
PRINCIPLES OF ACCOUNTING
CHAPTER 14

**LONG-TERM LIABILITIES:
BONDS AND NOTES**

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Chapter Introduction

Corporations often require substantial financing to:

- Construct buildings
- Purchase machinery
- Expand operations
- Acquire other businesses
- Develop infrastructure
- Replace existing debt
- Finance long-term projects

Long-term financing may be obtained through equity or debt.

Why This Chapter Matters

Long-term liabilities affect:

- Financing costs
- Interest expense
- Cash-flow commitments
- Financial risk
- Profitability
- Solvency
- Borrowing capacity
- Investor and lender decisions

A small difference between a bond's stated rate and market rate may create a significant discount or premium.

Opening Business Case

A corporation needs ETB 100 million to construct a new manufacturing plant. Management is considering:

- Issuing additional shares
- Issuing long-term bonds
- Borrowing from a bank
- Obtaining an installment loan

Discussion question — what are the financial and accounting consequences of each financing alternative?

Central Accounting Question

How should a corporation recognize, measure, amortize, settle and report long-term debt obtained through bonds and installment notes?

Learning Objectives

By the end of this chapter, students will be able to:

- 1 Compare debt financing and equity financing.
- 2 Explain the nature and characteristics of bonds.
- 3 Determine bond interest payments.
- 4 Explain why bonds are issued at face amount, discount or premium.
- 5 Record bonds issued at face amount.
- 6 Account for bonds issued at a discount.
- 7 Account for bonds issued at a premium.
- 8 Amortize bond discounts and premiums.
- 9 Record bond interest and maturity payments.
- 10 Account for bond redemption before maturity.
- 11 Account for installment notes.
- 12 Report long-term liabilities.
- 13 Calculate times interest earned.
- 14 Explain present-value bond pricing.
- 15 Apply the effective-interest method.

Chapter Roadmap

- 1 Financing corporations
- 2 Nature of bonds payable
- 3 Bond characteristics and terminology
- 4 Bond issuance prices
- 5 Bonds issued at face amount
- 6 Bonds issued at a discount
- 7 Bonds issued at a premium
- 8 Bond interest and maturity
- 9 Bond redemption
- 10 Installment notes
- 11 Reporting long-term liabilities
- 12 Financial analysis
- 13 Present-value concepts
- 14 Effective-interest amortization

Opening Reflection

A corporation issues ETB 1,000,000 of 10% bonds.

QUESTIONS

- How much interest will be paid annually?
- What happens when the market rate is also 10%?
- What happens when the market rate is 12%?
- What happens when the market rate is 8%?
- Is the issue price always equal to ETB 1,000,000?

SECTION 01

Financing Corporations

Equity, debt and financial leverage

Sources of Long-Term Financing

A corporation may finance long-term activities through:

EQUITY FINANCING

- Common stock
- Preferred stock
- Retained earnings

DEBT FINANCING

- Bonds payable
- Long-term notes
- Mortgage notes
- Installment loans
- Lease obligations

Equity Financing

Equity financing obtains resources from owners.

MAIN FEATURES

- No fixed maturity date
- Dividends are not automatic obligations
- May dilute existing ownership
- Increases stockholders' equity
- Investors bear residual risk

Debt Financing

Debt financing obtains resources from lenders or investors.

MAIN FEATURES

- Requires repayment
- Normally requires interest
- Creates a liability
- Does not transfer ownership
- May contain restrictive conditions
- Increases financial risk

Debt versus Equity Financing

Debt Financing	Equity Financing
Creates a liability	Creates ownership equity
Requires repayment	Normally has no maturity
Requires interest	Dividends depend on declaration
Does not dilute voting ownership	May dilute ownership
Interest normally affects income	Dividends do not affect net income
Increases financial leverage	Strengthens the equity base

Advantages of Debt Financing

Debt financing may:

- Preserve stockholder control
- Allow owners to benefit from successful investments
- Provide predictable financing terms
- Support business expansion
- Avoid issuing additional shares

Risks of Debt Financing

Debt financing creates:

- Mandatory interest payments
- Principal repayment obligations
- Refinancing risk
- Default risk
- Restrictive covenants
- Pressure on cash flows
- Increased financial leverage

Financial Leverage

Financial leverage refers to the use of debt to increase the potential return to stockholders.

POSITIVE EFFECT

- Borrowed funds earn more than their financing cost.

NEGATIVE EFFECT

- Borrowed funds earn less than their financing cost.



Key principle: leverage increases both potential return and financial risk.

Financing Decision Example

A corporation borrows ETB 5,000,000 at 10%.

Annual interest

$$5,000,000 \times 10\%$$

ETB 500,000

Benefit when earnings before interest are ETB 800,000

$$800,000 - 500,000$$

ETB 300,000

The excess benefits stockholders before tax effects.

SECTION 02

Nature of Bonds Payable

Instruments, parties and core terminology

What Is a Bond?

A bond is a formal interest-bearing debt instrument issued by:

- Corporations
- Governments
- Public authorities
- Other eligible organizations

A BOND NORMALLY REQUIRES

- Periodic interest payments
- Repayment of principal at maturity

Bonds Payable

From the issuer's perspective, bonds are recorded as:

Bonds Payable

Bonds Payable is a long-term liability unless the bonds mature within the current reporting period.

Bondholders

Bondholders are creditors of the issuing corporation. They are not corporate owners merely because they own bonds.

BONDHOLDERS NORMALLY HAVE RIGHTS TO

- Interest payments
- Principal repayment
- Contractual protections
- Enforcement of bond terms

Stockholders versus Bondholders

Stockholders	Bondholders
Owners	Creditors
Receive declared dividends	Receive contractual interest
May vote	Normally do not vote
Residual claim	Prior creditor claim
No fixed repayment date for shares	Principal due at maturity
Higher residual risk	Contract-based return

Bond Indenture

A bond indenture is the formal contract between the issuing corporation and the bondholders.

IT DESCRIBES

- Face amount
- Interest rate
- Interest dates
- Maturity date
- Security
- Redemption provisions
- Restrictive covenants

Bond Certificate

A traditional bond certificate may show:

- Issuer
- Face amount
- Stated interest rate
- Maturity date
- Interest-payment dates
- Bond identification number

Many bonds are now maintained through electronic records.

Trustee

A trustee is an independent party appointed to represent the interests of bondholders.

THE TRUSTEE MAY

- Monitor compliance
- Administer interest payments
- Hold pledged assets
- Protect bondholder rights
- Participate in enforcement procedures

Face Amount

The face amount is the principal amount stated on the bond. It may also be called:

- Face value
- Par value
- Maturity value
- Principal amount

The issuer repays this amount at maturity unless the bond is redeemed earlier.

Stated Interest Rate

The stated interest rate is the rate printed in the bond agreement. It is also called:

- Contract rate
- Coupon rate
- Nominal rate

The stated rate determines the cash interest payment.

Market Interest Rate

The market interest rate is the rate investors demand for bonds with similar:

- Credit risk
- Maturity
- Security
- Liquidity
- Economic conditions

It is also called the effective rate or the yield rate.

Maturity Date

The maturity date is the date on which the bond principal becomes due.

Example: a 10-year bond issued on January 1, 2026, normally matures on January 1, 2036.

Interest-Payment Dates

Bond interest may be paid:

- Annually
- Semiannually
- Quarterly
- At another contractual interval

Semiannual interest payments are common in textbook bond illustrations.

Calculating Bond Cash Interest

General form

$$\text{Cash Interest} = \text{Face Amount} \times \text{Stated Rate} \times \text{Time}$$

Semiannual interest

$$\text{Cash Interest} = \text{Face Amount} \times (\text{Annual Stated Rate} \div 2)$$

Semiannual Interest Example

Face amount ETB 1,000,000 with an annual stated rate of 10%.

Semiannual interest

$$1,000,000 \times 10\% \times 6/12$$

ETB 50,000

Annual cash interest

$$50,000 \times 2$$

ETB 100,000

SECTION 03

Bond Classifications

Maturity, security, ownership and special features

Term Bonds

Term bonds mature on one specified date.

Example: all ETB 10 million of bonds mature on December 31, 2035.

Serial Bonds

Serial bonds mature in instalments over several dates.

EXAMPLE

- ETB 2 million matures in 2031
- ETB 2 million matures in 2032
- ETB 2 million matures in 2033
- ETB 2 million matures in 2034
- ETB 2 million matures in 2035

Secured Bonds

Secured bonds are supported by specified assets.

EXAMPLES

- Mortgage bonds secured by real estate
- Equipment trust bonds secured by equipment
- Bonds secured by financial assets

Unsecured Bonds

Unsecured bonds depend primarily on the issuer's:

- Creditworthiness
- Profitability
- Cash flows
- General assets
- Reputation

Unsecured corporate bonds are sometimes called debentures.

Registered Bonds

Registered bonds identify the owner in the issuer's records.

Interest and principal are paid to the registered holder.

Bearer Bonds

Bearer bonds are payable to the person possessing the bond.

Because they provide less ownership transparency, their use may be legally restricted in some jurisdictions.

Convertible Bonds

Convertible bonds may be exchanged for shares of the issuing corporation according to specified terms.

The conversion feature may make the bonds more attractive to investors.

Callable Bonds

Callable bonds may be redeemed by the issuer before maturity.

THE BOND AGREEMENT NORMALLY SPECIFIES

- Earliest call date
- Call price
- Required notice
- Other redemption conditions

Sinking-Fund Bonds

A sinking-fund arrangement requires the issuer to accumulate resources or retire portions of the debt over time.

Its purpose is to reduce the risk of a large single maturity payment.

SECTION 04

Proceeds from Issuing Bonds

Face amount, discount and premium

Bond Issue Price

A bond may be issued:

- 1 At face amount
- 2 At a discount
- 3 At a premium

The relationship between the stated rate and the market rate determines the issue price.

Issued at Face Amount

Condition

Stated Rate = Market Rate

Face amount

Investors receive a contractual return equal to the return demanded by the market.

Issued at a Discount

Condition

Stated Rate < Market Rate

Discount

Investors will pay less than face value because the contractual cash interest is below the market return.

Issued at a Premium

Condition

Stated Rate > Market Rate

Premium

Investors will pay more than face value because the contractual cash interest exceeds the market return.

Rate Relationship Summary

Relationship	Issue Price
Stated rate = market rate	Face amount
Stated rate < market rate	Discount
Stated rate > market rate	Premium

Bond Price Quotation

Bonds may be quoted as a percentage of face amount.

Quoted at 100

$100\% \times \text{Face Amount}$

At face amount

Quoted at 96

$96\% \times \text{Face Amount}$

At a discount

Quoted at 104

$104\% \times \text{Face Amount}$

At a premium

Quotation Example

Face amount ETB 1,000,000.

Quoted at 96

$$1,000,000 \times 96\%$$

ETB 960,000

Quoted at 104

$$1,000,000 \times 104\%$$

ETB 1,040,000

Carrying Amount

The carrying amount is the amount at which the bond liability is reported.

Discount bond

$\text{Carrying Amount} = \text{Face Amount} - \text{Unamortized Discount}$

Premium bond

$\text{Carrying Amount} = \text{Face Amount} + \text{Unamortized Premium}$

SECTION 05

Bonds Issued at Face Amount

Issuance, interest and maturity entries

Bond Example — At Face Amount

On January 1, a corporation issues:

- Face amount: ETB 1,000,000
- Stated rate: 10%
- Market rate: 10%
- Term: five years
- Interest: semiannual

Issue price

$$100\% \times 1,000,000$$

ETB 1,000,000

Entry at Issuance

Account	Debit	Credit
Cash	1,000,000	
Bonds Payable		1,000,000

First Semiannual Interest Payment

Cash interest

$$1,000,000 \times 10\% \times 6/12$$

ETB 50,000

Account	Debit	Credit
Interest Expense	50,000	
Cash		50,000

Second Semiannual Payment

The same entry is recorded six months later:

Account	Debit	Credit
Interest Expense	50,000	
Cash		50,000

Annual Interest Expense

Annual interest expense

50,000 + 50,000

ETB 100,000

Because the bonds were issued at face amount, cash interest equals interest expense.

Carrying Amount at Face

Throughout the bond term:

Item	ETB
Bonds Payable	1,000,000
Discount or Premium	—
Carrying Amount	1,000,000

Payment at Maturity

At the end of five years:

Account	Debit	Credit
Bonds Payable	1,000,000	
Cash		1,000,000

The principal repayment is separate from the final interest payment.

Cash Flows over the Bond Life

Cash received at issuance

$100\% \times 1,000,000$

ETB 1,000,000

Total interest paid

$100,000 \times 5$

ETB 500,000

Principal repaid at maturity

Face amount

ETB 1,000,000

SECTION 06

Bonds Issued at a Discount

Recognition, straight-line amortization and maturity

Meaning of Bond Discount

Bond discount

Face Amount – Issue Price

The discount increases the issuer's effective interest cost.

Discount on Bonds Payable is a contra-liability account. As it is amortized, the carrying amount rises toward face value.

Discount Example

A corporation issues:

- ETB 1,000,000 face value
- 10% stated rate
- Five-year term
- Semiannual interest
- Issue price: 96

Cash proceeds

$$1,000,000 \times 96\%$$

ETB 960,000

Calculate the Discount

Discount on bonds payable

$1,000,000 - 960,000$

ETB 40,000

Discount Issuance Entry

Account	Debit	Credit
Cash	960,000	
Discount on Bonds Payable	40,000	
Bonds Payable		1,000,000

Initial Carrying Amount

Item	ETB
Bonds Payable	1,000,000
Less: Discount on Bonds Payable	(40,000)
Carrying Amount	960,000

Why the Discount Is Amortized

The corporation:

- Receives ETB 960,000
- Repays ETB 1,000,000
- Pays contractual interest

The ETB 40,000 difference is an additional financing cost allocated over the bond term.

Straight-Line Amortization

The chapter's primary method divides the discount equally among the interest periods.

Per period

$\text{Total Discount} \div \text{Number of Interest Periods}$

The effective-interest method is presented separately in the chapter appendix.

Number of Interest Periods

Five-year bonds with semiannual interest

$$5 \times 2$$

10 periods

Discount Amortization per Period

Amortization per period

ETB 40,000 ÷ 10

ETB 4,000

Interest Expense for a Discount Bond

Formula

$\text{Interest Expense} = \text{Cash Interest} + \text{Discount Amortization}$

Applied

$50,000 + 4,000$

ETB 54,000

Discount Interest Entry

Account	Debit	Credit
Interest Expense	54,000	
Discount on Bonds Payable		4,000
Cash		50,000

Effect of Discount Amortization

After the first interest period:

Unamortized discount

$40,000 - 4,000$

ETB 36,000

Carrying amount

$1,000,000 - 36,000$

ETB 964,000

Discount Amortization Schedule — Periods 1–5

Period	Cash Interest	Discount Amort.	Interest Expense	Carrying Amount
Issue date	—	—	—	ETB 960,000
1	50,000	4,000	54,000	964,000
2	50,000	4,000	54,000	968,000
3	50,000	4,000	54,000	972,000
4	50,000	4,000	54,000	976,000
5	50,000	4,000	54,000	980,000

Discount Amortization Schedule — Periods 6–10

Period	Cash Interest	Discount Amort.	Interest Expense	Carrying Amount
6	ETB 50,000	ETB 4,000	ETB 54,000	ETB 984,000
7	50,000	4,000	54,000	988,000
8	50,000	4,000	54,000	992,000
9	50,000	4,000	54,000	996,000
10	50,000	4,000	54,000	1,000,000

Total Interest Expense — Discount Bond

Cash interest

$$50,000 \times 10$$

ETB 500,000

Total discount

$$1,000,000 - 960,000$$

ETB 40,000

Total interest expense

$$500,000 + 40,000$$

ETB 540,000

Discount Bond at Maturity

- The discount is fully amortized.
- The carrying amount equals face amount.
- Bonds Payable is settled for ETB 1,000,000.

Account	Debit	Credit
Bonds Payable	1,000,000	
Cash		1,000,000

SECTION 07

Bonds Issued at a Premium

Recognition, amortization and comparison

Meaning of Bond Premium

Bond premium

Issue Price – Face Amount

The premium reduces the issuer's effective interest cost.

As the premium is amortized, the carrying amount decreases toward face value.

Premium Example

A corporation issues:

- ETB 1,000,000 face value
- 10% stated rate
- Five-year term
- Semiannual interest
- Issue price: 104

Cash proceeds

$1,000,000 \times 104\%$

ETB 1,040,000

Calculate the Premium

Premium on bonds payable

$1,040,000 - 1,000,000$

ETB 40,000

Premium Issuance Entry

Account	Debit	Credit
Cash	1,040,000	
Bonds Payable		1,000,000
Premium on Bonds Payable		40,000

Initial Carrying Amount

Item	ETB
Bonds Payable	1,000,000
Add: Premium on Bonds Payable	40,000
Carrying Amount	1,040,000

Why the Premium Is Amortized

The corporation:

- Receives ETB 1,040,000
- Repays ETB 1,000,000
- Pays stated cash interest

The ETB 40,000 premium offsets part of the stated cash-interest cost.

Premium Amortization per Period

Number of periods

$$5 \times 2$$

10 periods

Amortization per period

$$\text{ETB } 40,000 \div 10$$

ETB 4,000

Interest Expense for a Premium Bond

Formula

$\text{Interest Expense} = \text{Cash Interest} - \text{Premium Amortization}$

Applied

$50,000 - 4,000$

ETB 46,000

Premium Interest Entry

Account	Debit	Credit
Interest Expense	46,000	
Premium on Bonds Payable	4,000	
Cash		50,000

Effect of Premium Amortization

After the first interest period:

Unamortized premium

$40,000 - 4,000$

ETB 36,000

Carrying amount

$1,000,000 + 36,000$

ETB 1,036,000

Premium Amortization Schedule — Periods 1–5

Period	Cash Interest	Premium Amort.	Interest Expense	Carrying Amount
Issue date	—	—	—	ETB 1,040,000
1	50,000	4,000	46,000	1,036,000
2	50,000	4,000	46,000	1,032,000
3	50,000	4,000	46,000	1,028,000
4	50,000	4,000	46,000	1,024,000
5	50,000	4,000	46,000	1,020,000

Premium Amortization Schedule — Periods 6–10

Period	Cash Interest	Premium Amort.	Interest Expense	Carrying Amount
6	ETB 50,000	ETB 4,000	ETB 46,000	ETB 1,016,000
7	50,000	4,000	46,000	1,012,000
8	50,000	4,000	46,000	1,008,000
9	50,000	4,000	46,000	1,004,000
10	50,000	4,000	46,000	1,000,000

Total Interest Expense — Premium Bond

Cash interest

$$50,000 \times 10$$

ETB 500,000

Less: premium

$$1,040,000 - 1,000,000$$

ETB 40,000

Total interest expense

$$500,000 - 40,000$$

ETB 460,000

Comparison of Bond Interest

Issue Type	Cash Interest	Amortization Effect	Interest Expense
Face amount	ETB 50,000	None	ETB 50,000
Discount	50,000	Add ETB 4,000	54,000
Premium	50,000	Deduct ETB 4,000	46,000

Comparison of Carrying Amounts

Issue Type	Initial Carrying Amount	Direction	Maturity Amount
Face amount	ETB 1,000,000	No change	ETB 1,000,000
Discount	960,000	Increases	1,000,000
Premium	1,040,000	Decreases	1,000,000

SECTION 08

Accrued Bond Interest

Recognition between payment dates

Interest between Payment Dates

The reporting date may occur between contractual interest-payment dates.
The issuer must then recognize:

- Interest Expense
- Interest Payable
- Discount or premium amortization, where applicable

Accrued Interest Example

Face amount ETB 1,000,000 with a 10% stated rate; three months have accrued.

Accrued interest

$$1,000,000 \times 10\% \times 3/12$$

ETB 25,000

Accrued Entry — Bond at Face Amount

Account	Debit	Credit
Interest Expense	25,000	
Interest Payable		25,000

Payment after an Accrual

At the next semiannual payment date: total cash interest ETB 50,000, previously accrued ETB 25,000, current-period interest expense ETB 25,000.

Account	Debit	Credit
Interest Payable	25,000	
Interest Expense	25,000	
Cash		50,000

SECTION 09

Bond Redemption

Retirement at and before maturity

What Is Bond Redemption?

Bond redemption is the repayment or retirement of bonds. Bonds may be redeemed:

- At maturity
- Before maturity
- Through a call provision
- Through open-market purchase
- Through a sinking fund

Redemption at Maturity

- Discount or premium should be fully amortized.
- Carrying amount should equal face amount.
- The issuer pays the face amount.

Account	Debit	Credit
Bonds Payable	XXX	
Cash		XXX

Redemption before Maturity

Before recording early redemption:

- 1 Record interest to the redemption date.
- 2 Amortize discount or premium to that date.
- 3 Determine the bond carrying amount.
- 4 Determine the redemption price.
- 5 Record a gain or loss.

Gain or Loss on Redemption

Formula

$\text{Gain or Loss} = \text{Carrying Amount} - \text{Redemption Price}$

REDEMPTION PRICE BELOW CARRYING AMOUNT

- Gain on bond redemption

REDEMPTION PRICE ABOVE CARRYING AMOUNT

- Loss on bond redemption

Redemption of a Premium Bond

Assume:

- Face amount: ETB 1,000,000
- Carrying amount: ETB 1,015,000
- Unamortized premium: ETB 15,000
- Redemption price: 102

Cash paid

$$1,000,000 \times 102\%$$

ETB 1,020,000

Loss on Premium-Bond Redemption

Loss

1,020,000 – 1,015,000

ETB 5,000

Account	Debit	Credit
Bonds Payable	1,000,000	
Premium on Bonds Payable	15,000	
Loss on Bond Redemption	5,000	
Cash		1,020,000

Redemption of a Discount Bond

Assume:

- Face amount: ETB 1,000,000
- Carrying amount: ETB 980,000
- Unamortized discount: ETB 20,000
- Redemption price: 97

Cash paid

$$1,000,000 \times 97\%$$

ETB 970,000

Gain on Discount-Bond Redemption

Gain

980,000 – 970,000

ETB 10,000

Account	Debit	Credit
Bonds Payable	1,000,000	
Discount on Bonds Payable		20,000
Cash		970,000
Gain on Bond Redemption		10,000

Common Redemption Error

INCORRECT APPROACH

- Compare the redemption price only with the face amount.

CORRECT APPROACH

- Compare the redemption price with the carrying amount, including any unamortized discount or premium.

SECTION 10

Installment Notes

Equal payments, interest and principal

What Is an Installment Note?

An installment note requires a series of payments that normally include interest and principal repayment.

The balance decreases after each payment.

The chapter covers installment-note issuance, annual payments and the separation of interest from principal.

Examples of Installment Notes

- Mortgage notes
- Equipment loans
- Vehicle financing
- Construction loans
- Long-term bank loans
- Property-purchase notes

Issuing an Installment Note

A corporation borrows ETB 500,000 under a five-year installment note bearing 10% annual interest.

Account	Debit	Credit
Cash	500,000	
Notes Payable		500,000

Equal Annual Payment

Annual payment for the classroom example

ETB 131,898.74

Equal annual instalment

Each payment consists of interest plus principal.

First Annual Payment

Beginning principal

Opening balance

ETB 500,000

Interest

$500,000 \times 10\%$

ETB 50,000

Principal reduction

$131,898.74 - 50,000$

ETB 81,898.74

First Payment Entry

Account	Debit	Credit
Interest Expense	50,000.00	
Notes Payable	81,898.74	
Cash		131,898.74

Balance after First Payment

Remaining principal

$500,000 - 81,898.74$

ETB 418,101.26

Second Annual Payment

Interest

$$418,101.26 \times 10\%$$

ETB 41,810.13

Principal

$$131,898.74 - 41,810.13$$

ETB 90,088.61

Ending balance

$$418,101.26 - 90,088.61$$

ETB 328,012.65

Installment-Note Schedule

Year	Beginning Principal	Cash Payment	Interest	Principal Reduction	Ending Principal
1	ETB 500,000.00	ETB 131,898.74	ETB 50,000.00	ETB 81,898.74	ETB 418,101.26
2	418,101.26	131,898.74	41,810.13	90,088.61	328,012.65
3	328,012.65	131,898.74	32,801.27	99,097.47	228,915.18
4	228,915.18	131,898.74	22,891.52	109,007.22	119,907.96
5	119,907.96	131,898.74	11,990.78*	119,907.96	—

**The final interest or payment may be adjusted slightly for rounding.*

Installment-Note Pattern

Over the life of an equal-payment installment note:

- Total cash payment remains constant.
- Interest expense decreases.
- Principal repayment increases.
- Outstanding principal decreases.
- The liability reaches zero at maturity.

Current Portion of an Installment Note

At the reporting date, the principal due within the next year is classified as:

Current Portion of Long-Term Debt

The remaining balance is classified as a long-term liability.

SECTION 11

Reporting and Financial Analysis

Presentation, ratios and appendix applications

Reporting Long-Term Liabilities

A balance sheet may report:

CURRENT LIABILITIES

- Current portion of long-term notes
- Bonds maturing within one year
- Accrued interest payable

LONG-TERM LIABILITIES

- Bonds payable
- Long-term notes payable
- Mortgage notes payable
- Long-term lease liabilities

Bond Presentation

Discount Bond	ETB
Bonds Payable	1,000,000
Less: Unamortized Discount	(24,000)
Carrying Amount	976,000

Premium Bond	ETB
Bonds Payable	1,000,000
Add: Unamortized Premium	24,000
Carrying Amount	1,024,000

Times Interest Earned

The chapter's principal financial-analysis measure evaluates the company's capacity to meet interest charges.

Formula

$$(\text{Income before Income Tax} + \text{Interest Expense}) \div \text{Interest Expense}$$

Example: income before tax ETB 1,200,000; interest expense ETB 300,000

$$(1,200,000 + 300,000) \div 300,000$$

5 times

Interpreting Times Interest Earned

Earnings before interest and tax cover interest charges five times. A higher ratio generally indicates stronger interest-payment capacity, but interpretation should consider:

- Industry norms
- Earnings stability
- Debt maturity
- Cash-flow quality
- Economic conditions

APPENDIX 1

Appendix 1: Present-Value Concepts

Pricing a bond from its cash flows

Present Value and Bond Price

A bond's issue price is the present value of:

- 1 The periodic interest payments
- 2 The principal payment at maturity

Bond price

PV of Interest Payments + PV of Principal

Present-Value Pricing Example — Data

- Face amount: ETB 1,000,000
- Stated rate: 8%
- Market rate: 10%
- Term: five years
- Interest: semiannual

Semiannual cash interest

$$1,000,000 \times 8\% \times 6/12$$

ETB 40,000

Periodic market rate

$$10\% \div 2$$

5%

Number of periods

$$5 \times 2$$

10

Present-Value Pricing Example — Result

Present value of principal

$$1,000,000 \div (1.05)^{10}$$

≈ ETB 613,913.25

Present value of interest payments

$$40,000 \times [1 - (1.05)^{-10}] \div 0.05$$

≈ ETB 308,869.40

Bond price

$$613,913.25 + 308,869.40$$

ETB 922,782.65

Discount

$$1,000,000 - 922,782.65$$

ETB 77,217.35

The bond is issued at a discount because the stated rate is below the market rate.

APPENDIX 2

Appendix 2: Effective-Interest Method

A constant market rate on a changing carrying amount

The Effective-Interest Method

Interest expense

$\text{Beginning Carrying Amount} \times \text{Market Rate per Period}$

Discount amortization

$\text{Interest Expense} - \text{Cash Interest}$

Premium amortization

$\text{Cash Interest} - \text{Interest Expense}$

The effective-interest method applies a constant market rate to the changing carrying amount, while straight-line amortization assigns an equal amount of discount or premium to each interest period.

First Effective-Interest Period

Beginning carrying amount	ETB 922,782.65
From present-value pricing	
Interest expense	ETB 46,139.13
$922,782.65 \times 5\%$	
Cash interest	ETB 40,000
$1,000,000 \times 8\% \times 6/12$	
Discount amortization	ETB 6,139.13
$46,139.13 - 40,000$	
Ending carrying amount	ETB 928,921.78
$922,782.65 + 6,139.13$	

First Effective-Interest Entry

Account	Debit	Credit
Interest Expense	46,139.13	
Discount on Bonds Payable		6,139.13
Cash		40,000.00

Effective-Interest Discount Schedule

Period	Beginning Carrying	Cash Interest	Interest Expense	Discount Amort.	Ending Carrying
1	ETB 922,782.65	ETB 40,000.00	ETB 46,139.13	ETB 6,139.13	ETB 928,921.78
2	928,921.78	40,000.00	46,446.09	6,446.09	935,367.87
3	935,367.87	40,000.00	46,768.39	6,768.39	942,136.26
9	981,405.90	40,000.00	49,070.29	9,070.29	990,476.19
10	990,476.19	40,000.00	49,523.81	9,523.81	1,000,000.00

SECTION 12

Comprehensive Exercise

Addis Manufacturing Share Company

Comprehensive Exercise

Addis Manufacturing Share Company issues ETB 2,000,000 of 12%, five-year bonds on January 1. Interest is paid semiannually. The bonds are issued at 98.

REQUIRED

- 1 Calculate cash proceeds.
- 2 Calculate the bond discount.
- 3 Record the issuance.
- 4 Calculate semiannual cash interest.
- 5 Calculate straight-line discount amortization.
- 6 Calculate semiannual interest expense.
- 7 Record the first interest payment.
- 8 Determine carrying amount after the first payment.
- 9 Determine carrying amount after six payments.
- 10 Record payment at maturity.

Solutions 1 and 2

Solution 1 — cash proceeds

$2,000,000 \times 98\%$

ETB 1,960,000

Solution 2 — bond discount

$2,000,000 - 1,960,000$

ETB 40,000

Solution 3 — Issuance Entry

Account	Debit	Credit
Cash	1,960,000	
Discount on Bonds Payable	40,000	
Bonds Payable		2,000,000

Solutions 4 to 6

Solution 4 — semiannual cash interest

$$2,000,000 \times 12\% \times 6/12$$

ETB 120,000

Solution 5 — discount amortization (10 periods)

$$40,000 \div 10$$

ETB 4,000

Solution 6 — interest expense

$$120,000 + 4,000$$

ETB 124,000

Solution 7 — First Interest Entry

Account	Debit	Credit
Interest Expense	124,000	
Discount on Bonds Payable		4,000
Cash		120,000

Solutions 8 and 9 — Carrying Amounts

Remaining discount after one payment

$$40,000 - 4,000$$

ETB 36,000

Carrying amount after first payment

$$2,000,000 - 36,000$$

ETB 1,964,000

Unamortized discount after six payments

$$40,000 - (4,000 \times 6)$$

ETB 16,000

Carrying amount after six payments

$$2,000,000 - 16,000$$

ETB 1,984,000

Solution 10 — Maturity Entry

After all ten periods, the discount is fully amortized.

Account	Debit	Credit
Bonds Payable	2,000,000	
Cash		2,000,000

SECTION 13

Chapter Summary

Key principles of long-term debt accounting

Chapter Summary — Financing and Bonds

- Corporations may obtain long-term financing through debt or equity.
- Debt financing preserves ownership but creates fixed payment obligations.
- Bonds are formal interest-bearing debt instruments.
- Bondholders are creditors rather than owners.
- Bond interest is based on face amount and the stated rate.
- Market interest rates determine the issue price.
- Bonds are issued at face amount when stated and market rates are equal.

Chapter Summary — Discount and Premium

- Bonds are issued at a discount when the stated rate is below the market rate.
- Bonds are issued at a premium when the stated rate is above the market rate.
- A discount increases total interest expense.
- A premium decreases total interest expense.
- Discount carrying amounts increase toward face value.
- Premium carrying amounts decrease toward face value.
- Straight-line amortization allocates an equal amount each period.

Chapter Summary — Redemption, Notes and Analysis

- Bond redemption before maturity may create a gain or loss.
- Gains and losses are based on carrying amount, not face amount alone.
- Installment-note payments include both interest and principal.
- Interest decreases as installment-note principal declines.
- The current portion of long-term debt is reported as a current liability.
- Times interest earned evaluates the ability to meet interest charges.
- Bond price equals the present value of interest and principal payments.
- The effective-interest method applies the market rate to carrying amount.

Long-Term Debt Accounting Cycle

1 Determine Financing Need

2 Select Bonds or Notes

3 Establish Contractual Terms

4 Determine Issue Price

5 Record the Liability

6 Record Interest and Amortization

7 Classify Current and Long-Term Portions

8 Redeem or Repay the Debt

9 Analyze Interest-Payment Capacity

Key Message

Bond accounting separates the amount borrowed, contractual cash interest and the true financing cost. Discounts and premiums ensure that interest expense reflects the economic rate required by investors.

Thank You

Questions and discussion

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Principles of Accounting

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