding partial table.
2. The May 1, 2005, journal entry for the interest accrual on the bonds to be retired and the entry for retirement, using the interest method.

You can compare your answer for Activity-5 with the following:

1. Six years (12 Semiannual interest periods) remain in the bond term at January 1, 2005. The net bond liability on that date is:

$$\left(PV_{pr} = \frac{FV}{(1+i)^n}\right) + \left(PV_A = R\left(\frac{1 - (1+i)^{-n}}{i}\right)\right)$$

$$\left(PV_{pr} = \frac{\$50{,}000}{(1_2\%)^{12}}\right) + \left(PV_A = \$1{,}500\left(\frac{1 - (1+2\%)^{-12}}{2\%}\right)\right)$$

($39,425) +($15,863) = $55,288

2. May 1, 2005

The percent of the bond issue retired is 40 percent ($20,000/$50,000). On this date, 5 years and 8 months, or 68 months, remain in the bond term

Interest expense (.04) (4/12) (.40) $55,288 ----------295
Premium on bonds payable ----------105*
Interest payable $1,500(4/6)(.40) ----------400
* $105 = $394(4/6) (.40)
Bond issue expense $2,000 (4/111)(.40) ----------29
Bond issue costs ----------29

Bonds payable ----------20,000
Premium on bonds payable ----------2,010*
Interest payable ----------400
Cash 1.08($20,000) ---------- +21,600
Bond issue costs ---------- 490**
Extraordinary gain, bond retirement----------320
* $2,010 = $5,288 (.40) -$105
** $490 = $2,000 (68/111)(.40)

2.5 ACCOUNTING FOR SERIAL BONDS

A **serial bond** issue matures in a series of installments rather than in one maturity amount. The advantages of serial bonds to the issuer include

- Reduced need for a sinking fund
- Less perceived risk
- Improved marketability
- Less burdensome debt retirement schedule.

Serial bonds are sold either as separate issues or as one aggregate issue. If the bonds are sold separately, it is possible to identify the yield rate on each, which normally increases with the length of the term to compensate for increased risk. An aggregate bond issue carries a single average yield rate. Either way, the price of serial bonds is the sum of the present value of each issue using the appropriate yield rate.
Three methods of accounting for premium and discount amortization on serial bonds are available.

1. **Interest Method**: If the yield rate on each issue is known, each issue is treated as individual bond issue. If not, the entire issue is treated as one bond issue, and the average yield rate is used to recognize interest. The book value of serial bonds payable is reduced by the face amount of serial bonds retired at each maturity date. Otherwise, procedures for amortizing discount and premium under the interest method are identical to those for ordinary bonds.
2. **Straight-line method**: An equal amount of premium or discount is allocated to each reporting period for each separate issue. Then the amounts for each issue are totaled by reporting period. Total amortization for a reporting period reflects each separate issue outstanding that period. This method is permitted only if it produces results not materially different from those of the interest method.
3. **Bonds outstanding method**: The discount or premium for each separate issue need not be identified under this method. A constant rate of discount or premium per dollar of bond outstanding per period is used for amortization. This is a modified straight-line method that is permitted only if it produces results not materially different from those of the interest method.

All three methods relate the premium or discount to the total face value of bonds outstanding during the period. This amount decreases by the face value of each maturity issue. Consequently, relative to an ordinarily bond, discounts and premiums are amortized on an accelerated basis.

The application of the straight-line and interest methods to serial bonds is equivalent to that for single-maturity bonds. The bonds outstanding method, a variation of the straight-lime method, provides a convenient shortcut to computing amortization of premium and discount and produces similar results. We illustrate the bonds outstanding method in the following example. A short bond term simplifies the illustration.

Example: Meseret Company issues $100,000 of 8 percent serial bonds on January 1, 2001. The bonds are sold as one issue to yield 10 percent, resulting in proceeds of $96,410(this amount may be verified through the usual bond price calculation). The bonds pay interest each December 31 and mature according to the following schedule.

Maturity date	**Maturity amount**
January 1, 2002	$20,000
January 1,2003	50,000
January 1,2004	30,000
	$100,000

January 1,2001-*Issue serial bonds*:
Cash ----------96,410
Discount on Serial bonds ----------3,590
Serial bonds payable ----------100,000
The amount of discount allocated to each reporting period under the bonds outstanding method is the product of three amounts:

1. A constant rate of amortization per dollar of bond per period.
2. The dollar amount of bonds outstanding (at face value) during the period.
3. The length of the period.

A table is used to develop the rate the amortization;

Face Value of Bonds Outstanding during	Rate of Discount Amortization per Dollar of Face value per year
2001 ---------- $100,000	$\frac{\text{Initial discount}}{\text{Sum of bonds outstanding in}} = \frac{\$3,590}{\$210,000}$
2002 ----------80,000*	
2003 ----------30,000	
Sum----------$210,000	

* On January 1, 2002, $20,000 of bonds mature; therefore, $80,000 of bonds are outstanding during 2002.
The amortization rate indicates that $.0171 of discount is associated with each dollar of bond face value each year in the term of the serial bonds. Selected entries follow:

December 31, 2001 – *Interest payment*:
Interest expense ----------9,710
Discount of serial bonds (.0171×$100,000× 1 year)----------1,710
Cash (.08×$100,000) ---------- 8,000
January 1,2002 – *Retire bonds due* 1/1/02:
Serial bonds payable ----------20,000
Cash ----------20,000
Now assume that on January 1, 2002, Meseret also retires $10,000 of the issue scheduled to mature January 1,2004, on the open market at 99.
January 1,2002-Retire $10,000 of the $30,000 of the bonds due 1/1/04 at 99.
Serial bonds payable ----------10,000
Extraordinary loss, bond extinguishments ----------242
Discount on bonds payable ----------342*
Cash (.99×$10,000)---------- 9,900
*(.0171× $10,000 × 2 years remaining in the bond term) = $342
December 31, 2002 – *Interest payment:*
Interest expense ----------6,797
Discount on serial bonds (.0171× $70,000×1 year) ----------1,197
Cash (.08×70,000) ----------5,600

The amortization rate can be applied to any amount of face value or any period length. For example, if $10,000 of the bonds scheduled to mature January 1, 2004, are retired March 1, 2002, rather than on January 1, 2002, the amount of discount to be removed from the accounts is $314 (.0171×$10,000×1 10/12 years).

The complications arising when serial bonds are issued during a fiscal year are minimized by the bonds outstanding method. For example, assume that $100,000 of serial bonds are issued March 31, 2001, at a premium and that the amortization rate is $.02. If $25,000 of bonds mature on March 31, 2002, the total amount of premium amortized during 2002 is $1,625:

(.02 × $100,000 × 3/12)+ (.02× $75,000 × 9/12) =$1,625

What are the advantages of serial bonds to the issuer?

2.6 TROUBLED DEBT RESTRUCTURINGS

Rising interest rates, nonperforming loans, unsatisfactory return on investment, and lack of demand for a firm's products and services may contribute to troubled debt.

Rather than write off nonperforming loans or pursue legal action, creditors frequently agree to a debt restructure, allowing the debtor to remain in operation in the hope that the debtor can resolve its financial difficulties.

Creditors usually receive more on restructured debt than through bankruptcy by the debtor.

Typical provisions of restructure agreements include elimination or reduction of interest and principal payments, reduction of interest rates, extension of terms, and partial or complete settlement of the debt through cash payment or transfer of equity securities. In a troubled debt restructure (TDR), the creditor grants a concession to the debtor that it would not otherwise consider.

A troubled debt restructuring may be achieved in either of two ways:

1. The debt may be settled at the time of the restructuring.
2. The debt may be continued, but with a modification of terms

Settlement of Debt: A transfer of noncash assets (real estate, receivables, or other assets) or the issuance of the debtor's stock can be used to settle a debt obligation in a troubled debt restructuring. In these situations, the non-cash assets or equity interest given should be accounted for at their fair market value. The debtor is required to determine the excess of the carrying amount of the payable over the fair value of the assets or equity transferred (gain). Likewise, the creditor is required to determine the excess of the receivable over the fair value of those same assets or equity interests transferred (loss). The debtor recognizes an extraordinary gain equal to the amount of the excess, and the creditor normally would change the excess (loss) against Allowance for Doubtful Accounts. In addition, the

debtor recognizes a gain or loss on disposition of assets to the extent that the fair value of those assets differs from their carrying amount (book value).
An ordinary gain or loss on disposition of assets should be recorded as shown in the example below.
Note that: an asset is adjusted to fair value prior to recording its exchange for a debt.

Example: NIB Bank agrees to settle ABC Company's $30 million debt in exchange for property having a fair market value of $20 million. The carrying amount of the property (land) on ABC's books is $17 million:

($ In millions)

Land ($20 million minus $17 million) ---------- 3
Gain (ordinary) on disposition of assets---------- 3
Note payable (carrying amount) ----------30
Gain (extraordinary) on troubled debt restructuring ---- 10
Land (fair value) ---------- 20

Modification of Terms: In some cases, a debtor will have serious short-cut cash flow problems that lead it to request one or a combination of the following modifications:

1. Reduction of the stated interest rate.
2. Extension of the maturity date of the face amount of the debt.
3. Reduction of the face amount of the debt.
4. Reduction of deferral or any accrued interest.

When only a portion of the debt is settled, the terms of the remaining portion may be modified.

Illustration: Assume that XYZ Corporation has the following troubled debt on December 31, year 10:

Note payable, 12% due December 31, year 11 ----------$5,000,000
Interest payable ---------- -$600,000

On December 31, year 10 the troubled debt was restructured as follows:

1. The creditor forgave $500,000 of the note principal and the $600,000 of interest payable.
2. The maturity date was extended to December 31, year 15.
3. The interest rate was reduced from12% to 8%, payable annually.

Required: Indicate the entry, which show the troubled debt restructuring, interest expense, and the payment on December 31, year 15.

Interest payment for the next 5 years: ----------$1,800,000
($4,500,000× 8%×5)
Balance of Debt ($5,000,000 -$500,000) ----------$4,500,000
Total future cash payments
under the new term----------$6,300,000

The excess of the total payments over the carrying amount of the debt ($6,300,000 - $5,600,000 = $700,000) is recognized as interest expense.

XYZ Corporation records the troubled debt restructuring, interest expense, and the payment on December 31, year 15, as follows:

Note payable ----------5,000,000
Interest payable ----------600,000

Discount on Restructured N/payable ----------700,000
Restructured N/payable ----------6,300,000
($4,500,000 +$1,800,000)
To record restructuring of troubled debt on December 31, year 10, including reduction in interest rate from 12% to 8%.

Interest expense ----------700,000
Discount on Restructured N/payable ----------700,000
To recognize interest expense for the 5 years ended December 31, year 15
Restructured N/payable ----------6,300,000
Cash ----------6,300,000
To record payment of principal and interest on December 31, year 15.

However, if the interest rate had been reduced from 12% to 4%, payable annually, the total future cash payments under the new terms would be $5,400,000(principal of $4,500,000 and interest of $900,000 for 5 years at 4%), which is $200,000 less than the $5,600,000 pre-restructuring carrying amount of the troubled debt. In this case, the debtor would record the troubled debt restructuring (including a gain of $200,000) and the subsequent payments as follows:

Net payable ----------5,000,000
Interest payable ----------600,000
Restructured N/payable (including interest of $900,000 for 5 years) ----------5,400,000
Gain on Restructuring of troubled debt---------- 200,000
To record restructuring of the troubled debt on December 31, year 10, including reduction in interest rate from 12% to 4%

Restructured N/payable ----------900,000
Cash ----------900,000
To record payments of interest

Restructured N/payable ----------4,500,000
Cash ----------4,500,000
To record payment of principal on December 31, year 15.

Troubled debt restructurings may take many forms and involve complex accounting issues. The foregoing examples were designed to illustrate relatively simple modifications of terms without any cash or other consideration being issued to the creditor in the debt restructurings.

2.7. Long-Term Debt in the Balance Sheet

All long-term debt should be described in the balance sheet or in a note to the financial statements. Business enterprises having large amounts of long-term debt in the form of numerous issues often show only one amount in the balance sheet and support this with a note to the financial statements that presents the details of maturity dates, interest rates, call provisions,

conversion features, asset pledged as collateral, and limitations on dividends or other restrictions imposed on the issuer.

The Financial Accounting Standards Board requires disclosure of the combined aggregate amount of maturities and any sinking fund requirements of all long-term borrowings for each of the five years following the balance sheet date. Also, the FASB requires substantial disclosures regarding troubled debt restructurings.

Any portion of long-term debt that matures in one year is listed as a current liability, unless the retirement of the debt will not require the use of current assets. If, during the ensuring year, long-term debt is expected to be converted to common stock, refunded, or repaid from a sinking fund, there is no reason to change its classification to a current liability. However, the expected method of retirement should be disclosed

Activity- 6

At January 1,2000, Bahir Dar Textile Factory was indebted to Commercial Bank of Ethiopia under a Birr 240,000 10% unsecured note. The note was signed January 1, 1996, and was due December 31, 2001. Annual interest was last paid on December 31, 1998. Bahir Dar Textile Factory was experiencing severe financial difficulties and negotiated a restructuring of the terms of the debt agreement. Commercial Bank agreed to reduce last year's interest and the remaining two years' interest payments to Birr 11,555 each and delay all payments until December 31,2001, the maturity date.

Required: Prepare the journal entries for Bahir Dar Textile Factory necessitated by the restructuring of the debt at**:**

1. January 1,2000
2. December 31, 2001

You can compare your answer for activity- 6 with the following

Interest for 3 years (Birr 11, 555×3) ----------Birr 34,665
Balance of debt ---------- 240,000
Total future payments under the new term--------Birr 274,665
Restructured Notes payable ----------Birr 274,665
Less: Carrying amount of
Pre-restructuring debt (240,000+24,000*) ----------264,000
Discount on Restructured Notes payable ----------Birr 10,665
* Interest payment for 1999(240,000×10%)

1. January 1, 2000

Notes payable ----------240,000
Interest payable ----------12,445
Interest Expense ----------11,555
Discount on Restructured Notes payable ----------10,665
Restructured Notes payable---------- 274, 665
(To record the restructuring of the debt.)

2. December 31, 2001

Interest expense ----------10,665
Discount on Restructured Notes payable ----------10,665
(To recognize the interest expense)
Restructured Notes payable ----------274,665
Cash ----------274,665
(To record the payment of principal and interest)

Summary of the Chapter

1. Long-term debt consists of probable future sacrifices of economic benefits arising from present obligations that are not payable with in a year or the operating cycle of the business, whichever is longer.
2. Three basic principles are used for valuing long-term debt. The recorded value of the date of issuance is the present value of all future cash flows discounted at the current market rate of interest for debt securities of equivalent risk. Interest expense is the product of the market rate at issuance and the balance in the liability at the beginning of the reporting period. And the book value of long-term debt at a balance sheet date is the present value of all remaining cash payments required, using the market rate at issuance.
3. Bonds are long-term debt instruments that specify the face value period at maturity and the stated interest rate payable according to a fixed schedule. A significant source of capital for many firms, different forms of bonds appeal to different investor preferences.
4. The price of a bond at issuance, which excludes accrued interest at the stated rate, is the present value of all future cash flows discounted at the current market rate of interest for bonds of a similar risk class.
5. Bonds are sold at a premium if the stated rate exceeds the market rate and at a discount if the reverse is true. Bond premiums and discounts are amortized over the reaming life of the security under the straight line method or the interest method (which is preferable because it is based on present-value concepts).
6. Accounting for bonds depends on the bond's particular features. Bonds issued between interest dates require payment of accrued interest by the investor and calculation of the bond price using present-value techniques.
7. Certain long-term debt instruments are issued with equity rights, including bonds issued with detachable stock warrants and convertible bonds. The equity feature is recorded by the issuer only if a separate market exists for the equity feature. Convertible bonds are accounted for by the issuer in the same way as nonconvertible bonds until they

are converted because the conversion feature cannot be valued reliably.

8. Extinguishment of debt is accomplished by paying the creditor or replacing the debt with another debt instrument or by obtaining a legal release or a release from the creditor.
9. The gain or loss from extinguishment, which is the difference between the market value of consideration used for extinguishment and the book value of debt extinguished, is classified as extraordinary.
10. Serial bonds mature in a series of installments rather than in one maturity amount and they are sold either as separate issues or as one aggregate issue.

Self-Assessment Questions

Part I: Say True or False

1. When bonds are issued between interest dates, the portion of the proceeds that represents interest accrued from the date of the bond contract up to the issue date should be recorded by the issuer as interest payable.
2. Interest expense over the term of bonds is always equal to the total cash interest paid.
3. The straight-line method and the interest method of amortizing discounts or premiums on bonds provide the same amount of total interest expense over the term of the bonds.
4. Bond issue costs may be deferred and amortized to expense over the period from the issue date to the maturity date.
5. The debtor should always recognize a gain at the date of a troubled debt restructuring.

Part II: Multiple Choices

1. The issue price of a bond is equal to
    a) The face value of the bond
    b) The face value of the bond and the present value of the periodic interest payments discounted at the market rate of interest at the issue date.
    c) The present value of the face value of the bond and the periodic interest payments discounted at the market rate of interest at the issue date.
    d) The present value of the face value of the bond and the periodic interest payments discounted at the stated rate of interest.

2. When the market rate of interest is lower than the stated rate of interest, bonds are issued:
    a) at a premium
    b) at face value
    c) at a discount
    d) None
3. When bonds are extinguished or retired before maturity, the difference between the reacquisition price and the book value of he bonds retired should be:
    a) Deferred and amortized to interest expense over the remaining term of the now retired bonds.
    b) Recognized currently as an extraordinary gain or loss.
    c) Reported in the financial statements as a prior period adjustment of beginning retained earnings.
    d) Recorded as contributed capital from retirement of bonds.
4. MOENCO Company incurred costs of $6,600 when it issued, on August 31, 1995,5 year term bonds dated April 1, 1995. What amount of bond issue expense should MOENCO report in its income statement for the year ended December 31, 1995?
    a) $440
    b) $480
    c) $990
    d) $6,600
5. A bond issued on June 1, 2000, has interest payment dates of April 1 and October 1. Bond interest expense for the year ended December 31, 2000, is for a period of
    a) Three months
    b) Four months
    c) Six months
    d) Seven months

CHAPTER THREE

ANALYZING AND REPORTING OWNERS' EQUITY

INTRODUCTION

Equity, which is also called **owners' equity**, represents the owners' claims against the assets of the business. Total equity equals the residual interest in the assets that remains after all liabilities have been deducted. Liabilities also represent interest in or claim against the assets of an entity. But unlike equity, liabilities usually arise from contracts that determine or make estimable both the amount of the claim and the date on which the claim is to be paid. The amount and payment time of owners' equity claims depend on the profitability of the firm, the firm's expansion plans, and other factors affecting company policies on dividends and capital management. Indeed, some owners' equity claims may not be paid until the business goes out of existence.

This chapter begins with a description of corporations and their capital structure. A discussion of the concepts and definitions fundamental to corporate equity accounting follows. The final sections of the chapter describe owners' equity accounting for corporations, including accounting for capital stock (preferred and common), dividends, retained earnings, and earnings per share.

Learning Objectives:

Upon completion of this chapter, you will be able to:

- List the different forms of equity, and describe their use in raising capital.
- Record the issuance and repurchase of stock.
- Describe the difference between cash dividends, liquidating dividends, stock dividends, and stock splits.

- Describe the accounting for retained earnings.
- Understand the capital structure and compute earnings per share.

3.1. THE CAPITAL STRUCTURE OF CORPORATIONS

Most large businesses are organized as corporations. Dear colleague, as you recall from Principles of Accounting-II that a corporation is an "artificial person" authorized by the state to conduct business in its own name. The equity of a corporation is divided into a large number of equal parts or shares. Shares are owned in varying numbers by the owners of the corporation, called **stockholders** or **shareholder**s. These shares take the form of elaborately engraved documents called stock certificates. A stock certificate or share of stock indicates the name of the issuing corporation, the name of the stockholder, the date of issuance by the corporation, the number of shares represented, and the class of stock.

Note: Many stockholders do not take possession of paper stock certificates. Rather their shares are held by their stock brokerage firm. The shares are said to be held in the street name, using the street name to register shares makes it easier to reinvest dividends and sell shares and also decreases the chances that shares will be lost or stolen. However, it may take it difficult to change brokers or buy commission-free stock through dividend-reinvestment programs.

3.1.1 Authorization to Issue Stock

Corporations are authorized, or chartered, in accordance with the provisions of state laws that govern the structure and operations of corporations. Although the provisions of incorporation laws vary from state to state, all states require persons who wish to form a corporation to apply to a prescribed state official for the issuance of a charter. The **Corporate charter**, which is sometimes called the **articles of incorporation**, is a document that authorizes the creation of the corporation, setting forth its name and purpose and the names of the incorporators.

The typical corporate charter contains provisions that describe how stock may be issued by the corporation. First, it authorizes the corporation to issue stock in a limited number of classes. It also sets an upper limit on the number of shares that the corporation may issue in each class. And finally, it sets a lower limit on the amount for which each shares must be issued.

Share of stock are issued (sold) when a corporation is formed. Additional shares may be issued later. The maximum number of shares the business may issue in each class of stock is referred to as the number of **authorized shares**. This must be distinguished from the number of **issued shares**, which is the number of shares actually sold to stockholders. A corporation rarely issues all its authorized shares.

Corporations can buy back their own stock for reasons explained later in this chapter. Thus, the number of shares issued is further distinguished from the number of **outstanding shares**-which is the number of issued shares actually in the hands of stockholders. When firms reacquire their own stock, the reacquired shares are not considered to be outstanding. These three share quantities- the number of shares authorized, issued, and outstanding- are reported for each class of stock in the balance sheet or its accompanying notes.

What are the kinds of information indicated in the stock certificate?

3.1.2 Characteristics of Capital Stock

Shares of capital stock, represented by stock certificates, evidence ownership in a corporation. Shares may be bought, sold, or otherwise transferred by the stockholders without the consent of the corporation (unless there is an enforceable agreement not to do so). Ownership of common stock usually entitles the holder to:

- The **right to vote** in stockholder meetings and influence the management of the corporation.
- The **right to participate in the earnings** of the corporation through dividends declared by the board of directors.
- The **right to share in the distribution of assets** of the corporation at liquidation.
- The **right to purchase shares** of the common stock of the corporation on a pro rata basis when new issues are offered for sale. This **preemptive right** is designed to give each stockholder the opportunity to maintain a proportional ownership in the corporation.

The first three rights are basic and generally hold in all states. The fourth right is less consistently required across states, and in some instances it may not exist. These basic rights are shared proportionately by all stockholders of each class of stock unless the charter or bylaws (as noted on the stock certificates) specifically provide otherwise. When there are two or more classes of stock, ownership rights vary depending on the class:

3.1.3. Concepts and Definitions Fundamental to Corporate Equity Accounting

The fundamental concepts that underlie the accounting and reporting of stockholders' equity are summarized here:

1. **Separate legal entity**: A corporation is a nonpersonal entity that may own assets, owe debts, and conduct operations as a separate accounting entity, independent of the stockholders.
2. **Categories of stockholders' equity:** primarily for historical legal reasons, there are several categories of stockholders' equity that are

organized, accounted for, and reported separately on the balance sheet. The specific categories and subcategories of stockholders' equity include:

a) ***Contributed Capital*** (Often referred to as paid- in capital)
   1. Capital stock:
      a) Common stock.
      b) Preferred stock
   2. Other contributed capital or *additional paid-in capital* subcategories include contributed capital in excess of par or stated value (sometimes called premium on capital stock) and contributed capital from treasury stock and stock retirement transactions.

b) ***Retained earnings***: Two common subcategories of retained Earnings are:
   1. Unappropriated retained earnings.
   2. Appropriated retained earnings (amounts not available for dividends).

c) ***Unrealized capital***: Increases or decreases in stockholders' equity that do not arise from contributions from stockholders or from the retention of earrings.

Stockholders' equity generally is reported by category: contributed capital, retained earnings, and unrealized capital items.

3. **Issuance of Capital Stock**. The issuance of capital stock is recorded in conformity with the cost principle. The issue price recorded is the cash consideration received plus the market value of all noncash consideration received.
4. **Sale and repurchase of shares**: Transaction of a corporation involving the sale, purchase, or resale of its own shares does not directly affect periodic net income. When shares are reissued, the consideration received is recorded as an adjustment to an appropriate contributed (paid-in) capital account.
5. **Classification of Capital Stock**: Following are definitions of various classifications of capital stock:
   a. ***Authorized***: the number of shares of stock that can be issued legally, as specified in the charter of the corporation.
   b. **Issued**: the number of shares of authorized capital stock that have been issued to stockholders.
   c. **Unissued**: the number of shares of authorized capital stock that have not been issued, that is, the difference between authorized shares and issued shares.
   d. **Treasury *stock***: Shares previously issued and later repurchased by the corporation that are still held (also, the difference between issued shares and outstanding shares)
   e. **Outstanding**: the number of shares issued, less the number of shares repurchased and currently held by the company as treasury stock.
   f. **Subscribed:** unissued shares of stock set aside to meet subscription contracts (that is, shares sold on credit and not yet paid for).

Subscribed stock is usually not issued until the subscription price is paid in full.

6. **Equity Versus debt:** Stockholders' equity is reported separately from the liabilities of the corporation.

Explain the difference between authorized stocks, issued stock, Outstanding stock, subscribed stock, and treasury stock

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3.1.4 Common and preferred stock

All classes of stock are designated as either common stock or preferred stock. Shares of common stock usually give stockholders both voting rights and a residual equity interest. A residual equity interest is an interest in all retained earnings of the corporation that are not specifically reserved for parties other than common stockholders. In contrast, share of **preferred stock** usually do not give stockholders voting rights and grant specific dividends subject to various guarantees and preferences.

Some differences between preferred stock and common stock favor the preferred stock holder; other differences favor the common stockholder. Most differences between preferred and common stock are designated in the firm's corporate charter and take one or more of the following forms:

1. ***Dividend preferences***. Many preferred stock issues require that the issuing corporation pay dividends to preferred stockholders before paying dividends to common stockholders. This means that common stockholders may be obliged to miss a dividend in order that preferred dividends be paid. In addition, preferred dividends may be cumulative and participating.
2. ***Conversion privileges***. Some issues of preferred stock may be convertible into common shares if the preferred shareholder elects to do so and certain conditions are satisfied. For example, each share of preferred stock might be convertible into, say, 10 shares of common stock after a certain date.
3. ***Liquidation preferences***. If and when a corporation is dissolved, liquidating distributions are made to stockholders. Corporate charters frequently require the claims of preferred stockholders to be satisfied before those of common stockholders. In addition, the charter may specify a liquidating amount for preferred shares.
4. ***Call provisions:*** The corporate charter may authorize or even require the corporation to repurchase any preferred shares that are sold. In such cases, the charter usually fixes the call price (the amount to be paid to the preferred stockholders) and specifies a date on or after which the shares may or must be repurchased.
5. ***Denial of Voting rights***: Most preferred stock does not confer voting rights, which means that preferred stock holders, unlike common stockholders, cannot vote at stockholders' meetings.

Observe that the first three characteristics of preferred stock are advantageous for preferred stockholders. The last two characteristics usually work in the interest of common stockholders.

Corporations may be authorized by their charters to issue several classes of preferred stock and several classes of common stock, each with a different set of terms and provisions. Although many corporations issue several classes of preferred stock, most issue only a single class of common stock

When more than one class of common stock is issued, only one class of the stock represents the residual equity interest-the class without preferences or voting restrictions. The stockholder group with the residual equity interest receives all benefits not specifically assigned to other stockholders or to other claims holders. However, that group also bears the ultimate responsibility for the losses of the corporation. Those with a residual equity interest are guaranteed neither dividends during the life of the corporation nor assets up on its liquidation.

3.1.5 Par Value and paid-in Capital

Capital contributed, or paid-in, by stockholders in exchange for stock is usually divided between two accounts, on the basis of the par value of the stock. **Par value** is an arbitrary monetary amount printed on each share of stock that establishes a minimum price for the stock when issued but does not determine its market value. When a corporation receives more than par value for newly issued stock, as it usually does (stock rarely sells for exactly its par value), the par value and the excess over par are recorded in separate accounts. The product of the par value and the number of shares sold is recorded in a par value account that describes the type of stock-for example, common stock, par value or preferred stock, par value. The amount received in excess of the par value is recorded in an account called ***Paid- in capital in excess of par***.

To illustrate, Consider ABC Corporation, which has a single class of common stock with a $10 par value. ABC has issued 8,000 shares, all of which were sold 10 years ago for $12 per share. On December 31, 19×9, the equity section of ABC's balance sheet appears as follows:

Capital stock:
Common stock, $10 par ($10× 8,000 shares) ----------$ 80,000
Paid-in Capital in excess of par [($12-$10) × 8,000 shares]---------16,000
Total capital stock ----------96,000
Retained earnings ----------31,000
Total equity ----------$127,000

The $96,000 received from the sale of the stock was recorded in two separate accounts-$80,000 in common stock, $10 par, and $16,000 in paid in capital in excess of par, common stock. Note that it is possible to determine

how many shares of stock have been sold by dividing the amount in the common stock account by the par value: $80,000÷$10 = 8,000 shares.
Note also that the equity section is divided into two main subsections-one for capital contributed by stockholders, called *capital stock* (also called contributed capital or paid- in capital) and another for accumulated income in excess of losses and payments to owners, called retained earnings.

Activity 1:

1. Capital stock of corporations typically does not convey to the shareholders the right to share proportionately in corporate assets with creditors in the event of liquidation. Why?

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2. Corporations may create two or more classes of capital stock with different rights and privileges: _____, the class of capital stock that controls the management of the corporation and assumes the ultimate rewards and risks associated with corporate operations, and _____, the special class of capital stock that generally has no voting rights but has a priority right to dividends and to assets up on liquidation.

   You can compare your answer for activity -1 with the following:
   1. Because creditors have a priority claim over shareholders to a corporation's assets in the event of liquidation.
   2. Common stock, preferred stock

3.2. ACCOUNTING FOR CAPITAL STOCK

Separate equity accounts are established for each class of stock. Within each class of stock, separate accounts are established for par value and paid in capital in excess of par. The following paragraphs describe the effects of capital stock transactions on this two-part classification scheme.

3.2.1 Stock Issues

Although some corporations may sell stock directly to a small number of stockholders for cash, most large corporations issue stock to the general public in public offerings. In the later case, the entire stock issue is usually purchased by a financial institution called an underwriter which resells the stock to the general public subject to the terms of an agreement with the issuing corporation.

Note: Sometimes the sale of a stock issue is restricted to existing stockholders in a restricted offering. Restricted offerings are rarely used in the United States but are frequently used in other countries. A third way to sell an issue is private placement, in which a small number of investors acquire the entire issue. Private placements allow companies to bypass various regulations, but also make it difficult for investors to resell their stock.

Securities sold to the general public must be registered with the Securities and Exchange Commission before they can be sold. This is done through a registration statement, a document prepared with the assistance of accountants and lawyers that discloses financial and operating information about the issuing company. The disclosures, which become public information, are intended to help investors evaluate the securities and assess the risks of investing in them.

Initial Accounting

To illustrate the effect of issuing common and preferred stock for cash, consider the newly organized Spectator Corporation. Spectator is authorized by its charter from the state of Tennessee to issue 1,000 shares of preferred stock with a 9% dividend rate and a par value of $20 per share and 50,000 shares of common stock with a par value of $2 per share. On January 1, 2004, Spectator Corporation issues 200 shares of preferred stock at $22 per share and 20,000 shares of common stock at $2.50 per share. All shares are issued for cash, and the cash proceeds, par values, and excess over par amounts are calculated as follows:

	Preferred Stock	***Common Stock***
Cash proceeds:		
Preferred stock ($22×200 shares)	$4,400	
Common stock ($2.50 ×20,000 shares)		$50,000
Par value:		
Preferred stock ($20×200 shares)	4,000	
Common stock ($2.00×20, 000 shares)		40,000
Paid-in capital in excess of par	$400	$10,000

The following entry records the issuance of these shares:

Cash	54,400	
Preferred stock		4,000
Paid-in capital in excess of par, preferred stock		400
Common stock		40,000
Paid-in capital in excess of par, common stock		10,000

Note: When stock is exchange for noncash assets, the amount recorded should be the fair value of the stock or the fair value of the assets, whichever is more clearly determinable. In the case of a newly organized corporation, the fair value of the asset is usually more clearly determinable. But in the case of established corporations with widely traded stock, the fair value of the stock is often more clearly determinable than the fair value of the asset.

When a corporation uses an underwriter to issue stock, the corporation typically does not record the issue until the underwriter pays the corporation.

The balance sheet prepared by Specter Corporation immediately after the issuance of shares of January 1,2004, would contain the following stockholders' equity section:

Capital stock:
Preferred stock, 9%, $20 par, 1, 000 shares
authorized, 200 shares issued and outstanding ----------$4,000
Common stock, $2 par, 50, 000 shares authorized,
20,000 shares issued and outstanding ----------40,000
Paid- in capital in excess of par:
Preferred stock ----------4,000
Common stock ----------10,000
Total capital stock ----------54,400
Retained earnings ---------- - 0 –
Total stockholders' equity ----------$54,400

Note that retained earnings display a zero balance, because Spectator is a newly formed corporation.

Stated Capital and No-par stock

The stock issued by Spectator Corporation carried at par value that represents the stated capital of the corporation. ***Stated capital*** (***legal capita***l) is the amount of capital that, under law, cannot be returned to the corporation's owners unless the corporation is liquidated. Even when state law permits the issuance of ***no-par stock*** (stock without a par value),it frequently requires that no-par stock have a stated (legal) value, set by the corporation, in order to establish the corporation's stated or legal capital.

Stated value, like par value, is recorded in a separate equity account called common (preferred) stock, no par. Any excess paid for the stock over its stated value is recorded in an equity account called paid-in capital in excess of stated value.

Note: In some states, stated value functions exactly as does the par value of stock to identify the legal capital portion of total paid-in or contributed capital. However, in other states, legal capital is defined as the entire paid-in or contributed capital associated with the no-par stock. In these states, the entire paid-in or contributed capital is recorded in a single common or preferred stock account.

Maintenance of legal capital provides a measure of protection for creditors. A corporation must refrain from paying dividends when the effect would be to impair legal capital. Also, in some states, treasury stock cannot be purchased if the distribution would exceed retained earnings. However, legal capital is sometimes impaired as a result of operating losses. Stockholders are not legally liable to creditors when this happen.

When do paid-in capital (capital stock) and legal capital differ?

3.2.2 Warrants and Options

A stock warrant is the right granted by a corporation to purchase a specified number of shares of its capital stock at a stated price and within a stated time period. Corporations issue stock warrants in three situations. First, they may issue warrants along with bonds or preferred stock as an "equity kicker," to make the bonds or preferred stock more attractive. Such warrants often have duration of 5 or more years. Second, they may issue warrants to existing stock holder who have a legal right to purchase a specified share of a new stock issue, in order to maintain their relative level of ownership in the corporation. Such warrants usually have duration of less than 6 months. Finally, they may issue warrants to employees and executives as compensation for their service. Such warrants are called stock options.

Stock Warrants

The issuance of warrants does not affect the equity section of the balance sheet unless the warrants are issued with other securities and are detachable-that is, they can be sold separately. Detachable warrants are actively traded in securities markets, and therefore have a readily determinable value. They are reported in the equity section as paid-in capital, stock warrants. To do so, a portion of the proceeds from the sale of the related securities must be allocated to the warrants and recorded as equity. For example, suppose that a corporation receives $10,000,000 from the issuance of long term notes accompanied by stock warrants and that the warrants are determined to have generated $1,200,000 of the total received. The issuance of the debt would be recorded as follows:

Cash----------10,000,000
Long term Notes payable……8,800,000
Paid in capital, warrants----------1,200,000

Now suppose these warrants are exercised, resulting in the issuance of additional common stock and the receipt of $2,500,000 in cash. Their exercise would have the following effect:

Cash----------2, 500,000
Paid in capital, warrants----------1,200,000
Capital stock----------3, 700,000

Thus the amount originally assigned to the detachable warrants is transpired to the capital stock accounts up on exercise of the options.

If warrants issued with other securities are not detachable, but can be sold only with the related security, then no amount is recorded for them at issuance. Though, like detachable warrants, most warrants issued to existing stockholders can be sold separately, they are usually of much shorter duration than other warrants. Thus, no amount is recorded for their issuance either. When such unrecorded warrants are exercised, the amount of cash received is simply recorded in the appropriate equity accounts.

Stock Options

Stock options are frequently given to employees and executives as compensation for their services. Rather than raising an executive's salary, the employer may give the executive the right to purchase in 2 years 500 shares of the company's stock at $50 per share, the price in effect today. If in two years the market price of the stock is higher than $50 – say, $62-the executive will purchase the 500 shares for $50 each and receive effective compensation of $6,000 (($62-$50) X 500 shares). Of course, if the price is lower than $50, the executive will not exercise the option. But in the meantime, the executive has an incentive to enhance the value of the corporation.

Further discussion of the complications of accounting for stock option plans must wait until later accounting courses. But it is worth noting that many of these plans have no effect on net income. Huge benefits have been transferred to executives who exercise their stock options, yet the only recording made by their employer is for the issuance of stock in the amount of the option price.

Note: If the option price is less than the market price of the stock on the date the option is given to the employee (the grant date), then compensation expense is recorded to the extent of the difference. However, the full benefit of the option to the employee is the difference between the option price and the market price on the date the option is exercised (the exercise date). Further, many plans set the option price equal to the grant date price. In such cases, no compensation expense is recorded.

What is a stock warrant? How are stocks warrants used by corporations?

3.2.3 Treasury stock

When a corporation purchases its own previously issued stock, the stock that it buys is called treasury stock. Corporations purchase treasury stock for many reasons:

1. To buy out the ownership of one or more stockholders.
2. To reduce the size of corporate operations
3. To reduce the number of outstanding shares of stock in an attempt to increase earnings per share and market value per share.
4. To acquire shares to be transferred to employees under stock bonus, stock option, or stock purchase plans.
5. To satisfy the terms of a business combination in which the corporation must give a quantity of shares of its stock as part of the acquisition cost of another business.
6. To reduce vulnerability to an unfriendly takeover.

The stock may be purchased on the open market, by a general offer to the stockholders (called a tender offer), or by direct negotiation with a major stockholder. If the objective of acquiring treasury stock is to reduce the size of corporate operations, the treasury shares may be retired after purchase.

More frequently, however, repurchased stock is held in the corporation's treasury until circumstances favor its resale or until it is needed to meet obligations of the corporation that must be satisfied with shares of its stock. Transactions in treasury stock, even very large ones, usually do not require stockholder approval.

Purchase

At first thought, one might consider recording the acquisition of treasury stock as an exchange of cash for an investment in stock (an exchange of one asset for another). However, that approach fails to recognize that the treasury stock is already represented by amounts in the corporation's equity accounts. Although the shares would represent an asset to another entity if it acquired them, they cannot represent an asset to the entity that issued them. Thus the purchase of treasury stock is a temporary reduction of equity rather than the acquisition of an investment. Instead of requiring a debit to an investment account, the reacquisition of treasury stock requires a debit to a contra equity account, treasury stock. This interpretation is consistent with the provisions of most state incorporation laws, which preclude the payment of dividends on treasury stock.

The repurchase by coca-cola company of 10,000 shares of its outstanding common stock for $50 per share, or a total of $500,000 would be recorded as follows:

Treasury stock----------500, 000
Cash----------500, 000

Thus the acquisition of treasury stock does not alter common stock or paid in capital accounts. Of course, if the appropriate legal action were taken to permanently retire the treasury shares, then both the treasury stock and common stock accounts would have to be reduced.

The following information, taken from the balance sheet of the Coca-Cola Company, illustrates the reporting of treasury stock:

December 31,	***1993***	***1992***
Share-Owners' Equity		
Common stock, $0.25 par value- Authorized: 2,800,000 shares Issued: 1,703,526,299 shares in 1993; 1,696,202,840 shares in 1992	426	424
Capital surplus and other equity items	581	500
Reinvested earnings	9,458	8,165
	10,465	9,089
Less treasury stock, at cost (406,072,817 common shares in 1993; 389,431,622 shares in 1992)	5,881	5,201
Total share-owners' equity	$4,584	$3,888

Coca-Cola holds a very substantial fraction of its shares-nearly 24% (406,072,817 ÷ 1,703,526,299)- as treasury stock. The company's healthy cash flow has permitted it to repurchase a significant number of treasury shares, pay dividends equal to over 40% of its net income, and still maintain a relatively low debt to assts ratio.

Resale

If Coca-Cola resells 7,000 of its treasury shares for $58 per share, or a total of $406,000, the transaction would be recorded at the original cost, $350,000 (7,000 shares × $50 per share):

Cash----------406, 000
Paid- in Capital from Treasury stock Transactions------56, 000
Treasury stock----------.....350, 000

The original cost of the treasury shares, $350,000 is first removed from the treasury stock account. The $56,000 excess of proceeds over the cost of the shares is then recorded as a credit to a special paid-in capital account. This $56,000 is not a gain, because a corporation cannot generate income by buying and selling its own stock. Accordingly, this sale of treasury stock does not alter Coca-Cola's retained earnings (which is called "reinvested earnings" on its balance sheet). Rather, the $70,000 is debited to a paid-in capital account (which coca-cola labeled "capital surplus" on its balance sheet).

Note: Shortfalls of proceeds compared to the cost of treasury shares resold are debited to paid-in capital. If the balance of paid-in capital is not large enough to absorb the shortfall, then the unabsorbed debit reduces retained earnings. The method of accounting for treasury stock demonstrated here is called the cost method. An alternative method called the par value method, which is also acceptable, is demonstrated in other financial accounting related courses.

3.2.4 Transfers among shareholders

We have been considering the effects on the equity accounts when a corporation buys or sells its stock. It should be remembered that treasury stock transactions constitute a special case. In general, the purchase or sale of outstanding stock does not alter the equity accounts of the issuing corporation, unless that corporation is itself the purchaser or seller.

Although the issuing corporation's accounts do not change when shares are sold by one stockholder to another, the corporation's stockholder list must be updated. Large corporations usually retain an independent stock transfer agent to maintain their stockholder lists, which include the quantity and serial numbers of the shares held. Stock transfer agents also arrange for the transfer of certificates among stockholders and the issuance of new certificates to stockholders.

Activity –2

ABC Corporation has the following stockholders' equity information at the end of 2005: Common stock, $10 per, 100,000 shares authorized, 60,000 shares issued, 50,400 shares outstanding.

Preferred stock, $100 par, 10,000 shares authorized 1,200 shares issued and outstanding.
Paid – in capital in excess of par:
Common----------$420,000
Preferred---------- 2,400
Retained earnings----------173, 800
Treasury stock---------- 9,000

Required:

Prepare the stockholders' equity portion of ABC's balance sheet.

You can compare your answer for activity- 3 with the following:

Capital stock:
Common stock, $10 per, 100,000 shares authorized
60,000 shares issued----------$600,000
Prepared stock, $100 par, 10,000 shares authorized,
1,200 shares issued and outstanding----------120, 000
Paid- in capital in excess of par:
Preferred stock---------- 2,400
Common stock----------420,000
Total capital stock----------$1,142,400
Retained earnings---------- -173,800
$1,316,200
Less: Treasury stock---------- 9,000
Total Stockholders' equity----------$1,307,200

3.3 ACCOUNTING FOR DIVIDENDS AND RETAINED EARNINGS

A divided is an amount paid periodically by a corporation to a stockholder as a return on invested capital. Dividends represent distribution of accumulated net income. They are usually paid in cash but may also be paid in the form of noncash assets or even additional shares of a corporation's own stock. All dividends, whatever their form, reduce retained earnings.

3.3.1 Dividend policy

The corporation's record of dividends and retained earnings provides useful information to boards of directors and managers who must formulate a dividend policy. In addition, it provides useful information to stockholders and potential investors who wish to evaluate past dividend policies and to assess the prospects for future dividends. Historical records and long-term future projections of earnings and dividends are of particular interest to stockholders, because the dividend policies of most large corporations are characterized by long-term stability. In other words, they are designed to produce a smooth pattern of dividends over time. For this reason directors approach increases in the per-share dividend very cautiously.

3.3.2 Cash Dividends

Cash dividends are by far the most common form of dividend. The payment of cash dividend is preceded by an official announcement or declaration by the board of directors of the firm's intention to pay a dividend. The dividend declaration specifics:

1. The ***declaration date***, the date on which a corporation announces its intention to pay a dividend on capital stock.
2. The dollar amount of the dividend usually stated as the number of dollars per share.
3. The ***date of record***, the date on which a stockholder must own one or more shares of stock in order to receive the dividend.
4. The ***payment date***, the date on which the dividend will actually be paid.

Since the stock of most corporations is continually changing hands, it is necessary to set a date on which the ownership of shares is established as a basis for the payment of dividends. If a share of stock is sold between the date of record and the dividend payment date, the former owner of the share, rather than the new owner, receives and is entitled to the dividend. On the other hand, if a share of stock is sold between the declaration date and the date of record, the new owner, rather than the former owner, receives and is entitled to the dividend. As we have mentioned, when stock is widely traded, an independent stock transfer agent usually maintains the corporation's stockholder list. It is the agent's responsibility to determine who holds the outstanding shares on the date of record.

What are the entries made (if any) at the declaration date, date of, record and date of payment for cash dividends?

The following illustration demonstrates the complete sequence of events in the declaration and payment of cash dividends. Wegagen Bank has issued 3,000 shares of common stock, all of the same class; 2,800 shares are outstanding and 200 shares are held as treasury stock. (Remember that dividends are not paid on treasury stock.) On November 15, 2005, Wgagen's board of directors declares a cash dividend of $2 per share payable on December 15,2005, to stockholders of record on December 1,2005. The dividend declaration is recorded on November 15,2005, as follows:

Dividends ($2 ×2,800 shares)----------5,600
Dividends payable----------5, 600

No correcting entry is required on December 1,2005 (the date of record), since the exact number of outstanding shares is usually known on the date of declaration. Therefore the declaration entry generally records the correct amount.

On December 15,2005, the payment date of Wegagen's dividend, the following entry is required:

Dividends payable----------5, 600
Cash----------5, 600

Payment of the dividend removes the dividend liability from Wegagen's records. The dividend itself (a reduction in retained earnings) was recorded on the declaration date.

At the end of the accounting period, the dividends account is closed into Wegagen's retained earnings account. Thus the declaration and payment of cash dividends reduces both total assets (cash) and total equity (retained earnings).

If the declaration, recording, and payment of a dividend occur on the same day, the preparation of the journal entries is simplified. The declaration and payment are recorded in a single step, as shown here for a $70,000 cash dividend:

Dividends----------70, 000
Cash----------70, 000

3.3.3 Liquidating Dividends

When retained earnings have been reduced to zero, any additional dividends must come from paid-in capital. Such dividends are called ***liquidating dividends*** and must be charged against capital stock accounts – first paid-in capital in excess of par, then par value. The payment of liquidating dividends usually accompanies the dissolution of the corporation and is regulated by various laws designed to protect the interests of creditors and other holders of non residual equity. Thus, the presence of significant liabilities will usually prevent, or at least require close monitoring of liquidating dividends. Since these dividends are a return of paid-in capital, they are not taxed as income to the recipients.

3.3.4 Stock Dividends

A cash dividend transfers cash from the corporation to its stockholders. In contrast, a ***stock dividend*** transfers shares of stock from the corporation to its stockholders- additional shares of the corporation's own stock. For each share outstanding, a fixed number of new shares are issued, and an amount of retained earnings is transferred to capital stock accounts in a process known as capitalization of retained earnings. While a cash dividend reduces both total assets and total equity, a stock dividend alters neither total assets nor total equity. A stock dividend merely notifies investors that the equity section of the balance sheet has been rearranged.

The amount of retained earnings capitalized for each new share depends on the size of the stock dividend. Small stock dividends increase the number of outstanding shares by less than 25%; they are capitalized using the stock's market value just before the dividend. Large stock dividends increase the number of outstanding shares by 25% or more; they are capitalized using the stock's par value.

The following illustration demonstrates accounting for a small stock dividend. Rainbow Corporation has 6,000 shares of outstanding common stock at a par value of $10 per share. Rainbow's common stock is selling at $12 per share when the corporation declares and pays a 5% stock dividend. This means that the outstanding common shares increase in number by 5%, so that one new common share is issued for each 20 shares of outstanding common stock. Thus an investor holding 100 shares of Rainbow's common stock would receive 5 additional shares (.05×100 shares, or 100 shares÷20) upon payment of the stock dividend. In total, Rainbow's 5% stock dividend requires the issuance of 300 new shares (.05×600 or 600÷20).

Declaration and payment of Rainbow's stock dividend are recorded as follows:

Retained earnings ($12×300 shares)----------3,600
Common stock ($10×300 share)-- ---------- 3,000
Paid-in capital in excess of par, common stock----------600

Note that the stock dividend merely transfers $3,600 of equity from retained earnings to the capital stock accounts. Since this is a small stock dividend, the amount of equity transferred is based on the current market price of the stock.

Although a stock dividend increases the number of shares held by each stockholder, it does not alter the proportion of shares held. For example, if an investor held 1,500 out of 6,000 outstanding shares before a 10% stock dividend, that investor would hold 1,650 out of 6,600 outstanding shares after the dividend. Thus the investor would hold 25% of the outstanding shares both before and after the stock dividend (1,500 ÷6,000 = 1,650 ÷6,600 =. 25), and would have a 25% claim on earnings and stockholders' equity both before and after. Thus, stock dividends do not enhance a stockholders' proportionate ownership.

Further, despite the popular belief to the contrary among stockholders and even some financial managers, research shows that neither stock dividends nor stock splits, which we will consider next, enhance the total market value of a corporation's outstanding common stock. Stock dividends should be distinguished from dividend plans that allow stockholders to choose between receiving a cash dividend and share of stock with equivalent current value. Such plans may enhance a stockholder's proportionate ownership and also avoid brokerage fees.

3.3.5 Stock Splits

A stock split, like a stock dividend, increases the number of outstanding shares without altering the proportionate ownership of a corporation. Unlike a stock dividend, however, a stock split involves a decrease in the per-share pay value (or stated value), with no capitalization of retained earnings. In other words, a stock split is a stock issued that increases the number of outstanding shares of a corporation without changing the balance of its equity accounts.

Let's consider a corporation that has 10,000 common shares outstanding with a par value of $30 per share. In a two-for-one stock split, stockholders will exchange each of their 10,000 original shares for two new shares; the number of shares will rise from 10,000 to 20,000; and the par value of each share will be reduced to $15 per share. The total par value of all stock will remain $300,000 ($30 ×10,000 share = $15×20,000 shares). The split has the effect of distributing the par value over a larger number of shares.

Stock splits are used to reduce the per-share price of a stock. If nothing else changes, a two-for-one split should cut the market price of a stock in half. A corporation may wish to reduce the per share price to facilitate trading of its stock. The assumption is that a higher per-share price is an obstacle to purchases and sales of stock, particularly for small investors.
No entry is required to record a stock split, because of no change in account balances . The changes in the par value and the number of outstanding shares are merely noted in the corporation's records.

Activity – 3

GYB Corporation has the following information regarding its common stock:
Its common stock is $20 par, with 300,000 shares authorized, 132,000 shares issued, and 130,600 shares outstanding.
In August 20x5 GYB declared and paid a 15% stock dividend when the market price of the common was $28 per share.

Required:
Prepare the journal entry to record declaration and payment of this stock dividend
You can compare your answer for activity- 4 with the following.

Retained earnings ($28×19, 590 shares*)----------548,520
Common stock ($20×19,590 shares)---------- 391,800
Paid-in capital in Excess of par, common stock--------156,720
* 19,590 shares = 130,600 shares outstanding × .15

3.3.6 Retained Earnings

Retained earnings are sometimes called reinvested earnings or earned surplus. Retained earnings represent the firm's accumulated net income or net loss (including prior period adjustments) less accumulated cash dividends, property dividends, stock dividends, and other accounts transferred to the contributed capital accounts. If the accumulated losses and distributions of retained earnings exceed the accumulated earnings, a deficit exists (represented by a debit balance) in retained earnings.

The following **T** account summarizes the items affecting retained earnings:

Retained Earnings

Decreases (debits)	Increases (credits)
• Net loss (including extraordinary loss) • Prior period adjustments (correction of accounting errors of prior periods) • Cash dividends • Property dividends • Scrip dividends • Stock dividends • Treasury stock and stock retirement transactions • Retroactive accounting principle changes	• Net income (including extraordinary gains) • Prior period adjustments (correction of accounting errors of prior periods) • Removal of deficit by quasi reorganization • Retroactive accounting principles changes

Appropriations and Restrictions of Retained Earnings

Appropriated retained earnings and ***restricted retained earnings*** constrain a specified portion of accumulated earnings for a specified purpose. Appropriated retained earnings are the result of discretionary management action. Restricted retained earnings are the result of a legal contract or law.

Note: Although accountants traditionally use the term appropriation of retained earnings to cover both appropriations and restrictions, it is important to know whether retained earnings are appropriated or restricted.

Retained earnings are appropriated and restricted primarily to protect the cash position of the corporation by reducing the amount of cash dividends that otherwise might be paid. Appropriations and restrictions of retained earnings arise in the following situations:

- To fulfill a legal requirement, as in the case of a state law requiring a restriction on retained earnings equivalent to the cost of treasury stock held.
- To fulfill a contractual agreement, as in the case of a debt covenant restricting the use of retained earnings for dividends that would result in the disbursement of assets.
- To report a discretionary appropriation made to constrain a specified portion of retained earnings as an aspect of financial planning.
- To report a discretionary appropriation of a specified portion of retained earnings as an aspect of financial planning.
- To report a discretionary appropriation of a specified portion of retained earnings in anticipation of possible future losses.

For reporting purposes appropriations and restrictions may be reported in any one of three ways:

- Report each appropriation and restriction as a separate item in the retained earnings statement.

- Report appropriations and restrictions parenthetically in the retained earnings statement.
- Disclose appropriations and restrictions in the notes to the financial statements.

When the need for an appropriation or restriction no longer exists, the appropriated balance is returned to the unappropriated retained earnings account.

Appropriation or restriction of retained earnings made by transferring an amount form retained earnings to an appropriated retained earnings account has no effect on assets, liabilities, or total stockholders' equity. An appropriation is an administrative identification that does not set aside specific assets. This effect would occur only if, as a management action, cash is set aside in a separate fund, such as a bond sinking fund.

The primary purpose of an appropriation is to communicate to statement users management's judgment that the appropriated amounts are not available for dividends. In the illustration below, you can show an example of the disclosure of appropriations and restrictions (see Note 5).

Basic case Data (Nas Corporation)

1. For the year ended December 31,2001 Nas corporation reported
    a. Retained earnings beginning balance, $158,000
    b. Net income, $52,000
    c. Dividends declared and paid, $30,000
2. During 2001, it was discovered that 2000 depreciation expense had been understated by $20,000 (the applicable tax rate during 2000 was 30%) for both books and income taxes. An amended tax return was submitted for 2000.

Reported Retained Earnings

Nas Corporation
Retained Earnings Statement
For year ended December 31,2001

Balance in retained earnings, 12/31/2000	$158,000
Prior period adjustment (a debit)	
Correction of accounting error in 2000, net of $6,000 income tax saving (see Note 4)	(14,000)
Balance in retained earnings, 12/31/2000 as corrected	144,000
Add: Net income for 2001	52,000
Total	196,000
Deduct: Dividends for 2001	(30,000)
Balance in retained earnings, 12/31/2001 (see Note 5)	$166,000

Note 4: During 2000 the company inadvertently understated depreciation expense by $20,000. This accounting error caused an overstatements of the

reported income of 2000 and of the balance in retained earnings at December 31,2000, by $14,000, which reflects the $6,000 tax effect of the error. The error was detected and corrected during 2001 by debiting retained earnings for a prior period adjustment in the after tax amount of $14,000. To correct other affected accounts, an income tax receivable was set up for the $6,000 tax saving and accumulated depreciation was increased by $20,000. * * Tax Refund receivable---------- --6,000
Retained earnings----------14,000
Accumulated depreciation----------20,000

Note 5: Appropriation and restrictions:
Appropriations for investment in plant----------$35,000
Restriction for cost of treasury stock----------25,000
Unappropriated retained earnings----------106,000
Total retained earnings----------$166,000

 When are prior period adjustments used?

3.4. Earnings per Share

Earnings per share data are frequently reported in the financial press and are widely used by stockholders and potential investors in evaluating the profitability of a company. Earnings per share indicate the income earned by each share of common stock. Thus, an earnings per share is reported only for common stock. For example, if Oscar corporation has net income of $300,000 and a weighted average of 100,000 shares of common stock outstanding for the year, earnings per share is $3 ($300,000÷100,000).

Because of the importance of earnings per share information, most companies are required to report this information on the face of the income statement. The exception is nonpublic companies; because of cost benefit considerations they do not have to report this information.

Note: A nonpublic enterprise is an enterprise other than (1) whose debt or equity securities are traded in a public market on a foreign or domestic stock exchange or in the over-the-counter market (including securities quoted locally or regionally) or (2) that is required to file financial statements with the SEC. An enterprise is no longer considered a nonpublic enterprise when its financial statements are issued in preparation for the sale of any class of securities in a public market.
Generally, earnings per share information are reported below net income in the income statement. For Oscar Corporation the presentation would be as follows:
Net income----------$300,000
Earnings per share---------- $3.00

One objective of EPS calculation is to show the worst case, lowest EPS value possible. In this regard, the approach reflects conservatism. Unfortunately, EPS calculations are subject to numerous assumptions, making their interpretation difficult at best. Securities that entitle the holder to obtain common stock are called potential common stock or potentially dilutive securities. Potential common stocks whose conversion into common would reduce EPS are called dilutive securities.

3.4.1 A Frame Work for Calculating EPS

Earnings per share calculations can be divided conveniently into two presentation formats based on the capital structure of the firm:

1. Simple capital structure (single EPS presentation)
2. Complex capital structure (dual EPS presentation)

Types of capital structures

There are different EPS disclosure requirements depending on whether a firm's capital structure is simple or complex. The basic distinction between simple and complex capital structures is the presence of dilutive or potentially dilutive securities, that is, securities that are exercisable or convertible into common stock and that may reduce EPS if included in the computation.

1. **Simple capital structure**: A firm has a simple capital structure if stockholders' equity consists only of common stock or if no potential common stock exists that on conversion or exercise could dilute (decrease) earnings per common share.
   Note: This category includes capital structures involving only common stock and nonconvertible preferred stock. For simple capital structures, a single EPS presentation showing basic EPS is appropriate.

   Example: Earnings per common share (amounts assumed):
   Income before cumulative effect of account in change --- -$1.40
   Cumulative effect of accounting change----------(.10)
   Net income----------$1.30

The objective of basic EPS is to measure the performance of a firm over the reporting period. Though we use the term basic EPS in this section to refer to the EPS calculation when a simple capital structure exists, this terminology may not be required. The reported EPS figure may be referred to as simply earnings (or net income) per common share or another descriptive term.

2. **Complex capital structure** All capital structures other than those described as simple are complex. The firm has a complex capital structure if it has outstanding potentially dilutive securities including convertible preferred stock, convertible bonds, contingent common

stock issues, stock rights, stock options, and other securities that provide for conversation into or purchase of common stock. For complex capital structures, a dual EPS presentation is required that reports the dilutive effects. Two EPS amounts are reported: *basic* and *diluted EPS*. This dual presentation must be made even if the two amounts are the same. The term ***earnings per common share*** should not be used without the appropriate qualifier when the dual presentation is necessary.
To illustrate the reporting (amounts assumed):

	Basic EPS	***Diluted EPS***
Income before cumulative effect of accounting change	$1.40	$1.25
Cumulative effect of accounting change	(.10)	(.09)
Net income	$1.30	$1.16

The objective of diluted EPS (DEPS) is consistent with that of basic EPS. This historical value, like basic EPS, measures the performance of a firm over a period while also giving effect to all dilutive potential common shares outstanding during the period.

Calculations of EPS

The term earnings per share applies only to common stock, the fundamental equity investment medium that all corporations use to generate economic wealth. This change in wealth is reported in the form of after-tax income available to the shareholders. These resources are either paid out to the shareholders or retained by the company for reinvestment and generation of more wealth. Preferred stockholders, like bondholders, do not share in the wealth retained by the company but are paid a constant return on their investments (similar to interest payments).

The calculation of basic EPS is based on the net income generated by a company during the accounting period, less preferred dividends for the period. Expressed as a formula, basic EPS is computed as:

$$EPS = [Net\ income\ (after\ tax) - Preferred\ dividends] \div [Weighted\ average\ of\ outstan$$

Example: If a company has 300,000 weighted-average common shares outstanding, 50,000 shares of preferred stock outstanding paying $10 in dividends per share, and after-tax net income of $2 million, basic EPS would be $5;

[$2,000,000 -50,000($10)] ÷ 300,000 = $5

Note: In all computations of earnings per share, the weighted average number of shares outstanding during the period constitutes the basis for the per share amounts reported. Shares issued or purchased during the period affect the amount outstanding and must be weighted by the fraction of the period they are outstanding. The rationale for this approach is to find the equivalent number of whole shares outstanding for the year.

If dividends equal to current-period earnings available to common stock were paid on each share of common stock outstanding for the entire year, each share could be paid a dividend of $5. However, dividends of $5 per common share are not required to be paid, nor are total dividends limited to $5 per share if earnings from previous years have been retained. Dividends actually declared on common stock do not enter into the calculation of EPS.
For computation of earning per share on the common stock, income must be reduced by any preferred stock dividend claims since such dividends are not available to common stock owners and have not been subtracted in computing income. The following illustration shows the calculation of earning per share in three cases:

Case A: This is a relatively simple case, which involves only common and preferred stock with no changes in the number of common shares outstanding during the year and no extra ordinary item on the income statement. In this case calculation of earning per share involves dividing net income applicable to common stock (which is net income less the preferred dividends) by the number of common shares outstanding.
Case B: A slight complexity occurs when there is an extraordinary gain or loss on the income statements. In this case earning per – share amounts are calculated and reported for income before extraordinary items, extraordinary items, and net income.

Case C: More complexity arises when there is a change during the period in the number of common shares outstanding because of the issuance of common stock or the purchase by the company of previously issued stock. This complexity requires calculation of the weighted average number of shares outstanding during the year. New capital is included for the period the new stock is outstanding. The weighted average is divided in to net income applicable to the common stock.

Assumptions	Calculating and reporting Earning Per Share

Case A: 30,000 common shares outstanding throughout the year; net income for the year,106,000;dividend pplicable to Preferred stock, 10,000.	Net income applicable to common stock (106,000-10,000)..... 96, 000 Earning per share (96,000/30,000 shares ... 3.20
Case B 30,000 common shares outstanding through out the year; income applicable to common stock, before extraordinary item, 96,000; extraordinary loss less applicable tax saving,21,000	Income before extraordinary item..... 96,000 Extraordinary loss (less applicable tax savings 21,000 Net income..... 75,000 Earning per Share: Income before extraordinary item (96,000/30,000)..... 3.20 Extraordinary loss ((21,000)/30,000)..... (.70) Net income..... 2.50
Case C 30,000 common shares outstanding from January 1 through April 1,on which date an additional 10,000 common shares were issued; other data as in case B	Income before extraordinary income..... 96,000 Extraordinary loss (less applicable tax savings)..... . 21,000 Net income..... 75,000 Earning per share: Income before extraordinary item ..... 2.56 Extraordinary loss..... (.56) Net income..... 2.00 Calculation of weighted average number of shares: **Dates Months shares weighted shares** Jan. 1-Apr. 1..... 3 * 30,000 = 90,000 Apr. 1 – Dec.31... 9 * 40,000 = 360,000 12 450,000 Average: 450,000 / 12 = 37,500 96,000 / 37,000 shares = 2.56 (21,000)/ 37,500 shares = (.56) 75,000 / 37,500 shares = 2.00

EPS Disclosures

For both simple and complex capital structures, earnings per share must be reported on the face of the income statement for:-

- Income from continuing operations
- Net income

Entities that report extra ordinary items, discontinued operations, or the cumulative effect of an accounting change in a period must present per-share amounts for these items either on the face of the income statement or in the notes to the financial statements, on a net- of- tax basis.

Activity – 4

At December 31,1995, and 1994, Grow corporation had 100,000 shares of common stock and 10,000 shares of 5%, $100 par value cumulative preferred stock outstanding. No dividends were declared on either the preferred or the common stock in 1995 or 1994. Net income for 1995 was $1,000,000.

Required: For 1995, what is the earnings per common share**?**

You can compare your answer for activity – 5 with the following



EPS = {NI – Preferred dividend*} * {Weighted average of outstanding common shares}

$$\frac{\$1{,}000{,}000 - 10{,}000(5\%)(\$100)}{100{,}000} = \$9.50$$

*Though current period dividends were not declared in the example, since the preferred stock is cumulative, full year's dividend amount is subtracted from the net income.

Summary of the Chapter

Equity represents the claims of owners against the assets of a business entity. Equity takes many different forms, but most can be characterized as a type of either common or preferred stock. Common stockholders control the corporation; preferred stockholders have the right to receive dividends before dividends are paid to common stockholders. Accounting reports present useful information about equity to both managers and stock market investors. Both groups use accounting information about equity transactions to evaluate the effects of past decisions and to project the effects of future decisions.

Although common stock usually has a par value, no-par stock is permitted in some states. When stock is issued at amounts in excess of par or stated value, the excess is recorded in a separate capital stock account. In addition to issuing shares of stock, corporations can also issue warrants and options – rights to acquire stock in the future. They may also reacquire their own stock after issuance. Reacquired stock is called treasury stock and is recorded in a contra equity account that is subtracted from the total of stockholders' equity.

Dividends reduce retained earnings. Cash dividends distribute cash to stockholders. Stock dividends distribute additional shares to stockholders, which results in the reclassification of a portion of retained earnings as paid-in capital. Stock splits also transfer additional shares to stockholders but do not produce changes in equity.

Retained earnings represent the accumulated net income or net loss and prior period adjustments of a corporation, less the dividends declared since the inception of the corporation. Other adjustments may also affect retained earnings. Retained earnings are available for dividends unless appropriated for a specific purpose.

Investors and regulators watch earnings per share figures because they have an important impact on the movement of stock market prices. EPS computations are based on whether a firm has a simple or a complex capital structure. Simple capital structures involve only common stock.

Self-Assessment Questions

Part I: Matching Items

Match the terms with their synonymous definitions

Term	Definition
_____1. Stock warrants	A) The maximum number of shares the business may issue in each class of stock
_____2. Date of record	B) Shares that never earn dividends
_____3. Par value	C) The date on which the company announces its intention to pay a dividend on common stock
_____4. Stock split	D) Shares issued minus treasury shares
_____5. Treasury stock	E) Common stock divided by the number of shares issued
_____6. Stock dividend	F) A stock issue that requires no journal entry
_____7. Preferred stock	G) Shares that may earn guaranteed dividends
_____8. Outstanding shares	H) Capitalizes retained earnings
_____9. Authorized shares	I) A right to purchase stock at a specified future time and specified price
_____10. Declaration date	J) The date on which all persons holding shares of a certain company's common stock become eligible for the current dividend, even if they just bought the shares or sell them a few days later.

Part II: Multiple Choices

1. The maximum amount that the corporation legally can distribute to its shareholders is equal to:
    a) Retained earnings
    b) Stockholders' equity
    c) Stockholders' equity less legal capital

d) Stockholders' equity less legal capital and any other amount legally restricted,
such as the cost of treasury stock purchased

2. When treasury stock that is accounted for by the cost method subsequently is reissued:

a) Treasury stock should be credited for the par value of the reissued shares

b) Contributed capital from treasury stock transactions should be credited for the
excess of the amount received over the par value of the reissued share.

c) Retained earnings should be credited for the excess of the amount received
over the cost of the reissued shares

d) Any recorded contributed capital from treasury stock transactions should be
debited for the excess of the cost of the reissued shares over the amount
received

3. The journal entry to record the original issuance of par value common stock for cash should include:

a) A debit to cash for the par value of the shares issued
b) A credit to common stock for the total amount paid for the shares issued
c) A credit to contributed capital in excess of par-common for any excess of the total amount paid for the shares issued over the par value of the shares
d) A debit to retained earnings for any excess of the par value of the shares issued over the total amount paid for the shares

4. Increases in aggregate or individual ledger account balances of X-Company during year 9 were as follows: total assets - $356,000, total liabilities - $108,000, common stock – 240,000 and paid-in- capital in excess of par - $24,000. If the only debit to the Retained Earnings ledger account for year 9 was for cash dividends of $52,000, X- company's net income for year 9 was:

a) $16,000 c) $52,000 e) none
b) $36,000 d) $68,000

5. On July 14, year 4, Africa Insurance Company exchanged 1,000 shares of its $8 par common stock for land with an appraised value of $23,000. The closing market price of Africa Insurance's common stock was $21 a share on July 14, year 4. As a result of the exchange, Africa Insurance's additional paid-in-capital was increased by:

a) $0 b) $8,000 c) $13,000 d) $15,000 e)None

CHAPTER FOUR

ACCOUNTING FOR LEASES

INTRODUCTION

Accounting for leasing transactions is a challenging problem for accountants. Leasing as a means of acquiring services of plant assets has grown in popularity and complexity as a result of capital shortages and income tax considerations. Instead of borrowing money to by plant assets, a company leases them. Airlines, railroads, lease huge amounts equipment; leases huge amounts equipment; many hotels and motel chains lease their facilities; the government leases the realest ate for investments. Many banks and investment firms have been active in the lease investment market for the past two decades. Investment firms can arrange lease investments for all types of assets.

This chapter examines how firms account for leases, which are a complex and newly established proposition used to finance assets acquisition.

Learning Objectives:

After you complete this chapter, you dear students will be able to:

- √ explain the nature of-+ economic substance and advantages of lease transactions
- √ identify and describe the operational, financial and tax objective that motivate leasing
- √ be able to distinguish the types of leases
- √ describe the accounting for lessees and lessors
- √ understand sale-lease back arrangements and their accounting treatment
- √ describe the disclosure requirements for leases

4.1 Nature of Leases

A lease is a contract conveying the rights to use tangible property, usually for a stated period of time. The owner of the property for which the right is transferred is the lesser, and the party to whom the right is transferee is the lessee. A further transfer of the right to use an asset from a lessee to another party during the term of the lease is a sublease. In short, a lease in a contractual agreement between lesser and a lessee that gives the lessee the right to use specific property, owned by the lesser, for a specific period of time in return for periodic cash payments (rents).

The lease term (duration) of the lease may be any thing from a short period of time to the entire expected economic life of the asset. The rental payments may be level from year to year, increasing in amount, or decreasing; they may be predetermined or may vary with sales, the prime interest rate, the consumer price index, or some other factor. In most cases the rent is set to enable the lesser to recover the cost of the asset plus a fair return over the life of the lease.

The obligations for taxes, insurance and maintenance may be assumed (covered) by either the lessor or the lessee, or they may be shared. The lease contract may be non cancelable or may grant the right to early termination on payment of a set scale prices plus a penalty. In case of default (failure to pay the entire rents), the lessee may be liable for all future payments at once, receiving title to the property in exchange; or the lessor may have the right to sell to a third party and collect from the lessee all or portion of the difference between the sales price and the lessor's unrecovered cost.

When the term of lease is terminated, the lessee may range from none to the right to purchase the leased asset at the fair market value or the right to renew or buy at a nominal price.

Terminology for leases

As do many other specialized areas, leasing has its own language. The following terms used for leases are involved in leasing transactions.

1. **Bargain purchase option** - a provision giving the lessee the right to acquire the leased property (either personal or real assets) at favorable price at the inception of the lease.
2. **Bargain renewal option** - a provision giving the lessee the right to renew the lease at rental so favorable that exercise of the option appears reasonably assured at the inception of the lease
3. **Contingent rentals** - Increases or decreases in lease payments after the inception of the lease because of changes in factors on which the lease payments are based.
4. **Economic life to the leased property**-the remaining period during which the leased property is expected to be useable for the purpose for which it was designed, with normal repairs and maintenance, without being limited by the lease term.
5. **Estimated residual value of leased property**-the estimated fair value of the leased property at the end of the lease term
6. **Unguaranteed residual value-**the portion of the estimated residual value that is not guaranteed by the lessee or by a third party unrelated to the lessor
7. **Fair value of leased property**-is a normal selling price of the leased property adjusted for any unusual market conditions for a sales-types lease.

   It is the cost or carrying amount of the property in a direct financing-type lease.
8. **Inception of lease-**Date of the lease contract (commitment, if earlier)
9. **Incremental Borrowing Rate**-Rate that, at the inception of the lease, the lessee would have incurred to borrow funds necessary to acquire the leased property
10. **Initial direct Costs** - the costs (such as commissions, legal fees, and costs of processing documents) incurred by a lessor.
11. **Lessor's implicit Interest rate-**the discounted rate (applied to the minimum lease payments and any un guaranteed residual value) that cause the aggregate present value to be equal to the fair value of the leased property to the lessor, minus any investment tax credit retained by the lessor
12. **Lease term**- the fixed non cancelable terms of a lease plus
    1. any periods covered by bargain renewal options
    2. any periods for which failure to renew a lease places a heavy penalty on the lessee
    3. any periods covered by renewal options during which a guarantee by the lessee of the lessor's debt related to the leased property is expected to be in effect

4. any periods covered by renewal options that precede the exercise date of the bargain purchase options, and
5. any periods during which the lessor has the right to renew or extend the lease

13. **Minimum Lease payments** - the payments that the lessee is obligated to make or may be required to make; such payments include
    - the minimum periodic rentals up to the date of a bargain purchase option
    - any guarantee by the lessee of residual value
    - any payments on failure to renew or extend a lease and
    - the payment required by a bargain purchase option

    * **Excutory costs** such as insurance, repairs and maintenance, and property taxes in connection with the leased property are excluded from minimum lease payments.
14. **Renewal or extension of lease**-the continuation of a lease contract beyond the original lease term

Note: The terms unguaranteed residual value in definition 6 and guarantee by the lessee of the residual value in definition 13 need further comment. In some leases, the lessee guarantees a stated residual value for the leased property to assure the lessor that the leased property will be cared for adequately by the lessee and will not be worthless at the end of the lease term. All or part of the guaranteed residual value must be paid by the lessee to the lessor unless the lessor disposes of the leased property at the end of the lease term at an amount equal to or in excess of the guaranteed value.

An un guaranteed residual value is the responsibility of the lessor. In substance, the lessor doesn't ''sell'' the un guaranteed residual value of leased property to the lessee. Thus, the lessor accounts for un guaranteed residual value as part of the gross investment in the lease.

Advantages of Leasing

Some of the common advantages of leasing to the lessees are:

- **100% financing at Fixed Rates** - Leases are often signed with out requiring any money down from the lessee, which helps to conserve scarce cash. In addition, lease payments often remain fixed, which protects the lessee against inflation and increases in the cost of money
- **Protection against obsolescence**-leasing equipment reduces risk of obsolescence to the lessee, and in many cases, passes the risk in residual value to the lessor. In other words, when the equipment leased becomes obsolete, the lessee has the right to change by the new model of equipment.
- **Flexibility -** Lease agreements may contain less restrictive provisions than other debt agreements. For instance, rental payments can be structured when the leased property becomes

productive so that it meets the cash revenues and the rental payments with in the same period.

- **Less costly Financing** - Leasing can provide income tax advantage derived from accelerated depreciation and interest expense of the leased property. Besides, the tax benefits can be passed back to the lessee in the form of lower rental payments.
- **Alternative Minimum Tax problems** - a company that pays the alternative minimum Tax (AMT) is entitled to credit against its regular tax liability in subsequent years. Thus, paying the AMT gives the entity a tax credit carry forward
- **Off-Balance Sheet Financing**: Certain leases don't add debt on balance sheet or affect financial ratios, and they may add to borrowing capacity. The lessee will not report the lease payment obligations as a balance sheet liability. However, it is a disadvantage of the financial statement user because it masks (hides) the facts.

In general, when the operational, tax and financial market advantages are considered, the net cost of leasing is often less than the cost of purchasing.

Disadvantages of Leasing

Dear Colleagues, in a global and competitive market, nothing is perfect; it might be relatively perfect. Leasing has also disadvantages. Some of these draw backs are

- The 100% financing of leased assets also means a higher total outlay of interest.
- Leasing ready-to-use equipment may result in lower quality product and ultimately lost sales to the lessee
- Short term leases may provide protection from product obsolescence, but short terms leasing rates are normally set at a premium over longer term rates to compensate the lessor for assuming the obsolescence risk.
- Tax benefits may be temporary. A new tax provision can be enacted at any time. This is a danger with all long-term leases featuring tax benefits.
- Long-term leases at fixed rates expose the lessor (lender) to the risk of opportunity losses if interest rates increase.

4.2. Accounting for Leases

The accounting for leases may be divided into two parts: **Accounting by lessees and accounting by lessor**. Lessors report the transfer of rights to use property that they own, and lessees account for and disclose payments for rights to use property that they don't own. If all lease contracts were identical, the accounting for leases would be simple.

4.2.1. Accounting by Lessees

Leases are classified for accounting purposes by lessees as either capital leases or operating leases.

1. **Capital leases** - is the lease contract that transfers essentially all the ownership risks (the responsibility for casualty loss, wear and tear, obsolescence, and maintenance) and ownership rewards (benefits such as the right to use, increases in the value of the leased asset, the ultimate transfer of title). Transfer of ownership can be assumed only if there is a high degree of permanence to the transfer, that is, the lease is non cancelable. The FASB apparently agrees with the capitalization approach when the lease is similar to an installment purchases.

Criteria for capital leases

If the lease meets any one of the following criteria as its inception it must be capitalized by the lessee but it must be noncancelable:

Criteria 1 - The lease specifies that ownership of the leased property transfers to the lessee by the end of the lease term
Criteria 2 - The lease contains a bargain purchase option
Criteria 3 - The lease term is equal to 75% or more of the economic life of the leased property
Criteria 4 - The present value of the minimum lease payments is at least 90% of the excess of the fair value of the leased property over any investment tax credit retained by the lessor

To compute the present value of the minimum lease payment, the lessee uses its incremental borrowing rate unless

- √ the lessee can learn the lessor's implicit interest rate, and
- √ The lessor's implicit interest rate is less than the lessee's incremental borrowing rate.

If both these conditions are met, the lessee uses the lessor's implicit interest rate.

The lessee records a capital lease as both an asset and a liability in an amount equal to the present value of minimum lease payments during the lease term unless it exceeds the fair value of the leased asset at the inception of the lease. However, if the amount of present value exceeds the fair value of leased asset, the amount capitalized is the fair value of the leased asset. The amount capitalized for the lease excludes any executory costs such as insurance, property taxes, and maintenance, which are expensed by the lessee.

Periodic payments (rentals) other than contingent rentals made by the lessee are allocated between a reduction of the lease liability and interest expense on the carrying amount of lease liability. Contingent rentals are included in the lessee's expenses as they accrue. Assets and liabilities recorded under

capital leases are reported as separate items on the lessee's balance sheet, and the liabilities are segregated between current and non-current amount. The lessee also records depreciation for the capital lease**.**

2. Operating Leases: If a lease doesn't meet any of the criteria for a capital lease it is considered to be more in the nature of a rental agreement is referred to as an operating lease. We assume that the fundamental rights and responsibilities of ownership are retained by the lessor and that the lessee merely is using the asset temporarily. In keeping that presumption, a sale is not recorded by the lessor, a purchase is not recorded by the lessee. Instead, the periodic rental payments are accounted for merely as rent by both parties to the transaction-rent revenue by the lessor and rent expense by the lessee.

4.2.2 Accounting by Lessors

Financial institutions and commercial leasing companies structure lease transaction as either operating or capital leases: The capital lease from the lessor's point of view is classified as

- √ Direct financing leases
- √ Sales type leases

The lessor in a direct financing lease purchases an asset to accommodate the leasing transaction, and immediately leases it to the lessee. Accounting for a directing financing lease is identical to accounting for a disposal of asset on credit. But rather than reporting an account receivable, the lessor reports a lease receivable on the balance sheet. No asset depreciation is taken by the lessor, and the lessor's profit comes entirely from interest.

Sales-types leases, used by manufactures and distributors, are similar to direct financing leases. But unlike a direct financing lease a sales-type lease doesn't involve purchase for immediate lease. The manufacturer instead leases out the assets from finished goods inventory, or the distributor leases the asset out of its inventory account. Here, the lessor's profit comes partly from selling the asset above cost and partly through interest.

The lessor in an operating lease acquires an asset and then leases it to a lessee in two separate transactions. The assets stay on the lessor's books throughout the term of the lease and are accounted for on the balance sheet as asset. When the asset is leased, the lessor sets up a lease revenue account to record and account for rent receipts from the lessee. No lease receivable account is used. The lessor depreciates the lease asset in the normal manner.

For the lessor to record the transaction, it is necessary to satisfy the conditions of the revenue realization principle. In particular, the FASB specifies that for the lessor to record a lease as a direct financing lease or a

sales-type lease, two conditions must be met in addition to one of the four criteria for capital leases:

Criteria 1 - The collectiblity of the lease payments must be reasonably predictable

Criteria 2 - if any costs to the lessor have yet to be incurred, they are reasonably predictable (performance by the lessor is substantially complete).

Note - Although sales revenue is not recorded in a direct financing lease (capital lease to the lessee), the leased asset is removed form the lessor's books and is replaced by a receivable)

Activity

Dear colleagues, to test your understandings on the fore going discussions, try to answer the following questions without browsing back

1. List three advantages and two disadvantages of leasing

_____
_____
_____
_____

2. Discuss the basic conditions to treat the lease as ‘’capital lease’’ from the lessor’s perspective

_____
_____
_____
_____

3. Assume you are the lessee for X company. When do you use the lessor’s (X company) implicit interest rate to compute the present value of the minimum lease payments at the inception of the lease?

_____
_____
_____
_____

3. Mention the components of minimum lease payments

_____
_____
_____
_____

Illustration of Accounting for a capital lease:

1. On January 2, 1995, Nile Insurance Corporation leased a machine to Bahir Dar University for a 3-year non cancelable term at an annual rental of Br. 38,556 each payable at the beginning of the year.
2. The agreement involves no collection uncertainties, and the lessor’s performance is complete
3. The fair market value of the machine at the inception of the lease is Br. 110,000

4. The lease doesn't contain a renewal or bargain purchase option, and the machine reverts to the lessor at the end of the three-year period
5. The lessee's incremental borrowing rate is 12%
6. Both companies depreciate the machine using the straight-line method for book purposes. The asset's residual value is estimated to be Br. 0 on December 31, 1999, end of estimated useful life.
7. The accounting year ends December 31, for each party
8. The lessor's implicit interest rate is 10%
9. Bahir Dar University pays all of the executory costs except for the property taxes of Br 2000 per year, which are included in the annual payments to Nile Insurance Corporation

Required:

a) Compute the cost of the machine at the inception of the lease.
b) Evaluate whether it is capital lease or operating lease
c) Prepare the journal entries of both the Nile Insurance Corporation and Bahir Dar University on Jan 1, 1995, December 31, 1995, January 1, 1996 and December 31, 1996.
d) Prepare the lease amortization schedule

Solution:

a) The cost of the machine is the present value of the machine.

Since the annual rent payment is made at the beginning of the period, it concerns annuity due. If payment were made at the end of the year, it would be ordinary annuity.

Thus, present value of annuity due = periodic payment X $\frac{(1-(1+i)^{-n})(1+i)}{i}$

Present value of ordinary annuity=Periodic payment $\frac{x(1-1+i)^{-n}}{i}$

Where n, is the no. of years (periods)

Before we compute the present value, the executory cost for property tax should be excluded from periodic payment made annually.

periodic payment (excluding property tax) = Br. 38,556 - 2000
= Br. 36,556

Present value = periodic payment (excluding property tax) $\frac{x(1-(1+i)^{-n})(1+i)}{i}$

$$= \text{Br. } 36{,}556\ \frac{x(1-1+0.1)^{-3})(1+0.1))}{0.1}$$

= Br. 100,000

* Since the lessor's implicit interest rate is less than the incremental borrowing rate, it is used to compute the present value of the leased asset (machine)

b) It is a capital lease because,

- It is non cancelable lease, and
- the present value is greater than 90% of the fair value of the leased asset (Br 100,000> 90% of Br 110,000)

We know that if one of the four criteria is met, it becomes capital lease. In this illustration except criterion 4 the others are not met.

c) **Book of lessee (Bahir Dar University**)

Jan 1, 1995 - Leased Machine 100,000
Lease Payable 100,000
(To record capital lease at inception of lease)
Property tax expense 2000
Lease payable 36,556
Cash 38,556
(To record lease payment for 1995)

December 31,1995 - Interest expense 6344
(Br. 100,000-36,556) x 10%)
Lease payable/Interest payable 6344

Depreciation expense (100,000÷3) 33,333
Accumulated Depreciation 33,333

Jan 1, 1996, ... Property tax expense 2000 } O
Lease payable 36,556
Cash ..... 38,556 }

OR,

Property tax expense.	2,000.	
Interest payable	6,344	
Lease payable	30,212	
Cash		38,556

Dec. 31,1996 .... Dep. expense 33,333
Accumulated dep. 33,333
Interest expense 3323*
Lease payable/Interest payable 3323

Book of Lessor (Nile Insurance Corporation)
Jan. 1, 1995 - Lease Receivable (36,556x3) 109,668

Leased Machine 100,000
Unearned Interest Income 9,668
Cash 38,556
Property tax payable 2,000
Lease Receivable 36,556

Dec 31, 1995: Unearned interest income-leases 6344
Interest revenue-leases 6344

January 1, 1996: Cash 38,556
Property tax payable 2,000
Lease Receivable 36,556

Dec. 31, 1996: unearned Interest Revenue 3323
Interest revenue 3323

Note - If the lease agreement transfers ownership of the asset to the lessee (criterion 1) or contains a bargain purchase option (criterion 2), the lease asset is depreciated using the economic life of the asset. Other wise, it is depreciated over the term of the lease. In this case the leased asset reverts to the lessor after a certain period of time.
The discount rate used by the lessee to determine the present value of the minimum lease payments must be used by the lessee to allocate each lease payment between principal and interest.

Bahir Dar University
Lease Amortization Schedule
(Annuity due basis)

Date	Annual lease payment	Executory costs	Interest	Reduction of lease obligation	Lease obligation
Jan 1,1995	Br. 38,556	Br. 2000	-	Br. 36,556	Br. 63,444
Dec 31,1995	-	-	6344	-	69,788
Jan 1,1996	38,556	2000	6344	30,212	33,232
Dec 31,1996	-	-	3323	-	36,555
Jan 1,1997	38,556	2000	3323	33,233	-

Illustration of Accounting for operating lease

Taken the above example, prepare the Journal entries for the lessee and the lessor on Jan. 1, 1995, Dec. 31, 1995.

Solution:

Under the operating method, rent expense and a compensating liability accrues day by day to the lessee as the property is used. Alternatively, each rental receipt by the lessor is recorded as rental revenue. The leased asset is depreciated in the normal manner, with the depreciation expense of the period matched against the rental revenue.

Book of the lessee (BDU)		**Book of lessor (Nile Ins. Corp.)**	
Jan.1,1995-			
Rent expense	38,556	Cash	38,556
Cash	38,556	Rental revenue	38,556
December 31,1995:			
		Depreciation Exp.	33,333
No entry		Accumulated Depr.	33,333

Comparison of capital leases with operating lease.

The total charges to operations are the same over the end of the lease term whether the lease is accounted for as capital lease or as an operating lease, under the capital lease treatment the charges are higher in the earlier years and lower in the later years

If the capital lease is employed instead of an operating lease, the following differences occur: -

- an increase in the amount of reported debt
- an increase in the amount of total assets
- a lower income early in the life of the lease, and, therefore, lower retained earnings.

Accounting for a sales type lease

Accounting for sales-type lease is similar to the accounting for a sale of merchandise under the perpetual inventory system. For example, a sale in exchange for a note receivable bearing a fair rate of interest is recorded with a debit to Notes Receivable and a credit to sales for the face amount of the note (and selling price of the product), and a debit to cost of goods sold and credit to inventories for the cost of the product.
The comparable journal entries peculiarly for a sales-type lease are complicated by three features:

- the interest implicit in the minimum lease payments, which are receivable by the lessor over an extended period
- Un guaranteed residual value
- Initial direct costs such as commissions, legal fees, and documents processing costs incurred by the lessor in negotiating and completing the lease contract.

The journal entries for a sales-type lease are the following

Lease Receivable XX
Cost of goods sold XX
Unearned Interest revenue XX
Sales XX
Inventories XX
(To record sales type lease at inception and cost of leased property)
Cost of goods sold XX
Cash XX
(to record payments of initial direct costs incurred).

- Lease receivable is reported at the value of
  (total minimum lease payments + un guaranteed residual value)
- Cost of goods sold is recorded for cost of the leased property minus present value of any un guaranteed residual value
- Sales are recorded for the present value of the minimum lease payments

Example - On January 1, 1998, Global Computer Center leased equipment which had a cost of Br. 11,500 and a fair value of Br. 14,000 to Dib Anbessa Hotel for four years on the following terms:

1. Dib Anbessa Hotel agreed to make four annual rental payments of Br. 4,000 (excluding executory costs) starting on December 31, 1998. The economic life of the equipment is 6 years with an un guaranteed residual value of Br. 2,500. The Hotel uses straight-line method of depreciation.
2. The hotel agreed to absorb all maintenance costs, insurance and property taxes; Br. 800 of initial direct cost were incurred By Global Computer Center
3. The Hotel was required to return the equipment to Global Computer Center at the end of the lease term, December 31,2003.
4. Global Computer Center's implicit interest rate on January 1,1998 was 10% a year. The hotel has an incremental borrowing rate of 12% a year on January 1, 1998, and couldn't learn Global Computer Center's implicit interest rate.

Required: Make the journal entries for both the lessor and the lessee on January 1, 1998, December 31, 1998 and Dec. 31, 1999.

Solution:

Before directly we go to making journal entries, we are required to compute the lessor's gross investment in the lease, lessor's net investment in lease, and the amount to be capitalized by the lessee.

Lessor's gross investment in lease = Minimum lease payment +
Un guaranteed residual value
= Br. 4000x 4 years + Br. 2,500
= Br. 16,000 + 2,500
= Br. 18,500

Lessor's net investment in the lease = Present value of annual rental payment + present value of un guaranteed residual value.

$$= \text{Periodic payment} \times \frac{(1 - (1+i)^{-n})}{i} + \frac{Br.2500}{(1+i)^n}$$

Lessor's net investment in the

Lease = Br 4000 x $\frac{(1-(1.1)^{-4})}{0.1} + \frac{2500}{(1.1)^4}$

= Br. 12,679 + 1708

= Br. 14,387 (Based on an ordinary annuity)

Therefore, the unearned Interest Revenue = Gross Inv't - Net inv't

= Br. 18,500 - 14,387

= Br. 4113

The amount to be capitalized to the lessee

= P.V. of the minimum lease payment at incremental borrowing rate because the lessee couldn't learn the implicit interest rate of the lessor

= Br. 4000 x $\frac{(1-1+i)^{-n}}{i}$

= 4000 x $\frac{(1-(1.12)^{-4})}{0.12}$

= Br. 12,149

Journal entries for:

The Lessor (Global Comp. Center)	**the lessee (Dib Anbessa Hotel)**
Jan.1, 1998.	
Lease Receivable.... 18,500	Leased Equipment 12,149
Cost of goods sold 9,792	Lease liability 12,149
Unearned Interest Revenue 4113	
Sales 12,679	
Inventories 11,500	
Cost of goods sold 800	No entry
Cash 800	
Dec. 31,1998	
Cash 4000	Lease liability ... 2542
Unearned Interest revenue 1439	Interest expense .1458
Lease Receivable 4000	Cash 4000
Interest revenue 1439	
Dec 31,1998 - No record for depreciation	Depreciation expense ...3037
	Leased Equipment 3037
	(Br. 12149÷4)
Dec 31,1999	
Cash 4000	Interest expense 1153
Unearned Interest revenue 1039	Lease payable 2847
Interest revenue 1039	Cash 4000
Lease Receivable 4000	
	Dep. expense 3037
	Leased Equipment 3037

Termination of Sales-type Lease - If a sales-type lease is terminated before the end of the lease term by mutual consent with out penalty, the lessee recognizes a gain or losses. For example, assume that the lease in the fore going illustration is terminated on December 31, 2000 (the end of third year) prior to the rental payment due on the date and prior to the recognition of interest expense and depreciation expense for year 2000. The journal entry to record the termination in the accounting records of the lessee is as follows:

Interest expense (12149-2542-2847) x0.12 811
Liability under capital lease (lease liability) 6760
Depreciation expense 3037
Leased Equipment (12149-6074) 6075
Gain on termination of capital lease 4533

On termination of the sales-type lease, the lessor records the equipment at the lowest of its original cost, present fair value, or present carrying amount, and recognizes any loss represented by the difference from the net investment in the terminated lease. The lessor doesn't recognize a gain on an early termination of a lease because the gain has not been realized.

Sales-type lease with guaranteed residual value-a sales-type lease having a guaranteed residual value requires a slightly different journal entry at the inception of the lease because the guaranteed residual value is part of the minimum lease payments, rather than a separate items, in the computation of the gross investment and the net investment in the lease. For example if Global Computer Center-Dib Anbessa Hotel lease described above had provided for a guaranteed residual value, rather than un guaranteed residual value, of Br 2500, the journal entry on January 1,1998 for Global Computer Center (lessor) would have been as follows:

Lease Receivable 18,500
Cost of goods sold 11,500
Unearned Interest revenue 4113
Sales 14,387
Inventories 11,500

Accounting for a direct Financing lease

In direct financing leases, the gross investment in the lease is computed in the same way as for sales-types leases, but the net investment in the lease equals the difference between the gross investment in the lease and the unearned interest revenue. In this type of lease, unearned interest revenue is the difference between the gross investment in the lease and the cost or carrying amount of the leased property. Any initial direct costs are expensed, and an equal portion of the unearned interest revenue is recognized as interest revenue in the same accounting period. Because the lessor in a direct financing lease is not selling a product, sales and cost of goods sold ledger accounts are not used. In direct financing lease containing a residual value guarantee, or a penalty for failure to renew, the lessor follows the same procedures described for sales-type leases.

Example - Assume that on July 31, year 2005, Tana Transport Corporation leased to Tana Beles project machine with a cost and fair value of Br. 11,127. The initial direct costs incurred by the lessor were Br. 200. The lease was for seven years at an annual rent (excluding executory costs) of Br. 2000 payable at the beginning of each year. The economic life the machine was 9 years, and the estimated un guaranteed residual value at the end of seven years was Br. 1,200. The project uses the straight-line method of depreciation.

Tana Beles Project knows Tana Transport Corporation's 10% implicit interest rate, which is less than its 13% incremental borrowing rate. Tana Beles agreed to pay all executory costs, the collectibility of the lease payments was reasonably predictable, and no additional costs were expected to be incurred by Tana Transport Corp. A machine held for lease ledger a/c is used by the lessor.

Both the lessor and the lessee have a July 31 fiscal year.

Required - prepare the journal entries for both the lessee and the lessor on July 31,2005 and July 31,2006.

Solution:

Tana Transport Corporation (the lessor):

July 31,2005 - Lease Receivable ((Br. 2000x7)+Br. 1200) 15,200
Machine held for lease 11,127
Interest revenue 200
Unearned Interest revenue 3873
(15,000 - 11,127-200)

Operating expense 200
Cash 200
(To record payment of initial direct costs)
. Cash 2000
Lease receivable 2000

July 31, 2006: Cash 2000
Unearned Interest Revenue 933
Lease Receivable 2000
Interest revenue 933
(15,200-3873-2000)x0.10

Journal entries for Tana Beles Project (lessee) - capital lease

July 31,2005- Leased Equipment 10711
* Liability under capital lease 10711
(present value of annuity due)
31 ..... No entry is needed to record initial
direct costs of the lease
31 ..... Liability under capital lease 2000
Cash 2000
July 31,2006 ..... Interest expense 871

((10711-2000)x0.10)
Liability under capital leases - 1129
Cash 2000
Depreciation expense (10711÷7) 1530
Leased Machine - capital lease 1530

- Present value of minimum lease payment

$$= \text{Br. } 2000 \frac{\left(1 - (1+i)^{-n}\right)}{i}(1+i)$$

$$= \text{Br. } 2000 \frac{\left(1 - (1.1)^{-7}\right)}{0.1}(1.1)$$

$$= \text{Br. } 10711$$

Note- Liability under capital lease account and lease liability (payable) account are synonymous.

Leveraged Leases

A leveraged lease involves the use of borrowed capital to acquire assets that are then leased out to a business customer (lessee). A leveraged lease is a complex non recourse financial arrangement with lenders as principals in addition to the lessor and the lessee. It is basically driven by tax benefits that accrue to high-income tax payers who participate as lessors. Earning a competitive before income tax return on investment is usually of secondary importance to these tax payers-lessors.

Leveraged leases require special accounting treatment that pertains only to lessors. Lessees involved in leveraged lease arrangements account for these transactions in the same manner as capital leases. Borrowing cash in order to acquire assets intended for the leasing markets doesn't quality a transaction as a leveraged lease. The fundamental features of a leveraged lease are the followings:

- the lease must other wise meet the definition of a direct financing lease
- the lease must involve three parties a lessee, lessor, and a long-term creditor
- the financing provided by the long-term creditor must be non-recourse as to the general credit of the lessor. That is, in the event of default by the lessor, the long-term creditor, the lease financing participant, has no claim against the lessor beyond the lease payments unremitted by the lessee and, in some cases, repossession of the leased asset
- the lessor's net investment in the lease must decline in the early years of the lease and rise during the later years. (High depreciation and interest expenses in the early years result in operating losses that diminish the lessor's equity in the lease. In later years, as depreciation and interest charged decrease, net investment is increased because of operating profits).

A lease failing to meet all these conditions is considered a regular direct financing lease rather than a leveraged lease.

Example - On January 5, 2001, Bisrat acquired Equipment for leasing at a cost of Br. 1,000,000. To pay for the equipment, Bisrat (the lessor) used Br. 400,000 cash and the proceeds of a Br. 600,000, 9%, non recourse bank loan payable in 15 annual installments beginning on December 31,2001. Also on January 2,2001, Bisrat leased the Equipment to Dashen Brewery on A 15-year lease requiring the Brewery to pay Br. 90,000 annually, beginning on December 31,2001. The un guaranteed residual value of the equipment was estimated at Br. 200,000 to be realized on December 31,2016 (one year after the termination of the lease). For depreciation of the equipment, Bisrat adopted seven-year-economic life, using double declining-balance method for the first two years, sum-of-the-years' digits method for remaining five years, with Br, 100,000 residual value.
Bisrat is entitled to a Br. 100,000 investment tax credit (realizable on December 31,2001). There were no initial direct costs of the lease. The leveraged leased is considered as a direct financing.

Required:

a. Compute the annual payments of Bisrat on non recourse note
b. Make the journal entries on January 2,2001 and December 31,2001 on the book of Bisrat.

Solution:

a. Annual payment on note is computed from the present value (Br. 600,000) of ordinary annuity using 15 years, at the rate of 9%.

$$\text{Present value of OA} = \text{Annual payment} \times \frac{\left(1 - (1+i)^{-n}\right)}{i}$$

$$600{,}000 = \text{Annual payment} \times \frac{1 - (1+0.09)^{-15}}{0.09}$$

Annual payment = Br. 74,435

b. Journal entries of leveraged lease on the book of Bisrat (lessor)

January 2,2001 - Equipment held for lease 1,000,000

Cash		400,000
Notes payable		600,000
(To record acquisition of equipment)		
Lease Receivable [(90,000x15 -(74,435x15))….	233,475	
Notes payable	600,000	
Income tax payable (for Inv't tax credit)	100,000	
Equipment held for lease (1,000,000-200,000)		800,000
Unearned and Deferred Revenue		133,475
(To record lease of equipment)		

December 31,2001 - Journal entries

Cash …….	15,565	
Notes payable …….	74,435	
Lease Receivable …….		90,000

4.3. Sale-Leaseback Arrangements:

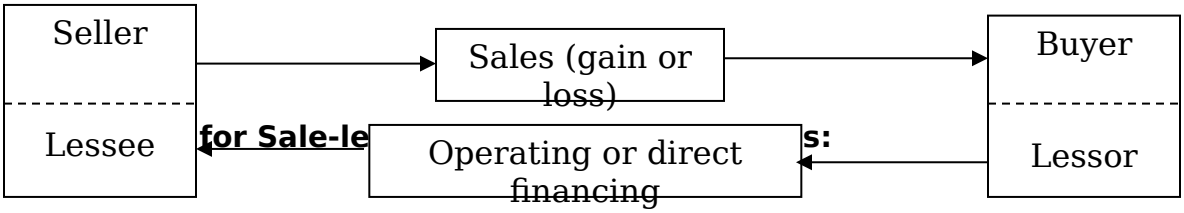
In a sale-lease back transactions the owner of an asset sells it and immediately leases it back from the new owner. Sound strange? Maybe, it is common. In sale-leaseback transactions, two things happen:

1. The seller-lessee receives cash from the sale of the asset
2. The seller-lessee pays periodic rent payments to the buyer-lessor to retain the use of the asset

The asset itself never leaves the seller-lessee's possession. Some of the reasons the seller-lessee's engage in sale-lease back transactions are the following

- Fully depreciated assets afford no tax saving. Thus, selling them and leasing them back will have tax savings because the lease payments are tax deductible
- In the majority of sale-lease back transactions, the sale of the assets generates immediate cash inflow
- A sale-leaseback often entails a gain on the sale of the asset, which normally must be deferred and amortized over the life of the accompanying leasing arrangements
- Sale-lease back transaction used as a refinancing tool can reduce interest expense. Meaning, if past asset acquisitions are being financed at higher interest rate than now prevails, sale-leaseback is an effective means of refinancing at lower interest rates.
- Sale-lease back can alleviate the tax burden resulting from personal property taxes.

From the lessors' stand point, sale-lease back yields no special advantages or disadvantages; it is simply a financing transaction. The characteristics of a typical sale-lease back arrangement may be diagrammed as follows:



Sale-lease back transactions, like regular leases, are accounted for by lessees as either capital or operating leases depending on the criteria described earlier. The same criteria apply to the lessor, plus the two additional criteria relating to the lessors. Lessors account for sale-lease back transactions as direct financing or operating leases. Sales-type leases are not permitted because they would overstate sales revenue and gross margins. Accounting

entries for lessors engaged in sale-leaseback are identical to those used to record regular leases.

For lessees, however, accounting entries for sale-leaseback transactions in most cases involve extra considerations;

- For a capital lease, any gain or loss on sale of the asset must be deferred and amortized over the term of the lease and in the same proportion as the leased asset itself is depreciated. For example, the lessee may accept the loss on the sale in exchange or lower lease payments for tax purposes.
- For an operating lease, essentially the same gain or loss deferral and amortization process applies. The deferred gain or loss is amortized over the term of the lease in proportion to each year's gross rental expense
- In amortizing deferred gains over the term of the lease, the credit side of the entry is normally to depreciation expense if the capital lease is involved, but no rent expense if it is an operating lease. In both cases, the effect is to reduce current expenses. When deferred losses are amortized, the opposite is true.

Illustration:

Ambasel Trading was in need of cash. Its solution was to sell a ware house to Amhara Development Association (ADA) for Br. 95,000 on January 1,1995. The ware house is carried on the Ambasel Trading's books at Br. 80,000, and has an estimated remaining useful life of 10 years, with no residual value. Its fair value was Br. 110,000. There is no transfer of title or bargain purchase option.

- In conjunction with the sale of the warehouse, Ambasel Trading leases the ware house back and enters into a five-year lease with ADA. The ADA's implicit interest rate was 12% which was the same as the Ambasel's incremental borrowing rate.
- Annual lease payments, starting January 1,1995, are Br. 23,530
- Depreciation expense applicable to the lease back portion of this transaction is computed using the straight-line method over five years, with no residual value.

Required-

a. Record the journal entries for the ADA and Ambasel Trading leases on January 1,1995 and Dec. 31,1995.
b. Prepare the lease Amortization Schedule

Solution:

	Ambasel Trading (Seller-lessee)		ADA (Buyer-lessor)	
Jan 1,1995 :				
Cash …… 95,000			Warehouse	95,000
Warehouse		80,000	Cash	95,000
Unearned gain on SLB sale		15,000		

Jan 1, 1995:

Leased Warehouse 95,000		Lease Receivable 117,650	
Lease liability	95,000	Warehouse	95,000
(To record capital lease)		Unearned Interest revenue	22,650
		(To record direct financing lease)	

Lease liability 23,530		Cash..... 23,530	
Cash 23,530		Lease receivable	23,530
(to record first lease payment)		(to record receipt of first lease payment)	

Dec 31, 1995

Depreciation expense ..... 19,000 (95000÷5)		No entry	
Accumulated Depreciation	19,000		
(to record dep. expense)			
Unearned gain on SLB sale 3,000		No entry	
Depreciation expense 3000			
((95,000x$\frac{1}{5}$-(80,000x$\frac{1}{5}$))			
Interest expense 8576		Unearned Int. revenue 8576	
Unearned Interest revenue 8576		Interest revenue	8576
(95,000-23,530)x0.12			

b) Lease Amortization Schedule (Annuity Due Basis)

Date	Annuity lease payment	Annual interest	Lease receivable liability Decrease (increase)	Balance
Jan 1,1995				Br 95,000
Jan 1,1995	Br. 23,530		Br. 23,530	71,470
Dec 31,1995		Br. 8,576	(8,576)	80,046
Jan 1,1996	23,530		23,530	56,516
Dec 31,1996		6,782	(6,782)	63,298
Jan 1,1997	23,530		23,530	39,768
Dec 31,1997		4,772	(4,772)	44,540
Jan 1,1998	23,530		23,530	21,010
Dec 31,1998		2,520	(2,520)	23,530
Jan 1,1999	23,530	-	-	-0-
	Br 117,650	Br 22,650	Br 95,000	

4.4. Disclosure of leases in financial statements: Lessee and Lessor:

4.4.1. Lessee disclosures:

1. For capital lease, disclose
    a. The gross amount of assets recorded under capital leases presented by major classes according to nature or function

   b. Future minimum lease payments in the aggregate and for each for the five succeeding fiscal years, with separate deductions from the total for executory costs (including any profit thereon) included in the minimum lease payments and for the amount of the imputed interest necessary to reduce the net minimum lease payments to present value
   c. The total of minimum sublease rentals to be received in the future under no cancelable subleases
   d. Total contingent rentals (these amounts are dependent on some factor other than the passage of time)
2. For operating leases having initial or remaining no cancelable lese terms in excess of one year, disclose
   a. Future minimum rental payments required in the aggregate and for each of the five succeeding fiscal years
   b. The total of minimum rentals to be received in the future under no cancelable subleases
3. For all operating leases, disclose rental expense, with separate amounts for minimum rentals, contingent rentals, and sublease rentals
4. Provide a general description of the lessee's leasing arrangements including, but not limited to, the following
   a. The basis on which contingent rental payments are determined
   b. The existence and terms of renewal or purchase options and escalation clauses
   c. Restrictions imposed by lease agreements, such as those concerning dividends, additional debt, and further leasing.

4.4.2. Lessor disclosures:

1. For sales-types and direct financing leases, disclose
   a. The components of the net investment in sales-type and direct financing lease
      i. Future minimum lease payments to be received, with separate deductions for amounts representing executory costs (including any profit thereon) included in the minimum lease payments and the accumulated allowance for un collectible minimum lease payments receivable
      ii. The un guaranteed residual values accruing to the benefit of the lessor
      iii. Unearned interest revenue
   b. Future minimum lease payments to be received for each of the five succeeding fiscal years
   c. Total contingent rentals included in income
2. For operating leases, disclose
   a. The cost and carrying amount, if different, of property on lease or held for leasing by major classes of property according to nature or function, and the amount of accumulated depreciation in total
   b. Minimum future rentals on no cancelable leases in the aggregate and for each of the vive succeeding fiscal years.
   c. Total contingent rentals included in income
3. Provide a general description of the lessor's leasing arrangements.

4.5. Other Aspects of Accounting for Leases:

In the preceding pages, we have discussed and illustrated the principal aspects of the lease accounting. In this section, we consider the following topics:

Real Estate Lease

Leases involving land only are accounted for as capital leases by the lessee if the lease contract transfers the title to land to the lessee (criterion 1) or if there is exercise of a bargain purchase option (criterion 2). Otherwise, a lease for land is accounted for as an operating lease. The other criteria can't be used to classify the land lease as capital lease; generally, the amount capitalized in the leased asset-capital lease account is not depreciated.

The accounting for lease involving both land and building depends on which of the criteria are met by the lease, and the ratio of the fair values of the land and the buildings. When the lease property includes both land and a building and the lease transfers ownership or is expected to by exercise of a bargain purchase option, the lessee should record each leased asset separately. The present value of the minimum lease payments is allocated between the leased land and the leased building accounts on the basis of their relative fair (market) values.

When neither of the first two criteria is met, the question arises as to whether the third and fourth criteria apply. Because they logically should apply to the building (because its life is limited) but not to the land (because its life is unlimited), the profession employs an arbitrary guideline. If the fair value of the land is less than 25%of the combined fair value, it is, in effect, ignored and both the lessee and the lessor treat the land and building as a single unit. The single leased asset is depreciated as if he land were not involved. If the fair value of the land is 25% or more of the combined fair value, both the lessee and the lessor treat the land and building as two separate leases. Thus, the land lease is an operating lease, and the building lease is classified and accounted for as any other lease.

However, some of the most common of lease involve leasing only part of a building. In this case, it may be necessary to employ real estate appraisals or replacement cost information to arrive at reasonable estimates of cost or fair value.

Summary of the Chapter

A lease is an agreement that conveys the right from the lessor to a lessee to use property, plant, equipment, or other assets for a stated period against obsolescence and interest rate changes, and provide the lessee with the means of avoiding the recognition of liabilities. For accounting purposes, the lease is considered to be either an operating lease or a capital lease. An operating lese is equivalent to a rental agreement. The lessee pays a periodic

fee for the use of the asset. This fee is revenue to the lessor. The asset remains the property of the lessor, who depreciates the asset's cost.

A lessee treats a lease as a capital lease if it meets any one of the four criteria, if it is no cancelable:

(1) the lease transfers ownership title, (2) the lease contains a bargain purchase option (3) the lease term equals or exceeds 75% of he estimated economic life of the leased asset, and (4) the present value of the minimum lease payments equals or exceeds 90% the fair market value of he leased asset.

The lessor treats the lease as a capital lease if in addition to satisfying any one of the criteria for the lessees, it meets two additional criteria: (1) collectibility of all rentals is reasonably assured, and (2) future costs are reasonably predictable or the lessor's performance is substantially completed. The capital leases are categorized in to two on the lessor's perspective: Sales-types leases and direct financing leases.

A direct financing lease results in removal of the asset form the lessor's books. Interest revenue is earned over the lease term, where as, a sales-types lese results in removal of the asset from the lessor's books. Income is earned at the time the lease is signed equal to the difference between the value of the lease and the carrying value of the leased asset on the lessor's books.

A sale lease back arrangement is an agreement in which the seller-lessee sells an asset and then leases back the asset. The seller-lessee obtained cash while incurring a tax deductive lease payment. The buyer-lessor receives the lease payments, depreciates the asset for tax purposes, and may also deduct for taxes any interest on debt used to finance the asset purchase. The seller-lessee accounts for the transaction as a sale purchase. The seller-lessee accounts for the transaction as a sale and for the lease as a capital or operating lease as appropriate. The buyer-lessor accounts for a transaction as a purchase and for the lease as a direct financing lease or sales type lease as appropriate.

Lease disclosure requirements for both lessees and lessors include data on payments to be made and descriptions of lease arrangements for both capital and operating leases.

Schematic Formula in Accounting for leases:

1. **Accounting for a direct financing lease with a Bargain purchase option (BPO) and (or) guaranteed residual value:**

At lessor’s Book:

The following accounts are recorded as follows:

Lease receivable = Annual lease payment X lease period + Amount of BPO/ guaranteed residual value

Leased Asset = At fair market value

Unearned Interest Revenue = Lease Receivable - Leased Asset

At lessee's Book:
Leased asset is reported at fair value of asset

2. Accounting for a sales-types lease with unguaranteed residual

At Book of the Lessor:
Amount of lease receivable = amount lease payment X lease period + amount of un guaranteed residual value
Amount of cost of goods sold= Carry value of leased asset - present value of unguaranteed residual value
Amount of sales revenue = Fair value of leased asset - present value of un guaranteed residual value
Amount of unearned interest revenue= Amount of lease receivable - fair value of leased asset

At Book of the lessee:
Amount of lease liability = present value annuity of annual lease payment (excluding the unguaranteed residual value)

Present value of ordinary Annuity = rental payment $\frac{(1-(1+i^{-n})}{i}$

Present value of Annuity due = rental payment $\frac{(1-(1+i)^{-n}}{i}(1+i)$

Illustrative Problem:

Ethiopian Telecommunications Corporation (ETC) leased a satellite transmission device from Satellite Technology Corporation on January 1, 2001. Satellite Technology paid Br. 500,000 for the transmission device.

Terms of the lease agreement and related information:

Lease term ..... 3 year (6 semiannual periods)

Semiannual rental payments … Br 123,000 - beginning of each period
Implicit interest rate
(Lessee's incremental borrowing rate)…… 12%
Economic life …… 4 years
Unguaranteed residual value …… Br. 40,000
Regulatory fees paid by lessor …Br. 3000/semiannual (included in rentals)
Lessor's initial direct costs …… Br. 4,500
Contingent rental payments …… Br. 4000 if Revenues exceeds a specified base

Required:

a) Compute the present value of minimum lease payment
b) Prepare an amortization schedule that describes the pattern of interest expense over the lease term for ETC
c) Prepare the appropriate entries for both Ethiopian Telecommunications Corporation and satellite Technology Corporation on January 1 and June 30, 2001.
d) Prepare the appropriate entries for both the lessor and lessee on Dec. 31, 2003 (the end of the lease term), assuming the device is returned to the lessor and its actual residual value is Br. 14,000 on that date. Assume straight line method of depreciation is used. (**The solution is given at the end of this chapter).**

Self Test Questions:

Part I: Multiple Choices

Choose the best answer from alternatives provided (**The Answer is given at the end of the module)**

1. At the inception of a capital lease, the guaranteed residual value should be:
    a. included as part of minimum lease payments at present value
    b. included as part of minimum lease payments at future value
    c. excluded from minimum lease payments
    d. included as part of minimum lease payments only to the extent that guaranteed residual value is expected to exceed estimated residual value
2. For an operating lease, the lessee records equal monthly rental payments as
    a. part interest expense and part depreciation expense
    b. part interest expense and part reduction of lease liability
    c. entirely a reduction of lease liability
    d. rent expense
3. On December 31, 2000, ABC Company leased a machine from XYZ Company for a five-year period. Equal annual payments under the lease are Br. 105,000 (including Br. 5,000 annual executory costs) and are due on December 31 of each year. The first payment was made on December 31, 2000, and the second payment was made on December 31,2001. The

five lease payments are discounted at 10% over the lease term. The present value of minimum lease payments at the inception of the lease and before the first annual payment was Br. 417,000. The lease is appropriately accounted for as a capital lease by ABC. In its December 31,2001, balance sheet, ABC should report a lease liability of

a) Br. 317,000 b) Br. 315,000 c) Br. 285,300 d) Br. 248,700

4. On May 1, Year 2, Ocean Company sold machinery to Abegaz Trading for its current fair value of Br. 275,000. Simultaneously, Ocean leased back the machinery at Br. 750 a month for five years, with no option to renew the lease or to reacquire the machinery. On May 1, year 2, the machinery had a carrying amount of Br. 250,000 and a remaining life of 10 years. What is the amount of rent expense for the machinery for the year ended October 31, year 2?

a) Br 0 b) Br 2,000 c) Br2,500 d) Br4,500 e) None

5. The excess of the fair value of leased property at the inception of the lease over its cost or carrying amount is recorded by the lessor as:
   a. Unearned revenue from a sales-type lease
   b. unearned revenue from a direct-financing lease
   c. Manufacturer's or dealer's profit from a sales-type lease
   d. Dealer's profit from a direct-financing lease

Part II: Review Questions:

1. Compare the way a bargain purchase option and a residual value are treated by the lessee when determining minimum lease payments
2. In a sale-lease back transaction the owner of the asset sells it and immediately leases it back from the new owner. This dual transaction should be viewed as a single borrowing transaction. Why?
3. Differentiate between the ''lessee's incremental borrowing rate" and the ''the lessor's implicit interest rate ''In accounting for leases and indicate when one or the other should be used
4. What is the basic difference to the lessor between a direct financing capital lease and a sales-type capital lease?
5. Differentiate between the accounting procedures used by lessors to account for a sales-type lease and for a direct financing lease.

Part III: Exercises and Problems:

1. On January 2, year 7, Lessee Corporation singed a 10-year non cancelable lease to make annual payments of Br. 30,000 for 10 years beginning January 2, year 7 with a title to machinery to pass to lessee at the end of this period. The machinery has an economic life of 15 years and no residual value. Lessee uses the straight line depreciation method for all its plant assets. Lessee appropriately accounted for the lease transaction as a capital lease, using its incremental borrowing rate of 12% a year. Compute the following for lessee corporation for year 7
   a. present value of minimum lease payment, January 2, year 7
   a. Interest expense for year 7
   b. Depreciation expense for year 7

2. On January 5, year 8, lessor inc. entered into a five-year sales-types lease for equipment with lessee company with the following details:
   Annual payment due each January 5, beg. Year 8 ..... Br. 10,000
   Bargain purchase option Jan. 5, year 13 ..... Br. 1,000
   Cost of equipment in lessor's inventories ledger a/c ... Br. 32,000
   Economic life of equipment ..... 8 years
   Initial direct costs paid by lessor Jan 5, year 8 ..... Br. 800

   Executory costs to be paid to lessor by lessee
   each January 5, beginning year 8 ..... Br. 1,500
   Lessor's implicit interest rate (known to lessee) 12%
   Residual value of equipment ..... none

Lessor used perpetual inventory system.

Prepare Journal entries for lessor, inc., for the year ended December 31 year 8, assuming lessee company made all lease payment when due.
(Round all amounts to the nearest Birr.)

Solution for Illustrative problem

Present value of a minimum lease payment excluding executory costs of Br. 3000.

Pr= Rental payments $\frac{(1-(1+)^{n}(1+i)*}{i}$

= (Br. 123,000-3000) $\frac{(1-(1+0.06)^{6}(1+0.06)}{0.06}$

= Br. 120,000 x5.21236)
= Br. 625,483

- If rental payment is paid at the beginning of the period it is an annuity due; whereas, if rental payment is paid at the end of the period, it is an ordinary Annuity.

Note: The unguaranteed residual value is excluded form minimum lease payments for both the lessee and the lessor.

b) Amortization Schedule for lease payments

a) Period	b)Payments	c) Interest expense at 6%	d) Decrease in balance (b-c)	e) Outstanding balance
Jan 1,2001				Br. 625,483
Jan 1,2001	Br.120,000		Br. 120,000	505,483
June	120,000	0.06x505,483=30,329	89,671	415,812

30,2001				
Jan 1,2002	120,000	0.06x415,812=24,949	95,051	320,761
June 30,2002	120,000	0.06x320,761=19,246	100,754	220,007
Jan 1,2003	120,000	0.06x220,007=13,200	106,800	113,207
June 30,2003	120,000	0.06x113,207=6793*	113,207	0

 Adjusted for rounding of other numbers in the schedule.

C) Journal entries on the book of Ethiopian Telecommunications Corporation (Lessee)

Jan 1,2001- Leased Equipment 625,483
Lease payable 625,483
Lease payable 120,000
Regulatory fee expense 3,000
Cash 123,000
June 30, 2001 - Interest expense 30,329
Regulatory fee expense 3,000
Lease payable 89,671
Cash 123,000

Journal entries on the book of Satellite Technology (Lessor)
January 1, 2001:
Lease Receivable (Br. 120,000x6) + Br. 40,000 760,000
Cost of goods sold [Br. 500,000-(40,000x0.70496)] 471,802
Sales revenue 625,483
Unearned interest revenue** 106,319
Inventory on equipment 500,000

* Present value of Br. 40,000 = $\frac{Br.40,000}{(1+i)^n}$

= Br. 40,000 x $\frac{1}{(1+i)^n}$

= $Br.40,000 x \frac{1}{(1+0.06)^6}$

= Br. 40,000 x 0.70496
= Br. 28,198

** Lessor's Net investment:
Present value of periodic rental payments ..... Br. 625,483
Plus: Present value of the un guaranteed residual value... 28,198
Lessor's net investment in lease ..... Br. 653,681
January 1, 2001 - Selling expense 4,500
Cash (initial direct costs) 4,500
Cash 123,000
Regulatory fee payable (cash) 3,000
Lease Receivable 120,00

June 30, 2001 - Cash 123,000
Regulatory fee payable (cash) 3,000
Lease Receivable 120,000
Unearned interest revenue 32,021
Interest revenue 32,021
(6%(653,681-120,000)

4. Journal entries on December 31, 2003 on the book of lessee

Depreciation expense (625,483÷3) 208,494
Accumulated depreciation 208,494
Accumulated depreciation 625,482
Leased Equipment 625,483

On the Book of the lessor:

Inventory of equipment (Actual residual value) ... 14,000
Loss on leased equipment (Br. 40,000-14,000) ... 26,000
Lease Receivable 40,000
Unearned interest revenue 2265
Interest revenue 2265

CHAPTER FIVE

ACCOUNTING FOR INCOME TAXES

INTRODUCTION

For profit organizations are required to keep income tax returns with an agency of the federal (or local) government, the Internal Revenue service (CIRS). When a firm has taxable income as measured by the rules in IRS regulations and pronouncements, the firm must pay income taxes.

The primary purpose for taxing income is to raise funds to government activities such as providing for national defense, building infrastructure of roads, dams, bridges, social and security service, agricultural and industrial services. The secondary purpose is to shift tax burden in ways that influence various types of activity. The major topic covered in this chapter is how to account for income taxes when the income measured for tax reporting differs from income measured for financial reporting.

Learning Objectives

After studying this chapter, you, dear students, should be able to:

- identify differences between pretax financial income and taxable income
- describe a temporary difference that results in future taxable amounts and future deductible amounts
- identify and describe the types of temporary and permanent differences
- explain the purpose of deferred tax asset valuation allowance
- describe the presentation of income tax expense and deferred income taxes in financial statements
- explain how a change in tax rates affects the measurement of deferred income tax amounts
- describe when and how an operating loss carry for ward and an operating loss carry back are recognized in the financial statements
- explain intra period and inter-period tax allocation

5.1. Fundamental of Accounting for Income Taxes

When a company prepares its tax return (statement issued for tax purpose) for a particular year, the revenues, gains, expenses and loss included on the return are, by and large, the same as those reported on the company's income statement for the same year. However, there might be differences between tax laws and financial accounting standards because the fundamental objectives of financial reporting and those of taxing authorities are not the same.

Financial accounting standards are established to provide useful information to investors and creditors. On the other hand, tax authorities or internal revenue service is primarily concerned with raising public revenues in a socially acceptable manner and with influencing the behaviour of tax payers so that the tax laws are used to encourage activities of business enterprises

that are deemed desirable such as investment in productive assets, and to discourage activities which are deemed undesirable, such as violation of law.

Dear colleagues, you have encountered with terms ''Financial income'' and 'taxable income'' in the previous financial accounting course you have learnt. Would you give your answers for their differences?

_____

_____

_____

Financial income is a financial accounting term often referred to as income before income taxes, income for financial reporting purposes, or income for book purposes. Taxable income is a tax accounting term used to indicate the amount upon which a company's income tax payable is computed. Because tax laws or regulations and GAAPS are different in many ways, pretax financial income and taxable income frequently differ.

Example: - Depreciation is computed on a straight-line basis for financial reporting purposes, but by an accelerated method for tax purposes.

- Income is recognized on the accrual basis for financial reporting purposes, but may be recognized on the installment basis for tax purposes
- Warranty costs are recognized in the period incurred (matched with the sales revenue) for financial reporting purposes, but recognized when paid for tax purposes.

5.2. Differed Tax Liabilities

A deferred tax liability represents the increase in taxes payable in future years as a result of taxable temporary differences existing at the end of the current year. Here, we have to understand a temporary difference that originates in one period and reverses (turns) around in one or more subsequent periods. For instance, temporary differences originate in the year the installment sales are made and are reported on the income statement and then reverse when installment sales are collected and income is reported on the tax return.

Example: Ethiopian Telecommunications Corporation reported pretax income Br 140 million in year 2003, Br 100 million in year 2004, and Br 100 million in year 2005. The 2003 income includes Br 40 million resulted from installment sales of mobile apparatus. However, the installment sales income is reported in the tax return when collected. The federal income tax rate is 40%. Br 25 million and Br 15 million were collected in year 2004 and 2005, respectively.

Instruction:

a. Compute the taxable income in each year
b. Prepare the journal entries to record income taxes in each year

Solution:

a.

	Temporary difference			
	Originates	Reverses		
(In millions)	**Year 2003**	**Year 2004**	**Year 2005**	**Total**
Pretax accounting income.....	Br. 140	Br. 100	Br. 100	Br. 340
Less: Installment sales on income statement.....	(40)	0	0	(40)
Add: Installment sales on tax return.....	0	25	15	40
Taxable income	Br. 100	Br. 125	Br. 115	Br. 340
Times: Tax rate (40%)	40	50	46	

Deferred tax liability = 40 million x 0.4
= 16 million which is recorded in year 2003.

b. The journal entries are the followings:

At the end of year 2003:

Income tax expense 56,000,000
Income tax payable 40,000,000
Deferred tax liability. 16,000,000

At the end of year 2004:

Income tax expense 40,000,000
(100,000,000x40%)
Deferred tax liability.. 10,000,000
(25,000,000x40%)
Income tax payable 50,000,000

At the end of year 2005:

Income tax expense (to balance) 40,000,000
Deferred tax liability (15,000,000x40%) 6,000,000
Income tax payable 46,000,000

Note that the accounting income and taxable income total the same amount over the three-year period but are different in each individual year. In year 2003, taxable income is 40 million less than accounting income because it doesn't include income from installment sales. Though, the difference is temporary, that situation reverses over the next two years. In 2004 and 2005 taxable income is more than accounting income because income on the installment sales, reported on the income statement in 2003, becomes taxable during the next two years as installments are collected.

As we have seen above, each year, income tax expense comprises both the current tax expense and the deferred tax expense consequences of events and transactions already recognized. Deferred tax expense is the increase in the deferred tax liability balance from the beginning to the end of the accounting period.

The FASB's Balance Sheet Approach

Installment sales have effects on the income and on the changes in the deferred tax liability as the temporary difference reverses, as we have discussed so far. Another perspective is to consider the balance sheet effect. From this point of view, we regard a deferred tax liability (or asset) to be the tax effect of the temporary difference between the financial statement-carrying amount of an asset or liability (accounting basis) and its tax basis. The tax basis of an asset or liability is its original value for tax purposes reduced by any amounts included to date on tax returns.

When a company sells something on an installment basis, it reports a receivable. From a tax perspective, there is no receivable because a ''taxable sale'' doesn't occur until installments are collected.

Of course, the income statement view and the balance sheet view are two different perspectives on the very same event, we derive the same deferred tax liability whether we view it as a result of a temporary difference (a) between accounting and taxable income, or (b) between the financial statement carrying amount of an installment receivable and its tax basis. However, conceptually, the balance sheet approach strives to establish deferred tax assets and liabilities that meet the definitions of assets and liabilities provided by the FASB's conceptual framework. As specified by SFAC 6, assets represent, ‘‘probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events." and liabilities are ''probable future sacrifices of economic benefits as a result of past transactions or events."

Illustration: Getaneh Trading has sold goods on installment sales for Br 50,000 and collected Br. 10,000 from down payment of the credit customers in year 2000. In year 2001 and year 2002, it collected Br. 10,000 and Br. 30,000, respectively. The enacted tax rate was 40%. Assume receivables have a zero tax-basis.

Required - Make the journal entries to record the income taxes at the end of Dec. 31, each year.

Solution:

	December 31,		
	2000	**2001**	**2002**

Receivables from Installment sales:						
Accounting basis	Br. 40,000	Br. 40,000	Br. 10,000	Br. 30,000	Br. 30,000	0
Tax basis	(0)	(0)	(0)	(0)	(0)	(0)
Temporary difference	Br. 40,000	Br. 40,000	Br. 10,000	Br. 30,000	Br. 30,000	0
Tax rate		x 40%		x 40%		x 40%
Deferred tax liability		Br. 16,000		Br. 12,000		0
	Originating difference			Reversing differences		

December 31, 2000, Journal entry:

Income tax expense 16,000
Deferred tax liability 16,000

Dec 31, 2001, Journal entry:

Deferred tax liability 4,000
Income tax payable 4,000
(40%x10,000)

Dec 31, 2002, Journal entry: Deferred tax liability 12,000
Income tax payable 12,000
(40%x Br 30,000)

In the above example, the probable future sacrifices of economic benefits are payments of Br. 4,000 and Br 12,000 in year 2001 and year 2002, respectively. The past transactions or events resulting in the future tax payments are the installment sales in 2000.

Dear students, as we have seen above, there are differences between taxable income and pretax income (financial income).Could you give the causes of other differences which we didn't mention?

Types of differences

Before we determine income tax expenses, first it is necessary to consider in more detail why taxable income and pretax accounting income might be different.

There are two basic types of differences between taxable income and pretax accounting:

- Permanent differences
- Temporary differences

1. Permanent differences:

A permanent difference is created when an income element, such as a revenue, gain, expense or loss enters the computation of either taxable income or pretax accounting income, but never enters into the computation of the other. For example, interest income received on tax-free municipal bonds is included in pretax accounting income, but not in taxable income. For financial reporting, whatever effect the permanent difference has on taxes currently payable, as determined on the tax return, is included in the determination of income tax expense reported in the financial statements. For example, if a permanent difference is the only difference between taxable income and pretax accounting income, income tax expense for financial reporting is equal to the amount computed as taxes payable on the tax return for the period.

The government may enact a variety of tax law provisions in an effort to attain certain political, economic, and social objectives. Some of these provisions exclude certain revenues from taxation, limit the deductibility of certain expenses, and permit the deduction of certain other expenses in excess of costs incurred. A corporation that has tax free income, non-deductive expenses, or allowable deductions in excess of cost has an effective tax rate that is different from the statutory (regular) tax rate.

Since permanent differences affect only the period in which they occur, they don't give rise to future taxable or deductible amounts. As a result, there are no deferred tax consequences to be recognized.
Items that cause permanent differences:

- Interest received from investments in bonds issued by state municipal governments
- Investment expenses incurred to obtain tax-exempt income
- Proceeds from life insurance on the death of an insured executive or employees
- Premiums paid for life insurance policies when the payer is beneficiary
- Expenses due to violations of the law e.g. Fines & penalties
- Corporate dividend exclusion
- Amortization of good will and percentage depletion of natural resources in excess of their costs
- Expenses incurred in obtaining tax-exempt income

When a corporation owns shares of another corporation, a percentage of dividends from those shares are exempt from taxation due to the dividends received deductions. The percentage is 70% if the investor (share holder) owns less than 20% of the invitee's (corporation's) shares, 80% for 20% to 80% ownership, and 100% for more than 80% ownership.

2. Temporary differences

A temporary difference arises when the measurement rules for financial reporting (GAAP) differ from tax reporting rules (the Internal Revenue Code) as to the timing of recognition of various revenues, gains, expenses, losses,

assets or liabilities. In other words, it is a difference between the tax basis of an asset or liability, and its reported amount in the financial statements that will result in taxable amounts or deductible amounts in future years. Temporary differences affect the computation of either taxable income or pretax accounting income in one period, and in some subsequent period(s) they affect the computation of the other type of income. The differences are temporary because they originate in one (or more) periods, and reverse and have the opposite effect in one (or more) future periods.

For example, a firm that pays cash for a two-year five insurance policy can usually deduct the payment on its tax return in the year the payment is made. However, for financial reporting, the payment is recorded as a prepaid expense (asset) and is subsequently expensed over the period covered by the insurance policy. The current year deduction for tax purposes results in taxable income being less than pretax accounting income in the payment period. In later periods, the expenses for financial reporting are greater than those for tax purposes; thus, taxable income is greater than pretax accounting income. Temporary differences between the reported amounts of an asset or liability in the financial statements and its tax basis are primarily caused by revenues, expenses, gains and losses being included in taxable income in a year earlier or later than the year in which they are recognized for financial reporting purposes.

Items that cause temporary differences are:

	Revenues (or gains)	**Expenses (or losses)**
Items reported on the tax return after the income statement	• Installment sales of property • Unrealized gain from recording in vestments at fair value (taxable when asset is sold) • Contracts accounted for under the percentage-of-completion method • Investments accounted for under equity method	• Bad debt expenses using allowance method • Estimated expenses and losses (tax deductible when paid) • Warranty expenses • Unrealized loss from recording investments at fair value or inventory at LCM (tax deductible when asset sold)
Items reported on the tax return before the income statement	• Rent collected in advance • Subscriptions collected in advance • Other revenue collected in advance	• Accelerated depreciation on tax return (straight line depreciation on the income statements) • Prepaid expenses (tax deductible when paid)

Temporary differences that will result in taxable amount in future years when the related assets are recovered are often called **taxable temporary differences**; temporary differences that will result in deductible amounts in future years when the related book liabilities are settled are often called **deductible temporary differences**.

An originating temporary difference is the initial difference between the book basis and the tax basis of an asset or liability, regardless of whether the tax basis of the asset or liability exceeds or is exceeded by the book basis of the asset or liability. A reversing difference, on the other hand, occurs when a temporary difference that originated in prior periods is eliminated and the related tax effect is removed from the deferred tax account.

Example: Assume that Kiber Company reports pretax financial income of Br. 200,000 in each of the years 1997, 1998, 1999 and 2000. The Company is subject to 30% tax rate, and has the following differences between pretax financial income and taxable income:

- An installment sale of Br. 18,000 in 1997 is reported for tax purposes over an 18-month period at a constant amount per month beginning September 1, 1998. The entire sale is recognized for book purposes in 1997.
- In 1997, equipment was acquired for Br. 100,000. The asset is depreciated for financial reporting purposes over four years on a straight-line basis (no residual value). For tax purposes, an asset's cost is deducted (by Accelerated method) over 1997-2000 as follows: Br 33,000, Br 44,000, Br. 15,000, and Br. 8, 000, respectively. No other depreciable assets were acquired.
- Premium paid for life insurance carried by the Company on key officers is Br. 5000 in 1998 and 1999. This is not deduction for tax purposes, but is expensed for book purposes.

Required - prepare the journal entries needed to be made to record income taxes (show the computations).

Solution –

Annual depreciation= Br. 100,000 = Br 25,000
4 years

Monthly installment sales to be recognized = $= \frac{Br.18000}{18 months} = Br1000$

Installment sales recognized in year 1998
= 4 months x 1000 = Br 4000

Installment sales recognized in year 1999
= 12 months x Br 1000= Br. 12,000

Installment sales recognized in year 2000
= 2 months x Br. 1000 = Br 2000

Total Installment sales Br4, 000 + 12,000 + 2,000=Br16, 000

	Year 1997	**Year 1998**	**Year 1999**	**Year 2000**
Pretax financial income:	Br. 200,000	Br. 200,000	Br. 200,000	Br. 200,000
Temporary difference:				

Installment sales	(18,000)	4,000	12,000	2,000
Depreciation on the Income statement	25,000	25,000	25,000	25,000
Depreciation on the tax return	(33,000)	(44,000)	(15,000)	(8,000)
Permanent difference:				
Non deductible expense	-	5,000	5,000	-
Taxable income	Br. 174,000	Br. 190,000	Br. 227,000	Br. 219,000

Tax rate	30%	30%	30%	30%
Income tax payable	Br. 52,200	Br. 57,000	Br. 68,100	Br. 65,700

The Journal entries to record income taxes for Kiber Company for 1997, 1998, 1999 and 2000 are as follows:

December 31, 1997:

Income tax expense 60,000
Income tax payable 52,200
Deferred tax payable 7,800
((Br. 18,000 + 33,000 - 25,000) x30%)

December 31,1998:

Income tax expense 61,500
Income tax payable 57,000
Deferred tax payable 4,500
(44,000-4000-25,000)x30%

December 31,1999:

Income tax expense 61,500
Deferred tax payable 6,600
(12,000+25,000+15,000)x30%
Income tax payable 68,100

December 31,2000:

Income tax expense 60,000
Deferred tax payable 5,700
(25,000 +2,000-8000) x30%
Income tax payable 65,700

Note - When there is a positive net difference, the deferred tax liability will be settled and becomes debited, where as the net difference is negative, the amount is the additional deferred tax liability, and the permanent difference is added to financial income to calculate the periodic income tax expense.

Activity

1. Why are there differences between taxable income and pretax accounting income?

_____

_____

2. How are permanent differences handled in determining income tax expense?

_____

_____

5.3. Deferred Tax Assets

A deferred tax asset is a deferred tax consequence resulted from deductible temporary differences. In other words, a deferred tax asset represents the increase in taxes refundable (or saved) in future years as a result of deductible temporary differences existing at the end of the current year.

The future deductible amounts will cause taxable income to be less than pretax financial income in the future as a result of an existing temporary difference. The future deductible amounts are beneficial only it the company has sufficient taxable amounts to off set them in the future. That is, if there are no taxable amounts in the future, then there is no benefits from the deductible amounts in the future and therefore no deferred tax asset.

A deferred tax asset is a deferred tax benefit which results from the increase in the deferred tax asset from the beginning to the end of the accounting period. The deferred tax benefit is a negative component of income tax expense.

Example: Assume Bahir Dar Textile Factory accrues a loss of Br. 50,000 in 1999 for financial reporting purpose because of pending litigation.
The enacted tax rate was 40%.
Required - Compute the deferred tax asset

Solution- Bahir Dar Textile Factory

Book Basis of litigation liability	Br. 50,000
Tax basis of litigation liability	-0-
Cumulative temporary difference at the end of 1999	Br. 50,000
Tax rate	40%
Deferred tax asset at the end of 1999	Br. 20,000

Assume that Bahir Dar Textile Factory earns Br. 400,000 in year 1999 at 40% tax rate; compute the income tax expense for year 1999.

Solution:

Bahir Dar Textile Factory

Deferred tax asset at the end of 1999	Br. 20,000
Deferred tax asset at the beginning of 1999	0
Deferred tax benefits for 1999	(Br. 20,000)

Current tax expense for 1999 (40% x Br 400,000) 160,000
Income tax expense (total) for 1999 Br. 140,000

The journal entry to record in come tax expense for 1999 will be

Income tax expense 140,000
Deferred tax asset 20,000
Income tax payable 160,000

Assume if the Factory earns Br. 300,000 (pretax financial income) with out incurring loss in year 2000. The income tax expense will be

Bahir Dar Textile Factory

Deferred tax asset at the end of 2000	Br 0
Deferred tax asset at the beginning of 2000	20,000
Deferred tax expense (benefit) for 2000	Br. 20,000
Current income tax expense for 2000 (40% x Br. 300,000)	120,000
Total income tax expense for 2000	Br. 140,000

The journal entry will be:

Income tax expense	140,000	
Deferred tax asset		20,000
Income tax payable		120,000

Deferred Tax Asset- Valuation Allowance

A deferred tax asset is recognized for all deductible temporary difference. However, a deferred tax asset should be reduced by a valuation allowance, if, based on available be reduced by a valuation allowance, if, based on available evidence, it is more likely than not that some portion or all of the deferred tax asset will not be realized. More likely than not means a level of likelihood that is at least slightly more than 50%.

The decision as to whether a valuation allowance is needed should be based on the weight of all available evidences-both positive and negative. For instance, operating losses in recent years or anticipated circumstances that would adversely affect future operations would constitute negative evidence. On the other hand, a strong history of profitable operations or sizable, existing contracts would constitute positive evidence of sufficient taxable income to be able to realize the deferred tax asset. The benefits of future deductible amounts (deferred tax assets) can be realized only it future income is at least equal to the deferred deductions. After all, a deduction reduces taxes only if it reduces taxable income.

Strong positive evidence from any one of the possible sources that cause the deferred tax assets to be realized is sufficient to support a conclusion that a valuation allowance is not needed.

Alternatively, If there is a chance of 50% or less that all or portion of the deferred tax asset will be realized, a valuation allowance must be recorded for that portion.

The valuation allowance is a contra account sufficient to reduce the deferred tax asset to the amount more likely than not to be realized.

Income tax expense = Income tax expense (current portion)
+ Income tax expense (deferred portion)
Income tax expense = Income tax payable for current period
(current portion) as computed on current period tax return
Income tax expense (deferred portion)= Increase (decrease) in deferred
tax liability + decrease (increase
decrease) in valuation allowance

Example - Assume that Adey Abeba Trading has a deductible temporary difference of Br. 100,000 at the end of its first year of operations. Its tax rate was 40%. During the year, the business enterprise earned
br. 2,400,000. At the end of the year, after careful review of all available evidence, it is determined that it is more likely than not that Br. 10,000 of the deferred tax asset will not be realized.

Required: Make the necessary journal entries at the end of the period.

Solution:

Amount of deferred tax asset= Br 100,000 x40%=40,000
Income tax payable= 40%x2,400,000=Br. 960,000

Income tax expense 920,000
Deferred tax asset 40,000
Income tax payable 960,000
Income tax expense 10,000
Valuation Allowance 10,000

Assume if the deferred tax asset of Br. 35,000 expected to be realized at the end of the period, there should be adjustment on valuation account.

Valuation Allowance 5,000
Income tax expense 5,000

Tax Rate Considerations

In our previous illustrations, the enacted tax rate didn't change from one year to the next. Thus, to measure the deferred tax liability or asset to be reported on the balance sheet, we multiply the temporary difference by the currently enacted tax rate, however, a conceptual case can be made that expected rate changes should be anticipated when measuring the deferred tax liability or asset. This is one of the examples of the frequent trade-off between relevance and reliability. In this case, the FASB chose to favor reliability by waiting until an anticipated change actually is enacted into law before recognizing its tax consequences.

When Enacted Tax Rates Differ

Existing tax laws may can for enacted tax rates to be different in two or more future years in which a temporary difference is expected to reverse. When there are different changes in rates, the specific tax rates of each future year are multiplied by the amounts reversing in each of those years. The total is the deferred tax liability or asset.

Example - Lake Company reported pretax income in 2000 of Br. 100 million except for additional income of Br. 40 million from installment sales of property a Br. 5 million interest from investments in municipal bonds in 2000. The installment sales income is reported for tax purposes in 2001 (Br. 10 million) and 2002 (Br. 30 million). The enacted tax rates are 40% for 2000 and 2001, and 35% for 2002.

Required: Make the journal entries to record tax payable in each year.

Solution:

(In millions)	Current year (2000)	Future Taxable amount 2001	2002	Total
Accounting income	Br. 145			
Permanent difference:				
Municipal bond interest	(5)			
Temporary difference:				
Installment income	(40)	10	30	
Taxable income	Br. 100			
Enacted tax rate	40%	40%	35%	
Total taxable payable (current)	Br. 40			
Deferred tax liability		Br. 4	Br.10.5	Br.14.5

Journal entry in each year (in millions):
December 31, 2000:

Income tax expense	54.5	
Deferred tax payable		14.5
Income tax payable		40

December 31, 2001:		**December 31, 2002:**	
Deferred tax payable	4	Deferred tax payable	10.5
Income tax payable	4	Income tax payable	10.5

Changes in Tax Laws or Rates:

Tax laws some times change. If a change in a tax law or rate occurs, the deferred tax liability or asset must be adjusted. Remember, the deferred tax liability or asset is meant to reflect the amount to be paid or recovered in the future. When legislation changes that amount, the deferred tax liability or asset also should change. The effect is

reflected in operating income in the year of the enactment of the change in the tax law or rate.

Example - For clarification, reconsider the previous illustration. Without a change in tax rates and assuming that accounting income in 2001 is Br. 100 million (with no additional temporary or permanent differences), the 2001 income tax amounts would be determined as shown below:

		Current year	**Future taxable amount**
(Br in millions)	**2000**	**2001**	**2002**
Accounting income		Br. 100	
Temporary difference			
Installment income	(40)	10	Br. 30
Taxable income		Br. 110	
Enacted tax rate		x40%	x 35%
Tax payable currently		Br. 44	
Deferred tax liability		Br. 10.5	

Deferred tax liability
Ending balance ..... Br. 10.5
Less: Beginning balance ..... (14.5)
Change in Balance ..... (Br. 4)

Journal entry at the end of 2001
Income tax expense 40
Deferred tax liability 4
Income tax payable 44

Now assume the congress passed a new tax law in 2001 that will cause the 2002 tax rate to be 30% instead of 35% rate. Because a deferred tax liability was established in 2000 with the expectation that 2002 taxable amount would be taxed at 35%, it would now be adjusted to reflect taxation at 30%, instead, as shown below:

(Br. in millions)		**Current year**	**Future taxable amount**
	2000	**2001**	**2002**
Accounting income			
Temporary difference			
Installment income (40)	(40)	10	Br. 30
Taxable income		Br. 110	
Enacted tax rate		40%	30%
Tax payable currently		Br. 44	
Deferred tax payable			Br. 9

Deferred Tax Liability
Ending balance ..... Br. 9
Less: Beginning balance ..... (14.5)
Change in Balance ..... (Br. 5.5)

Journal entry at the end of 2001:
Income tax expense 38.5

Deferred tax liability 5.5
Income tax payable 44

5.4. Accounting for Net Operating Losses

An operating loss is negative taxable income: tax-deductible expenses exceed taxable revenues. Of course, there is no tax payable of the year an operating loss occurs because there is no taxable income. Under certain circumstances, there fore, the federal tax laws permit taxpayers to use the losses one year to off set the profits of other years. Off setting operating profits with operating losses is achieved by either a carry back of the loss to prior years or a carry forward of the loss to later years, or both.

5.4.1. Loss Carry back

Through the use of a loss carry back, a company may carry the net operating loss back three years and receive refunds for income taxes paid in those years. The loss must be applied to the earliest year first and subsequently to the second and third years. Any loss remaining after the 3-year carry back may be carried forward up to 15 years to offset future taxable income.

Operating loss carry back will be applied if taxable income was reported in any of the three previous years. By reducing taxable income of a previous year, the company can receive an immediate refund of taxes paid that year.

If taxable income was not reported in either of the three previous years, or higher tax rates are anticipated in the future, a company might elect to forgo (leave) the operating loss carry back and carry the loss for ward up to 20 years to offset taxable income of those years. A carry back election is a choice that must be made in the year of the operating loss and the choice is irrevocable. However, use of carry back option provides an immediate flow of cash at a time when alternative sources of cash may not be available. For this reason, many companies with net operating losses, including companies that don't expect to return to profitable for a period of time, choose to carry their losses back.

5.4.2. Loss Carry forward

You, dear students, have learnt in this chapter that a deferred tax asset is recognized for the future tax benefits of temporary differences that create future deductible amounts. An operating loss carry forward also creates future deductible amounts. Logically then, a deferred tax asset is recognized for an operating loss carry forward also.

The tax effect of a loss carry forward represents future tax savings. But the tax effect of a loss carry back represents tax benefits.

Example - Assume that the tax information for Nigat Kekeb Plc. is given below:

Year	Taxable income or loss	Tax rate	Tax paid
1981	Br. 75,000	30%	Br. 22,500
1982	50,000	35%	17,500
1983	100,000	30%	30,000
1984	200,000	40%	80,000
1985	(500,000)	40%	-

In 1985, Nigat Kokeb incurs a net operating loss that it decides to carry back.

Required - prepare the journal entries to record the benefits of the carry back and the carry forward.

Solution - The 1985 loss will be carried back first to 1982, and then to 1983, finally the remainder will be applied against 1984. The receiving refunds for these three years are Br. 127,500 (17,500+30,000+80,000)

The journal entry for 1985:

Income tax refund receivable 127,500
Benefit due to loss carry back (income tax expense) ... 127,500

Net loss will be: Br. 500,000 - Br. 127,500
= Br. 372,500

Since the Br. 500,000, net operating loss for 1985 exceeds the Br. 350,000 total taxable income from the 3 previous years, the remaining Br. 150,000 loss to be carried for ward.

Journal entry to recognize benefits of loss carry for ward
Without valuation allowance:

Deferred tax asset 60,000
(150,000x40%)
Benefits due to loss carry forward. 60,000
(Income tax expense)

Note - The account debited, Income Tax Refund Receivable, is reported on the balance sheet as a current asset, where as the Benefit due to loss carry back (carry for ward) is reported on the income statement.

For 1986, Nigat Kokeb Company returns to profitable operations and has taxable income of Br. 200,000 (prior to adjustment for the net operating loss (NOL) carry forward) subject to a 40% tax rate. The income tax payable in year 1986 will be:

Taxable income prior to loss carry for ward ..... Br. 200,000
Less: Loss carry forward from 1985 ..... (150,000)
Taxable income for 1986 ..... Br. 50,000
Tax rate X40%
Income tax payable for 1986 ..... Br. 20,000

The journal entry to record income taxes in 1986 would be as follows:

Income tax expense (200,000x40%) 80,000
Deferred tax Asset 60,000
Income tax payable 20,000

The Net income for 1986 would be:

Income before income taxes ..... Br. 200,000

Income tax expense
Current 20,000
Deferred 60,000 80,000
Net income ..... Br. 120,000

Carry forward with valuation Allowance

Return to the Nigat Kobeb plc example, Assume that it is more likely than not that entire NOL carry forward will not be realized in future years. In this situation, the valuation allowance is needed. The journal entry will be as follows:

To recognize benefit of loss carry back:
Income tax Return Receivable 127,500
Benefits due to loss carry back 127,500
(Income tax expense)

To record benefits of loss carry forward:
Deferred tax Asset 60,000
Benefits due to loss carry forward 60,000
(Income tax expense)

To Record Allowance Amount:
Benefits due to loss carry forward (Income tax expense) 60,000
Valuation Allowance-Deferred tax Asset 60,000

The amount of net loss recognized on Income statement for 1985 would be as follows:

Operating loss before income taxes ..... (Br. 500,000)
Income tax Benefits:
Benefits due to loss carry back 127,500
Net loss ..... (Br. 372,500)

In 1986, assuming that the Company has taxable income of Br. 200,000 (before considering the loss carry forward) subject to a tax rate of 40%, the deferred tax asset is realized and the allowance is no longer needed. The following entries would be made:

To record current and Deferred Income Taxes;
Income Tax Expense 80,000
Deferred tax asset 60,000
Income tax payable 20,000

To Eliminate Allowance and Record Loss carry forward:
Valuation Allowance-Deferred tax asset 60,000
Benefits due to loss carry for ward 60,000

The 1986 income statement would be presented as follows:

Nigat Kokeb Plc
Partial Income Statement For 1986

Income before Income taxes ..... Br. 200,000
Income tax expense:

Current	Br. 20,000	
Deferred	60,000	
Benefit due to loss carry forward	(60,000)	20,000
Net income		Br. 180,000

5.5. Financial Statement Presentation

5.5.1. Balance sheet presentation:

Deferred tax accounts are reported on the balance sheet as assets and liabilities. Deferred tax assets and deferred tax liabilities are classified as either current or non-current according to how the related assets or liabilities are classified for financial reporting. For instance, a deferred tax liability arising from different depreciation methods being used for tax and book purposes would be classified as non-current because depreciable assets are reported as non current. A deferred tax asset or deferred tax liability is considered to be related to an asset or liability if reduction (including amortization) of that asset or liability causes a temporary difference to reverse.

Most companies will have several different types of temporary differences that give rise to deferred tax amounts, and reported combined in to two summary amounts. Current deferred tax assets and liabilities should be off set (netted together), with the net current amount reported as either a current asset (if deferred tax assets exceed deferred tax liabilities) or current liability (if deferred tax liabilities exceed deferred tax assets). Similarly, a single net non-current amount should be reported as a net- non current asset or a net non current liability.

Sometimes a deferred tax asset or liability can't be identified with a specific assets or liabilities. When that's the case, the deferred tax asset or liability should be classified according to when the underlying temporary difference is expected to reverse. The deferred tax asset recognized for the future deductible amounts is classified as a current asset for the tax effect of the deduction expected next year, and as a non-current asset for the tax effect of the deduction expected in later years.

A valuation allowance for deferred tax assets should be allocated between the current and non current in proportion to the amount of deferred tax assets that are classified as current and non-current.

Example - Some organization costs and ONL carry for wards are non-related to a specific asset or liability. The total of all deferred tax liabilities, the total of all deferred tax assets, the total valuation allowance, any net change during the year in the total valuation allowance, and the types of temporary differences, carry for wards and carry backs, should be disclosed. Income tax payable is shown as a current liability on the balance sheet.

Example - Assume Equatorial Business Group has four deferred tax items at December 31, 2005:

Equatorial Business Group					
	Temporary difference	Resulting deferred Tax		Related B/Sheet Account	Classification
		Asset	Liability		
1.	Rent collected in Advance; recognized when earned for accounting purposes (Br. 42,000) and when received for tax purpose	(Br.42,000)		Unearned Rent	Current
2.	Use of straight-line depreciation for accounting purposes and accelerated depreciation for tax purposes		Br.214,000	Equipment	Non current
3.	Recognitions of profits on installment sales during period of sales for accounting purposes and during period of collection for tax purposes		45,000	Installment A/Receivable	Current
4.	Warranty liabilities: recognized for accounting purpose at a time of sales; for tax purposes at time paid	(12,000)		Estimated liability under warranties	Current
	Total	(Br. 54,000)	Br. 259,000		
	Current Assets:				
	Deferred tax assets	Br. 9000	(Br. 54,000-45,000)		
	Long-term Liabilities				
	Deferred tax liability	Br. 214,000			

5.5.2. Income statement Presentation

Income tax expense (or benefit) should be allocated to continuing operations, discontinued operations, extra ordinary items, the cumulative effect of accounting changes, and prior period adjustments.

The significant components of income tax expense attributable to continuing operations are current tax expense, deferred tax expenses, investment tax credits, Government grants (reduction of income tax expense), the benefits of operating loss carry forwards (resulting in a reduction of income tax expense), Adjustments of a deferred tax liability or asset for enacted changes in tax laws or rates, Adjustments of beginning of the year balance of a valuation allowance because of a change in judgment about the reliability of the related deferred tax asset in future years. These income tax disclosures are required for several reasons. Some of the reasons are:

- Assessment of quality of earnings- making the reconciliation of pretax financial income and taxable income
- Better predictions of future cash flows
- Helpful in setting Governmental policy

5.6. Intra period Tax Allocation & Inter period Tax Allocation

Allocating income taxes among financial statement components with in a particular reporting period is referred to **intra period tax allocation**. Allocating income tax expenses between two or more reporting periods by recognizing deferred tax assets and liabilities is known as **inter period tax allocation**. Intra period tax allocation is relatively straight for ward and substantially free from controversy where as the inter period tax allocation is challenging and controversial.

Example - Abegaz Inc. has an ordinary loss from continuing operations of Br. 500,000. Its tax rate on the ordinary income is 40%. In addition it has an extra ordinary gain of Br. 900,000 which is taxed at a capital gain rate of 30%. No permanent or temporary differences are there.

Required

a. Compute the amount of taxable income and income tax payable
b. Compute the incremental tax expense allocated to the extra ordinary gain and the net income

Solution

a. Loss from continuing operations (Br. 500,000)
Extra ordinary gain 900,000
Taxable income Br. 400,000
Tax rate x30%
Income tax payable Br. 120,000

b. Allocation of Incremental tax to extra ordinary gain:
Total income tax expense ..... Br. 120,000
Tax benefits allocated to loss from continuing
Operations (500,000x30%) ..... (150,000)

Incremental tax expense allocated to the
Extra ordinary gain..... Br. 270,000

Net income:

Loss from continuing operating before income taxes	(Br. 500,000)
Income tax benefits from operating loss	150,000
Loss before Extra ordinary	(Br. 350,000)
Extra ordinary gain (net of Br. 270,000 tax)	630,000
Net income	Br. 280,000

OR, Taxable income-Income tax payable= Br. 400,000 - 120,000 = Br. 280,000

Comprehensive Illustrative problem:

The two years operational results of Bisrate Gebriel Trading (BGT) Company are given below:

First year: BGT Company has the following results of operations at December 31,1997

- Pretax accounting income in 1997, its first year of operations, totals Br. 100,000
- BGT company has made credit sales Br. 60,000 included in pretax accounting income on installment basis none of which is included in taxable income
- The Company expensed in its financial statements Br. 50,000 as a provision for future warranty costs in 1997. This amount was not deductible for tax purposes in 1997, but will be deductible in future years.
- The enacted tax rate for the period and all future years is 30%

Second year: The Company continues operations in 1998, with this following activities and results:

- Pretax accounting income in 1998 totals Br. 180,000 which included installment sales of Br. 100,000. Collections during 1998 of prior year installment sales Br. 30,000
- Estimated warranty costs of BR. 120,000 are included in expenses for financial reporting. Warranty costs actually incurred during 1998 total Br. 10,000
- On January 1, 1998, the company purchases equipment at a cost of Br. 100,000, having five-year estimated useful life with zero salvage value. Straight-line depreciation will be used for financial reporting. For tax reporting, the equipment will be depreciated in the amounts of Br. 45,000, Br. 35,000, and Br. 20,000 in 1998, 19999, and 2000, respectively (an accelerated schedule)
- The company sublets a portion of its warehouse to another company and requires rent to be paid in advance. BGT received an advance rent payment of Br. 20,000. This amount is included in taxable income in 1998 but not in pretax financial income.
- During 1998, a new tax law is enacted, raising the tax rate to 35% beginning January 1,1998.

Required:

a. Compute the income tax expense for 1997 and make the Journal entry to record income tax (show the computations)
b. Compute the income tax expense for 1998 and prepare the journal entry to record income tax for BGT Company in 1998 (Show the necessary computations). (**The solution is given at the end of the chapter)**

Summary of the chapter

- Income measurement for financial reporting is governed by GAAPS. Income measurement for purposes of determining income taxes payable is governed by the tax laws and their interpretation by the Internal Revenue service (IRS) and state income tax authorities. As a result, taxable income and pretax accounting income differ.
- There are two types of differences between pretax accounting income and taxable income. The first is permanent differences, in which a revenue or expense item is included in the determination of either pretax accounting income or taxable income, but will not ever appear in the computation of the other. Permanent differences don't require the recognitions of deferred tax assets (or liabilities) because they have no future tax consequences. The second one is temporary difference. Temporary differences are items that are included in the current or past-period determination of either pretax accounting income or taxable income, but not both, and are expected to be included in the other at a later date.
- A tax benefit related to a taxable loss can be realized by carrying back the loss to three recent prior periods, oldest period first, for a refund of taxes previously paid on amounts of taxable income equal to the amount of the net operating loss. Benefits also can be realized in the future by carrying the loss forward up to 20 years to offset taxable income in future periods.
- Deferred tax assets are recognized for all deductible temporary. However, a deferred tax asset is then reduced by a valuation allowance if it is more likely than not that some portion or all of the deferred tax asset will not be realized.
- Deferred tax assets and liabilities are classified as either current or not current, depending on the classification of the asset or liability giving rise to the deferred tax item. Current deferred tax assets and current deferred tax liabilities are offset, and a net current deferred tax asset or liability is reported
- Under GAAP, the tax consequences of temporary differences are measured and included in the computation of income tax expense. This approach is referred to as the inter period tax allocation
- Through intra period tax allocation, the total income tax expense for a reporting period is allocated among the financial statement items that gave rise to it.

Self Assessment QUESTIONS

PART I- MULTIPLE QUESTIONS

1. Which one of the following temporary differences are not taxable temporary differences?
    a. Royalties received in advance
    b. Installment sales accounted for on cash basis for tax purposes
    c. Investments accounted for under the cost method for tax purposes
    d. Estimated liabilities related to discontinued operations
    e. Subscriptions Received in advance

2. Which one of the following is true regarding valuation allowance if the portion of the deferred tax asset has not been recognized?
    a. Reducing deferred tax assets and increasing income tax expense
    b. Increasing deferred tax liability and increasing income tax expense
    c. Increasing deferred tax asset and reducing income tax expense
    d. Reducing deferred tax assets and increasing current income tax payable
    e. A and B
3. Deferred tax asset is recognized when an existing temporary difference will produce _____
    a. Future taxable amounts b. Future deductible amounts
    c. Positive income d. A or B
4. FASB indicates that the deferred tax liability meets the definition of liability because of the followings except one
    a. if results from past transaction
    b. it is a present obligation
    c. it represents an economic future benefits
    d. it represents a future sacrifices
    e. B and C
5. Allocating income taxes among operating sales center and disposed segment is an example of _____
    a. Intra period tax allocation c. Inter period tax allowance
    b. Both of them d. Either of them

PART II: REVIEW QUESTIONS

1. Explain why deferred income tax can be either an asset or a liability
2. Define an income tax difference. Identify and briefly define the two types of differences
3. Explain the difference between a taxable temporary difference and a deductible temporary difference
4. Tax laws permit the operating loss to be used to reduce taxable income, in other, profitable years by either a carry back of the loss to prior years or a carry forward of the loss to later years. How are loss carry backs and loss carry forwards recognized for financial reporting purposes?
5. How is it determined whether deferred tax amount are considered to be ''related'' to specific assets or liability amounts?

PART III- EXERCISES AND PROBLEMS

1. At the end of 1990, Awash Corporation had a Br. 90,000 credit balance in its deferred tax liability account. The income tax rate was 30%. This credit balance was due to the following two temporary differences.
    a. Depreciation for accounting purposes, Br. 200,000, and for income tax purposes, Br. 300,000. The related asset has a five-year remaining life
    b. Installment sale revenue for accounting purpose, Br. 600,000 and for income tax purposes, Br. 400,000. The collection period for the Br. 200,000 receivable is the following four years with equal amounts each year.

Required - Show how the deferred tax amounts would be reported on the 1990 balance sheet. Show computations.

2. The following facts relate to Nile Insurance
    1. Deferred tax liability, January 1, 1999, Br. 60,000
    2. Deferred tax asset, January 1, 1999, Br. 20,000
    3. Taxable income for 1999, Br. 105,000
    4. Cumulative temporary difference at December 31, 1999, giving rise to future taxable amounts, Br. 230,000
    5. Cumulative temporary difference at December 31, 1999, giving rise to future deductible amounts, Br. 95,000
    6. Tax rate for all years, 40%. No permanent differences exist
    7. The company is expected to operate profitably in the future

Instructions

a. Compute the amount of pretax financial income for 1999.
b. Prepare the journal entry to record income tax expense, deferred income taxes payable for 1999.
c. Prepare the income the expense section of the income statement for 1999, beginning with the line ''Income before income taxes.''

3. Omedad plc has a deferred tax asset account with a balance of Br. 150,000 at the end of 1998 due to a single cumulative temporary difference of Br. 375,000. At the end of 1999 this same temporary difference has increased to a cumulative amount of BR. 450,000. Taxable income for 1999 is Br. 820,000. The tax rate is 40% for all years. No valuation account related to the deferred tax asset is in existence at the end of 1998.

Instructions

b. Record income tax expense, deferred income taxes, and income taxes payable for 1999, assuming that it is more likely than not the deferred tax asset will be realized
c. Assuming that it is more likely than not that Br. 80,000 of the deferred tax asset will not be realized, prepare the journal entry at the end of 1999 to record the valuation account.

4. Assume the same information as Q. No. 3. except that at the end of 1998, the company had a valuation account related to its deferred tax asset of Br. 45,000
    a. Record income tax expense, deferred income taxes, and income taxes payable for 1999, assuming that it is more likely than not that the deferred tax asset will be realized in full.

b. Record income tax expense, deferred income taxes, and income taxes payable for 1999, assuming that it is more likely than not that none of the deferred tax asset will be realized.

Solution for Comprehensive Illustration:

	1997	**Future years**	Effect on future taxable income	
			Deductible	Taxable
pretax accounting income	Br 100,000			
Temporary differences:				
Credit sales	(60,000)	Br 60,000		Br 60,000
Warranties	50,000	(50,000)	Br50,000	
Taxable Income	Br90,000			
Total deductible differ.			Br50,000	
Total taxable difference				Br60,000
Income tax rate	x30%		x30%	x30%
Taxes payable	Br 27,000			
Deferred tax asset (Dec 31,1997)			Br 15,000	
Deferred tax liability (Dec 31,1997)				Br 18,000

A. Income tax expense in 1997:

Income taxes payable	Br 27,000
Increase in deferred tax liability	18,000
Increase in deferred tax asset	(15,000)
Income tax expense	Br.30, 000

The journal entry on Dec. 31, 1997:

Income tax expense	30,000	
Deferred tax asset	15,000	
Deferred tax liability		18,000
Income taxes payable		27,000

B. First, we have to compute the amount of ending balance of the accounts that are affected by temporary differences:

Installment sales receivable:		
Balance, Jan 1, 1998		Br 60,000
Add: Installment sales in 1998	Br100, 000	
Less: collections of Receivables	(30,000)	
Amt.by which pretax acct income is greater than taxable income in 1998		70,000
Balance, Dec.31, 1998(Future deductible Amt.)		Br.130, 000

Estimated Warranty Liability:

Balance,Jan 1,1998		Br50,000
Add: Warranty Expense in 1998	Br. 120,000	
Less: Warranty costs incurred in 1998	(10,000)	
Amt. by which pretax acct. income is less than taxable income in 1998		110,000
Balance, Dec31, 1998 (future deductible amount)		Br. 160,000

Then,

	1998	future years	Effect on future tax. income	
			Deductible	Taxable
Pretax accounting income	**Br**180,000			
*T*emporary Differences:				
Credit sales	(70,000)	**Br130,000**		**Br 130,000**
Warranties	**110,000**	**(160,000)**	**Br160,000**	
Depreciation	**(25,000)**	**25,000**		**25,000**
Rent received in advance	**20,000**	**(20,000)**	**20,000**	
Taxable Income	**215,000**			
Total deductible differ**e**nce			**Br180,000**	
Total taxable difference				**Br 155,000**
Income tax rate	**X30%**		**X35%**	**X35%**
Taxes Payable	Br 64,500			
Deferred tax asset			Br63,000	
Deferred tax liability				Br54,250

Deferred tax asset ending balance, gross	Br 63,000
Amount more likely than not to be realized	(54,250)
Amount of valuation allowance required at Dec, 31, 1998	8,750
Less: of Valuation allowance at Jan. 1, 1998	0
Increase in Valuation Allowance for the period	Br 8,750

Journal Entry

Income tax Expense	61,500	
Deferred tax asset (Br63, 000-15,000)	48,000	
Income taxes payable		64,500
Deferred tax liability (54,250-18,000)		36,250
Valuation allowance		8,750

CHAPTER SIX
Accounting Changes, Errors and Incomplete Records

INTRODUCTION

We know that changes in all aspects are common because the environment doesn't remain stagnant. When the economic and social environments change, everything in this domain will assume the effects.

Dear students, why do such changes in accounting occur? First, the accounting profession may mandate that a new accounting principle is to be used. Second, changes in economic conditions may cause a company to change its method of accounting. Third, changes in technology and in operations may require a company to

revise the service lives, depreciation method, or the expected salvage value of depreciable assets.

As GAAPS change in response to changes in the economic and social environment, accountants much find ways to implement the new principles in financial reporting. The new and improved principles and estimates should not be ignored simply to maintain consistency with the financial reporting of the past.

Dear students, you learned in your study of *Financial Accounting I* that two of the qualitative characteristics of accounting information that contribute to its relevance and reliability are consistency and comparability. Though we strive to achieve and maintain these financial reporting attributes, we can't ignore the forces of change. Ours is a dynamic business environment. The economic changes and technology advances constantly transform both day-to-day operations and the flow of information about those operations. In short, change is inevitable. The question then becomes a matter of how best to address change when reporting financial information from year to year.

In this chapter, dear students, we explore some approaches to the adoption of new accounting principles and estimates with the goal of maintaining the maximum degree comparability, and at the same time, gaining the advantages inherent in a change to improved or preferable accounting principles and estimates.

Also in this chapter we discuss methods of correcting and reporting errors that are discovered in previously issued financial statements. Finally, we consider ways in which accountants may develop financial statements from incomplete accounting records.

Learning Objectives

Dear students, after you finish this chapter, you will be able to:

- Identify the types of accounting changes
- Describe the accounting for changes in accounting principles, changes in estimates and changes in reporting entity
- Describe the accounting for correction of errors
- Know how to prepare and analyze financial statements from incomplete records, and
- Understand the effects of accounting changes, correction of errors and incomplete records on financial statements.

6.1. Accounting changes

Accounting changes fall into one of three categories:

1. Changes in accounting principles: are changes from one GAAP to another. It may occur in two ways; the first results from adoption of a GAAP different form one used previously for financial accounting.

e.g. Issuance of a new accounting principle by the FASB.

The second type of change in accounting principle involves a change in the method used to measure assets and liabilities.

e.g Change in the method of computing depreciation.
Change in the method of valuating inventories
Change from completed contract to percentage of completion or Vice versa.
Change from cost method to equity method or Vice Versa

2. Change in Accounting Estimate: is the revision of an estimate because of new events occurred and as better information becomes available about the probable out come of future events.

e.g. Change estimate of useful life of depreciable assets
Change estimate of residual value of depreciable asset
Change estimate of bad debts percentage
Change estimate of periods benefited by intangible assets
Revision in the estimated liability for outstanding product warranties.

3. Change in Reporting Entity: is a change from reporting as one type of entity to another type of entity.

e.g If one company combines with another company in a pooling of interests, the financial statements of the current year are not comparable with those of previous years without adequate disclosure of the change in reporting entity and the impact on the financial statements caused by the change.

Errors occur as a result of mathematical mistakes, mistakes in the application of accounting principles, or oversight or misuse of facts that existed at the time financial statements were prepared. A correction of an error is not considered an accounting change and is required when errors are discovered in previously issued financial statements. Examples of corrections of errors include the discovery that material amounts of depreciation expense were not recorded in prior accounting periods, and **a change from an accounting principle that is not generally accepted to one that is generally accepted.**

6.1.1. Change in accounting principle

In the preparation of financial statement there is a presumption that accounting principles once adopted should not be changed. So that meaningful comparisons of successive financial statements may be made. As a result, a change in accounting principle is appropriate only when a business enterprise adopts an alternative GAAP that clearly is preferable. A change from unacceptable accounting principle to an accepted accounting principle is a correction of errors rather than a change in accounting principle. A change in accounting principle is not considered to result from the adoption of a new principle in recognition of events that have occurred for the first time or that were previously immaterial. For Example, when a depreciation method that is adopted for a newly acquired plant asset is different from the method used for previously recorded assets of a similar class, a change in accounting principle has not occurred.

A business enterprise is permitted to change to a new method only if it can demonstrate that the new method is preferable in that it more fairly presents the enterprise's financial position and results of operations. However, if the accounting

principle previously followed was not acceptable or if it was applied incorrectly, a change in generally accepted accounting principles (GAAP) is considered a correction of an error.
For instance, a switch from cash basis of accounting to the accrual basis is considered a correction of an error.

Generally, in opinion No. 20, "Accounting changes" the Accounting principles Board (APB) specifically excluded two events from being considered a change in accounting principle:
These are: 1. the initial adoption of accounting principle to report transactions occurring for the first time, and
2. The adoption of principle to report transactions that is substantially different from those previously occurring.

How should a change to a preferable accounting principle or a selection of different method of applying an accounting principle be reported in order to preserve the comparability among current and future financial statements and those issued in the past? The answer to this question depends on the type of change in the accounting principle and the magnitude of its effects on net income. A change that has a material effect on net income is reported more completely than a change that has little effect on net income.

The APB stated that changes in accounting principle that have a material effect on net income should be classified in to one of the following categories:

- Cumulative effect of the change applicable to prior periods
- Restatement of he financial statements previously prepared (issued)

There are three approaches to be suggested for reporting accounting changes and error corrections, in different situations.

1. Retroactive Approach

- Under this approach, financial statements issued in previous years are restated to reflect the effect of the change whenever those statements are presented again for comparative purposes. An advantage of this approach is that it achieves comparability among financial statements. All financial statements presented are prepared on the same basis i.e., consistency of principles for the years is maintained. It leads the auditors to assure that financial statements prepared in conformity with generally accepted accounting principles applied on the basis consistent with that of the preceding year. However, some argue that public confidence in the integrity of financial data suffers when numbers previously reported as correct are later superseded (replaced) through adjustments.
  - The balance in retained earnings at the beginning of the year is adjusted by the cumulative effect of the change on prior years' income. Any balance other than retained earnings that would be different after the change also are adjusted as part of the same journal entry.

2. Current Approach

The prior years' financial statements are not restated. Instead, the cumulative effect of the change on prior years' income is determined and is included as a separate component of income in the year of the change.

Since prior years' financial statements are not restated under this approach, some argue that financial statement integrity is better maintained. Others argue the opposite-that the lack of consistency and comparability reduces user confidence.

3. Prospective Approach

It requires neither a restatement of prior years' financial statements nor a current recognition of the past effect of the change. Instead, the change is merely implemented and its effects are reflected in the financial statements of the current and future years only.

Cumulative effect of change reported in current Accounting period: The Accounting Principles Board concluded that ''most changes in accounting should be recognized by including the cumulative effect, based on a retroactive computation, of changing to a new accounting principle in net income of the period of the change".

The following guide lines should be followed for changes in accounting principle that require recognition of the cumulative effect of the change in the current year's income statement;

1. Financial statements for prior accounting periods included for comparative purposes are presented as previously reported
2. The cumulative effect of the change in accounting principle on the retained earnings balance at the beginning of the accounting period in which the change is made is included in the net income of the period of the change. The amount of the cumulative effect is the difference between the actual amount of retained earnings at the beginning of the period of change, and the amount of retained earnings that would have been reported on that date if the new accounting principle had been applied retroactively for all prior periods. In the computation of cumulative effect, appropriate consideration is given to income taxes. The total and per share amount of the cumulative effect is included in the income statement below any extra ordinary item.
3. Income before extra ordinary items and net income computed on a proforma basis are included in the income statement for the all prior accounting periods presented as if the newly adopted accounting principle had been used in prior periods. Thus, proforma means, "On the assumption that a different accounting principle is used" to prepare the financial statements. If an income statement is presented for the current period only, the actual and proforma amounts (including earnings per share) for the immediately preceding period are disclosed.

Dear students, before you report the cumulative effects on financial statements, you are required to analyze the effects of the changes.

Example: Assume that Henok Company decided at the beginning of 2001 to change from the sum-of-the-years' digital (SOD) method of depreciation to the straight-line

method for financial reporting for its equipment. For tax purposes, the company has employed the straight line method and will continue to do so. The equipment originally costs Br. 120,000 in 1999 and has an estimated useful life of 15 years, with no estimated salvage value.
The company has income before extra ordinary items and cumulative effects of changes in accounting principles of Br. 130,000 in 2001 and Br. 111,000 in 2000. Also, Henok comp. has an extraordinary loss (net of tax) of Br. 30,000 in 2001 and an extraordinary gain (net of tax) of Br10,000 in 2000. The tax rate is 40%.

Required: prepare the journal entry to record the change in accounting principle in year 2001.

Solution:

Year	SOD dep.	Straight-line dep.	difference	Tax effect (40%)	Effect net income (net of tax)
1999	$\frac{15}{120} X Br. 120{,}000 =$	8,000	7,000	2,800	4,200
2000	$\frac{14}{120} x Br. 120{,}000 =$	8,000	6,000	2,400	3,600
Total	Br. 29,000	Br. 16,000	Br. 13,000	Br. 5,200	Br. 7,800

The entry made to record this change to straight line depreciation in 2001 should be:

Accumulated depreciation	13,000	
Deferred tax asset	5,200	
Cumulative effect of change in accounting principle.....	7,800	

Income statement Presentation

The cumulative effect of the change in accounting principle should be reported on the income statement between the captions ''extra ordinary items'' and ''net income'' .The cumulative effect is reported on income statement **without pro forma amounts** as follows:

	2001	2000
Income before extra ordinary items & cumulative effect of a change in accounting principle.....	Br. 130,000	Br. 111,000
Extra ordinary items, net of tax	(30,000)	10,000
Cumulative effect on prior year of retroactive application of new depreciation method, net of tax	7,800	_____
Net income	Br. 107,800	Br. 121,000

Proforma amounts

Proforma amounts permit financial statements users to determine the net income that would have been shown if the newly adopted principle had been in effect in earlier periods. In other words, how would Henok Company's income be reported if the straight-line method had been used in 2000? To determine the proforma amounts, the prior year (2000) is restated, assuming that the straight-line method is used. The computation is as follows:

	Year 2001	**Year 2000**
Income before extraordinary item……..	Br. 130,000	Br. 111,000
Extraordinary item, net of tax……..	(30,000)	10,000
Excess of SOD over straight-line ……..		3,600
Net income……..	Br. 100,000	Br. 124,600

When a cumulative-effect-type accounting change is made during the first interim period of a fiscal year, the cumulative effect of the change on retained earnings at the beginning of that fiscal year is included in net income of the first interim period.

When a cumulative-effect-type accounting change is made in other than the first interim period of a fiscal year, no cumulative effect of the change is included in net income of the period of change. The cumulative effect of the change on retained earnings at the beginning of that fiscal year is included in restated net income of the first interim period of the fiscal year in which the change is made.

Changes Requiring Restatement of prior periods' financial statements

Some changes in accounting principle are reported through restatement of the financial statements of prior accounting periods, including the following:

- A change from LIFO method of pricing inventories to another method of pricing inventories
- A change in the method of accounting for construction-type contract
- A change in reporting entity
- A change from an acceptable accounting principle to another acceptable accounting principle for a closely held corporation issuing financial statements to the public for the first time.

When prior period financial statements are restated, the nature of the change in accounting principle, as well as the justification for the change, is disclosed for the accounting period in which the change is made.

Illustration - Omeded Trading had used the LIFO method and decided to change to the FIFO method. The inventory as reported at the end of 1999 using LIFO would have been Br. 20,000 higher using FIFO.
Retained earnings had been reported at the end of 1998 and 1999 as br. 240,000 and Br. 260,000 respectively, under LIFO method. Those amounts reflecting the FIFO method would have been Br. 250,000 and Br. 272,000, respectively. 1999 net income had been reported at the end of 1999 as Br. 28,000 (LIFO method) but would have been Br. 30,000 using FIFO. After changing to FIFO, 2000 net income was Br. 36,000. Dividends of Br. 8,000 were paid each year.The tax rate is 40.
Required: a. Prepare the journal entries to record the change in accounting

principle at the beginning of 2000.

b.Compute the balance of retained earning or December 31,2000

Solution: a) Inventory (additional inventory) 20,000

Retained earnings 12,000

Deferred tax liability 8,000

(40%x20,00)

b) Retained earning at Jan. 1,1999 ..... Br. 240,000

Prior period adjustment due to change

from LIFO to FIFO method..... 10,000

(250,000 - 240,000)

Balance at Jan 1, 1999 as adjusted ..... Br. 250,000

Net income (restated to FIFO) 30,000

Cash dividends ..... (8,000)

Balance at Dec. 31,1999 ..... Br. 272,000

Net income (using FIFO) 36,000

Cash dividends ..... (8,000)

Balance at December 31,2000 ..... Br. 300,000

Note -When a company changes to LIFO inventory method form another inventory method, accounting records of prior years usually are inadequate to determine the cumulative income effect of the change or to determine proforma disclosures for prior years. Because of the impracticality of doing so, a company changing to LIFO doesn't report the cumulative income effect in current income nor revise the balance in retained earnings. Instead, it is disclosed in foot not to the financial statements with necessary descriptions.

6.1.2. Change in Accounting Estimate

Much of accountants' work involves the use of subjective judgment. The preparation of financial statements requires estimating the effects of future events. The following are examples of items that require estimates:

- Un collectible receivables
- Inventory obsolescence
- Useful lives and salvage values of assets
- Periods benefited by deferred costs
- Liabilities for warranty costs and income taxes

Future conditions and events and their effects cannot be perceived with certainty; therefore, estimating requires the exercise of judgment. Accounting estimates will change as new events occur, as more experience is acquired, or as additional information is obtained.

Changes in estimates must be handled prospectively. That is, no changes should be made in previously reported results. Opening balances are not adjusted, and no attempt is made to catch up for prior periods. Financial statements of prior periods are not reported. Instead, the effects of all changes in estimates are accounted for in

- the period of change if the change affects that period only
- the period of change and future periods if the change affects both.

As a result, changes in estimates are viewed as normal recurring corrections and adjustments, the natural result of the accounting process, and retroactive treatment is prohibited.

Differentiating between a change in an estimate and a change in an accounting principle is sometimes difficult. When ever it is impossible to identify whether a change in principle or a change in estimate has occurred, the change should be considered a change in estimate. Similarly, a problem may occur in differentiating between a change in estimate and a correction of error. The general rule is that careful estimates that later prove to be incorrect should be considered changes in estimates.

For example, assume that management had estimated the economic useful life of a plant asset at 10 years, with no residual value at the end of 10 years. The cost of the asset Br. 20,000 has been depreciated Br. 2,000 a year for seven years. At the end of the eighth year, management determined that the asset had a remaining economic life of four years and that its net residual value would be Br. 500 at the end of 12 years of use. The revised annual depreciation expense over the remaining economic life of the asset is computed as follows:

Cost of plant asset	Br. 20,000	
Less: depreciation for year 1 through 7 ..... (Br. 2000x7)		14,000
Carrying amount at the beginning of year 8.....	Br. 6,000	
Less: Estimated net residual value at end of year 12		500
Amount to be depreciated for the next 5 years	Br.. 5,500	
Revised annual depreciation for years 8 through 12 (Br. 5500 ÷5 years).....		Br. 1,100

In certain instance, a change in accounting principle may be accompanied by a change in accounting estimate.

In such cases, it is difficult to separate the effect of the change in principle from the effect of the change in estimate. For example, a business enterprise that has been deferring and amortizing certain costs might decide to change to a policy of recognizing such costs as expenses because the future benefits of the costs have become doubtful. This type of change often is related to the process of obtaining additional information that calls for revision of the original judgment that the costs will provide future benefits. Because the new accounting method was adopted as a result of the change in estimated future benefits, such a change is accounted for as a change in accounting estimate.

6. 1.3. Change in Reporting Entity

A reporting entity can be a single company or it can be a group of companies that reports a single set of financial statements. For example, the consolidated financial statements of Midroc Ethiopia report the financial position and results of operations,

not only for parent Midroc Ethiopia company but also for its subsidiaries which include Midroc Construction, Moha Soft Drinks, Midroc Gold, and, etc.

A change in reporting entity occurs as a result of

- Presenting consolidated financial statements in the place statements of individual companies
- Changing specific companies that constitute the group for which consolidated or combined statements are prepared, or
- A business combination accounted for as a pooling of interests.

A change in reporting entity is reported by restating all previous period financial statements as if the new reporting entity existed in those periods. In the first set of financial statements after the change, a disclosure note should describe the nature of the change and the reason it occurred. Also the effect of the change on net income, income before extraordinary items, and related per share amounts should be indicated for all periods presented (change in reporting entity will be more discussed in Advanced accounting).

Activity

1. What are two types of accounting changes? Briefly describe each type.

_____
_____
_____

2. Give four examples of changes in accounting principles?

_____
_____
_____

3. Distinguish the difference between changes in estimates and correction of errors.

_____
_____
_____

6.2. Correction of Errors

Dear students, in the universe, except God, no one is absolutely perfect. No business, large or small, is immune from errors. The risk of material errors, however, may be reduced through the installation of good internal control and the application of sound accounting procedures.
The following are examples of accounting errors;

1. A change from an accounting principle that is not generally accepted to an accounting principle that is acceptable
2. Mathematical mistakes that result from adding, subtracting, and so on
3. Changes in estimates that occur because the estimates are not prepared in a good faith.
4. An oversight such as the failure to accrue or defer certain expenses and revenues at the end of the period
5. A misuse of facts such as the failure to use salvage value in computing the depreciation base for straight line approach

6. The incorrect classification of a cost as an expense instead of an asset or vice versa

As soon as the errors are discovered, they must be corrected by proper entries in the accounts and reported in the financial statements. The profession requires that correction of errors be treated as prior period adjustment, be recorded in the year the error was discovered and be reported in the financial statements as an adjustment to the beginning balance of retained earnings.
Once the nature of the distortion created by error is understood, it is possible to determine the effects of similar errors on financial statements:

- **Errors Affecting Only Balance Sheet Amounts** - An error that affects only balance sheet amounts may arise because;
  - Journal entries were made of the wrong ledger account
  - transactions were omitted from the journal, or
  - the amounts of certain journal entries were wrong

  e.g. If accounts payable is debited instead of accounts receivable, total assets and total liabilities are understated by the same amount.
- **Errors Affecting Only Income Statements**- an error that is confined to income statement amounts has no effect on net income. Such errors generally arise through misclassification. Fore example, an expense or revenue items may be debited or credited to the wrong ledger accounts.
- **Errors Affecting both the balance sheet and the Income Statement:** Errors that affect both financial statements fall in to two categorizes:
  - Errors that will be counter balanced in the next accounting period, and
  - Errors that will not be counter balanced in the next accounting period

An example of a counter balanced error is the failure to record accrued wages at the end of the accounting period. The liability wages payable is understated at the end of the period and because wages expense is understated, net income is overstated in the period of the error is made. In the following period, the payment of unrecorded accrued wage is debited to wages expense; thus, wages expense for the second period is overstated. As a result net income of the second period is understated by an amount equal to the overstatement of the previous period.

Other errors affect both the balance sheet and the income statement, but are not counter balanced in the next accounting periods. For instance, suppose an acquisition of the equipment is debited to expense by mistakes.

Steps to correct an error are the followings
1. A journal entry is made to correct any account balances that are incorrect as the result of the error
2. Previous years financial statements that were incorrect as a result of the error are retroactively restated to reflect the correction, for all years reported again for comparative purposes.
3. If retained earnings are one of the accounts incorrect as a result of the error, the correction is reported as prior period adjustment to the beginning balance

in a statement of share holders' equity (or statement of retained earnings if that is presented instead).

Analyzing the effect of errors:

When an error is discovered, the accountant must analyze the effect of the error on financial data for prior, current and subsequent accounting periods. In analyzing the effect of the errors, we have to follow the following steps.
Step 1- Determine the correct entry if the error hadn't been occurred
Step 2- Make the incorrect journal entry
Step 3- Prepare the correcting entries and report on financial statements.

Assume Saron Trading has reported an over stated amount of net income of Br. 5,000 resulting from sales during the year 2003. Show and analyze the effect of such errors in year 2003, 2004, and 2005.

Income statement	**Year 2003**	**Year 2004**	**Year 2005**
Net income-	overstated	-Net income- understated	-Error has fully Counterbalanced .
-Cost of goods sold-	Understated	-Cost of goods sold- overstated	No correction is required
- Ending Inventories-	Overstated	-Beginning Inventories- Understated	

Balance Sheet:

Assets.	Overstated.	-Balance sheet items are	-No correction is
Retained Earnings	- Overstated.	Properly stated.	required.

If the above error is discovered in year 2003 before the ledger accounts are closed, a separate correcting entry is not necessary. The ending inventories under the periodic inventory system are recorded at the time closing entries are made, and it is simple matter to use the revised inventory amounts in the closing (or adjusting) entries.

If the error is discovered at any time prior to the closing of the ledger accounts for year 2004, the correcting entry is:

Retained Earning (net income, year 2003)	5000	
Inventories (Dec 31, 2003)		5000

If the error in the inventories at the end of year 2003 were not discovered until 2005, no correcting entry would be required, because the error has been fully counter balanced.

If the year 2003 and year 2004 financial statements were to be corrected retroactively, this could be accomplished by the changing the inventories and retained earnings amounts in these statements or by the use of working paper. The working paper is used to analyze the error and its effects on financial statements, and

it also serves as the underlying support for a single correcting entry to bring the accounting records up to date.

Illustration

An audit of accounting records of Fana Trading Company early in year 8 disclosed the following errors affecting the financial statements for year 6 and year 7.

1. Unexpired insurance was omitted from the accounting records; insurance premiums were debited to insurance expense at the time of payment. The correct amount of unexpired insurance at the end of year 6 and year 7 were Br. 550 and Br 980 respectively.
2. No journal entry had been made to accrue interest on notes payable at the end of the year. However, the interest payable at the end of year 6 was Br. 1,700 and at the end of year 7 it was Br. 480
3. Interest on Notes receivable was credited to interest revenue when received. At the end of year 6, interest receivable amounted to Br. 4500, and at the end of year 7 it was Br. 840.
4. Fana rented parts of its land, receiving rent in advance; receipts were credited to Rent Revenue. Unearned rent at the end of year 6 and year 7 were Br. 1,800 and Br. 740 respectively
5. Fana is subject to income taxes at a rate of 45% of taxable income

Fana Trading Company reported net income of Br. 20,000 and Br. 16,000 for year 6 and year 7, respectively.

Required

a. prepare working paper for analysis of errors
b. prepare the journal entries to correct the errors after accounts are closed at the end of year 7
c. Prepare the journal entries to correct errors before accounts are closed

Solution: a)

Fana Trading Company
Working Paper for Analysis of Errors
Dec 31, year 7

Explanation	Net income for year 6 Dr	Net income for year 6 Cr	Net income for year 7 Dr	Net income for year 7 Cr	Balance sheet a/cs requiring correction Dr	Balance sheet a/cs requiring correction Cr	Balance sheet a/cs requiring correction accounts
1. Unexpired Insuranc omitted							
Dec 31, year 6		Br550	Br550				
Dec 31, year 7				Br980	Br980		prepaid Insurance
2. Accrued Interest on Notes payable omitted:							

Dec 31,year 6	Br1700			1700			
Dec 31,year 7			480			480	Interest payable
3. Accrued Interest on N/R							
Dec 31, year 6		450	450				
Dec 31, year7				840	840		Interest Rec.
4. Unearned rent omitted							
Dec 31, year 6	1800			1800			
Dec. 31,year 7	-	-	740	-	-	740	Unearned Rent
Total balance	Br3,500	Br1000	Br2220	Br5320			
Increase (or decrease) in income before taxes	net balance of Br2,500		net balance of Br3100				
5. Revision of income taxes (45%)							
Year 6 Income tax expenses overstated	Br 1,125				1,125		Inc/tax refund receiv.
Year 7 Income taxes expense understated		-	(1395)	-		1395	Income tax payable
Increase (or decrease in net income)	Br(1375)	1705		330	2945 net 330	2615	Retained Earning
Net income, as originally reported	20,000	116,000					
Corrected Net income	Br18,625	.17,705					

b) **Journal Entries**

Prepaid insurance	980	
Interest receivable	840	
Income tax refund Receivable	1,125	
Retained Earnings		330
Interest payable		480
Income tax payable		1395
Unearned Rent.....		740

c) Prepaid Insurance	980	
Interest Receivable	840	
Income tax Refund Receivable	1125	
Retained Earnings (NI,year 6)	1375	
Income taxes expense (yar 70	1395	
Insurance expense (980-550)		430
Interest expense (1700-480)		1220
Interest revenue (840-450)		390
Rent Revenue (1800-740)	1060	
Interest payable		480
Unearned Rent		740
Income tax payable		1395

Correction of revenue and expense accounts to reflect Br 1705 increase in net

Note: If comparative financial statements are to be prepared, there remains the problem of revising the financial statements of prior years to reflect the correction of errors. A correcting entry always revises balance sheet ledger accounts to their corrected balances on any prior date. Similarly, once the revenue and expense accounts for a year have been closed, a journal entry to correct errors has no effects on any revenue and expense accounts for that year.

6.3. Financial statements from Incomplete Records

The heart of the double-entry accounting system is the analysis of the effect of each business transaction or event on the accounting equation.

Assets=Liabilities + owners' equity. Many small business enterprises operate with varying degrees of success with only minimal accounting records with out the benefit of a complete accounting system.

Balance sheet form incomplete accounting records:

A business enterprise having no formal accounting system still must record certain basic information. For example, a record of cash received and checks written and a record of amounts receivable from customers and amount payable to creditors is essential. It is possible to prepare a balance sheet on any date for such an enterprise from various sources of information.

Cash may be determined by count and by reconciliation of bank statements. Amounts receivable form customers may be summarized from unpaid sales invoices. Inventories may be counted, weighed, or measured, and their costs determined from suppliers' invoices. Amounts payable to creditors may be determined from invoices and monthly statements. Ownership equity is the difference between the amounts assigned to assets and to liabilities.

Income statement from Incomplete Accounting Records:

In order to prepare and issue income statement from incomplete accounting records (single accounting records), the amount of net income first should be determined.
One way to measure net income from single accounting records is to analyze the change in owners' equity during an accounting period as follows:

Net income:

Owners' equity at end of accounting period		xx
Less: owners' equity at beginning of period		(xx)
Total increase (decrease) in owners' equity		xx (xx)
Add: Amounts with drawn by owners	xx	
Less: Additional Investments by owners		xx
Net income (Net loss) for period	xx (xx)	

In addition, cash receipts and cash payments data, a list of assets at the beginning and end of the account period, list of liabilities at the beginning and end of the period, comparative balance sheet, and other miscellaneous sources are used to prepare income statements.

To compute the gross sales, other revenues, Gross purchases, cost of goods sold, and operating expenses, it is similar to what you have discussed in comparison of cash basis and accrual basis of accounting.

Summary of the Chapter

Placing new accounting principles and practices, and new accounting estimates in to the stream of financial statements will make current period statements in consistent with those of prior periods. However, new and improved principles and estimates should not be ignored simply to maintain consistency with the financial reporting of the past.

In **opinion, No. 20. "Accounting changes**,'' the APB was mainly concerned with two issues: (1) the reporting of accounting changes, and (2) the accounting for corrections of errors in previously issued financial statements

Accounting changes are classified in to three major categories: changes in accounting principles, changes in accounting estimates and changes in reporting entity. However, a correction of error is not considered an accounting change and it is required only when errors are discovered in previously prepared financial statements. Errors may be resulted from mathematical computations, mistakes in the application of accounting principles, or miscues of facts or oversight that existed at the time the financial statements were prepared.

Changes in accounting and corrections of errors are resolved and adjusted on financial statements using retroactive, current or prospective approaches. First, the effects of changes in accounting are determined then analyzing the effects on financial statements will be made.

Certain companies require issuing financial statements on monthly, quarterly, or semiannual basis. In certain cases they prepare using incomplete financial data or using single-accounting entries.

Self Test Questions

Part I: Multiple Choices

1. When a cumulative-effect type change in accounting principle is made during a year, the cumulative effect on the retained earnings is computed:
    a. During the year using a weighted average
    b. As of the date of the change
    c. As of the beginning of the year in which the change is made
    d. As of the end of the year in which the change is made
    e. In some other manner

2. ABC Company purchased equipment on January 2, 2000, for Br. 480,000 with no salvage value at the end of six years from date of acquisition. The machine was depreciated under the straight-line method. On January 2,2003, the company determined the equipment had an economic life of 8 years from the date acquisition, with no residual value. An accounting change was made for the year ended Dec. 31,203. What is the amount of depreciation expense for the equipment for the year ended Dec. 31,2003?
    a. Br 0 b. Br. 30,000 c. br. 48,000 d. Br. 60,000 e. None
3. A business enterprise changed from straight-line method of depreciation for previously recorded plant assets to double declining balance method. The cumulative effect of the change on the amount of retained earnings at the beginning of the accounting period in which the change is made is reported separately as a(an)
    a. Extra ordinary item
    b. Component of income after extra ordinary item
    c. Component of income from continuing operations
    d. Prior period adjustment

4. Proforma effects of retroactive application usually are reported in the income statement for a change
    a. in the economic lives of depreciable plant assets
    b. in the residual values of depreciable plant assets
    c. from the straight-line method of depreciation to the sum-of-the-year's-digits method for preciously recorded plant assets
    d. from presenting financial statements for individual companies to presenting consolidated financial statements
5. A typical counter balancing error that affects both the income statement and the balance sheet of an accounting period
    a. is offset by misstatement, in opposite direction, of net income of the succeeding period
    b. also misstates net income of several succeeding accounting periods
    c. is offset by a misstatement, in the opposite direction, of total owners' equity in the balance sheet of the succeeding year
    d. is offset by a misstatement, in the opposite direction, of both net income and total owners' equity in the financial statements of the succeeding period

Part II: Review Questions

1. Distinguish the changes in accounting and correction of an error
2. Mention at least three examples of changes in accounting principles that require the retroactive restatement of financial statement for prior periods.
3. How a material error is in previously issued financial statements reported in the accounting period the error is discovered?
4. Describe the situation in which a change in accounting principle is considered appropriate

Part III: Problems

1. Hope company, which began operations on January 3,2003, used an accelerated method of depreciation for machinery until Jan 3,2005. On that date, Hope adopted the straight line method of depreciation for both newly acquired and previously acquired machinery. Information concerning depreciation expenses under each method follows.

	Depreciation expense	
Year ended	**Accelerated method**	**Straight-line**
Dec 31,2003	Br. 400,000	Br. 300,000
Dec 31,2004	530,000	375,000
Dec 31,2005	600,000	400,000

The income tax rate for year 2003 through year 2005 was 45%. Compute the equivalent effect of Hope Company's change in accounting principle for its income statement for year 2005.

CHAPTER SEVEN
Analysis of Financial Statements

INTRODUCTION

Financial statements are periodical reports that show the financial position (status) and operating results prepared based on reliable financial data and in complying with generally accepted accounting principles (GAAPs) to be used for the statement's users. Many groups outside business enterprise creditors, investors, regulatory

agencies, financial analysts, labor union leaders-are interested in its financial affairs. Management also is interested in the results and relationships reported in financial statements. However, outsiders don't have access to the detailed data available to management and must rely on published information in making business decisions.

In this chapter, we consider the analysis of financial statements as a basis for decision making by outsiders. The analysis of financial statements, I this chapter, is mainly aimed at earnings performance and financial strength of he business enterprises.

Learning Objectives

Dear students, after you have completed this chapter, you are able to:

- analyze the earnings performance of business firms
- apply different ratios for evaluating the earnings performance of a business enterprise
- understand the analysis of financial strength of the firms
- know the analysis and evaluation of capital structure of a company

Management makes operating and financial decisions based on a wide variety of reports that are either generated by the enterprises own information system or available form other sources.

Sources of financial information Available to outsiders

The first procedure in financial analysis is to obtain useful information, at least cost, including some information not found in financial statements. The major sources of financial information for publicly owned corporations are the followings.

Published Reports

Annual reports of publicly owned corporations contain comparative financial statements and notes to financial statements, supplementary financial information, and management's discussion and analysis of the comparative years' operations and prospects for the future.

- **Securities and Exchange commission (SEC)**
  Annual and quarterly reports filed with the SEC also are a valuable source of information.
- **Credit and Investment Advisory Services**: a wide variety of data relating to business enterprises, particularly small and medium-sized enterprises, is published by such organizations. Major brokerage firms and investment advisory services compile financial information about public corporations and make it available to their customers
- **Audit Reports**: When an independent certified public account ant firm performs an audit, its reports is addressed to the board of directors, and frequently to the stockholders, of the audited enterprise. External users usually depend on the audit opinion issued by the auditors for business enterprises.

What is financial analysis?

Financial analysis is a process of selection, relation and evaluation of financial information. Knowing what to look for and how to interpret it is the essence of the art of financial analysis. In using financial statements, analysis focus their attention on key amounts and relationships, then extend their investigation to ascertain why the conditions revealed by the financial statements exist.

Financial analysis is not primarily a matter of making computations. The important part of the analytical process begins when the computational task is finished. However, there are some analytical procedures that are useful in highlighting important relationships and reducing masses of detail to convenient numerical form so that the essential facts may be grasped quickly.

To make analysis of financial statements, we use ratios and component percentage. Ratios may be expressed as percentages as fractions, or as a stated comparison between two amounts. The ratio of one amount in a financial statement to the total that includes that amount is called component percentage. Financial statements expressed in component percentages are sometimes called common-size financial statements.

In looking at past performance and present position, the financial analyst seeks answers to two primary questions:

1. What is the company's earnings performance?
2. Is the company in sound financial condition?

7.1. Analysis of Earnings performance

Unfortunately, an outside analyst usually doesn't have access to many of the important details that underlie reported net income. Most published income statements are highly condensed, and the outsider must be satisfied with a general review of the relationship between revenue, cost of goods sold, total operating expenses, and net income. This requires a careful analysis of gross profit percentage and operating expense ratios (total operating express divided by net sales) over a number of years. In analyzing earnings performance, we focus on relationship between net income and accounting practices, trends in earnings, and return on investment.

The point is made throughout this chapter that the amount of net income reported in an accounting period may be affected by the accounting practices followed and this also affects the recognition revenue and expenses. These practices are selected by management; independent auditors merely inform users that the financial statements were prepared in conformity with generally accepted accounting principles consistently applied. However, financial analysts are concerned with the quality of reported earnings.

The accounting policies for revenue recognition, depreciation, inventories, leases, pension plans, and consolidation of subsidiaries, business combinations, and income taxes are especially significant to financial analysts. In addition, the notes to the

financial statements provide useful information on these and other financial accounting and reporting matters.

Trend in Earnings

The analysis of earnings always should cover several years, not only because of the difficulty of measuring income year by year but also because it is important to know how a company performs in periods of prosperity and adversity. Net income may be satisfactory in one year and decline substantially in the following year because of unfavorable business conditions.

One of the first things the analyst looks for is the trend of revenue (sales) over a number of years. A rising trend of revenue usually is a sign of expansion. Obviously, the revenue trend is not the whole story, because a growth in revenue is not always accompanied by a corresponding increase in net income. The pattern of revenue and net income throughout the business cycle is an important factor.

Return on Investment

Investors make investments using their capital with the objective of earnings a satisfactory rate of return. The rate of return depends on numerous factors, including the nature of competition and the risks
inherent in an industry. The rate may serve as a valuable index in evaluating the relative profitability of a particular company and the quality of its management.

The rate of return on investment for any period is determined by dividing income by average investment. Here, the appropriate income amount to be used depends on the related concept of investment. However, each case net income excludes any extraordinary items, discontinued operations, or cumulative effect of change in accounting principles; and the investment is computed as an average for the period. The rate of return on investment may be computed using different parameters such as

Return on total assets = Net income/ total assets

Return on total stock holders' equity= Net income /total stock holders' equity

Return on common stock holders' equity= Net income applicable to Common stock /common stock holders' equity

Example - Star Business Group has been making investments in Amhara National Regional state for the last ten years. The data for the enterprise are shown below for year 2000, 2001 and 2002 as follows (in millions of Birr), assuming the income tax rate was 20%

	Income statement data			**Balance Sheet Data**		
	2002	2001		2002	2001	2000
Net sales	Br. 130	Br. 95	Current Assets	Br 19	Br 20	Br 18
Other revenues	10	5	Non current assets	61	68	56

Total revenue	Br. 140	Br. 100	Total assets	Br 80	Br 88	Br 74
Cost of goods sold	95	Br. 65	Current liabilities	Br 6	Br 15	Br 9
Operating expenses	26	20	Long-term debts	19	23	21
Interest expense	1	1	Preferred stock	16	16	16
Income taxes expense	3.6	2.8	common stock	39	34	28
Total expenses	Br 125.6	Br 88.8	Total liab. & stockholders' equity.	Br 80	Br 88	Br 74
Net income	Br 14.4	Br 11.2				
Less: preferred stock dividends	2	2				
Available for common stock	Br 12.4	Br 9.2				

Required

a. Compute the rate of return on total assets, on total stock holders' and on common stock holders for year 2002 & 2001.
b. Interpret the above results

Solution:

a. Return on total assets = $\frac{\text{Net income}}{\text{total assets average}}$

$$\text{Year 2001} = \frac{\text{Br } 11.2}{\frac{1}{2}(\text{Br } 74 + 88)} = \frac{\text{Br } 11.2}{81} = \underline{\underline{13.83\%}}$$

$$\text{Year 2002} = \frac{\text{Br } 14.4}{\frac{1}{2}(80 + 88)} = \frac{\text{Br } 14.4}{84} = \underline{\underline{17.14\%}}$$

Return on stock holders' equity = $\frac{\text{2002 Net income}}{\text{Average stock}}$ $\frac{\text{2001 Net income}}{\text{Average stock}}$

$$= \frac{Br\,14.4}{\frac{1}{2}(55 + 50)} = 17.1\% \quad \frac{Br\,11.2}{\frac{1}{2}(50 + 44)} = \underline{\underline{14.9\%}}$$

Return on common stock holders' equity = $\frac{Net\,income}{Average\,common\,stoc}$

$$= \frac{Br\,14.4}{\frac{1}{2}(39 + 34)} = 21.9\% \quad \frac{Br\,11.2}{\frac{1}{2}(34 + 28)} = \underline{\underline{19.4\%}}$$

c. Each of the measures of return on investment for Star Business Group showed an improved performance in year 2002. Besides, the enterprise is successfully trading on the equity because the total interest on preferred stock is less than the earnings on capital raised through these securities.

To evaluate the performance of a company, from the common stock holders' point of view, earnings per share, dividends per share are very useful, supported by complete financial statements. The presentation of dividends per share should be in terms of the current equivalent number of shares outstanding at the time of the dividend, so that the earnings and dividends pr share will be reported on a comparable basis. Dividends on common stock represent historical facts and should be reported at amounts actually paid, except in cases following stock splits or stock dividends. When dividends per share are presented on other then a historical basis, the basis of presentation should be disclosed.

Investors in common stock are more interested in earnings and dividends in relation to the market price of their shares than in relation to the equity (book value) of their shares, because market price measures the amount of money they for go at any specific time by a decision to continue owning a common stock.

Example - Suppose that Bethel owns one share of common stock of Bank of Abyssinia (BOA) that currently earns Br 50 a share and pays a dividend of Br 20 per share. The equity (book value) is Br 400 per share and the current market price of BOA is Br 500. Compute the earnings yield, dividends pay out ratio, dividend yield and price-earnings ratio.

Solution

Earning Yield = $\frac{\text{Earnings per share}}{\text{Current market value of stock}} = \frac{\text{Br50}}{\text{Br500}} = 0.10$

Dividends payout ratio = $\frac{\text{Dividends per share}}{\text{Earnigns per share}} = \frac{\text{Br20}}{\text{Br50}} = 0.40$

Dividends Yield = $\frac{Dividends\ per\ share}{Current\ Market\ price\ of\ stock} = \frac{Br20}{Br500} = 0.04$

Price-earning ratio = $\frac{\text{Current market price of stock}}{\text{Earnings per share}} = \frac{\text{Br500}}{\text{Br50}} = 10$

Earnings and Fixed Charges: A company that finances its operations with long-term debt or preferred stock is committed to pay a fixed return to the holders of these securities. The commitment on long-term debt is stronger than on preferred stock because in latter case, the obligation is only that preferred dividends will be paid before any dividends on common stock are declared.

Bond holders and preferred stock holders have learned from experience that the relationships between earnings and fixed charges are useful measures of the safety of their investment.

Example - The data for BK Company and DK company are used to illustrate two ratios that measure these relationship.

	BK Company	**DK Company**
Operating income	Br. 600,000	Br 900,000

Less: Interest on long term debt	200,000	100,000
Income before taxes	Br 400,000	Br 800,000
Less: Income taxes expense	100,000	200,000
Net income	Br 300,000	Br 600,000
Less: preferred stock dividends	50,000	100,000
Net income available for common stock	Br 250,000	Br 500,000

Times Interest Earned is one of the ratios used to evaluate the interest charges. Such ratio is computed in two ways: -

-Times Interest earned before income taxes
- Times interest earned after income taxes

Method 1- Times interest earned before income taxes

	BK Company	**DK Company**
a) Operating income	Br 600,000	Br 900,000
b) Interest expense	200,000	100,000
Times interest earned (a÷b)	3 times	9 times

Method 2- Times interest earned after income Taxes:

Net income	Br 300,000	Br 600,000
a) add: Interest expense	200,000	100,000
b) Income before interest charges	Br 500,000	Br 700,00
Times interest earned (b÷a)	2.5 times	7 times

Times preferred stock dividends earned - is the number of times preferred stock dividends are earned and is computed in to two different ways:
Method 1- Times preferred stock dividends earned based on net income
Method 2- Times preferred stock dividends and interest expense based on net income plus interest expense

Example - Based on the above given data, compute the times preferred stock dividends earned.

Solⁿ

Method 1. Net in come available for preferred stock dividends:

	BK Comp	**DK Company**
a) Net income	Br 300,000	Br 600,000
b) Preferred stock dividends required	50,000	100,000
Time preferred stock dividends earned $(a \div b)$	6 times	6 times

From this illustration, we understand that preferred stock dividends for BK Company are better protected by earnings than its interest expense; yet interest obviously has a prior claim. To overcome this objection, the test of preferred stock dividend safety most often used is the number of times combined interest expense and preferred stock dividends are earned.

Method 2. Times interest expense and preferred stock dividends are earned:

	BK Comp	**DK Company**
Interest expense	Br 200,000	Br 100,000

Preferred Stock dividends requirement	50,000	100,000
a) Total interest expense and preferred stock dividends requirement	Br 250,000	Br 200,000
b) Net in come plus interest expense	Br 500,000	Br 700,000
Times interest expense and Dividends $(b \div a)$	2 times	3.5 times

7.2. Analysis of Financial Strength

The business organization's performance results are not the only determinants to evaluate it. The financial position of the business firm should be also considered. A strong earnings record usually accompanies a strong financial position. Further more; an unsatisfactory financial position appears much less unfavorable in the presence of a good earnings record. A good earnings record is not the whole story. A company's ability to meet its obligations, to cope with economic adversity, to shift resources to meet changing conditions in short, its financial strength is an important factor to continuing Survival and growth,

In seeking evidence of financial strength, analysts consider first the relationship between assets and liabilities. They ask questions such as

- Will the company be able to pay its liabilities when they are due?
- Does the company have resources to meet current commitments and future demands for cash necessary to conduct its business successfully?

Ability to pay short-Term Debt

A company's short – term financial strength (liquidity) is dependent on two primary factors its working capital position and the speed with which it generates liquid assets.

Working capital position is the amount by which current assets exceed current liabilities. Changes in the amount of working capital from one accounting period to another are significant because the amount of working capital is a useful indicator of short-term debt paying ability.

In addition to the amount of working capital, two analytical rations of working capital position often are computed:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

1. **Quick ratio (Acid-test ratio) –** focuses on immediate liquidity. Inventories and short-term prepayments, the least liquid current assets, are excluded in the computation of the quick ratio. The quick ratio is computed by dividing quick assets by current liabilities.

Need for working capital – a business enterprise generates working capital through a series of events called the operating cycle.

The operating cycle refers to the process of investing cash in inventories, Converting inventories to accounts receivables through sales, and Collecting the receivables in cash, which in turn is used to pay current liabilities incurried in operations and to replace inventories. An enterprise with a short operating cycle may manage comfortably on a relatively small amount of working capital and with relatively small

quick and current ratios. A long operating cycle requires a larger margin of current assets and larger quick and current ratios unless the credit terms of suppliers can be extended accordingly.

Inventory turn over: the total cost of all goods that have been moved out of inventories during a year is usually represented by the cost of goods sold amount in the income statement. There fore, the ratio of cost of goods sold to the average inventories during an accounting period is a measure of the number of times that inventories turnover on the average and must be replaced. The larger this turnover, the shorter the average time between investment in inventories and sales transactions.

Average inventories generally are determined by averaging monthly or quarterly inventory amounts even though the information is not available to external analysts. Therefore, only an average of the inventories at the beginning and end of the year is used.

For a manufacturing enterprise, the overall inventory turnover may be estimated by dividing cost of goods sold by the average amount of the three inventories: material inventory, goods in process, and finished goods. Alternatively, three separate turnover rates may be computed for each type of inventories.

Example 1: Selected amounts from the comparative balance sheets of Awash Insurance Corporation are as follows:

	December 31, Year 2	**Dec 31, Year 1**
Current assets	Br 4, 224,000	Br 3,500,000
Other assets	5,376,000	6,500,000
Current liabilities	1,920,000	2,500,000
Bonds payable due in year 7	1,680,000	2,000,000
Common stock, Br 10 par	3,600,000	3,600,000
Retained Earnings	2,400,000	1,900,000

Dividends of Br 220,000 were declared in year 2. Dividends and net income accounted for the changes in retained earnings. There were no preferred stocks out standing.

Compute the following for Awash Insurance Corporation.

a) current ratio, Dec 31, Year 1
b) Working capital Dec 31, Year 2

Solⁿ

a) Current ratio, Dec 31, year 1 = $\frac{\text{Current Assets}}{\text{Current liabilities}}$

$= \frac{\text{Br } 3{,}500{,}000}{\text{Br } 2{,}500{,}000} = \mathbf{1.4}$

b) Working Capital = Current Assets – Current liabilities
= Br 4,224,000 – 1,920,000
= Br 2,340,000

Example 2 – The amount of inventories and Cost of goods sold for Getaneh Trading in year 2004 were given below:

		Year 2004
a)	Cost of goods sold	Br 2,600
	Beginning inventories	Br 700
	Ending inventories	1,100
b)	Average inventories	Br 900
c)	Inventories turnover $(a \div b)$	2.9 times
	Number of days' sales in average Inventories $(365 \div c)$	126 days
	Number of days' sales in ending inventories	154 days*

❖ Number of days' sales in ending inventories

= $360 \div$ inventories turn over or ending inventories

= 365 ÷ $\frac{\text{cost of goods sold}}{\text{Ending inventories}}$

= 365 ÷ $\frac{\text{Br 2,600}}{\text{Br 1,100}}$

= 365 ÷ 2.36

= **154 days**

Note – It should be pointed out the foregoing computations would be misleading if the current cost of inventories were substantially higher than historical costs. In this case, alternative measurements should be used to analyze inventories.

Accounts Receivable Turnover: the turnover of accounts receivable may be computed in a manner similar to that of inventories. It is computed by dividing net sales by average balance of accounts receivable may be evaluated by computing the number of days' sales in ending accounts receivable. The accounts receivable of Ethio net company are analyzed below.

Ethio net company
Analysis of Accounts Receivable
For Year 2001 through year 2003

	2003	2002	2001
a) Net sales	Br 2,500	Br 4,000	Br 5,000
i) Beginning Accounts Receivable	Br 400	Br 2000	Br 1,000
ii) Ending Accounts Receivable	600	3000	3,000
b) Average Accounts Receivable	Br 500	2,500	2,000
c) Accounts Receivable turnover $(a \div b)$	5 times	1.6 times	2.5 times
Number of days' sales in average Accounts Receivable $(365 \div c)$	73 days	228 days	146 days
Number of days' sales in ending Accounts Receivable $\lfloor 365 \div (a \div ii) \rfloor$	88 days	274 days	219 days

Length of operating cycle: As stated before, the estimate of the average length of operating cycle may be computed by adding the average days' sales in inventories and in accounts receivable

This is illustrated below for Omedad PLC based on the given data for year 2000 and 2001:

	2000	2001

Average days to dispose of inventories	126		201	
Average days to collect accounts reversible		58		102
Average days in operating cycle	184		303	

The operating cycle of Omedad PLC has increased by 119 days (303-184 days) from year 2000 to year 2001. if this has happened reversely, it may explain the unfavorable trend in the current and quick ratios,

Number of Day's Operations to cover negative working capital:

When current liabilities exceed current assets, management may estimate the length of time it will take to eliminate the negative working capital as a result of generating liquid assets from operations. For example, assume that the current liabilities of Bahir Dar Textile Factory on June 30,2002 exceeded its current assets by Br 30,000. Assume further that the factory's is operations are relatively stable during a calendar year and normally generate working capital as follows:

Net income	Br 60,000
Add: Depreciation expense & other	
Expenses that don't require use of working capital	90,000
Working capital normal provided from operates over a year	Br. 150,000

Computer no of day's operations to cover negative working capital

$$= \frac{Nwgativewkingcapit}{Annualworkingcapitprovidedfmoperatis} \times 365 = \frac{Br30,000}{Br150,000} \times 365 day,$$

= **73 days**

Interpreting the Analysis of Liquidity

The following factors should be considered in interpreting the liquidity of a company:

1. Creditors tend to believe that the larger the current and quick ratios and the shorter the operating cycle, the better, However, excessive current and quick ratios are unfavorable indicators because there are limits for the company. similarly, and abnormal high rate of inventories turnover may indicate that a company is losing business by failing to maintain adequate inventories to serve customers' needs. A rapid turnover of accounts receivable may also indicate overly serve credit polices that reduce revenue below levels that could be achieved by more liberal credit terms.
2. Because creditors and other outsiders emphasize a company's working capital position as evidence of short-run solvency, there is a temptation for managers to take action just before the end of an accounting period to make the working capital relationships appear more favorable than they are.
   This process is known as window dressing using the following activities:
   - Postponing purchases and allowing inventories to decrease below normal levels
   - Using all available cash to pay current liabilities
   - Pressing collections on accounts receivable

By doing so, the company may artificially improve its current and quick ratios, as well as its inventories and account receivable turnover rates. Decreases in inventories and Accounts Receivable will increase turn over rates.

3. Even when no deliberate attempt has been made to present an artificially favorable picture, the working capital position shown by year end financial statements is probably more favorable than at any other time of the year. This is particularly true when a company has adopted a natural business year that ends during ebb in the seasonal swing of business activity. At times of peak activity, account receivable, inventories, and current liabilities tend to be at higher levels.

Analysis of capital structure

The way in which a business enterprise meets its financial needs is expressed by its capital structure that consists the component of debt securities and stock securities. Capital structure of a particular firm is an important factor in assessing its financial strength and the use of financial leverage.

The most common approach for this purpose is to restate the major elements of liabilities and stockholders' equity to component percentages of total assets, as shown below:

Component Of Percentages Debt And Equity ratios

Total Assets	100%		
Sources of financing			
Current liabilities	10%		
Long-term debts	25%		
Total liabilities	35%	35%- debt ratio	35%
Preferred stock	13%		
Common stock	52%	65% -Equity ratio	65%
Total liab. and st. holders' Equity	100%	Debt to equity ratio (35% ÷65%)	53.8%

To analyze the capital structure of the company, moreover, the analysts compute other ratios to aid in evaluating capital structure. For example, the ratio of total plant assets to stockholders' equity sometimes is used as a test of the adequacy of equity capital. If the investment in plant assets is substantial relative to stockholders' equity, this indicates that the company has borrowed heavily to invest in non liquid assets.

Evaluating Capital Structure

There are two major factors to be considered in evaluating the capital structure of a company:

1. **Creditors' View:-** Creditors are primarily concerned with the safety of their claims. They view a relatively low debt ratio as a favorable factor. All creditors are interested in long-run financial strength and a healthy earnings record. The debt ratio and the times-interest-earned ratio are the prime indicators of financial strength from the creditors' view point.
2. **Stockholders' View:** present or prospective stock holders are concerned with a company's ability to meet its long-term debt obligations because failure to pay interest or current maturities of debts is a serious matter affecting adversely both the credit standing of the company and the positions of stockholders. A low debt ratio or the absence of long term debt is not necessarily to the stockholders' advantage.

Ratio or other measurement	Method of computation	What it shows
1. Return on total assets	Net income + Interest expense / Average investment in assets	Productivity of assets
2. Return on common stockholders' equity	Net income – Preferred stock dividends / Average common stock holders' equity	Earning power on residual owners' equity
3. Earnings per share of common stock	NI-Preferred stock dividends / Average no of shares of outstanding common stock	- Amount earned on each share of common stock
4. Price-earnings ratio for common stock	Market price pershare / Earnings pershare	- Whether market price of common stock is in line with earnings.
5. Dividend Yield on common stock	Dividend pershare / Market price pershar	- Return on common stock holders based on current market price of common stock.
6. Dividend payout ratio for common stock	Dividends pershare / Earnings pershare	- percentage of earnings distributed as dividends
7. Times internist earned (before income taxes)	Operating income / Annual interest expense	- Coverage of interest expense
8. Times preferred stock dividends earned	Net income / Annual P/stock dividends	- Adequacy of earnings to pay preferred stock dividends
9. Equity per share of common stock	C/Stockholders' equity / No of shares of C/stock out standing	-Amount of net assets allocable to each share of common stock.
10. Current ratio	Current Assets / Current liabilities	- Short-run debt – paying ability
11. Quick (Acid test) ratio	Quick Assets / Current liabilities	- Short-term liquidity
12. Inventories turnover	Cost of goods sold / Average inventories	- Ability to control investment in Inventories.
13.A/ Receivable turnover	Net sales on credit / Average A/Receivable	- possible excessive A/R; Effectiveness of collection policy
14. Debt ratio	Total liabilities / Total Assets	- Extent of borrowing & trading on the equity (financial leverage)
15. Equity ratio	Total stockholders' equity / Total Assets	- Protection to creditors & extent of trading on the equity
16. Debt-to equity ratio	Total liabilities / Total stockholders' equity	- Relationship between borrowed capital and equity capital.

Summary of Ratios and Other Analytical Measurements

The more widely used ratios and other measurements are summarized below. The information available in financial statements may be useful in appraising a company's financial statements may be useful in appraising a company's financial position, in predicting its earnings, and in making other predictive judgments about the company. Relationships among reported data may be quite informative and useful for comparison. However, we must remember that financial statements have limitations and that qualitative factors may be for more important than "Cold figures", such factors are:

- Source of markets for the company's products and services
- Growth potential for its products and services
- Market share in its industry
- Patent protection, if any, for its major products
- Sensitivity of its earnings to economic fluctuations
- Effect of technological and environmental changes on its business activities
- The quality of the management.

Activity

1. Describe four sources from which an outsider might obtain financial information about a business enterprise.
2. An estimate of accounts receivable turn over is made by dividing net sales by average accounts receivable, Evaluate this method of computing accounts receivable turnover.
3. In evaluating the earnings of a particular company, focusing on monetary data may mislead the analysts. Why? Explain briefly.

Self assessment Questions

Part I: Multiple Choices

1. Which one of the following asset components is not included in the computation of Acid-test ratio?
   a) Short term prepayments
   b) Inventories
   c) Short term investment
   d) Accounts Receivable
   e) A and B
2. The ratio of an amount in a financial statement to the total that includes that amount is _____
   a) Component percentage
   b) Common-size percentage
   c) Trend percentage
   d) Turnover percentage
3. Which of the following transactions increases a current ratio of at least 1:1?
   a) Disposal of short term investment at loss
   b) Use of equity method of accounting for an influenced investee
   c) Borrowing cash on a short-term promissory note
   d) Paying the principal of a short term promissory note.
4. The number of days' sales in the ending accounts receivable is computed by
   a) Multiplying the account receivable turn over by 30.
   b) Dividing the accounts receivable turnover by 30.
   c) Dividing 365 by the accounts receivable turnover
   d) Multiplying 365 by the account receivable turnover.
   e) None of the above.
5. Fantu company has total liabilities of Br 400,000 and a total assets Br 900,000 Fantu's equity ratio is
   a) 44,4%
   b) 80%
   c) 125%
   d) 225%
   e) none

(The solution for multiple choices is given at the end of this module).

Part II: Exercises and Problems

1. Selected financial data for kacha company is given below:

	Dec 31, 2004	**Dec 31,2003**
Cash	Br 10,000	Br 80,000
Short-term investments	30,000	10,000
Accounts receivable (net)	50,000	150,000
Inventories	90,000	150,000
Plant Assets (net)	340,000	360,000
Notes payable (current)	20,000	40,000
Accounts payable	70,000	110,000
Mortgage note payable (due in 2007)	280,000	280,000
Cash sales	1,800,000	1,600,000
Credit sales	500,000	800,000
Cost of goods sold	1,000,000	1,400,000

Compute the following for kacha company for year 2004 (show supporting computation)

a) quick ratio
b) accounts Receivable turnover
c) Inventories turnover
d) current ratio

Answer keys for self assessment Questions

Chapter One

Part I	Part II
1. False	1.D
2. False	2. C
3. False	3. D
4. True	4. B
5. True	5. B
6. False	6. B
7. True	

Chapter Two

Part I	Part II
1. True	1. C
2. False	2. A
3. True	3. B
4. True	4. B
5. False	5. A

Chapter Three

Part I		Part II	
1. I	6.	1. D	
2. J	7. G	2. D	
3. E	8. D		3. C
4. F	9. A	4. B	
5. B	10. C	5. C	

Chapter Four

Part I
1. A
2. D
3. D
4. B
5. C

Chapter Five

Part I
1.
2.
3.
4.
5.

Chapter Six

Part I
1.
2.
3.
4.
5.

Chapter Seven

Part I
1. E
2. A
3. D
4. E
5. C

Assignments to be submitted by the students during the tutoring program.

Assignment –I: (Covering Chapter One and Chapter Two)

1. On January 1, 2005 GYB Company paid $648,000 for 20,000 Shares of Africa Insurance company common stock. The investment represents a 30% interest in the net assets of Africa Insurance and gave GYB the ability to exercise significant influence over Africa Insurance's operations. GYB received dividends of $300 per share on December 10, 2005, and Africa Insurance reported net income of $320,000 for the year ended December 31, 2005. The market value of Africa Insurance's common stock at December 31, 2005, was $32 per share.

Required:

a. Prepare all appropriate journal entries related to the investment during 2005 assuming GYB accounts for this investment by the equity method.

b. Prepare the journal entries required by GYB, assuming that the 20,000 shares represent a 10% interest in the net assets of Africa Insurance rather than a 30% interest.

2. On January 1, 2000, East Africa Group issued $200,000, 9%, four-year bonds. Interest is paid semiannually on June 30 and December 31. the bonds were issued at $193,537 to yield an annual return of 10%

Required:

a. Prepare an amortization schedule that determines interest at the effective interest rate.

b. Prepare an amortization schedule by the straight line method

c. Prepare the journal entries to record interest expense on June 30,2002, by each of the two approaches.

Assignment –II: (Covering Chapter – 3 Only)

1. During its first year of operations, XY- Company entered into the following transactions relating to shareholders' equity. The articles of incorporation authorized the issue of 240 million common shares, $1 par per share, and 30 million preferred shares, $50 par per share.

Required: Prepare the appropriate journal entries to record each transaction:

January 13 sold 60 million common shares, for $10 per share

January 14 Issued 2 million common shares attorneys in exchange for legal services.

January 14 sold 4 million of its common shares and 2 million preferred shares for $60 million.

November 16 Issued 190,000 of its common shares in exchange for equipment for which the cash price was known to be $1,844,000.

2. Ethiopian Telecommunication Corporation (ETC) has the following stockholders' equity information in 2004:

	$10 par Common	**$50 par Preferred**
Paid in capital in excess of par	$750,000	$30,000
Shares:		
Authorized	1, 000,000	100,000
Issued	250, 000	15,000
Outstanding	246, 500	15,000

Retained earnings are $109,400, and the cost of treasury shares is $42,000.

Required: Prepare the stockholders' equity portion of ETC's 2004 balance sheet.

Assignment- III (Covering Chapter 4 and 5)

1. Glorious Company leased equipment with an economic life of 12 years to Ethiopian Red Cross Association on January 2, 1991, for a period of 10 years. The selling price of the equipment was Br. 288,258, and the unguaranteed residual value at the end of the lease term was estimated at Br. 20,000. Ethiopian Red Cross was to pay annual rent of Br. 40,000 at the beginning of each year and was responsible for maintenance, insurance and property taxes. Glorious incurred costs of Br. 197,200 in acquiring the equipment and Br. 5000 in negotiating and closing the lease contract. The collectibility of lease payments was reasonably predictable, and no additional costs were expected to be incurred by Glorious. The implicit interest rate for Glorious was 9% a year and was known to Ethiopian Red Cross, which had an incremental borrowing rate of 12%.

Instructions:

a. How is the lease classified by Glorious Company (lessor)? Explain.

b. Assume the lease was classified as sales-type lease, compute the following at the inception of the lease

i. Gross investment in lease
ii. Net investment in lease
iii. Un earned interest revenue
iv. Sales proceeds under the lease
v. Cost of goods sold (cost of equipment plus initial direct costs less present value of the un guaranteed residual value)

c. Prepare the journal entries for the first year of the lease for Glorious Company (lessor)

2. The following data pertain to the Metadel Company.

At December 31, 1998, the company has a BR. 30,000 liability reported for estimated litigation claims. This Br. 30,000 balance represents amount that have been charged to income but that are not tax deductible until they are paid. The company expects to pay the claims and thus have tax-deductible amounts in the future in the following manner:

Year	Payments
2001	Br. 5,000
2002	23,000
2003	2,000
	Br. 30,000

The company uses different depreciation methods for financial reporting and tax purposes. Consequently, at December 31, 1998, the company has a cumulative temporary difference due to depreciable property of Br. 80,000 cumulative temporary difference due to depreciation is to result in taxable amounts in future years in the following manner:

Year	Amount
1999	Br. 16,000
2000	16,000
2001	16,000
2002	16,000
2003	16,000
	Br. 80,000

The tax rates enacted at the beginning of 1997 are as follows:

1998 and 1999	50%
2000 and 2001	40%
2002 and later	34%

Taxable income for 1998 is Br. 80,000. Lee expects to report taxable income for at least the next five years.

No temporary differences existed at the end of 1997.

Required:

a. Prepare the journal entry for Metadel to record income tax payable, deferred income taxes, and income tax expense for 1998.
b. Prepare the income tax expense section of the income statement, beginning with the line ''Income before income taxes."

Assignment- IV (covering chapter 6 and 7)

1. During the year, ended Oct 31, year 13 the following occurred for Hardy Company which uses the perpetual inventory system:

-The change in estimated economics life of Hardy's building to 30 years from 40 years. (The estimated net residual value of the building remained unchanged at Br. 40,000). The building had been acquired on Oct. 31, year 2 at a cost of Br. 840,000. Hardy used the straight-line method of depreciation for the building.

-There is discovery on March 18, year 13, of a Br. 60,000 understatement of Hardy's inventories of Oct 31, year 12.

This error resulted in a Br. 27,000 understatement of Hardy's income tax liability for the year ended Oct 31, year 12.

Hardy's income tax rate is 45% and it will file an amended income tax return for the year ended Oct 31, year 12.

Instruction: Prepare Journal entries

a. on March 18, year 13 to correct the error in the Oct 31, year 12, inventories

b. On Oct 31, year 13, to reflect the accounting change

2. The stock shoulders' equity section of Gamo Tracing's December 31,1997, balance sheet as follows;

Stockholders' equity:

- common stock, Br 1 par, authorized 40,000,000 shares, issued and outstanding 20,000,000 shares Br 20,000,000
- Additional paid in capital 222,000,000
- Retained Earnings 280,000,000

Total stock holders' equity Br 522,000,000

Additional Information for year 1998:

1. On January 15, 1998, Gamo declared a 10% Common stock dividend; the market price of Gamo's common stock was Br 10 a share on that date.
2. On July 1, 1998, Gamo acquired 500,000 shares of its common stock for the treasury for Br 12 a share. Gamo uses the cost method of accounting for treasury stock
3. On October 22, Gamo discovered a Br 24,000 understatement of its December 31, 1997 inventories, Gamo's income tax rate is 45%
4. On Dec 15, the company declared a cash dividend of a Br 1 par share on common stock outstanding
5. Gamo's net income for the year ended Dec 31, 1998 was Br 55,000,000 after giving effect to error in item (3) above.

Required: a) Prepare Gamo company's statement of stock holders' equity for the year ended Dec 31, 1998.

b) Compute the following for the company for year 1998 (show computations)

I) Earnings per share of common stock, rounded to the nearest cent.
ii) Dividends payout ratio.
III) Equity (book value) per share.
iv) Return on common stock holders' equity (Round your computations to the nearest unit digits).

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