

Chapter 10

NONCURRENT (LONG-TERM) LIABILITIES

Final : 100 question ^{10 ข้อ bonus} แต่ได้ 90

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1/2023



Nov-20 (11:59 pm.)

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at suteera@cbs.chula.ac.th.

Chapter 10

NONCURRENT (LONG-TERM) LIABILITIES

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CFA Institute

LEARNING OUTCOMES

- determine the initial recognition, initial measurement, and subsequent measurement of bonds;
- describe the effective interest method and calculate interest expense, amortization of bond discounts/premiums, and interest payments;
- explain the derecognition of debt;
- describe the role of debt covenants in protecting creditors;
- describe the financial statement presentation of and disclosures relating to debt;
- explain motivations for leasing assets instead of purchasing them;
- explain the financial reporting of leases from a lessee's perspective;
- explain the financial reporting of leases from a lessor's perspective;
- compare the presentation and disclosure of defined contribution and defined benefit pension plans;
- calculate and interpret leverage and coverage ratios.

NON-CURRENT (LONG-TERM) LIABILITIES

In the future have to transfer economic benefits to settle debt

- A probable sacrifice of economic benefits in periods generally greater than one year in the future.
- Common types of non-current liabilities
 - Bonds payable
 - Leases
 - Pension liabilities
 - Deferred tax liabilities.
- **Corporate bonds:** debt securities issued by corporates → *gives higher return because riskier*
- **Treasury bills/government bonds:** debt securities issued by the government.
- **Bond:** debt security with a maturity of 10 years or longer.
- **Note:** debt security with a maturity of between 2 and 10 years.
- **Bill:** debt security with a maturity of less than 2 years.
 - Bond, note, bill used interchangeably in this chapter.

BONDS: CONTENTS

1. Pricing of debt based on present value of future cash payments.
2. How an issuer accounts for debt:
 - Issued at par
 - Issued at a price other than par
 - Issuance, periodic interest payments, repayment
3. Role of debt covenants in protecting creditors.

$$\overbrace{8\% \times \frac{6}{12} \times 1000}^{6 \text{ months}} \quad \overbrace{\quad \quad \quad}^{6 \text{ months}}$$

BONDS: BORROWERS' CASH FLOWS

\$1000 → 8% per year

→ 2 times per year

On Jan 1, July 1

→ Cash payment = $4\% \times 1,000 = \$40$

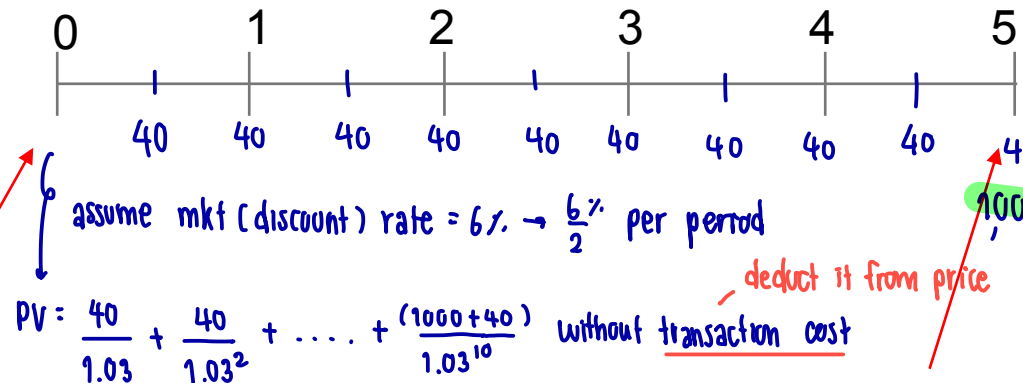
Coupon rate is the interest rate promised in the contract.

Coupon rate, nominal rate, stated rate, contractual rate.

At issuance (Time 0), borrower receives cash in exchange for bonds.

Pays periodic interest payment at the coupon rate.

Issue price equals present value of future cash flows.



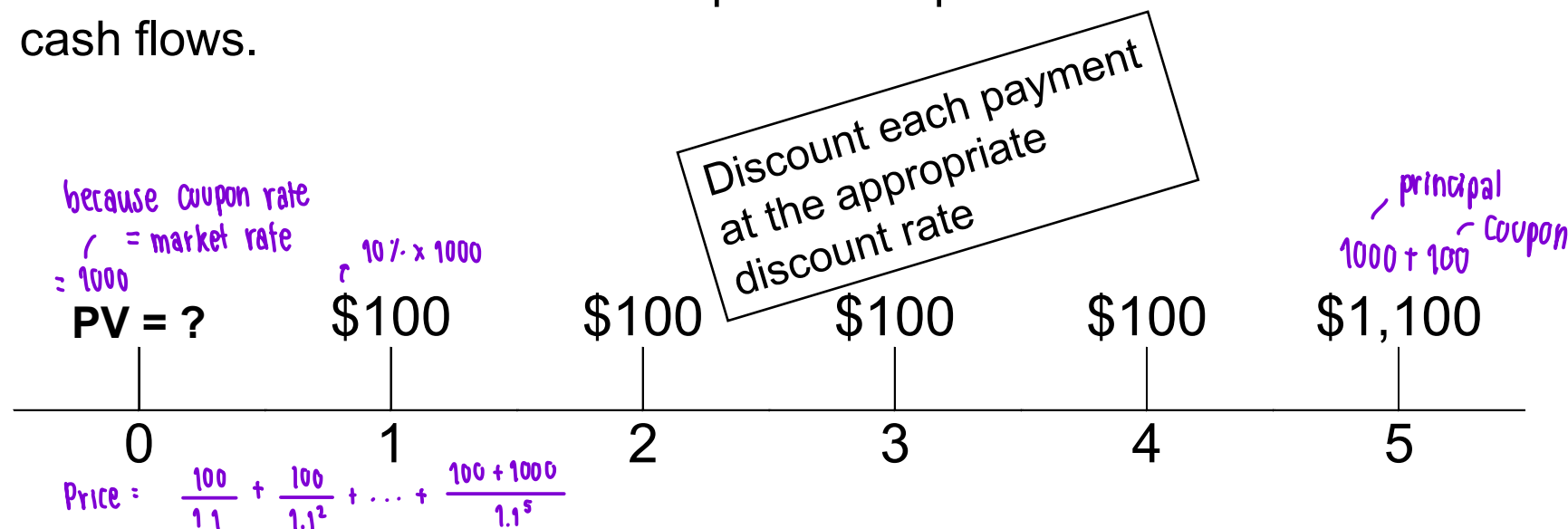
At maturity, pays the face value.

Face value = the amount of cash payable by the company to the bondholders when the bonds mature.

Face value, principal, par value, stated value, or maturity value.

DETERMINING THE VALUE OF A BOND: EXAMPLE

- Assumptions about the debt instrument (the bond): *once a year*
Principal = \$1,000; Coupon interest rate = 10%; Maturity = *5* years
↪ 10% × 1000 = 100 coupon
- Future cash flows for a five-year, 10% bond, \$1,000 principal.
- Payments include periodic interest payments and principal payment.
- The market value of a bond is equal to the present value of its future cash flows.



ACCOUNTING FOR DEBT BY THE ISSUER: EXAMPLE

Assumptions about the bond:

- Principal = \$1,000.
- **Coupon interest rate:** Stated or contractual rate of interest to be paid to the bondholders = 10%, annual.
- Maturity = 5 years.

Assumption about the debt market on the day of valuing:

- **Market rate (yield or effective rate):** Return the market demands on that bond on day we are valuing it = 10%. → assume it equals to coupon rate
- For simplicity, assume a flat interest rate yield curve.
- The market rate of interest at the time of issue often differs from the coupon rate because of interest rate fluctuations that occur between the time the issuer establishes the coupon rate and the day the bonds are available to investors.

ACCOUNTING FOR DEBT: EXAMPLE

- Principal = \$1,000; Coupon interest rate = 10%; Maturity = 5 years.
- Market rate on the day we are valuing the bond = 10%.
- Bond will be issued at **par** (i.e., 100% of face value).

$$PV = FV / [(1+i)^n]$$


Time	Interest Payment	Principal Payment	Total Payment	Present Value of Total Payment
0				
1	100	-	100	91
2	100	-	100	83
3	100	-	100	75
4	100	-	100	68
5	<u>100</u>	<u>1,000</u>	<u>1,100</u>	<u>683</u>
Total	<u>500</u>	<u>1,000</u>	<u>1,500</u>	<u>1,000</u>

↪ at par, price = principal

ISSUER'S ACCOUNTING FOR DEBT OVER ITS LIFE: EXAMPLE

normally Int expense \neq cash paid to bond holder

using effective int rate
EIR \times carrying value of bon

Principal = \$1,000; Coupon = 10%; Maturity = 5 years;

Transaction	Year	^{from coupon rate} Cash	^{liability} Bonds Payable	Premium or (Discount)	Common Stock	Retained Earnings
Initial borrow	Begin 1	\$1,000	\$1,000	0		
Pay interest	1	-100		0		^{interest expense} -100
Pay interest	2	-100		0		-100
Pay interest	3	-100		0		-100
Pay interest	4	-100		0		-100
Pay interest	5	-100		0		-100
Pay principal	5	-1,000	-1,000			

DISCOUNT OR PREMIUM ON BONDS

- If contractual interest rate equals to market rate, bonds are issued at par/face value (no premium or discount).

✓ bond is not issued at par

- Often, the **contractual interest rate** and the **market rate differ**.
- Therefore, bonds sell above or below face value.
- The market rate of interest is the rate demanded by purchasers of the bonds given the risks associated with future cash payment obligations of the particular bond issue.
 - The market rate at the time of issuance is *the effective interest rate* or borrowing rate that the company incurs on the debt.
 - The effective interest rate is the discount rate that equates the present value of the two types of promised future cash payments to their selling price.
 - For issuing company, *interest expense is based on effective interest rate* (not contractual rate!!!)

DISCOUNT OR PREMIUM ON BONDS

<i>contractual rate</i> Coupon Rate	<i>rate that competitors offer</i> Market Rate (examples)	Bonds Sell At a
10% ↓ cash payment is calculated from contractual rate as return from bond	<i>mkt offers lower return</i> 8%	<i>price of bond is higher than par value</i> Premium
	10%	Par
	<i>mkt offers higher return</i> 12%	<i>price of bond is lower than par value</i> Discount ↓ <i>lower the price to sell bond!</i>

ISSUER'S ACCOUNTING FOR BONDS ISSUED AT A DISCOUNT

In Excel: PV: $i = 12\%$, FV: 1000

PMT: 100

NPER: 5

(0, 1) beginning
ending

cash payment must be equal every periods
= PV (15%, 5, 100, 100, 0)

* Payment of lease is at the beginning of period

- Principal = \$1,000; Coupon interest rate = **10%**, paid annually; Maturity = 5 years.
- Return the market demands on the bond on the day we are valuing it = **12%**. Issued at 92.8 (i.e., 92.8% of face value).
- At issuance, cash increases by \$928 and bonds payable increases by \$1,000. What do we do with the difference?
- We show it as a **discount** to bonds payable.

t=0	t=1	t=2	t=3	t=4	t=5
	100.00	100.00	100.00	100.00	100.00
					1,000.00
discount	0.89286	0.79719	0.71178	0.63552	0.56743
927.90	89.29	79.72	71.18	63.55	624.17

value of bond = cash firm received on 1st day \Rightarrow lower than par \Rightarrow discount bond

ASSETS =		LIABILITIES +		OWNERS' EQUITY	
+ \$928	Cash	+ \$1,000	Bond payable		
		- \$72	Bond discount		

BONDS ISSUED AT A DISCOUNT

Issuer's Balance Sheet Presentation

Long-Term Liabilities		
Bonds Payable	\$1,000	
Less: Discount	<u>\$72</u>	\$928
<div>by the next 5 yrs, it will be gone. we amortizing it, using difference b/w interest payment & int expense</div> <div>cash</div> <div>Book value (also known as carrying value)</div>		

ISSUER'S ACCOUNTING FOR BOND ISSUED AT A DISCOUNT

Principal = \$1,000; Coupon rate = 10%; Maturity = 5 years.

Issue price 92.8% of par to yield 12% (**effective rate**).

Each year:

- Cash interest payment = Principal x Coupon rate x Time
= \$1,000 × 10% × 1 year = \$100
- Interest expense = Carrying value × ^{EIR}Effective rate × Time
- Amortization of discount = Interest expense – Cash interest payment

Transaction	Year	Cash	Bonds Payable	Discount	Common Stock	Net Inc. to Ret. Earnings	
Initial borrowing	Begin 1	\$928	\$1,000	-72			
Pay interest	1	-100		11		-111	

$$\begin{matrix} \$928 \times \\ \text{mult rate} \\ 12\% \times 1 \end{matrix}$$

carrying value of bond at the beginning of yr 1 = 928

- amortize the discount

carrying value at the end of yr 1 = 939

Interest expense

ISSUER'S ACCOUNTING FOR BOND ISSUED AT A DISCOUNT

Principal = \$1,000; Coupon rate = 10%; Maturity = 5 years.

Issue price = 92.8% of par to yield 12% (effective rate).

- Year 2, Cash interest payment = \$100.
- Interest expense = Carrying value × Effective rate × Time.
- Amortization of discount = Interest expense – Cash interest payment.

carrying value at the beginning

$$(\$928 + \$11) \times 12\% \times 1$$

Transaction	Year	Cash	Bonds Payable	Discount	Common Stock	Net Inc. to Ret. Earnings	
Initial borrowing	Begin 1	928	1,000	-72			
Pay interest	1	-100		11		-111	Interest expense
Pay interest	2	-100		13		-113	Interest expense

ISSUER'S ACCOUNTING FOR BOND ISSUED AT A DISCOUNT

- Principal = \$1,000; Coupon = 10%; Maturity = 5 years.
- Issued at 92.8 to yield 12%.

Transaction	Year	Cash	Bonds Payable	Discount	Common Stock	Net Inc. to Ret. Earnings	
Initial borrowing	Begin 1	928	1,000	-72	= 928		
Pay interest	1	-100		11	= 939	-111	Interest exp.
Pay interest	2	-100		13	= 952	-113	Interest exp
Pay interest	3	-100		14		-114	Interest exp
Pay interest	4	-100		16		-116	Interest exp
Pay interest	5	-100		18	= 1000	-118	Interest exp
Pay principal	5	-1,000	-1,000				

EXAMPLE-AMORTIZING A BOND DISCOUNT

- Debond Corp. issues £1,000,000 face value of five-year bonds, dated January 1, 2017, when the market interest rate is 6 percent. The sales proceeds are £957,876. The bonds pay 5 percent interest annually on December 31. (issued at discount)

- What is the interest payment on the bonds each year?

$$5\% \times 1,000,000 = 50,000$$

- What amount of interest expense on the bonds would be reported in 2017 and 2018 using the effective interest rate method?

$$2017 \Rightarrow 6\% \times 957,876 = 57,473$$

$$\text{diff} = 7,473$$

$$\text{Carrying value at the beginning of 2018} = \text{beginning yr 2017} = 957,876 + 7,473 = 965,349$$

$$\text{Int expense (2018)} = 6\% \times 965,349 = 57,920.94$$

$$\Delta = 7,920.94$$

- Determine the reported value of the bonds (i.e., the carrying amount) at December 31, 2017 and 2018, assuming the effective interest rate method is used to amortize the discount.

$$\bullet \text{ At the end of 2017} = 965,349$$

$$\bullet \text{ " ————— " 2018} = 965,349 + 7,920.94$$

ISSUER'S ACCOUNTING FOR BOND ISSUED AT A PREMIUM

- Principal = \$1,000; Coupon interest rate = 10%, paid annually; Maturity = 5 years.
- Return the market demands on the bond on the day we are valuing it = 8%. Issued at 108 (i.e., 108% of face value).
 premium
 ↳ mkt rate < coupon rate
- At issuance, cash increases by \$1080 and bonds payable increases by \$1,000. What do we do with the difference?
 - We show it as a **premium** to bonds payable.

t=0	t=1	t=2	t=3	t=4	t=5
	100.00	100.00	100.00	100.00	100.00
					1,000.00
discount factor	0.92593	0.85734	0.79383	0.73503	0.68058
1,079.85	92.59	85.73	79.38	73.50	748.64

↳ higher than par

ASSETS =		LIABILITIES +		OWNERS' EQUITY	
<i>higher than par</i> + \$1080	Cash	+ \$1000 + \$80	Bond payable Bond premium		

ACCOUNTING FOR BOND ISSUED AT A PREMIUM

- Principal = \$1,000; Coupon interest rate = 10%; Maturity = 5 years.
- Issue price = 108% of par to yield 8%.

Transaction	Assets =		Liabilities +		Owners' Equity		
	Year	Cash	Bonds Payable	Premium	Common Stock	Net Inc. to Ret. Earnings	
Initial borrowing	Begin 1	1,080	1,000	80	= 1080 <i>carrying value</i>		
Pay interest	1	$10\% \times 1000$ -100		13.6 -14	= 1066.4	$8\% \times 1080$ -86.4	Interest expense
Pay interest	2	-100		14.688 -15	= 1051.712	$8\% \times 1066.4$ -85.312	Interest expense
Pay interest	3	-100		15.86 -16	= 1035.85	$8\% \times 1051.712$ -84.14	Interest expense
Pay interest	4	-100		-17	= 1018	-83	Interest expense
Pay interest	5	-100		-19	= 1000	-81	Interest expense
Pay principal	5	-1,000	-1,000				

BOND PRICES SUBSEQUENT TO ISSUANCE

- Bonds may be issued:
 - At face value.
 - Below face value: discount.
 - Above face value: premium.
- The amount reported on the balance sheet for bonds is the historical cost plus or minus the cumulative amortization, called **amortized cost**.
- Changes in value subsequent to issuance do **not** affect the value of the bond on the **issuer's** statement unless the issuer has chosen the fair value option (much less common).
 - Subsequent to issuance, bonds may trade at face value, at a discount, or at a premium depending on the market rates at that time.
- **IFRS and US GAAP** require companies to **disclose fair value of financial liabilities** unless the fair value cannot be reliably measured.

PAYMENT OF BONDS

$$A = L + E$$

$$-1060 = -1051 + (E)$$

-9 int expense loss

, payback principal earlier than maturity rate → firm can reduce interest cost

May be redeemed at maturity or *before* maturity

- A firm may decide to retire bonds early:
 - To reduce interest costs or to remove debt from balance sheet.
 - But only if it has sufficient cash
- To account for retiring bonds early:
 - Eliminate carrying value of bonds at redemption date.
 - Record cash paid.
 - Recognize gain or loss on redemption.

$$\text{Gain or loss on bond repurchase} = \text{Net bonds payable} - \text{Repurchase payment}$$

- Amount of repurchase payment will depend on market rates at the time of repurchase.

EXERCISE- BONDS REDEMPTION

- Excerpt from NOTE 8: BONDS PAYABLE
- On December 12, 2014, the Company issued \$25 million of unsecured bonds... Interest on the bonds is equal to Libor plus 4%, payable quarterly in arrears.... During the 4th quarter of 2018, the Company repurchased the unsecured bonds with a face value of \$4.5 million and realized a \$2.3 million gain.

carrying

1) The balance in bonds payable was reduced at redemption by:

- A. \$2,155,000.
- B. \$2,345,000.
- ☒ C. \$4,500,000.

2) How much cash did the Company pay to redeem the bonds?

- ☒ A. \$2,155,000.
- B. \$2,345,000.
- C. \$4,500,000.

A = L + E
 ↓ ↓ ↓
 -2.2 -4.5 2.3
 CF statement

gain → increase R/E
 income statement
 CF under operating activity

DEBT COVENANTS

Covenants protect creditors by restricting activities of the borrower.

- Affirmative covenants: restrict the borrower's activities by requiring certain actions.
 - Example: require the borrower to maintain certain ratios above specified amount or perform regular maintenance on real assets used as collateral.
- Negative covenants: require the borrower not to take certain action.
 - Example: restrict the borrower's ability to pay dividends, or to invest, or make other operating and strategic decisions that may affect the company's ability to pay interest and principal.

If a borrower violates a debt covenant, depending on the severity of the breach and the terms of the contract, lenders may:

- choose to waive the covenant,
- be entitled to a penalty payment or higher interest rate,
- renegotiate, or
- call for immediate repayment of the debt.

ISSUER'S FINANCIAL STATEMENT PRESENTATION OF DEBT

Excerpt from 2018 and 2017 balance sheets of Colgate-Palmolive Inc.

Liabilities and Shareholders' Equity			
Current Liabilities			
Notes and loans payable	\$	12	\$ 11
Current portion of long-term debt		—	—
Accounts payable		1,222	1,212
Accrued income taxes		411	354
Other accruals		1,696	1,831
Total current liabilities		3,341	3,408
Long-term debt		6,354	6,566
Deferred income taxes		235	204
Other liabilities		2,034	2,255
Total liabilities		11,964	12,433

ISSUER'S NOTE DISCLOSURES RELATING TO DEBT

Brief excerpt from Note 6 of Colgate Palmolive's 2018 financial statements.

6. Long-Term Debt and Credit Facilities

Long-term debt consisted of the following at December 31:

	Weighted Average Interest Rate	Maturities	2018	2017
Notes	2.8%	2019 - 2078	\$ 5,820	\$ 6,542
Commercial paper	2.5%	2019	534	24
			<u>6,354</u>	<u>6,566</u>
Less: Current portion of long-term debt			—	—
Total			<u>\$ 6,354</u>	<u>\$ 6,566</u>

LEASES

, long term

- A contract between the owner of an asset (the lessor) and another party seeking use of the asset (the lessee).
 - The lessor *grants the right to use* the asset to the lessee.
 - The lessee makes periodic lease payments to the lessor in exchange for the right to use the asset.
 - A lease is a form of financing that enables the lessee to purchase the use of the leased asset.

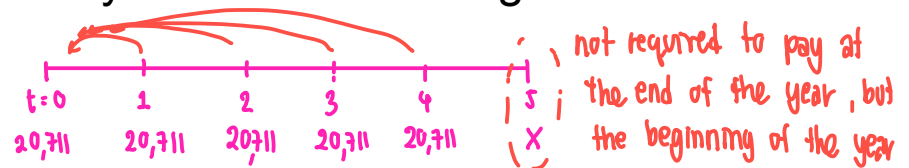
LEASES

- Rather than borrowing and buying the asset, a company arranges to lease the asset.
- Advantages to leasing an asset compared with purchasing it:
 - Leases can provide less costly financing; usually require little, if any, down payment; and are often at fixed interest rates.
 - The negotiated lease contract may contain less restrictive provisions than other forms of borrowing.
 - Leasing can reduce the risks of obsolescence, residual value, and disposition to the lessee.

LEASES

A lessee recognizes an asset (a 'right-of-use (ROU) asset') and a lease liability at inception of the lease.

- ROU and liability is calculated as *the present value of fixed lease payments*.
- Subsequently, the lessee (1) records a depreciation on the right-of-use asset, (2) recognizes interest expense on lease liability, and (3) reduces the balance of the lease liabilities for the portion of the lease payment that represents repayment of the lease liability.
- In sum, the lease treatment is similar to having purchased a long-term asset, financed by a long-term interest-bearing liability.
- Where the lease is short-term (less than one year) or low in value (under IFRS), a right-of-use asset and lease liability need not be recognized.



Find PV of each
fixed payment
(pay at the beginning)

no need to discount
the first payment

Ivanhoe Mines
Lease Amortization Schedule
Annuity-Due Basis

Date	Annual Lease Payment	Interest (4%) on Liability	Reduction of Lease Liability	Lease Liability
	(a)	(b)	(c)	(d)
1/1/22				€95,890.35
1/1/22	€ 20,711.11	€ -0-	€ 20,711.11	75,179.24
1/1/23	20,711.11	3,007.17	17,703.94	57,475.30
1/1/24	20,711.11	2,299.01	18,412.10	39,063.20
1/1/25	20,711.11	1,562.53	19,148.58	19,914.62
1/1/26	20,711.11	796.49*	19,914.62	0.00
	€103,555.55	€7,665.20	€95,890.35	

Lessee

	Assets =		Liabilities +		Owners' Equity		
	Cash	Right-of-use (net)	Lease liabilities		Common Stock	Net Inc. to Ret. Earnings	
1/1/22		cost 95,890.35	95,890.35				
1/1/22	-20,711.11		CFF -20,711.11	First lease payment			
31/12/22			CFO 3,007.17	Int payable		- 3,007.17	Interest expense
31/12/22		<u>95,890.35</u> 6 5 -19,178.07				-19,178.07	Depreciation (useful life = 5 years)
1/1/23	-20,711.11		-20,711.11	Second lease payment			

LEASES-US GAAP



Under US GAAP, lessee accounting **after inception** depends whether the lessee categorizes a lease as finance lease or operating lease.

- A finance lease is similar to purchasing an asset. *similar to right-of-use*
- An operating lease is similar to renting an asset. *each payment as rent*
- Criteria for categorizing a lease as a finance lease
 - Indicators that the benefits and risks of owning the leased asset have been transferred to the lessee.
- After the inception, if the lease is categorized as
 - Finance lease: same practice as IFRS companies.
 - the lessee (1) records a depreciation on the right-of-use asset, (2) recognizes interest expense on lease liability, and (3) reduces the balance of the lease liabilities for the portion of the lease payment that represents repayment of the lease liability.
 - Operating lease: the lessee recognize a single lease expense, a straight-line allocation of the cost of the lease over its term.

LEASES FROM LESSEE'S PERSPECTIVE

	Balance Sheet	Income Statement	Statement of Cash Flows
Lessee			
Lease term less than 1 year (or low value under IFRS)	No effect.	Reports rent expense.	Rent payment is an operating cash outflow.
Finance Lease under IFRS (capital lease under U.S. GAAP)	Recognizes leased asset and lease liability.	<p>Reports depreciation expense on leased asset.</p> <p>Reports interest expense on lease liability.</p>	<p>Reduction of lease liability is a financing cash outflow.</p> <p>Interest portion of lease payment is either an operating or financing cash outflow under IFRS and an operating cash outflow under U.S. GAAP.</p>

LESSEE ACCOUNTING: EXAMPLE

- One company reports under ^{ROU} IFRS and one under ^{finance lease} US GAAP.
- Both companies extensively lease buildings and equipment in their operations.
- Assuming both companies enter into an identical long-term contract to lease a similar asset, which metric is most likely to differ due to differences in accounting standards?
 - Total assets?  the same
 - Total liabilities?  the same
 - Operating cash flows? different
- Answer = Operating cash flows. IFRS allows companies to classify interest paid in either CFO or CFF, whereas U.S. GAAP only allow companies to classify interest paid in CFO.

US GAAP: - anything show up in P/L should be in CFO

IFRS also allows :- borrowing activity is financing → should reclassify interest expense in CFF

PENSIONS AND OTHER POST-EMPLOYMENT BENEFITS

- Companies offer various types of benefits to their employees following retirement, such as pension plans, health care plans, medical insurance, and life insurance.
- Pension plans are generally the most significant post-employee benefits provided for retirees.
- There are two types of pension plans.
 - **Defined contribution pension plans**: a company contributes an agree-upon (defined) amount into the plan. *will know for sure the amount of employees' contribution*
Most popular
employee & employer contribute to fund ; tax-free
The agree-upon amount is the pension expense.
 - Cash outflow from operating activity
 - **Defined benefit pension plans**: a company makes promises of future benefits to be paid to the employee during retirement. *old generation*
can be anything e.g. medical bill, allowance after retirement
 - For example, promise an employee annual pension equal to 70% of his final salary at retirement until death.
 - The company estimates the future amount to be paid and discounts the estimated future amount to a present value to determine the pension obligation. *assumption → pv of future payment*
Company will have to pay its employee for a long time !!! < huge liability >
 - The pension obligation is allocated over the employee's employment as part of pension expense.

TYPES OF POSTEMPLOYMENT BENEFITS: PENSION PLANS

**Amount of
Future Benefit to
Employee**

**Contribution
from Employer**

**Defined
contribution**
pension plan

Depends on
investment
performance of
plan assets

How well fund manager

fixed amount e.g. 8-10% of salary
Amount (if any)
is **defined** in
each period

*up to 15% for employees
but 8-10% for employer*

**Defined
benefit**
pension plan

certain amount of money until you die

Defined based
on plan's
formula

Depends on *future liabilities &*
current period
estimate and
investment
performance of
plan assets

very uncertain

*↳ company may put too
much money to the fund
employee may die/leave
the firm early*

PRESENTATION AND DISCLOSURE FOR PENSION PLANS

Type of Pension Plan	Balance Sheet	Income Statement	Footnote Disclosure
Defined contribution	None*	Company's contribution	Minimal
Defined benefit	Net funded position**	Periodic expense	Extensive

*if some portion of the agree-upon amount has not been paid, a liability is recognized.

**the net of estimated future pension obligation minus pension fund assets.

LEVERAGE AND COVERAGE RATIOS

Solvency: Company's ability to meet its long-term debt obligations.

Two types of commonly used solvency ratios:

1. Leverage ratios:
 - Focus on the balance sheet.
 - Measure relative amount of debt in the company's capital structure.
2. Coverage ratios:
 - Focus on the income statement and cash flows.
 - Measure the ability of a company to cover its debt-related payments.

LEVERAGE AND COVERAGE RATIOS

Solvency Ratios	Numerator	Denominator
<i>Leverage ratios</i>		
Debt-to-assets ratio	Total debt	Total assets
Debt-to-capital ratio	Total debt	Total debt + Total shareholders' equity
Debt-to-equity ratio	Total debt	Total shareholders' equity
Financial leverage ratio	Average total assets	Average shareholders' equity
<i>Coverage ratios</i>		
Interest coverage ratio	EBIT	Interest payments
Fixed charge coverage ratio	EBIT + Lease payments	Interest payments + Lease payments

EVALUATING SOLVENCY RATIOS

	Company A (€ millions)		Company B (SEK millions)	
	2018	2017	2018	2017
Short-term borrowings	3,578	714	1,639	2,831
Current portion of long-term interest bearing debt	13	173	3,903	3,068
Long-term interest bearing debt	861	203	24,939	21,320
Total shareholders' equity	14,208	14,773	140,823	134,112
Total assets	39,582	37,599	285,684	245,117
EBIT	4,966	7,985	16,252	30,646
Interest payments	155	59	1,689	1,513

Debt to assets for
2018: 11.2%.
Debt to assets for
2017: 2.9%.

Debt to assets for
2018: 10.7%.
Debt to assets for
2017: 11.1%.

EVALUATING SOLVENCY RATIOS

	Company A (€ millions)		Company B (SEK millions)	
	2018	2017	2018	2017
Short-term borrowings	3,578	714	1,639	2,831
Current portion of long-term interest bearing debt	13	173	3,903	3,068
Long-term interest bearing debt	861	203	24,939	21,320
Total shareholders' equity	14,208	14,773	140,823	134,112
Total assets	39,582	37,599	285,684	245,117
EBIT	4,966	7,985	16,252	30,646
Interest payments	155	59	1,689	1,513

Interest coverage
ratio for 2018: 32.0
Interest coverage
ratio for 2017: 135.3

Interest coverage
ratio for 2018: 9.6
Interest coverage
ratio for 2017: 20.3

SUMMARY

- Bonds are valued as the present value of future cash flows.
- Market interest rates reflect the risk of the issuer and the instrument.
- A bond discount or premium is amortized by using the effective interest method.
- Most leases will now appear on the balance sheets of lessees due to changes in accounting standards.
- Defined benefit pension plans with a net unfunded position give rise to liabilities.
- Leverage and coverage ratios are used in assessing a company's solvency.

non discount lease payment 9% EIR ของ ณ อันนั้นเลยไหม → จ:ไปล้งในม?

APPENDIX

LEASES FROM LESSOR'S PERSPECTIVE

	Balance Sheet	Income Statement	Statement of Cash Flows
Operating Lease	Retains asset on balance sheet.	Reports rent income and depreciation expense on leased asset.	Rent payments received are an operating cash inflow.

LEASES FROM LESSOR'S PERSPECTIVE

	Balance Sheet	Income Statement	Statement of Cash Flows
Finance Lease: When present value of lease payments equals the carrying amount of the leased asset (called a “direct financing lease” in U.S. GAAP)	Removes asset. Recognizes lease receivable.	Reports interest revenue on lease receivable.	Interest portion of lease payment received is either an operating or investing cash inflow under IFRS and an operating cash inflow under U.S. GAAP. Receipt of lease principal is an investing cash inflow.

LEASES FROM LESSOR'S PERSPECTIVE

	Balance Sheet	Income Statement	Statement of Cash Flows
Finance Lease: When present value of lease payments exceeds the carrying amount of the leased asset (called a "sales-type lease" in U.S. GAAP)	Removes asset. Recognizes lease receivable.	Reports profit on sale. Reports interest revenue on lease receivable.	Interest portion of lease payment received is either an operating or investing cash inflow under IFRS and an operating cash inflow under U.S. GAAP. Receipt of lease principal is an investing cash inflow.

9/10

✓ 1. At the time of issue of 4.50% coupon bonds, the effective interest rate was 5.00%. The bonds were most likely issued at: (1 Point) ☐

- ☐ a premium
- ☐ par
- ☒ a discount

✓ 2. A company issues \$1,000,000 face value of 10-year bonds on January 1, 2015 when the market interest rate on bonds of comparable risk and terms is 5%. The bonds pay 6% interest annually on December 31. At the time of issue, the bonds payable reflected on the balance sheet is closest to: (1 Point) ☐

- ☒ \$1,077,217.
- ☐ \$1,000,000.
- ☐ \$926,399.

- 60,000 = PMT

✓ 3. On January 1, 2010, Elegant Fragrances Company issues £1,000,000 face value, five-year bonds with annual interest payments of £55,000 to be paid each December 31. The market interest rate is 6.0 percent. Using the effective interest rate method of amortization, Elegant Fragrances is most likely to record: (1 Point) ☐

- ☐ an interest expense of £55,000 on its 2010 income statement. ~~X~~
- ☐ a £58,736 cash outflow from operating activity on the 2010 statement of cash flows. ~~X~~
- ☒ a liability of £982,674 on the December 31, 2010 balance sheet.

Jan 1 : 978,938.18

Dec 31 : + (978,938.18 × 6%) = 58,736.29
- 55,000

} = 982,674.47

premium

✓ 4. Consolidated Enterprises issues €10 million face value, five-year bonds with a coupon rate of 6.5 percent. At the time of issuance, the market interest rate is 6.0 percent. Using the effective interest rate method of amortization, the carrying value after one year will be closest to: (1 Point) ☐

- ☐ €10.00 million.
- ☐ €10.28 million.
- ☐ €10.21 million.
- ☒ €10.17 million.

FV : 10 mm

N : 5

PMT = -0.65 mm

I/Y : 6%

PV : 10.21

- 0.037

10.17

int expense = 0.6126
payment = 0.65
diff = 0.037

✓ 5. For a bond issued at a premium, using the effective interest rate method, the: (1 Point) [4]

- ☐ premium is evenly amortized over the life of the bond. X
- ✓ ☒ amortization of the premium increases each year.
- ☐ carrying amount ^{decrease} increases each year.
- ☐ cash interest payment increases each year. X

✓ 6. The management of Bank EZ repurchases its own bonds in the open market. They pay €6.5 million for bonds with a face value of €10.0 million and a carrying value of €9.8 million. The bank will most likely report: (1 Point) [4]

- ☐ other comprehensive income of €3.3 million.
- ✓ ☒ a gain of €3.3 million on the income statement.
- ☐ a gain of €3.5 million on other comprehensive income statement.
- ☐ other comprehensive income of €3.5 million.

gain 3.3

✓ 7. Compared with a finance lease, an operating lease: (1 Point) [4]

- ☐ term is for the majority of the economic life of the asset.
- ✓ ☒ is similar to renting an asset.
- ☐ is equivalent to the purchase of an asset.
- ☐ is equivalent to financing an asset.

✓ 8. A company enters into a finance lease agreement to acquire the use of an asset for three years with lease payments of €19,000,000 starting next year. The leased asset has a fair market value of €49,000,000, and the present value of the lease payments is €47,250,188. Based on this information, the value of the lease liability reported on the company's balance sheet is closest to: (1 Point) [4]


- ✓ ☒ €47,250,188.
- ☐ €57,000,000.
- ☐ €49,000,000.
- ☐ €19,000,000. X

✓ 9. A lessee that enters into a finance lease will report the: (1 Point) 

- ☒ lease liability on its balance sheet
- ☐ full lease payment on its income statement
- ☐ full lease payment as an operating cash flow

✗ 10. The following information is associated with a company that offers its employees a defined benefit plan:
Fair value of fund's asset \$1.5 million
Estimated pension obligation \$2.6 million
Present value of estimated pension obligation \$1.2 million.

compare this \Rightarrow excess 0.3 plan has surplus

Based on this information, the company's balance sheet will present a net pension: (1 Point) 

- ☒ asset of \$300,000.
- ☐ asset of \$1.4 million.
- ☒ liability of \$1.1 million.

- ☐ asset of \$300,000. ✓
- ☐ asset of \$1.4 million.
- ☒ liability of \$1.1 million.

estimated future pension obligation - pension fund assets
 $= 2.6 - 1.5$ ✗

Feedback:

A company that offers a defined benefit plan makes payments into a pension fund, and the retirees are paid from the fund. The payments that a company makes into the fund are invested until they are needed to pay retirees. If the fair value of the fund's assets is higher than the present value of the estimated pension obligation, the plan has a surplus, and the company's balance sheet will reflect a net pension asset. Because the fair value of the fund's assets are \$1,500,000,000 and the present value of estimated pension obligations is \$1,200,000,000, the company will present a net pension asset of \$300,000,000 on its balance sheet.