EXERCISES

Ex. 12–1

a. Earnings before bond interest and income tax ..................... $10,000,000
   Bond interest ................................................................. 1,600,000
   Balance ........................................................................ $ 8,400,000
   Income tax....................................................................... 3,360,000
   Net income ..................................................................... $ 5,040,000
   Dividends on preferred stock ........................................... 4,000,000
   Earnings available for common stock ............................... $ 1,040,000
   Earnings per share on common stock ............................... $ 1.30

b. Earnings before bond interest and income tax ..................... $12,000,000
   Bond interest ................................................................. 1,600,000
   Balance ........................................................................ $10,400,000
   Income tax....................................................................... 4,160,000
   Net income ..................................................................... $ 6,240,000
   Dividends on preferred stock ........................................... 4,000,000
   Earnings available for common stock ............................... $ 2,240,000
   Earnings per share on common stock ............................... $ 2.80

c. Earnings before bond interest and income tax ..................... $14,000,000
   Bond interest ................................................................. 1,600,000
   Balance ........................................................................ $12,400,000
   Income tax....................................................................... 4,960,000
   Net income ..................................................................... $ 7,440,000
   Dividends on preferred stock ........................................... 4,000,000
   Earnings available for common stock ............................... $ 3,440,000
   Earnings per share on common stock ............................... $ 4.30

Ex. 12–2

Factors other than earnings per share that should be considered in evaluating fi-
nancing plans include: bonds represent a fixed annual interest requirement,
while dividends on stock do not; bonds require the repayment of principal, while
stock does not; and common stock represents a voting interest in the ownership
of the corporation, while bonds do not.
Ex. 12–3

Nike’s major source of funding is common stock. It has long-term debt, excluding current installments, of $445.8 million, compared to stockholders’ equity of $9,753.7 million.

Ex. 12–4

The bonds were selling at a premium. This is indicated by the selling price of 104.797, which is stated as a percentage of face amount and is more than par (100%). The market rate of interest for similar quality bonds was lower than 4.7%, and this is why the bonds were selling at a premium.

Ex. 12–5

May 1  Cash ..............................................................  15,000,000
    Bonds Payable ...............................................  15,000,000
Nov. 1  Interest Expense ........................................  900,000
    Cash ...........................................................  900,000
Dec. 31 Interest Expense .......................................  300,000*
    Interest Payable ............................................  300,000
    Accrue interest.
    *$15,000,000 × 12% × 2/12

Ex. 12–6

a. 1. Cash ..............................................................  23,160,113
    Discount on Bonds Payable ..............................  1,839,887
    Bonds Payable ...............................................  25,000,000

2. Interest Expense .............................................  1,250,000
    Cash ...........................................................  1,250,000

3. Interest Expense .............................................  1,250,000
    Cash ...........................................................  1,250,000

4. Interest Expense .............................................  367,977
    Discount on Bonds Payable ..............................  367,977
Ex. 12–6  (Concluded)

b. Annual interest paid ........................................ $2,500,000
   Plus discount amortized .................................. 367,977
   Interest expense for first year ......................... $2,867,977

c. The bonds sell for less than their face amount because the market rate of interest is greater than the contract rate of interest. This is because investors are not willing to pay the full face amount for bonds that pay a lower contract rate of interest than the rate they could earn on similar bonds (market rate).

Ex. 12–7

a. Cash ................................................................. 32,446,500
   Premium on Bonds Payable .............................. 2,446,500
   Bonds Payable .................................................. 30,000,000

b. Interest Expense .............................................. 1,255,350
   Premium on Bonds Payable .............................. 244,650*
   Cash ................................................................. 1,500,000**

   *$2,446,500 ÷ 10 semiannual payments
   **$30,000,000 × 10% × 6/12

c. The bonds sell for more than their face amount because the market rate of interest is less than the contract rate of interest. This is because investors are willing to pay more for bonds that pay a higher rate of interest (contract rate) than the rate they could earn on similar bonds (market rate).

Ex. 12–8

2012
Mar. 1  Cash ................................................................. 45,000,000
   Bonds Payable .................................................. 45,000,000

Sept. 1  Interest Expense ........................................ 2,250,000
   Cash ................................................................. 2,250,000

2016
Sept. 1  Bonds Payable ........................................... 45,000,000
   Loss on Redemption of Bonds ......................... 1,350,000
   Cash ................................................................. 46,350,000*

   *$45,000,000 × 1.03
Ex. 12–9

2012
Jan. 1 Cash ................................................................. 32,000,000
Bonds Payable ...................................................... 32,000,000
July 1 Interest Expense ............................................. 1,760,000
Cash ................................................................. 1,760,000

2018
July 1 Bonds Payable .................................................. 32,000,000
Gain on Redemption of Bonds .................. 960,000
Cash ................................................................. 31,040,000*

*$32,000,000 × 0.97

Ex. 12–10

a. 1. Cash ................................................................. 65,000
Notes Payable .......................................................... 65,000

2. Interest Expense .................................................... 3,900*
Notes Payable ......................................................... 4,932
Cash ................................................................. 8,832

*$65,000 × 0.06

b. Notes payable are reported as liabilities on the balance sheet. The portion of
the note payable that is due within one year is reported as a current liability.
The remaining portion of the note payable that is not due within one year is
reported as a long-term liability. For Harris Company, the current and non-
current portions of the note payable would be reported as follows:
Ex. 12–10  (Concluded)

Current liabilities:
Notes payable ................................................................. $ 5,228*

*The principal repayment portion of the next installment payment. See com-
putation below.

Noncurrent liabilities:
Notes payable ................................................................. $ 54,840**

**Original note payable .................................................$65,000
Less principal repayment from year 1 ......................... 4,932
Note payable balance at the end of year 1 ................. $60,068
Annual payment on note ................................................ $ 8,832
Second year interest payment ($60,068 × 0.06).......... 3,604
Principal repayment portion of next installment ....... $ 5,228
Note payable balance at the end of year 1 ................. $60,068
Current portion of note payable (due within one year).... 5,228
Noncurrent portion of note payable ................................ $54,840

Ex. 12–11

2012
Jan.  1 Cash ................................................................. 120,000
     Notes Payable ................................................... 120,000
Dec. 31 Interest Expense .............................................. 12,000
     Notes Payable ................................................... 10,493
     Cash ................................................................. 22,493

2017
Dec. 31 Interest Expense .............................................. 5,594
     Notes Payable ................................................... 16,899
     Cash ................................................................. 22,493
Ex. 12–12

a. 

<table>
<thead>
<tr>
<th>For the Year Ending</th>
<th>January 1 Note Carrying Amount</th>
<th>Note Payment (Cash Paid)</th>
<th>Interest Expense (9% of January 1 Carrying Amount)</th>
<th>December 31 Interest Expense in Notes Payable Amount</th>
<th>December 31 Decrease in Notes Payable Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 31, 2012</td>
<td>$28,000</td>
<td>$8,642</td>
<td>$2,520 (9% of $28,000)</td>
<td>$6,122</td>
<td>$21,878</td>
</tr>
<tr>
<td>December 31, 2013</td>
<td>21,878</td>
<td>8,642</td>
<td>1,969 (9% of $21,878)</td>
<td>6,673</td>
<td>15,205</td>
</tr>
<tr>
<td>December 31, 2014</td>
<td>15,205</td>
<td>8,642</td>
<td>1,368 (9% of $15,205)</td>
<td>7,274</td>
<td>7,931</td>
</tr>
<tr>
<td>December 31, 2015</td>
<td>7,931</td>
<td>8,642</td>
<td>711* (9% of $7,931)</td>
<td>7,931</td>
<td>0</td>
</tr>
</tbody>
</table>

$34,568 $6,568 $28,000

*The December 31, 2015, interest expense differs by $3 from the supporting calculation due to rounding.

b. 

2012
Jan. 1
Cash................................................................. 28,000
Notes Payable ..................................................... 28,000
Dec. 31
Interest Expense ................................................. 2,520
Notes Payable ..................................................... 6,122
Cash................................................................. 8,642

2013
Dec. 31
Interest Expense ................................................. 1,969
Notes Payable ..................................................... 6,673
Cash................................................................. 8,642

2014
Dec. 31
Interest Expense ................................................. 1,368
Notes Payable ..................................................... 7,274
Cash................................................................. 8,642

2015
Dec. 31
Interest Expense ................................................. 711
Notes Payable ..................................................... 7,931
Cash................................................................. 8,642

c. Interest expense of $2,520 would be reported on the income statement.
Ex. 12–13

1. The significant loss on redemption of the Putnam Industries bonds should be reported in the Other Income and Expense section of the income statement, rather than as an extraordinary loss.

2. The Rucker Corporation bonds outstanding at the end of the current year should be reported as a current liability on the balance sheet because they mature within one year.

Ex. 12–14

a. Current year:

Number of times interest charges earned: \( 3.6 = \frac{278,000,000 + 105,000,000}{105,000,000} \)

Preceding year:

Number of times interest charges earned: \( 1.0 = \frac{1,058,000 + 69,000,000}{69,000,000} \)

b. The number of times interest charges earned has increased from 1.0 to 3.6 in the current year. Although Southwest Airlines had just enough earnings to pay interest in the preceding year, the improvement in this ratio will be welcomed by the debtholders.

Ex. 12–15

a. 2012:

Number of times interest charges earned: \( 25.0 = \frac{240,000,000 + 10,000,000}{10,000,000} \)

2011:

Number of times interest charges earned: \( 31.0 = \frac{375,000,000 + 12,500,000}{12,500,000} \)

b. The number of times interest charges earned has decreased from 31.0 in 2011 to 25.0 in 2012. Although Quansi has adequate earnings to pay interest, the decline in this ratio may cause concern among debtholders.
Ex. 12–16

a. 2012:

\[
\text{Number of times interest charges earned: } 1.4 = \frac{1,200,000 + 3,000,000}{3,000,000}
\]

2011:

\[
\text{Number of times interest charges earned: } 2.2 = \frac{3,600,000 + 3,000,000}{3,000,000}
\]

b. The number of times interest charges earned has decreased from 2.2 in 2011 to 1.4 in 2012. Although the company has just enough earnings to pay interest in the 2012, the deterioration in this ratio is a cause for concern to debtholders.

Appendix 1 Ex. 12–17

\[
750,000 \times 0.71178 = \$533,835
\]

This is because cash on hand today can be invested to earn income. If \$533,836 is invested at 12%, it will be worth \$750,000 at the end of three years.

Appendix 1 Ex. 12–18

a. First Year: \$150,000 \times 0.93458 = \$140,187

Second Year: \$150,000 \times 0.87344 = 131,016

Third Year: \$150,000 \times 0.81630 = 122,445

Fourth Year: \$150,000 \times 0.76290 = 114,435

Total present value \$508,083

b. \$150,000 \times 3.38721 = \$508,081.50

c. This is because cash on hand today can be invested to earn income. If each of the \$150,000 cash receipts is invested at 7%, it will be worth \$508,081.50 at the end of four years.

Appendix 1 Ex. 12–19

\[
11,000,000 \times 7.18883 = \$79,077,130
\]