

## Chapter 14 Long-Term liabilities

consists of probable future sacrifices of economic benefits arising from present obligation that are not payable within a year.

\* Long Term debt has various covenants or restrictions

← هذا النوع من الدين يوضع قيود ويحدد (على القبول) شروطا إضافية

Ex = Bonds payable, long term note payable, mortgages payable (مقرضات العقارات), pension payable (التقاعد), lease liabilities (الاجارات)

Issuing Bonds - عند إصدار ان Bonds في عينا (bond indenture) - اتفاق

← هو الفرق بين ال Bonds payable وال Note payable ؟  
تحويل مبلغ أكبر      تحويل من حصة واحدة مبلغ محدود

Bonds payable → sum of money at maturity date + interest  
face value \$1000

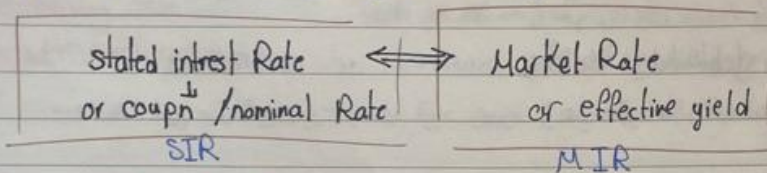
- Types of Bonds :
1. secured and unsecured bonds (المقرضات المضمونة وغير المضمونة)
  2. Term, Serial, Callable (التقسيم على فترات، التسديد مرة واحدة، قابلة للاستدعاء)
  3. Convertible, Commodity-Backed (قابلة للتحويل للأشياء، مبنية على سلع)
  4. Deep Discount bonds →  $STR = 0\%$  ,  $MIR = 8\%$   
فصل بين فرق كبير من PV of Bonds و FV of Bonds
  5. Registered and Bearer (مسجلة بأسماء أو حاملات) - ماني عليها اسم
  6. Income and Revenue Bonds → الشركة توفّر العوائد من إيرادات جانبية

Issuance and marketing of bonds to the public:-

\* الشركة ممكن تباع لسدادها بنفسها أو توكّل بنك خصوصي يبيع السندات لها  
والبنك يوضع عمولة

Selling price of a bond issue is set by 2- \* كيفية جـ في المعبر  
 \* supply and demand \* risk \* market conditions \* state of economy

principle + interest عند إصدار السندات الشركة يتوقع ← سعر السوق



### Valuation and Accounting for Bonds 8

- ① → interest paid = face value of the Bond  $\times$  SIR  
 ② → interest expense = Carrying value of the Bond  $\times$  MIR  
 interest paid - interest expense = amortized discount / premium.

\* when  $SIR = MIR \rightarrow$  Issuance price = par value  
 $SIR > MIR \rightarrow$  Premium (cash received above PV)  
 $SIR < MIR \rightarrow$  Discount (cash received below PV)

MIR = 11%, SIR = 9%, 100,000 Bond 13 - لا، رقم 13 -  
 due in 5 years

\* how many Bonds were issued  $\rightarrow 100,000 / 1000 \rightarrow$  face value  
 = 100

\* Discount  $\rightarrow SIR < MIR$

$\rightarrow$  2 expected cash outflows

① principle  $\rightarrow PV = FV (PV F_n i_{11\%})$  table 6-2  
market Rate 11%  
 $= 100,000 \times 0.59345$   
 $= 59345$

② interest payment =  $PV - OA = Rent \times (PV FOA_n i_{11\%})$   
 $= 9000 \times 3.69596$   
 $= 33263.7$

interest paid =  $100,000 \times SIR$

cash 92608 ← المجموع  
2



The entry :-  
 Dr. Cash 93,608  
 Dr. Discount on Bond payable 7,391  
 Cr. Bonds payable 100,000 → at face value

في حال ما كان discount أو premium  
 The entry → Dr. Cash Cr. Bond payable

\* مثال رقم 17 \*

(100%) في 10 سنة، par value 800,000 <sup>مطلوب</sup>  
 interest rate = 10% →  $SIR = MTR$  → semiannually

$$\# \text{ of Bonds} = \frac{800,000}{1,000} = 800$$

The entry :-  
 Dr. Cash 800,000  
 Cr. Bonds payable 800,000

→ first semiannual interest payment →  $800,000 \times 10\% \times \frac{1}{2} = 40,000$   
 Dr. interest expense 40,000

Cr. Cash 40,000

→ accrue interest expense at Dec 31, 2017

Dr. interest expense 40,000

Cr. interest payable 40,000

\* مثال رقم 19 \*

\* The company issues 800,000 of Bonds at 97 interest rate = 10% semiannual

$$\rightarrow \text{Cash} = 800,000 \times 97\% = 776,000$$

$$\rightarrow \text{Discount} = 800,000 - 776,000 = 24,000 \text{ , } 3\% \times 800,000$$

The entry :-  
 Dr. Cash 776,000  
 Dr. Discount on Bonds payable 24,000  
 Cr. Bonds payable 800,000

→ amortization of the discount based on S.L.M :-

$$\frac{\text{Discount}}{\text{\# of interest periods}} = \frac{24,000}{10 \times 2} = 1200$$

$\swarrow$   $\nwarrow$   
 interest semi annual 10%

\* Discount is to increase cost of borrowing

\* Interest paid =  $FV \times SIR = 800,000 \times 10\% \times \frac{1}{2} = 40,000$

→ records the first semiannual interest payment :-

interest exp = interest paid + amortized discount =  $40,000 + 1200$

Dr. interest expense 41,200

Cr. Discount on Bonds payable 1200

Cr. Cash 40,000

→ at Dec 31 the adjusting entry :-

Dr. interest exp 41,200

Cr. Discount on Bonds payable 1200

Interest payable 40,000

premium ← 103 ← 97 ← 21 ←  $\frac{24,000}{1000}$

Cash =  $800,000 \times 103\% = 824,000$

premium = 24,000

amortized of the premium = 1200

The entry :-

Dr. Cash 824,000

Cr. Premium on Bonds payable 24,000

Cr. Bond payable 800,000

→ records the first interest payment :-

Dr. interest exp ( $40,000 - 1200$ ) 38,800

Dr. Premium on Bonds payable 1200

Cr. cash 40,000



## Bonds Issued between Interest Dates :-

نفتحن أن علينا إصدار السندات تم التأخير في إصدارها :-  
 (مؤخرين) Dated → Jan 1 but issued on March 1  
 The company issues 10 years bonds dated Jan 1, par value 800,000  
 annual interest rate = 6% → semiannually on Jan 1 and July

- \* احصائيتين مع الشركة تدفع فائدة كل 6 أشهر وأول دفعة في July 1 2017
- \* من السندات تم إصدارها في March 1 ← July 1 (4 Month)
- \* لذلك أول ما أبيع السندات يطالب منهم وفترتي ← interest of 2 month  
 لأنني بعد 4 أشهر راجع أدفعهم فائدة عن 6 أشهر

$$\begin{aligned} \rightarrow \text{Cash received} &= \text{Issuance price} + 2 \text{ month } (FV \times SIR \times \frac{2}{12}) \\ &= 800,000 + (800,000 \times 6\% \times \frac{2}{12}) \\ &= 808,000 \end{aligned}$$

The entry :-

Dr. cash 808,000  
 Cr. Bonds payable 800,000  
 Cr. interest payable 8000

→ after 4 month :-

Dr. interest expense  $(800,000 \times 6\% \times \frac{4}{12})$  16000  
 Dr. Interest payable  $(800,000 \times 6\% \times \frac{2}{12})$  8000  
 Cr. cash 24,000

→ 6% bonds at 102, in march the entry :-

$$\begin{aligned} \text{Cash} &= 800,000 \times 102\% + 800,000 \times 6\% \times \frac{2}{12} = 824,000 \\ \text{Premium} &= 800,000 \times 2\% \end{aligned}$$

Dr. cash 824,000  
 Cr. Bonds payable 800,000  
 Cr. Premium on B/P 16,000  
 Cr. interest payable 8000

[5]

## Effective interest method :-

الطريقة للأدق

$$\text{Bonds interest expense} - \text{Bond interest Paid} = \text{Amortization amount}$$

$$\text{CV at beginning of Period} \times \text{effective interest Rate} - \text{face amount of Bonds} \times \text{SIR}$$

issued 100,000 of 8% MIR = 10%

— 28 ليرة — 31

Semiannual interest on July 1 — Jan 1

5 years Jan 1, 2022 — Jan 1, 2027 مدة السداد 5 سنوات

→ 2 expected cash outflows :- PV - single sum + interest payment

$$= 100,000 \times 0.61391^{T6-2} + 4000 \times 7.72173^{T6-1}$$

$$i = 10\% \times \frac{1}{2} = 5\% \\ n = 5 \times 2 = 10$$

$$\text{Rent} = 100,000 \times 8\% \times \frac{1}{2} \\ = 4000$$

$$= 61,391 + 30,887$$

$$= 92,278$$

$$* \text{discount} = 100,000 - 92,278$$

The entry on Jan 1, 2017 = date of Issue :-

Dr. cash 92,278

Dr. Discount on Bonds payable 7,722

Cr. Bonds payable 100,000

حساب — 32 ليرة —

Date	Cash paid	interest exp	Discount Amortization	CV of Bonds
1/1/17	<del>100,000</del>			92,278
7/1/17	4000	4614	614	92,892
1/1/18	4000	4645	645	93,537
7/1/18	4000	4677	677	94,214
1/1/19	4000	4711	711	94,925
		↑		↑

$$* \text{cash paid} = 100,000 \times 8\% \times 6/12$$

$$* \text{interest exp} = \text{CV} \times \text{MIR}$$

$$* \text{New CV} = \text{fV} - \text{unamortized discount}$$

$$\text{CV} = \text{fV} + \text{amortized discount}$$

[6]



record first payment July 1/2017 :-

Dr. Interest expense 4614  
 Cr. Discount on Bonds Payable 614  
 Cr. cash 4000

→ Dec 31, 2017 :-

Dr. Interest expense 4645  
 Cr. interest payable 4000  
 Cr. Discount on Bonds payable 645

issued 100,000 on Jan 1, 2017 due on Jan 1, 2022 :- 35 years

SIR = 8% MIR 6% → effective interest rate

interest payable → July 1 and Jan 1 → semiannually

(premium)

$$n = 5 \times 2 = 10 \quad i = \frac{6\%}{2} = 3\%$$

$$\rightarrow \text{Rent} = PV \times SIR = 4000$$

\* PV - single sum + interest payment

$$= 100,000 \times 0.74409 + 4000 \times 8.53020 \Rightarrow 74,409 + 34,121 = 108,530$$

Table 6-2
factor
Table 6-4

→ premium on bonds payable = 8530

Date	cash paid	interest exp	premium amortized	CU of Bonds
1/1/2017				108530
7/1/2017	4000	3256	744	107786
1/1/2018	4000	3234	766	107020
⋮	⋮	⋮	⋮	⋮
1/1/2022	4000	3029	971	100,000
	40,000	31,470	8050	↓
				CU - premium amortized

The entry on date of issue Jan 1 /2017

Dr. cash 108530  
 Cr. premium on Bonds payable 8530  
 Cr. Bonds payable 100,000

[7]

record first payment - July 1

Dr. Interest exp 3256

Dr. premium on Bonds payable 744

Cr. cash 4000

→ Assume: if The company prepares the financial statements at the end of february 2017

$$\begin{aligned} & \text{interest accrual} - \text{Premium amortized} \\ * \text{ interest expense} &= 4000 \times \frac{2}{6} - (744 \times \frac{2}{6}) \\ &= 1333.33 - 248 \\ \text{2 month Jan-Feb} &= 1085.33 \end{aligned}$$

Dr. Interest expense 1085.33

Dr. Premium on Bonds payable 248

Cr. interest payable 1,333.33

Note: premium on Bonds payable is an Adjunct liability account  
Discount " " is a contra liability account

### Extinguishment of Debt

... ~~في السوق~~ / issued at 95 → discount ~~45 م, 15~~  
par value = 800,000 due in 20 years

$$\text{Total discount} = 800,000 \times 5\% = 40,000$$

$$\text{price} = 800,000 \times 95\% = 760,000$$

$$\text{Callable price} = 101\% \times \text{FV} / \text{بين قريبا فترتها من السوق} \rightarrow 8 \text{ سنوات}$$

$$\rightarrow \text{callable price} = 800,000 \times 101\% = 808,000$$

$$\rightarrow \text{loss or gain?} \rightarrow \text{callable price} \text{ go Met CV} \text{ مقرر}$$



SLM  $\frac{12}{20}$  عمر السندات

$$\rightarrow \text{unamortized discount} = \frac{40,000}{\text{Total discount}} \times \frac{12}{20} = 24,000$$

$$\rightarrow \text{Net carrying value} = \text{face value} - \text{unamortized discount} \\ 800,000 - 24,000 = 776,000$$

$$\text{callable price} > \text{Net CV} \quad (\text{loss on Redemption}) \\ 808,000 > 776,000$$

The entry:-  
 Dr. Bonds payable 800,000  
 Dr. loss on Redemption of Bond 32,000  
 Cr. Discount on Bonds payable 24,000  
 Cr. Cash 808,000

Note: \*  $\text{CV} = \text{face value} + \text{unamortized premium}$   
 $= \text{face value} - \text{unamortized discount}$

\*  $\text{callable price} < \text{Net CV} \rightarrow \text{gain on Redemption}$

Assume: الفكرة بحسب 1.50 من السندات من المود  
 نفس المال من ينجز الأرقام بـ 1.50

Long Term Notes payable :-

issues at 10,000 , 3 years note at face value

The effective rate = 10 %

The issuance of the note:-

Dr. cash 10,000  
 Cr. Notes payable 10,000

The interest incurred each year:-

Dr. interest expense 1000  $\rightarrow 10,000 \times 10\%$   
 cash 1000

Zero interest Bearing notes:  $SIR = 0\%$  always discount

issued 3 years, 10,000 zero interest bearing note  $\rightarrow 53$  ~~11~~  $\rightarrow 10,000$

PV of future cash flows = 7,721.80 9%

$$\text{discount} = 10,000 - 7,721.80 = 2,278.20$$

Int interest paid = 0  $SIR = 0\%$   $\rightarrow 8$

Issuance of the note ~~8~~ Dr. Cash 7,721.80

Dr. Discount on Note payable 2,278.20

Cr. Note payable 10,000

Notes  $\rightarrow$  fair value  $\rightarrow$  <sup>quasi</sup> present value  
face value  $\rightarrow$  future value

$$\text{Interest expense} = 7,721.80 \times 9\% = 694.96$$

$\rightarrow$  record interest expense at the end of first year  $\rightarrow$

Dr. Interest expense 694.96

Cr. Discount on Note payable 694.96

$\rightarrow$  No cash paid

Interest Bearing notes: issued 10,000, 3 years note bearing interest at 10%.

56  $\rightarrow 1$  ~~11~~

$MIR = 12\%$   $SIR = 10\%$

PV of the note = 9,520

The entry  $\rightarrow$

Dr. Cash 9,520

Dr. Discount on N/P 480  $\rightarrow (10,000 - 9,520)$

Cr. Note payable 10,000

The entry at the end of the first year  $\rightarrow$

Dr. interest expense  $(9,520 \times 12\%) \rightarrow 1,142$

Cr. Discount on N/P 142

Cr. Cash  $(10,000 \times 10\%)$  1,000



## Special Notes payable Situations :-

→ Notes Issued for property, Goods, or services :-

بدل ما لـ أ لـ Dr. Cash ...

face value = 550,000,  $\rightarrow$  القيمة الاسمية 550,000  
 Stated interest rate = 2% MIR = 8% n=5 i=8%

$$\text{interest paid} = 550,000 \times 2\% = 11,000$$

$$\text{price of Notes} = 550,000 \times 0.68058 + 11,000 \times 3.99271$$

$$= 418,239$$

$$\text{Discount} = 550,000 - 418,239 = 131,761$$

→ issuance entry :-

Dr. Building or construction in process 418,239

Dr. Discount on Notes payable 131,761

Cr. Notes payable 550,000

interest entry :-

Dr. interest expense 33,459  $\rightarrow (418,239 \times 8\%)$

Cr. Discount on Note payable 22,459

Cr. Cash 11,000

Mortgage Notes payable →

fair value option →

مقرض يبيع عقاري

إذا طبقه الشركة لا يتركه فيه

القيمة رقم 87 :-

Co. issued 500,000 of 6% bonds at face value, chose the fair value option  
 at Dec 31 2017  $\rightarrow$  the value of bonds is 480,000  $\rightarrow$  MIR increase to 8%.

$$\rightarrow 500,000 - 480,000 = 20,000$$

في حسابات  
 Dr. Bonds  
 gain

Dr. Bonds payable 20,000

Cr. unrealized Holding gain or loss 20,000

في حالة ال Bonds قيمة ارتفعت ← loss , ينقص من القيمة

Dr. unrealized holding gain or loss 20,000  
Cr. Bonds payable 20,000

→ Note Receivable → assets      gain      ← إذا طرقت زادت  
loss      ← إذا طرقت قلت

off - Balance sheet financing :

كثير من الشركات يتلجأ إليها لتقول حالها عن طريق أنها صانعة للبريد في  
→ لا يتأثر ، وهذا الذي من مقبول .

Ratio → Debt to assets =  $\frac{\text{Total liability}}{\text{Total assets}}$   
نسبة

Time interest earned =  $\frac{\text{income before tax and interest exp}}{\text{interest exp}}$

Appendix 14-A → ملاحظات

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