#### Chapter 11\_非流動負債(Non-Current Liabilities)

#### ● 非流動負債(Non-Current Liabilities)

非流動負債是預期在一年後支付之負債。這些負債主要是(1)債券(Bond) (2)長期票據。 一、債券(Bond)

#### 1. 定義

債券是一種附息票據。為獲得鉅額長期資金,公司管理者常必須決定要發行普通股(權益融資)或債券。相對於普通股而言,債券有三種優點

| 債券融資        | 優點   |
|-------------|--|
| Ballot Box  | 1. 股東控制權不受影響。<br>債權人沒有投票權,所以目前所有者(股東)可以保留公司<br>控制權。              |
| Tan Ball    | 2. 可節省所得稅。<br>債券利息可抵稅,股利則不可抵稅。                                   |
| 100 / STOCK | 3. 每股盈餘可更高。<br>雖然債券利息費用會降低淨利,然因債務融資時,不需額<br>外發行普通股,普通股每股盈餘通常會提高。 |

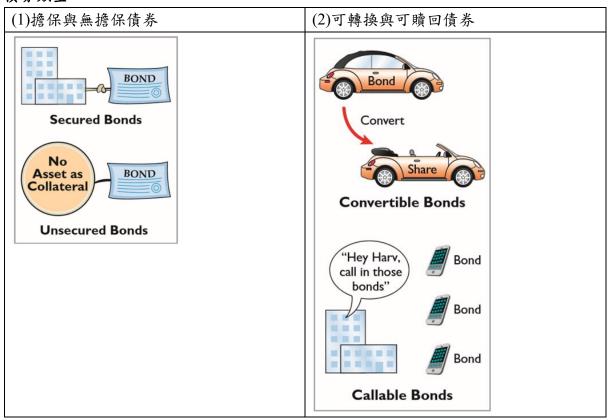
#### ◆ 有關每股盈餘之優點釋例

假設 Microsystems 公司正考慮以兩個計畫籌措建造新廠房的 \$500 萬資金。計畫 A 以目前市價每股 \$25,發行 200,000 股普通股。計畫 B 以面值發行 \$500萬,8% 的債券。扣除所得稅與利息前淨利為 \$150萬。所得稅率為 30%。 Microsystems 公司目前流通在外股數為 100,000 股普通股。

以下圖表顯示這兩個計畫對每股盈餘之效果。

|                     | 計畫 A<br>發行股票 | 計畫 B<br>發行債券  |
|---------------------|--------------|---------------|
| 扣除所得稅與利息前淨利         | \$1,500,000  | \$1,500,000   |
| 利息 (8%×\$5,000,000) |              | 400,000       |
| 稅前淨利                | 1,500,000    | 1,100,000     |
| 所得稅 (30%)           | 450,000      | 330,000       |
| 淨利                  | \$1,050,000  | \$ 770,000    |
| 流通在外股數              | 300,000      | 100,000       |
| 每股盈餘                | \$3.50       | <u>\$7.70</u> |

#### 2. 債券類型



#### 3. 發行程序

州政府法律賦予公司發行債券之權利。<u>董事會與股東</u>通常必須核准債券之發行。 在核准債券發行時,董事會通常必須明訂核准發行的債券數張數、總面額與票面利 率。

#### ◆ 面值(face value)&票面利率(contractual (stated) interest rate)

面值是債券在到期日(maturity date)時,公司需償還的本金金額。 票面利率被用以決定公司支付與投資人收到之利息。通常,票面利率是以年利率 的方式表示。利息通常半年支付一次。

#### 4. 債券交易

債券持有人有機會在全國證券交易所中將他們持有的債券以市價轉成現金。 債券價格通常以債券面額(通常為 \$1,000)的百分比表示:報價為 97 的 \$1,000 債券意味 著售價為面額的 97%,或 \$970。

#### 5. 決定債券市場價格

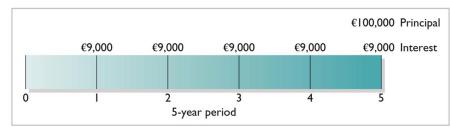
債券的現值是你可以在市場上出售的價格。債券現值(市價)係下列三個因素之函數:

- (1)收到的金額;
- (2)收到金額前的時間長短;
- (3)市場利率水準。

市場利率是投資人貸放資金所要求的利率。

Illustration: Assume that Acropolis SA on January 1, 2017, issues €100,000 of 9% bonds, due in five years, with interest payable annually at year-end.





Present value of €100,000 received in 5 years

Present value of €9,000 received annually for 5 years

Market price of bonds

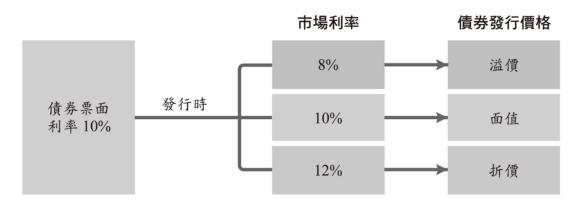
€ 64,993

35,007

€100,000

#### 6. 債券溢折價問題

當票面利率等於市場利率時,債券以面值發行。然而,票面利率與市場利率很少相等。因此,債券總是以高於或低於面值出售



#### (1) 平價(面值)發行(At Par)

Illustration: On January 1, 2017, Candlestick AG issues €100,000, five-year, 10% bonds at 100 (100% of face value). The entry to record the sale is:

Prepare the entry Candlestick would make to accrue interest on December 31 (€100,000 x 10%).

Prepare the entry Candlestick would make to pay the interest on Jan. 1, 2018.

Jan. 1 Interest Payable 10,000

Cash 10,000

#### (2) 折價發行(ISSUING BONDS AT A DISCOUNT)

Illustration: Assume that on January 1, 2017, Candlestick AG sells €100,000, five-year, 10% bonds for €98,000 (98% of face value). Interest is payable annually on January 1. The entry to record the issuance is as follows.

**Jan. 1** Cash 98,000

Bonds Payable 98,000

# CANDLESTICK AG Statement of Financial Position (partial) Non-current liabilities Bonds payable €98,000

#### ✓ 折價發行借款總成本

| Bonds Issued at a Discount                                      |                |  |  |  |
|---|----------------|--|--|--|
| Annual interest payments  |                |  |  |  |
| $( \in 100,000 \times 10\% = \in 10,000; \in 10,000 \times 5 )$ | € 50,000       |  |  |  |
| Add: Bond discount (€100,000 – €98,000)                         | 2,000          |  |  |  |
| Total cost of borrowing   | <b>€52,000</b> |  |  |  |
| Bonds Issued at a Discount                                      |                |  |  |  |
| Principal at maturity   | €100,000       |  |  |  |
| Annual interest payments (€10,000 × 5)                          | 50,000         |  |  |  |
| Cash to be paid to bondholders                                  | 150,000        |  |  |  |
| Less: Cash received from bondholders                            | 98,000         |  |  |  |
| Total cost of borrowing   | € 52,000       |  |  |  |

#### (3) 溢價發行(ISSUING BONDS AT A PREMIUM)

Illustration: Assume that the Candlestick AG bonds previously described sell for €102,000 (102% of face value) rather than for €98,000. The entry to record the sale is as follows:

**Jan. 1** Cash 102,000

Bonds Payable 102,000

| CANDLESTICK AG Statement of Financial Position (partial) |          |
|--|----------|
| Non-current liabilities<br>Bonds payable                 | €102,000 |

#### ✓ 溢價發行借款總成本

|  | Bonds Issued at a Premium                     |          |
|--|---|----------|
| Annual interest pay                      | yments  |          |
| (€100,000 × 10%                          | $p = \text{€10,000}; \text{€10,000} \times 5$ | € 50,000 |
| Less: Bond premium (€102,000 − €100,000) |   | 2,000    |
| Total cost of bo                         | rrowing                                       | €48,000  |

| <b>Bonds Issued at a Premium</b>       |          |  |  |  |  |
|--|----------|--|--|--|--|
| Principal at maturity                  | €100,000 |  |  |  |  |
| Annual interest payments (€10,000 × 5) | 50,000   |  |  |  |  |
| Cash to be paid to bondholders         | 150,000  |  |  |  |  |
| Less: Cash received from bondholders   | 102,000  |  |  |  |  |
| Total cost of borrowing                | € 48,000 |  |  |  |  |

#### 7. 債券註銷之會計處理

- (1) 在到期日贖回(REDEEMING BONDS AT MATURITY)債券不管債券發行價格為何,在到期日時,債券帳面價值必等於面值。
- (2) 當公司在到期日前贖回債券時,它必須:
  - (A)在贖回日刪除債券帳面價值;
  - (B)記錄現金支付;以及
  - (C)記錄此次贖回之損失或利得。

Illustration: Assume at the end of the fourth period, Candlestick AG having sold its bonds at a premium, retires the bonds at 103 after paying the annual interest. Assume that the carrying value of the bonds at the redemption date is €100,476. Candlestick records the redemption at the end of the fourth interest period (January 1, 2021) as follows:

| Jan. 1 | Bonds Payable           | 100,476 |         |
|--------|-------------------------|---------|---------|
|        | Loss on Bond Redemption | 2,524   |         |
|        | Cash                    |         | 103.000 |

#### 二、長期應付票據(Long-Term Notes Payable)

長期票據可能有抵押權(mortgage)擔保,亦即抵押特定資產之權狀做為債務擔保。

- 一般而言,貸款條件通常規定借款人需於貸款期間分期攤還借款。每次支付的金額包含:
- (1)尚未償還貸款本金之利息;(2)貸款本金之攤還。
- 公司初始以面值記錄抵押應付票據。往後,每次還款均需作分錄。

Illustration: Mongkok Technology Ltd. issues a HK\$500,000, 8%, 20-year mortgage note on December 31, 2017. The terms provide for annual installment payments of HK\$50,926.

| Interest<br>Period | (A)<br>Cash<br>Payment | (B)<br>Interest<br>Expense<br>(D) × 8% | (C) Reduction of Principal (A) – (B) | (D) Principal Balance (D) – (C) |
|--------------------|------------------------|--|--------------------------------------|---------------------------------|
| Issue date         |                        |  |                                      | HK\$500,000                     |
| 1                  | HK\$50,926             | HK\$40,000                             | HK\$10,926                           | 489,074                         |
| 2                  | 50,926                 | 39,126                                 | 11,800                               | 477,274                         |
| 3                  | 50,926                 | 38,182                                 | 12,744                               | 464,530                         |
| 4                  | 50,926                 | 37,162                                 | 13,764                               | 450,766                         |

Illustration: Mongkok records the mortgage loan and first installment payment as follows:

| Dec. 31 | Cash             | 500,000 |         |
|---------|------------------|---------|---------|
|         | Mortgage Payable |         | 500,000 |
| Dec. 31 | Interest Expense | 40,000  |         |
|         | Mortgage Payable | 10,926  |         |
|         | Cash             |         | 50,926  |

#### 三、非流動負債之財務報表表達及分析

1. 非流動負債之財務報表表達

| <b>GUANGZHOU LTD.</b> Statement of Financial Position (partial) (in thousands)                 |                               |
|--|-------------------------------|
| Non-current liabilities<br>Bonds payable 10% due in 2020<br>Mortgage payable, 11%, due in 2026 | ¥ 920,000                     |
| and secured by plant assets<br>Total non-current liabilities                                   | $\frac{500,000}{\$1,420,000}$ |

#### 2. 分析

- (1) 負債對總資產比例(Debt to Total Assets Ratio) 衡量總資產中由債權人提供資金之比例。它可藉由總負債(流動負債與長期負債) 除以總資產而得。負債對總資產比例越高,公司無法償還到期負債之風險越大。
- (2) 利息保障倍數(Times Interest Earned Ratio) 代表公司如期支付利息之能力,藉由扣除所得稅與利息前盈餘除以利息費用而 得。

✓ 舉例

Illustration: LG (KOR) had total liabilities of ₩22,839 billion, total assets of ₩35,528 billion, interest expense of ₩827 billion, income taxes of ₩354 billion, and net income of ₩223 billion.

| Total Liabilities  | ÷ | Total Assets        | = | Debt to Assets Ratio     |
|--|---|---------------------|---|--------------------------|
| ₩22,839  | ÷ | ₩35,528             | = | 64.3%                    |
| Net Income +<br>Interest Expense +<br>Income Tax Expense | ÷ | Interest<br>Expense | = | Times Interest<br>Earned |
| ₩223 + ₩827 + ₩354                                       | ÷ | ₩827                | = | 1.70 times               |

#### ● 附錄\_與債券評價相關之現值概念

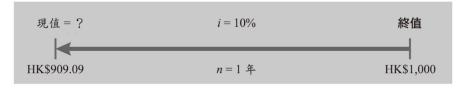
#### 一、 面值的現值

1. 假設你願意投資一筆錢,這筆錢將使得一年後,你可收到 HK\$1,000。換言之,你現在需要投資多少錢,才能在一年後收到 HK\$1,000。如果你能賺 10%,投資金額 (現值) 應為 HK\$909.09 (HK\$1,000÷1.10)。

我們亦能由現值表中查得現值,例如,當利率為 10% 時,查得一期的折現因子為 0.90909,即可得圖表 10A-1 計算而得的 HK\$909.09 (HK\$1,000\*0.90909)。

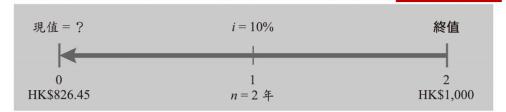
|           |        |        |        |        | 表 10A-1<br>\$1 的現值 |        |          |        |        |        |
|-----------|--------|--------|--------|--------|--------------------|--------|----------|--------|--------|--------|
| (n)<br>期數 | 4%     | 5%     | 6%     | 7%     | 8%                 | 9%     | 10%      | 11%    | 12%    | 15%    |
| 1         | .96154 | .95238 | .94340 | .93458 | .92593             | .91743 | (.90909) | .90090 | .89286 | .86957 |
| 2         | .92456 | .90703 | .89000 | .87344 | .85734             | .84168 | .82645   | .81162 | .79719 | .75614 |
| 3         | .88900 | .86384 | .83962 | .81630 | .79383             | .77218 | .75132   | .73119 | .71178 | .65752 |
| 4         | .85480 | .82270 | .79209 | .76290 | .73503             | .70843 | .68301   | .65873 | .63552 | .57175 |
| 5         | .82193 | .78353 | .74726 | .71299 | .68058             | .64993 | .62092   | .59345 | .56743 | .49718 |
| 6         | .79031 | .74622 | .70496 | .66634 | .63017             | .59627 | .56447   | .53464 | .50663 | .43233 |
| 7         | .75992 | .71068 | .66506 | .62275 | .58349             | .54703 | .51316   | .48166 | .45235 | .37594 |
| 8         | .73069 | .67684 | .62741 | .58201 | .54027             | .50187 | .46651   | .43393 | .40388 | .32690 |
| 9         | .70259 | .64461 | .59190 | .54393 | .50025             | .46043 | .42410   | .39092 | .36061 | .28426 |
| 10        | .67556 | .61391 | .55839 | .50835 | .46319             | .42241 | .38554   | .35218 | .32197 | .24719 |

若終值 (HK\$1,000),利率(10%)與期數(1)已知。在此情形下,我們能將這些變數以時間線的形式表示,如圖表 10A-2 所示。



2. 如果在兩年後收到 HK\$1,000,以 10% 折現,現值為 HK\$826.45[(HK\$1,000÷1.10)÷1.10],如圖表 10A-3 所示。

# 圖表10A-3



我們亦能由現值表(表 10A-1)中查得現值,例如,當利率為 10% 時,查得 2 期的折現因子為 0.82645,即可得圖表 10A-3 計算而得的 HK\$826.45(HK\$1,000\*0.82645)。

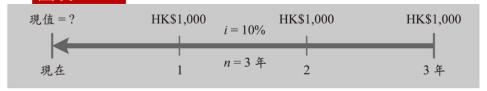
| •         |        |        |        | ,      | •                  |        | `        | •      |        |        |
|-----------|--------|--------|--------|--------|--------------------|--------|----------|--------|--------|--------|
|           |        |        |        |        | 表 10A-1<br>\$1 的現值 |        |          |        |        |        |
| (n)<br>期數 | 4%     | 5%     | 6%     | 7%     | 8%                 | 9%     | 10%      | 11%    | 12%    | 15%    |
| 1         | .96154 | .95238 | .94340 | .93458 | .92593             | .91743 | 90909    | .90090 | .89286 | .86957 |
| 2         | .92456 | .90703 | .89000 | .87344 | .85734             | .84168 | (.82645) | .81162 | .79719 | .75614 |
| 3         | .88900 | .86384 | .83962 | .81630 | .79383             | .77218 | .75132   | .73119 | .71178 | .65752 |
| 4         | .85480 | .82270 | .79209 | .76290 | .73503             | .70843 | .68301   | .65873 | .63552 | .57175 |
| 5         | .82193 | .78353 | .74726 | .71299 | .68058             | .64993 | .62092   | .59345 | .56743 | .49718 |
| 6         | .79031 | .74622 | .70496 | .66634 | .63017             | .59627 | .56447   | .53464 | .50663 | .43233 |
| 7         | .75992 | .71068 | .66506 | .62275 | .58349             | .54703 | .51316   | .48166 | .45235 | .37594 |
| 8         | .73069 | .67684 | .62741 | .58201 | .54027             | .50187 | .46651   | .43393 | .40388 | .32690 |
| 9         | .70259 | .64461 | .59190 | .54393 | .50025             | .46043 | .42410   | .39092 | .36061 | .28426 |
| 10        | .67556 | .61391 | .55839 | .50835 | .46319             | .42241 | .38554   | .35218 | .32197 | .24719 |
|           |        |        |        |        |                    |        |          |        |        |        |

#### 二、利息支付的現值--年金

- 除了到期收到本金外,投資者亦能在債券存續期間內定期收到利息。這些定期給付稱 為年金。為了計算年金現值,我們必須知道:
  - (1) 利率;
  - (2) 利息支付期數;
  - (3) 每期給付金額。
- 2. 年金現值時間線

假設在未來 3 年,每年可收 HK\$1,000,利率 10%。顯示此狀況的時間線如圖表 10A-5 所示。

# 圖表10A-5



我們假設在未來 3 年,每年可收 HK\$1,000,利率 10%。此種情形下,現值之計算如下:

## 圖表10A-6

| 終值               | × | 1 之現值<br>利率 10% | = | 現值           |
|------------------|---|-----------------|---|--------------|
| HK\$1,000 (1 年後) |   | 0.90909         |   | HK\$ 909.09  |
| 1,000 (2 年後)     |   | 0.82645         |   | 826.45       |
| 1,000 (3 年後)     |   | 0.75132         |   | 751.32       |
|                  |   | 2.48686         |   | HK\$2,486.86 |

我們亦能使用年金現值表(表 10A-2)計算年金現值。

|           | 表 10A-2<br>\$1 年金的現值 |         |         |         |         |         |         |         |         |         |
|-----------|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (n)<br>期數 | 4%                   | 5%      | 6%      | 7%      | 8%      | 9%      | 10%     | 11%     | 12%     | 15%     |
| 1         | .96154               | .95238  | .94340  | .93458  | .92593  | .91743  | .90909  | .90090  | .89286  | .86957  |
| 2         | 1.88609              | 1.85941 | 1.83339 | 1.80802 | 1.78326 | 1.75911 | 1 73554 | 1.71252 | 1.69005 | 1.62571 |
| 3         | 2.77509              | 2.72325 | 2.67301 | 2.62432 | 2.57710 | 2.53130 | 2.48685 | 2.44371 | 2.40183 | 2.28323 |
| 4         | 3.62990              | 3.54595 | 3.46511 | 3.38721 | 3.31213 | 3.23972 | 3.16986 | 3.10245 | 3.03735 | 2.85498 |
| 5         | 4.45182              | 4.32948 | 4.21236 | 4.10020 | 3.99271 | 3.88965 | 3.79079 | 3.69590 | 3.60478 | 3.35216 |
| 6         | 5.24214              | 5.07569 | 4.91732 | 4.76654 | 4.62288 | 4.48592 | 4.35526 | 4.23054 | 4.11141 | 3.78448 |
| 7         | 6.00205              | 5.78637 | 5.58238 | 5.38929 | 5.20637 | 5.03295 | 4.86842 | 4.71220 | 4.56376 | 4.16042 |
| 8         | 6.73274              | 6.46321 | 6.20979 | 5.97130 | 5.74664 | 5.53482 | 5.33493 | 5.14612 | 4.96764 | 4.48732 |
| 9         | 7.43533              | 7.10782 | 6.80169 | 6.51523 | 6.24689 | 5.99525 | 5.75902 | 5.53705 | 5.32825 | 4.77158 |
| 10        | 8.11090              | 7.72173 | 7.36009 | 7.02358 | 6.71008 | 6.41766 | 6.14457 | 5.88923 | 5.65022 | 5.01877 |

 $HK$1,000 \times 2.48685 = HK$2,486.85$ 

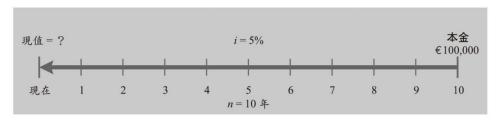
### 三、計算債券現值

- 1. 債券現值 (或市價) 是三個變數的函數:
  - (1) 付款總金額;
  - (2) 距離付款之時間;
  - (3) 利率 (折現率)。
- 2. 第一個變數 (付款金額) 由兩個部分組成:
  - (1) 一系列的利息支付 (年金);(2) 本金 (一次給付)。

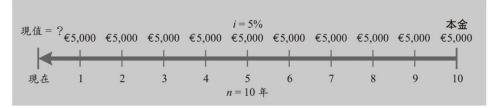
為計算債券現值,我們必須將利息給付與本金折現。

✓ 假設 Candlestick 公司 2014 年 1 月 1 日發行一 10%,5 年,面值 € 100,000,在 1 月 1 日與 7 月 1 日,每半年付息一次的債券,其時間線如下









(1) 假設 Candlestick 公司 2014年1月1日發行一10%,5年,面值 €100,000, 在1月1日與7月1日,每半年付息一次的債券,其現值之計算如下: (設析 現率為10%)

| 10% 票面利率——10% 折現率            |                 |
|------------------------------|-----------------|
| 到期日所收本金之現值                   |                 |
| €100,000×10 期,5% 的現值         |                 |
| €100,000 × 0.61391 (表 10A-1) | € 61,391        |
| 債券存續期內定期給付利息之現值              |                 |
| €5,000×定期給付共10期,5%的年金現值      |                 |
| €5,000 × 7.72173 (表 10A-2)   | 38,609*         |
| 債券現值                         | <b>€100,000</b> |
| *四捨五入                        |                 |

(2) 假設 Candlestick 公司 2014年1月1日發行一10%,5年,面值 €100,000, 在1月1日與7月1日,每半年付息一次的債券,其現值之計算如下: (設析 現率為12%)

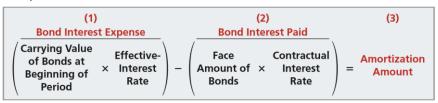
| 10% 票面利率——12% 折現率            |         |
|------------------------------|---------|
| 到期日所收本金之現值                   |         |
| €100,000 × 0.55839 (表 10A-1) | €55,839 |
| 債券存續期內定期給付利息之現值              |         |
| €5,000 × 7.36009 (表 10A-2)   | 36,800* |
| 債券現值                         | €92,639 |
| *四捨五入                        |         |

(3) 假設 Candlestick 公司 2014 年 1 月 1 日發行一 10%,5 年,面值 € 100,000, 在 1 月 1 日與 7 月 1 日,每半年付息一次的债券,其現值之計算如下: (設折 現率為 8%)

| 10% 票面利率——8% 折現率             |          |
|------------------------------|----------|
| 到期日所收本金之現值                   |          |
| €100,000 × 0.67556 (表 10A-1) | € 67,556 |
| 債券存續期內定期給付利息之現值              |          |
| €5,000 × 8.11090 (表 10A-2)   | 40,555*  |
| 債券現值                         | €108,111 |
| *四捨五入                        |          |

● 附錄\_債券攤銷之有效利率法(Effective-Interest Method)

在有效利率法下, 攤銷債券折價或債券溢價將使得每期利息費用等於債券帳面價值的固定比例。



# (1) (2) (3) 債券利息費用 債券利息支付 (期初債券帳面價值×有效利率)-(債券面值×票面利率)=攤銷金額

#### ◆ 債券折價攤銷釋例(Amortizing Bond Discount)

Illustration: Candlestick AG sold €100,000, five-year, 10% bonds on January 1, 2017, for €98,000. The effective-interest rate is 10.5348% and interest is payable on Jan. 1 of each year. Prepare the bond discount amortization schedule.

|                     | E1  | ffective-In   | CANDLESTICK<br>d Discount Amortizati<br>terest Method—Annu<br>10% Bonds Issued at 1 | ion Schedule<br>al Interest Paym    | nents                                       |   |
|---------------------|---|---|---|-------------------------------------|---|---|
| Interest<br>Periods | (A)<br>Interest to<br>Be Paid<br>(10% × €100,000) | (B)<br>Interest Expense to Be Recorded<br>(10.5348% × Preceding<br>Bond Carrying Value) |   | (C) Discount Amortization (B) – (A) | (D)<br>Unamortized<br>Discount<br>(D) – (C) | (E)<br>Bond<br>Carrying Value<br>(€100,000 – D) |
| Issue date          |   |   |   |                                     | €2,000                                      | € 98,000  |
| 1                   | €10,000   | €10,324   | (10.5348% × €98,000)  | € 324                               | 1,676                                       | 98,324  |
| 2                   | 10,000  | 10,358  | (10.5348% × €98,324)  | 358                                 | 1,318                                       | 98,682  |
| 3                   | 10,000  | 10,396  | (10.5348% × €98,682)  | 396                                 | 922   | 99,078  |
| 4                   | 10,000  | 10,438  | (10.5348% × €99,078)  | 438                                 | 484   | 99,516  |
| 5                   | 10,000  | 10,484  | (10.5348% × €99,516)  | 484                                 | -0-   | 100,000   |
|                     | €50,000   | €52,000<br>=====  |   | €2,000<br>=====                     |   |   |

Illustration: Candlestick AG records the accrual of interest and amortization of bond discount for the first period on Dec. 31, as follows:

| Dec. 31 Interest Expense |                  | 10,324 |        |
|--------------------------|------------------|--------|--------|
|                          | Bonds Payable    |        | 324    |
|                          | Interest Payable |        | 10,000 |

For the second interest period, bond interest expense will be €10,358 (€98,324 × 10.5348%), and the discount amortization will be €358. At December 31, Candlestick makes the following adjusting entry.

| Dec. 31 Interest Expense |                      | 10,358 |        |
|--------------------------|----------------------|--------|--------|
|                          | <b>Bonds Payable</b> |        | 358    |
|                          | Interest Payable     |        | 10,000 |

#### ◆ 債券溢價攤銷釋例(Amortizing Bond Premium)

Illustration: Candlestick AG sells the bonds described above for €102,000 rather than €98,000. This would result in a bond premium of €2,000 (€102,000 − €100,000). This premium results in an effective-interest rate of approximately 9.4794%.

| CANDLESTICK AG  Bond Premium Amortization Schedule  Effective-Interest Method—Annual Interest Payments  10% Bonds Issued at 9.4794% |                    |                                     |                        |                |                    |                |  |
|---|--------------------|-------------------------------------|------------------------|----------------|--------------------|----------------|--|
|   | (A)<br>Interest to | (B) Interest Expense to Be Recorded |                        | (C)<br>Premium | (D)<br>Unamortized | (E)<br>Bond    |  |
| Interest  | Be Paid            | (9.47                               | 94% × Preceding        | Amortization   | Premium            | Carrying Value |  |
| Periods   | (10% × €100,000)   | Bond                                | d Carrying Value)      | (A) - (B)      | (D) – (C)          | (€100,000 + D) |  |
| Issue date  |                    |                                     |                        |                | €2,000             | €102,000       |  |
| 1   | €10,000            | € 9,669                             | (9.4794% × €102,000)   | € 331          | 1,669              | 101,669        |  |
| 2   | 10,000             | 9,638                               | (9.4794% × €101,669)   | 362            | 1,307              | 101,307        |  |
| 3   | 10,000             | 9,603                               | (9.4794% × €101,307)   | 397            | 910                | 100,910        |  |
| 4   | 10,000             | 9,566                               | (9.4794% × €100,910)   | 434            | 476                | 100,476        |  |
| 5   | 10,000             | 9,524 *                             | f (9.4794% × €100,476) | 476*           | -0-                | 100,000        |  |
|   | €50,000            | €48,000                             |                        | €2,000         |                    |                |  |

Illustration: Candlestick AG records the accrual of interest and amortization of premium discount for the first period on Dec. 31, as follows:

| Dec. 31 Interest Expense |                  | 9,669 |        |
|--------------------------|------------------|-------|--------|
|                          | Bonds Payable    | 331   |        |
|                          | Interest Payable |       | 10,000 |

#### ● 附錄 直線攤銷法

為遵循配合原則,公司應有系統的分配債券折(溢)價金額至債券流通在外的每一期間。直線攤銷分配相同金額至每一期的利息費用。

| Bond<br>Discount | Number<br>of Interest<br>Periods | = | Bond<br>Discount<br>Amortization |
|------------------|----------------------------------|---|----------------------------------|
|------------------|----------------------------------|---|----------------------------------|

#### ● 折價釋例

Illustration: Candlestick AG sold €100,000, five-year, 10% bonds on January 1, 2017, for €98,000 (discount of €2,000). Interest is payable on January 1 of each year. Prepare the entry to accrue interest and amortize the bond discount at Dec. 31, 2017.

| Dec. 31 | Interest Expense | 10,400 |
|---------|------------------|--------|
|         | Bonds Payable    | 400    |
|         | Interest Payable | 10,000 |

#### **CANDLESTICK AG Bond Discount Amortization Schedule** Straight-Line Method—Annual Interest Payments €100,000 of 10%, 5-Year Bonds (D) (A) (C) (E) Interest to Interest Expense Discount Unamortized Bond Be Paid to Be Recorded Discount Carrying Value Interest Amortization (€100,000 – D) **Periods** (10% × €100,000) (A) + (C)(€2,000 ÷ 5) (D) - (C)€2,000 € 98,000 Issue date €10,000 €10,400 € 400 98,400 1,600 2 10,000 10,400 400 1,200 98,800 10,000 10,400 400 800 99,200 3 10,000 10,400 400 4 400 99,600 10,000 10,400 400 0 100,000 5 €50,000 €52,000 €2,000

#### ● 溢價釋例

Illustration: Candlestick, Inc., sold €100,000, five-year, 10% bonds on January 1, 2017, for €102,000 (premium of €2,000). Interest is payable on January 1 of each year. Prepare the entry to accrue interest and amortize the bond premium at Dec. 31, 2017.

| Dec. 31          | Interest Expense | 9,600 |        |
|------------------|------------------|-------|--------|
|                  | Bonds Payable    | 400   |        |
| Interest Payable |                  |       | 10,000 |

|            | (A)                    | (B)                                | (C)                     | (D)                    | (E)                    |
|------------|------------------------|------------------------------------|-------------------------|------------------------|------------------------|
| Interest   | Interest to<br>Be Paid | Interest Expense<br>to Be Recorded | Premium<br>Amortization | Unamortized<br>Premium | Bond<br>Carrying Value |
| Periods    | (10% × €100.000)       |                                    | (€2,000 ÷ 5)            | (D) – (C)              | (€100.000 + D)         |
|            | (10 /0 × €100,000)     | (A) - (C)                          | (62,000 + 3)            |                        |                        |
| Issue date |                        |                                    |                         | €2,000                 | €102,000               |
| 1          | €10,000                | € 9,600                            | € 400                   | 1,600                  | 101,600                |
| 2          | 10,000                 | 9,600                              | 400                     | 1,200                  | 101,200                |
| 3          | 10,000                 | 9,600                              | 400                     | 800                    | 100,800                |
| 4          | 10,000                 | 9,600                              | 400                     | 400                    | 100,400                |
| 5          | 10,000                 | 9,600                              | 400                     | 0                      | 100,000                |
|            | €50,000                | €48,000                            | <b>€2,000</b>           |                        |                        |

# ● 附錄\_薪資相關負債(Employee-Related Liabilities)

每位雇主均會產生與受僱員工薪資及工資有關的負債。其一為欠受僱員工的薪資及工資-應付薪工。另一為稅法要求需由受僱員工薪資總額中代扣之稅額

| Item   | Who Pays |   |
|--|----------|---|
| Income tax withholding Social Security taxes—employee share Union dues | Employee | Employer reports these amounts as liabilities |
| Social Security taxes—employer share                                   | Employer | until remitted.                               |

Assume a weekly payroll of \$10,000 entirely subject to Social Security taxes (8%), with income tax withholding of \$1,320 and union dues of \$88 deducted.

| Salaries and Wages Expense         | 10,000 |       |  |
|------------------------------------|--------|-------|--|
| Withholding Taxes Payable          |        | 1,320 |  |
| Social Security Taxes Payable      |        | 800   |  |
| Union Dues Payable                 |        | 88    |  |
| Cash                               |        | 7,792 |  |
| Record the employer payroll taxes. |        |       |  |
| Payroll Tax Expense                | 800    |       |  |
| Social Security Taxes Payable      |        | 800   |  |