Chapter 10

Long-Term Liabilities

Key Concepts:
- What are the components of long-term liabilities?
- What characteristics distinguish bonds from other long-term liabilities?
- How are bonds accounted for?
- How to find the gain and loss on retirement bonds?
- How do long-term liabilities effect the statement of cash flows?
- What distinguishes capital leases from operating leases?
- How are pensions and other post-retirement benefits accounted for?
Chapter Outline

LO 1

Balance Sheet Presentation

Long-term liabilities are obligations that will not be satisfied within one year.
- Bonds payable
- Notes payable
- Pension obligations
- Leases
- Deferred taxes

LO 2

Characteristics of Bonds

A bond is a security or financial instrument that allows firms to borrow large sums of money and repay the loan over a long period of time.
- Bonds are sold, or issued to investors
- Borrower (issuing company) agrees to pay interest on specific dates, usually semiannually or annually
- Borrower also agrees to repay principal at maturity, or due date, of bond
- Bond certificate sets out terms of obligation
  - usually in denominations of $1,000, called face value or par value
    - this is the maturity value
  - issued in very large amounts
  - bonds are traded like stocks after they have been issued
  - not always held until maturity by the initial investor

Features of bonds:
- **Collateral** is the assets that back secured bonds
- **Debenture** bonds have no specific collateral
- Due date is the maturity date in which the bond principal must be paid
  - *term bond* has the entire principal due on a specific date
  - *serial bonds* contain differing due dates
- Other features of bonds
  - *convertible*: can be exchanged for common stock in the future
  - *callable*: may be retired, or redeemed, at option of the issuer before due date
    - callable have a stated redemption price or re-acquisition price
  - *redeemable* bonds give the investor the right to retire, or sell them back to the issuer, before their due date
  - a bond’s interest is tax deductible for issuer, whereas dividends paid on stock are not
  - issuance results in a debit to cash, a credit to bonds payable
Factors Affecting Bond Price

Two rates of interest apply to bonds:

- **Face rate** (also called stated rate, nominal rate, contract rate, or coupon rate) is specified on certificate, to be paid each interest period
  - cash interest = face rate \* face value of bond
- **Market rate** (also called the effective rate or bond yield) is the rate bondholders could obtain from other similar bonds

**Issue price** is determined by the relationship between face rate and market rate, and the market’s perception of risk.

- Issue price = present value at the market rate of cash flows that bond will produce
- Cash interest payments are to be made annually or semiannually (annuity)
- Repayment of principal (one-time payment)

**Calculation of issue price**: present value of interest payments (annuity) at market rate + present value of maturity value (one payment) at market rate = issue price, or proceeds

- Bond prices in the press are always stated as a percentage of face value (Exhibit 10-3)

Premium or Discount on Bonds

**Premium** or discount represents the difference between market and face rate of interest.

- Bonds are issued at a **discount** when the market rate of interest exceeds the face rate
  - discount on the bond = face value less issue price
  - discount is recorded as a *contra liability*
- Bonds are issued at a **premium** when the face rate exceeds the market rate
  - premium on the bond = issue price less face value
  - premium is an *addition* to the bonds payable liability
- If the market rate = the face rate, bonds are issued at *par*, or face value
- As interest rates increase, bond prices decrease; as interest rates decrease, bond prices increase
- Risk in a bond investment is that interest rates on comparable investments will rise, making this bond less valuable, unless it is held to maturity when the face value is paid regardless of the market rate

Bond Amortization

**Amortization** of premium or discount on bonds payable distributes the difference in interest over the life of the bond, so that interest expense each period reflects the effective rate, or the market rate on the date of issue, of the borrowing.

- *Discount on bond payable* is really additional interest the firm will pay for the use of the money
- *Premium* reduces the amount of interest paid

The easiest way to spread discount or premium over the life of a bond is *straight-line method*, which reduces the discount or premium by the same amount every period.

- Balance sheet shows bond payable less unamortized discount, or amount of discount that has not been transferred to interest expense = bond payable, net, or net carrying value of bond, or net liability
- For bonds issued at a premium, bond payable plus unamortized premium = bond payable, net
■ **Straight-line method** is easy but not conceptually sound because the same dollar amount of interest is recorded every period, but the carrying value of bond is increasing, so the rate of interest is different every period.

**Effective interest method** calculates interest on the net liability every period at the market rate on the date of issue, which is the effective rate for the borrowing.

> **NOTE:** Reference can be made to the concept of the time value of money learned in Chapter 9.

■ Still writes off part of discount or premium every period
■ Discount or premium still zero by maturity (Exhibit 10-4, 10-5)
■ This method results in a different dollar amount of interest every period, but the same rate of interest every period
  - cash interest = face value of bond * face rate
  - interest expense = market rate on date of issue * carrying value at the beginning of the period
  - discount amortized = interest expense – cash interest
  - premium amortized = cash interest – interest expense
  - for bonds issued at a discount, net liability starts below face value, and increases every period until maturity when it equals face value, with the discount fully amortized
  - For bonds issued at premium, the opposite is true: net liability starts above face value and decreases every period until the premium is fully amortized at maturity, and carrying value = face value

**Redemption** of bond is repayment of principal.

■ On due date, requires debit to bond payable, credit to cash

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**LO 6 Gain or Loss on Retirement of Bonds**

Why retire bonds early?

■ Excess cash is available, and the company thinks it is best used to retire debt
■ Declining interest rates make old debt at higher rates undesirable
  - bond certificates usually specify a redemption price
  - if redemption price > carrying value, issuer shows a loss on redemption
  - if redemption price < carrying value, issuer shows a gain on redemption
  - **Gain** on redemption or **loss** on redemption shown as **extraordinary items** on the income statement

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**LO 7 Leases**

**Lease** is a contract whereby a **lessor**, the owner, agrees to allow a **lessee**, the user, to use lessor's property in return for agreed-upon payments.

■ Financing arrangement
■ No initial large cash outlay
■ Flexible

**Two types of lease:**

■ **Operating lease** gives lessee the right to use property for a certain time
• lessee does not account for the property as an asset, or the obligation for payments as a liability
• although the lease is not on the balance sheet, it is usually mentioned in footnotes (Exhibit 10-6)

In a capital lease, the lessee has sufficient rights of ownership and control to be considered owner
• property is an asset for lessee
• future payments are recorded as a liability
• if any one or more of the following is met, lease is considered a capital lease
  ♦ ownership transfers to the lessee at the end of the lease term
  ♦ lease has a bargain purchase option allowing the lessee to purchase the asset at less than fair market value
  ♦ lease term is 75% or more of the asset's economic life
  ♦ present value of the minimum lease payments is 90% or more of the fair market value of the property at the inception of the lease
• asset is recorded at the present value of the future required payments at the market interest rate at the time the lease is begun
  ♦ depreciated in the same way as other similar assets the company owns
  ♦ many firms use the term amortization for leased assets
• lease obligation is the liability
• interest expense each period = remaining liability * effective interest rate
• obligation separated in any period into current and long-term liabilities
  ♦ payment to lessor - interest expense = reduction of obligation
  ♦ by the end of the lease term, obligation = zero

Long-Term Liabilities and the Statement of Cash Flows

Long-term liabilities are generally financing activities.
• Decrease in a long-term liability requires a payment, and thus decreases cash
• Increase in a long-term liability represents additional funding, and therefore an increase in cash
  Exception is deferred tax, which is an operating item

Deferred Tax

Deferred tax reconciles the difference between income for reporting purposes and income for tax purposes as a result of differing rules for each.
• Permanent difference results when an item is included in tax calculations, but never for reporting OR included for reporting but never for tax calculations
  • for example, certain interest is exempt from taxes, but is included as revenue for reporting
• Temporary difference affects both reporting and taxes, but not at the same time
  • for example, different depreciation methods used for reporting and taxes charge expense on a different schedule for each, but by the time the asset is fully depreciated, the total amount expensed will be the same for both.
  • Deferred tax account reflects temporary, not permanent, differences.
  • Deferred tax = difference between tax owed per published statements and tax owed per calculation on tax return
Pensions

Pensions provide income to employees after their retirement, so the company must calculate present liability for a payment to be made in the future.

Two accounting questions:
- How to record expense
- How to calculate and record the liability for future pension amounts

Expense

- Funding the pension, or the funding payment, occurs when the employer makes cash payments to the pension fund at least yearly
  - fund is often administered by a trustee, who invests the assets
- Expense is incurred regardless of cash funding payment, that is, accrued in the period the employee earned benefits
  - based on employee’s service, interest cost, earnings on pension investments
- Difference between cash payment and pension expense is accrued pension cost, a liability

Liability

- Accrued pension cost could have a debit or a credit balance because payments could have, cumulatively, exceeded expense, or could be lagging behind expense, at the time of the balance sheet
  - debit balance recorded as an asset called prepaid pension cost
  - credit is a long-term liability, accrued pension cost, which is really only the difference between the amount expensed and the amount funded, but is by no means the total owed in the future to retirees

Pension footnotes:
- Required to give reader a better picture of true obligation
- Funding status tells whether sufficient assets are available to cover expected payments
  - plan assets are the total dollar value of assets accumulated in a pension fund
  - ABO, or Accumulated Benefit Obligation, is the total of the benefits payable to employees if they were to retire at their present salaries
  - PBO, or Projected Benefit Obligation, higher than the ABO, is probably more realistic, but less objective
    - benefits payable making an assumption concerning future salary increases to be earned by employees
    - if plan is overfunded, the plan assets > PBO, creating an off-balance-sheet asset, since the plan assets are in the hands of a trustee
    - if the plan is underfunded, the plan assets < PBO, creating an off-balance-sheet liability

Other post-retirement benefits include benefits to retirees other than pensions.
- Until recently it was expensed only when paid
- New standards require these to be expensed as earned by employees, similarly to pensions
Lecture Suggestions

By now the students have been shown so many calculations and so much terminology that they are dazed. Use an amortization table (Exhibits 10-4 or 10-5) to summarize the bond information. Students can see how the numbers relate to one another. Assign at least two bond problems, one with a discount, one with a premium, using bonds with fairly short lives, where students have to prepare a complete amortization table for a bond. You might even want to expand the table with some additional columns as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Beginning Net Liability</th>
<th>Beginning Cash</th>
<th>Interest Expense</th>
<th>Discount (Premium)</th>
<th>Face Value</th>
<th>Unamortized Net Liability</th>
<th>Ending Net Liability</th>
</tr>
</thead>
</table>

The retirement of bonds causes confusion because it looks very similar in journal form to the disposal of an asset, which the students have just learned. They treat it similarly, trying to debit cash instead of crediting it. They fail to see the gain and loss correctly. Remind them that the entries are similar, but the debits and credits are exactly opposite because bonds are a liability, not an asset. If your initial example uses extremely small amounts of money (use $10, $9, $11), students do not become bogged down in the arithmetic and focus on what is happening conceptually. Use a straightforward example such as: You borrowed $10 from your friend. The next time you meet her you have $9 in your pocket. She needs cash right away and says if you give her the $9, you can call the debt paid. Do you have a gain or a loss? How about your friend?

Ask students to explain why companies not only do, but must, keep two sets of books, one for reporting and one for taxes.

Pensions and retiree health care are more meaningful concepts for students if they are discussed from the employee's point of view. Most students are aware of benefits packages they can expect from their future positions, and of the national debate over health care and its costs. The accounting for and the costs of these benefits to employers can be contrasted to the value of the benefits to employees.
Characteristics of Bonds

In-class discussion: The deductibility of bond interest

You have learned that interest on bonds is tax deductible, whereas dividends on stock are not. What are the differences between stocks and bonds? What are the differences between dividends and interest? Explain the difference in tax status.

Solution

Stock is ownership in the company. Bonds are a sophisticated way for the company to borrow money. This means the interest on a bond is an expense for the company. Like most other expenses, bond interest is tax deductible for the company, as a cost of earning their profits.

Dividends, on the other hand, are a distribution of the company's profits, after all expenses including interest and taxes are deducted, to the company’s owners. Dividends are not an expense, but rather a transfer of the profits from retained earnings to the owners' private hands. The interesting point is that these dividends are not tax deductible for the company, but the company has paid tax on the earnings, and the shareholders, when they receive their distribution, pay more tax on their share.

Food for thought: Is it a stock or a bond?

An article in Business Week discussed a stock offering by offshore Turks and Caicos Islands subsidiaries of two large energy producers. The offering appeared to give the companies, the article notes, “… a tax-saving gusher of sorts ….” The subsidiaries issued $800 million of “MIPS”—monthly income preferred shares—between them, then turned around and loaned the money received for the shares to their parent companies at 6 7/8% interest, the same rate of interest paid to the preferred shareholders, for 50 years, renewable for another 50. The parent companies deduct the interest as they would interest on a bank loan. You need not worry here about the intricacies of parent/subsidiary consolidated statements. Suffice it to say that analysts are regarding the securities as stock when analyzing the balance sheets of the parent companies. The IRS has yet to make a pronouncement on what they think of these deals, but a number of other companies are waiting eagerly to see what happens, before they market issues of their own.

- What are the advantages to be gained by this type of financing? Consider both balance sheet and income statement effects.
- Do you think the IRS will allow it to continue? What pressures might have been exerted on the IRS to disallow it? What were the pressures to allow it? Don't think about tax laws, think about business and financing.
- If the tax rate of one of the companies is about 26%, what is their effective after-tax borrowing rate on this money? From your experience of interest rates, do you view this as a favorable long-term rate?

Solution

- The advantage on the income statement is the deductibility of interest, as opposed to the non-deductibility of dividends on stock. On the balance sheet, if these securities are viewed as equity, the companies’ credit rating is not endangered the way it would be by the issuance of a comparable amount of debt. Thus they get the best of both worlds, as long as the tax deduction holds.
- The IRS could certainly be motivated to look hard at this and find a reason to disallow it, because, as the article states, they are “… under pressure to produce revenue …”.

1 Business Week, November 22, 1993, “It Looks Like a Stock But Deducts Like a Bond.”
2 Ibid.
However, there is also pressure to encourage business investment and keep the economy moving, and a strong business lobby could argue that the advantages to the country of allowing this sort of “creative financing” outweigh the disadvantages.

- At a 26% tax rate, the deductible portion of the interest would reduce the effective rate of the loan to about 5.1%, which is a very favorable rate for a borrower to be locked into long-term.

**Characteristics of Bonds**

**Food for thought: Long-term bonds**

In 1992, the Tennessee Valley Authority, a federally owned utility, issued $1 billion of 50-year bonds. The issue turned out to be vastly more popular than pessimistic analysts originally predicted.³ *The Wall Street Journal* said,

The TVA's offering comprised $500 million of straight 50-year bonds and $500 million of zero-coupon and stripped interest portions, all due April 15, 2042. They can be called back by the TVA in 20 years at a price of 106.

The zero-coupon and stripped interest portion was priced to yield 8.935% …

The call price of 106 is considered to be a generous one. Traders found they had orders for ten times as many bonds as were available for sale.

- What do you think is the problem analysts found with a 50-year bond?
- To what sort of investor might the issue seem attractive? In other words, who do you think bought them?
- Check your library and see if you can find out what a “stripped” bond is. Why are they attractive to some investors?

**Solution**

- Analysts were bothered by the long maturity, and also by the yield, which appeared low for a long maturity.
- The bonds would be very attractive to pension funds, state retirement funds, and insurance companies looking for investments they could match to periods when the cash would be needed. Many companies with a young work force would be attracted to a 50-year maturity. The call premium is a good one, and since the utility is federally owned, some tax exempt features make the investment attractive.
- When securities are “stripped,” the interest coupon is sold separately from the principal, so that the bond can be bought at a big discount and held to maturity in tax-deferred folios like IRA’s. Their volatility also appeals to aggressive short-term traders.

**Factors Affecting Bond Price**

**Outside assignment: Interaction between interest rates and issue price of a bond**

Consider the simple case of a 5-year, $1,000 face value, 10% coupon rate bond, paying interest semiannually.

Look at that bond's issue under three different circumstances.

- First, suppose the market rate for similar securities on the date of issue is 10%. What will the bond likely be sold for? Explain how much interest will be paid to the purchaser after six months. What is the company's interest expense for that period? How much will the company pay the purchaser after one year? How much is interest expense? If bonds are accounted for using compound interest rates, why is there no apparent compounding here?

Second, suppose the bond is issued when the market rate is 12%. Would you expect the bond to sell for $1,000, or more, or less? Why would the issue price change? Why not just change the interest rate? Whose expectations, the issuer’s or the buyer’s, govern the issue price?

Third, what if the market rate was 8%? How would you expect that to affect the issue price of the bond? In this case, whose expectations would have the biggest influence on the issue price?

Why is the issue price of a bond calculated at “the present value of the future cash flows?” What are these cash flows? What does this present value mean?

**Solution**

If the market rate and the coupon rate are the same, the bond would likely be issued at its par value of $1000. This is because the 10% interest, paid at $50 semiannually, would give the investor a 10% effective return, which is precisely what the “market” has led them to expect. The company's semiannual interest expense will be 5% (10% ÷ 2) of the liability of $1,000, or $50. After one year, the purchaser will get another $50, and the company will record another $50 of interest, because the liability has not changed. It is still $1,000. There is only compounding, or interest accrued on unpaid previously accrued interest, when the amount of interest paid in cash by the lender differs from the actual interest expense calculated on the liability. Since the two amounts are the same in this case, no compounding occurs, and the liability remains the same. Simply put, the borrower pays all the interest due as it accrues, and thus the only amount that continually remains outstanding is the original liability.

In the second case, the market rate exceeds the coupon rate on the bond. Since investors can earn a 12% return on similar investments, the only way they will buy this bond is if it also gives them a 12% return. The structure of bonds is such that the maturity value and the coupon rate, which determines periodic cash interest payments, are locked in when the certificate is drawn up. Therefore, the only way to change the return, since the printed coupon rate cannot be changed, is to change the amount borrowed. Interest is still calculated as principal * rate * time. If $50 interest is a 5% return on $1000, you cannot change the $50, and if you want the 5% to be 6%, then you have to change the $1000 principal, the amount borrowed. In this case, to increase the rate you have to lower the principal. However, you do not lower it to ($50 ÷ 6%) because $50 cash will still be paid every 6 months. Thus, the interest expense will not all be paid semiannually. The difference between the actual interest expense and the $50 payment will not be paid back until the maturity date when, regardless of how much the bond sold for, the purchaser will be paid $1,000. This includes all the “extra” interest that has accrued to date. This is where compounding takes place. To the extent that some interest is not paid in any period, that amount is added to the principal, and earns interest itself, becoming part of the next period's principal. In other words, the company pays interest on that “accrued interest payable.”

The expectations of the bond investors, who want to earn no less than the market rate, control the issue price.

In the third instance, the market rate has dropped. Now the influence shifts to the borrower, or the issuing company. They are not prepared to pay 10% interest when market rates are lower, so they will expect the effective interest rate on the bond to be adjusted downward. The only way to do this, similar to the above, is to adjust the issue price. To make the interest effectively less, the principal is increased. Thus, the bond will sell for greater than $1,000. In this case, the company gets back some of their interest “up front” in the form of the premium on the issue. This reduces their interest expense every period (they still pay the bondholders that $50), so that by the maturity the premium is written off, the purchaser receives $1,000, and the issue has paid exactly an 8% return.

We base issue price on the present value of the future cash flows (the semiannual interest payments + the face value at maturity) because, as we found in Chapter 9, the promise of $50 in 6 months is worth less to an investor than $50 right now. Thus we “discount” the $50 at our desired return rate to see what we are willing to invest to get that $50 in the future. The same is true of the principal. We know that we do not have to invest $1,000 now to have
$1,000 in 5 years if we are going to earn interest on our investment. How much we are willing to invest will depend upon how much of a return we want to earn. Present value reflects how much we are willing to invest now to receive a known amount in the future.

**Factors Affecting Bond Price**

**Food for thought: How do market interest rates affect bond prices?**

An article in *Business Week*[^4] said, “If you buy a $1,000 bond paying 10% and rates rise to 15%, your bond will lose resale value.”

- Why is this true? Explain how a bond you already own can suddenly become less valuable when nothing has happened to the company who issued it. They are still sending you your interest checks regularly.

- Would the opposite also be true? That is, if rates drop to 5%, will your bond suddenly surge up in value?

- What if you have a bond paying 10% and rates move up from 9 1/2% to 9 3/4%? Since your bond is paying slightly above the market rate either way, would you still expect this 1/4% increase in rates to negatively affect the market value of your bond? Explain why or why not.

**Solution**

- Your bond will lose value because potential buyers of the bond (this time from you, not the company) will still expect to earn 15% on their investment. Since the dollar return is fixed, they will compensate by paying you less for the bond.

- If rates drop, on the other hand, you can expect to sell at a premium because your bond is paying more than the market rate, and you can expect to be compensated for that difference.

- Even if the bond is currently earning slightly above the market, and thus worth a premium, if the market goes up, the difference between the rate on the bond and the market becomes smaller, and thus the premium you could expect becomes smaller. Your bond loses value.

**Long-Term Liabilities and the Statement of Cash Flows**

**In-class discussion: Meaning of amortization table and bond terms**

Study the following table:

<table>
<thead>
<tr>
<th>Date</th>
<th>Beginning Net Liability</th>
<th>Beginning Effective Interest @ 4%</th>
<th>Beginning Nominal Interest @ 5%</th>
<th>Beginning Discount (Premium) Amortized</th>
<th>Face Value</th>
<th>Unamort. Discount (Premium)</th>
<th>Ending Net Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/31/99</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10,000</td>
<td>363</td>
<td>10,363</td>
</tr>
<tr>
<td>6/30/00</td>
<td>10,363</td>
<td>415</td>
<td>500</td>
<td>85</td>
<td>10,000</td>
<td>278</td>
<td>10,278</td>
</tr>
<tr>
<td>12/31/00</td>
<td>10,278</td>
<td>411</td>
<td>500</td>
<td>89</td>
<td>10,000</td>
<td>189</td>
<td>10,189</td>
</tr>
<tr>
<td>6/30/01</td>
<td>10,189</td>
<td>407</td>
<td>500</td>
<td>93</td>
<td>10,000</td>
<td>96</td>
<td>10,096</td>
</tr>
<tr>
<td>12/31/01</td>
<td>10,096</td>
<td>404</td>
<td>500</td>
<td>96</td>
<td>10,000</td>
<td>0</td>
<td>10,000</td>
</tr>
</tbody>
</table>

Use the table above to answer the following questions:

1. What was the issue price of the bonds?
2. Were the bonds issued at a discount or premium?
3. If the opposite were true, what would be the relationship between the face value and the net liability?

4. How much interest (in dollars, not %) will investors in the bonds receive periodically, and how often will they receive it?

5. What is the issuing company's effective annual borrowing rate?

6. Show how the bonds would appear on the issuer's balance sheet on the date of issue.

7. What is the journal entry to issue the bonds?

8. Give the journal entry the company would make on December 31, 2000.

9. If the company chose to retire the bonds for $10,150, on June 30, 2001, after all interest payments were made and amortization recorded, would their income statement show a gain or a loss?

10. Where on the income statement would this retirement appear? How might it be described?

11. Where on the statement of cash flows would the retirement appear? What is the cash effect of the gain or loss?

12. Calculate the total amount of cash the company would save by retiring the bonds on this date. How much would they save in accrual terms?

13. Regardless of how you prepared the journal entry "a" above, do you think the company believes they "gained" or "lost" on the early retirement?

14. Why is the company paying back less at maturity than they borrowed?

15. Would the same be true if the bond were issued as hypothesized in question 2(a)? What would be the amount in the ending liability column on December 31, 2001?

Solution

First, for those who checked the arithmetic, this was a larger bond issue (more zeroes) and all the numbers are rounded, with small adjustments to make the table come out even.

1. The issue price was $10,363.

2. The bonds were issued at a premium: issue price > face value.

3. If they had been issued at a discount, the face value would have been greater than the proceeds.

4. Investors will receive $500 every 6 months.

5. The effective rate of the bonds is 8% annually (thus the 4% semiannual rate is shown in the table).

6. | Bonds payable | $10,000 |
   | Unamortized premium on bonds | 363 |
   | Bonds payable, net | $10,363 |

7. | Cash | 10,363 |
   | Bonds payable | 10,000 |
   | Premium on bonds payable | 363 |

8. | Interest expense | 411 |
   | Premium on bonds payable | 89 |
   | Cash | 500 |

9. The company would record a loss, since they will pay the investors more than the outstanding liability.
10. The loss appears as an extraordinary item, below the operating section, such as a “Loss on redemption of bonds,” or a “Loss on early extinguishment of debt.”

11. The gain or loss would not appear on the statement of cash flows, other than as an “add back” in the operating section if the indirect method is used, to reconcile net income back to net operating income. The transaction would appear in the financing section as a retirement of debt, with the effect of using $10,150 of cash. Trick question.

12. By paying $10,150 in cash today, the company would not have to pay $10,000 at maturity, so this costs them an extra $150 now, but they would save the last interest payment of $500, for a net saved of $350. In accrual terms, the loss of $54 on the redemption is offset by a savings of $404 in interest expense for the last period, again resulting in a savings of $350.

13. If the company has the cash to spare, and does not have an alternative use that will gain them more than the $350 savings over the same period, then they would consider themselves ahead by retiring the debt early.

14. The amount paid back is less because the premium the investors paid at issue was meant to reduce the company's effective interest rate on the issue from 10% to 8% by “rebating” some of the interest up front. This amount is amortized over the life of the bonds, reducing interest each period, until it has a zero balance at the bonds’ maturity.

15. If the bonds had been issued at a discount, the opposite would have been true. The bonds would have started out at less than face value, and grown to $10,000 over their life. At maturity the investors would have received their initial investment plus accrued interest not paid during the life of the bond issue, bringing the effective rate up from 10% to the market rate on the date of the issue. In either case, premium or discount, the last amount in the liability column at the maturity date should be the face value of the bonds, $10,000 in this case.

Leases

Ethical decision: Operating versus capital leases

You are a consultant to a small commuter airline that operates a dozen planes between a cluster of suburban areas and a large city. The owner has engaged your services to prepare a loan application to a large city bank for funds to expand the business. He wants to present his case in the best way possible because he has received indications that the bank is not certain he should take on additional debt. The owner feels that his business is increasing rapidly and will easily accommodate the interest and principal on the new debt. The owner feels that his business is increasing rapidly and will easily accommodate the interest and principal on the new debt.

During the course of your audit of his books, you discover that many of the company's airplanes are on capital leases, entered into when the aircraft were new. However the owner considers the leases on 4 of his airplanes to be operating leases, and as such does not disclose them in his financial reports. You learn that these are more recent leases, on used aircraft. You have also heard from a source outside the company that he has had verbal discussions with the lessor about buying the airplanes at the end of the 10-year lease term because the lessor considers them too old to rent out again on a long lease. Your source told you that your client will probably “get those birds for a song.”

When you ask your client about the accounting treatment of the 4 airplanes, he tells you not to worry about them. They have been listed that way for a few years now with no problem, and having them on the balance sheet is the last thing he needs right now.

- Why are you concerned about these airplanes?
- Why doesn't the owner want them on the balance sheet? Wouldn't it be good to have more assets?
- What is the problem with issuing your report to the bank as the situation now stands?
Solution

- The concern here is whether these are really operating leases. Obviously, the problem does not give sufficient information to make a real judgment, but the current circumstances cast some doubt on the nature of the leasing arrangement. This “off-balance-sheet” financing may cause some concern to the bank.

- The owner is not concerned about assets on the balance sheet, but about the debt connected with those assets. He has already received negative feedback about his debt level, and so does not want to add more debt.

- The problem with preparing a report for the bank without full disclosure of the circumstances of the 4 leases is that the report would not give the bank all the information they have requested and need to make a sound business decision. You personally might also have second thoughts about a client who withholds information from you. If you sign the report, you are affirming its contents. You may begin to question what you were hired to do. Professional conduct requires that you make a full disclosure of the leases, operating or not, so that the bank can make its own judgment about future liability. If the owner is unwilling to agree, you may have to resign from this engagement.

Food for thought: Terms of capital lease

Your text sets out 4 criteria, any one of which, if met, makes a lease a capital lease. Study these criteria again.

- Why would it take only one of these to make the lease a capital lease, in other words, a financed purchase agreement?

- How can you find out if ownership transfers to the lessee at the end of the lease, or if there is a bargain purchase option?

- Who determines economic life of an asset? What is it used for?

- Why would the present value of the minimum lease payments be compared to the market value of the asset? What does the calculation of the present value of the lease payments give you?

- Suppose Company B leases a building from Company D for $450,000 per year. B's auditors, on reviewing the lease terms, have determined that based on the lease term of 30 years with an automatic 10-year renewal, the lease has to be accounted for as a capital lease. The landlord, D, has stated in writing that he has no intention whatever of selling or otherwise transferring this property to B. Given the information you have, which capital lease criteria might this lease meet? If B indeed decides it must account for the property as a capital lease, what will have to change about B's accounting for the asset? Do you think that D, because of B's decision, would be forced to remove the asset from his books?

Solution

- Any one of the criteria, given the meaning of each, makes the item being leased the property of the lessee in one way or another, sooner or later. No other item would be needed for support.

- Transfer of ownership, either outright or for a bargain price, would normally be written into the lease agreement.

- The economic life can be determined by independent appraisal, or comparison with similar assets. It may or may not be the depreciable life of the asset, depending on the owner, and their use of the asset.

- The present value of the minimum payments removes any implicit interest from the total amount paid. This is, therefore, the amount borrowed, or the value of the asset purchased. If that amount is 90% or more of the fair market value of the asset, the transaction amounts to a purchase of the asset, less a down payment, or a “balloon” payment at the end of the lease.
B, because of the nature of their business, did not want this asset, along with its accompanying liability and interest expense, on their books. However, an argument could be made that 40 years was the economic life of the building, and certainly the present value of 40 years, or even the base 30 years, of payments might equal the market value of the building. The landlord's written statement eliminated the other two criteria. The company would no longer have rent expense, but instead would record the building as an asset at the present value of the lease payments, a long-term lease liability, and interest expense on that liability. The liability would be decreased by each month's "rent" payments, which combine principal and interest.

The question of D is an interesting one. The landlord D need not be bound by the way B must account for the asset. D maintains he has no plans to give up his building, so he continues to account for it as an asset, too. Thus, both companies have that same asset, at different costs, on their balance sheets.

Food for thought: Financing the purchase of airplanes

An article in The Economist 5 discussed options available to airlines now and in the future to finance the growing cost of new airplanes. One option is so-called leasing companies who "buy jets at a bulk discount and then rent them on so-called 'operating' leases to airlines over a fixed term."

- How would these leases differ from what the article refers to as “finance” leases, cited as another way to acquire aircraft?
- What do you suppose the leasing companies plan to do with these airplanes at the end of the lease term, if the airplanes do not transfer to the lessee? Will they make a profit on these arrangements? Why or why not?
- Do you think there is any advantage in this type of financial arrangement for the airlines?

Solution

- If the airlines are to lease the airplanes under operating leases, the planes will not be assets on the books of the airlines. Presumably, the leases will be carefully crafted so that they do not meet any of the criteria of a financing, or capital lease, which would require the airlines to list them as assets, with a liability equal to the present value of the lease payments, and interest expense every period.
- How the leasing company plans to profit by this is a matter for speculation. Some major airlines prefer to operate with newer equipment, and the rental arrangement would allow them to turn over their fleet at less cost than if they had to buy new airplanes. For smaller airlines, the prospect of a relatively new airplane, perhaps 10 years old, at a much lower rent than a brand-new airplane may be very attractive. Other customers could make use of even older planes and again would be attracted by their relatively lower cost, and no worry about disposal when the equipment is no longer needed. All the customers would have the advantage of a much shorter commitment than they would have if they bought equipment. The airlines also avoid debt on their balance sheets, already heavy with long-term obligations. The leasing companies foresee enough demand for aircraft of all ages to give them a steady market of rental clients through the physical life of any airplane so that they will recover their costs and make a profit.

Deferred Tax

Food for thought: Why is this account growing?

You text discusses the view of many financial analysts that deferred tax is not a “real” liability. One of their reasons for this view is that the account appears for most companies to keep growing.

- If it is a real liability, why is it growing?
- Are other liabilities also increasing?

5 The Economist, March 7, 1992, “Will They Ever Fly Again?”

Harcourt, Inc.
Solution

- If the tax break is only a deferral, we have to ask why the total liability on most companies' books is growing. Companies in good financial health replace assets on a regular schedule. Thus, in any year in which one old asset has reached the point where tax depreciation exceeds book depreciation, the company is likely to buy one or more new assets. These are more expensive because of inflation than even an identical older asset. Thus the amount accrued in the deferred income tax account is larger than the amount debited to the account for the old asset which has reached the cross-over point, and the account has a net increase in its credit balance, even though in reality, part of the “old” liability has been removed.

- The notion of a liability increasing over time is not completely out of line, since in any growing company many liabilities, including accrued payroll and accounts payable, are also growing. The company has more employees, and is buying more merchandise.

Pensions

Food for thought: Types of pension plans

Accounting for pensions and post-retirement benefits, you have learned, is complex. Consider Note 9 to Wendy’s 1995 Annual Report:

The company’s retirement program covers substantially all full-time employees qualified as to age and service. The program includes a contributory defined benefit pension plan and a defined contribution plan for management and administrative employees. The defined benefit pension plan allows for employee contributions and provides a matching benefit from the company in addition to a basic benefit which is independent of employee contributions. The pension plan also provides for a guaranteed rate of return on employee account balances. The defined contribution plan provides for an annual discretionary contribution which is determined each year by the Board of Directors. Effective April 1, 1995, the defined contribution plan allows for 401(k) contributions, acceptance of qualified rollovers, a loan feature, and a choice of four investing options, one of which is common stock of the company. In addition, the retirement program includes a noncontributory defined benefit pension plan for all eligible crew employees and shift supervisors of the company.

The company also has supplemental retirement plans for certain key employees to replace benefits otherwise not available from the pension and profit sharing plans due to the limitations imposed under the Internal Revenue Code and to assure that projected benefit levels were not decreased by the changes to the retirement program which were implemented January 1, 1989.*

- What do you think is the difference between a “defined contribution plan” and a “defined benefit plan?” HINT: Consider the simple English meanings of the two phrases.

- Explain how and why the accounting for the two plans is different.

- From an accounting point of view, which plan might be easier for the company to manage? Why?

- Which plan might involve more risk for employees? Why?

Solution

- In a defined contribution plan, the employer agrees only to contribute a specified amount to a retirement plan for employees. This amount is invested, usually in the employee's choice of a number of plans, four in this case, and the accrued funds are available to the employee at retirement. In a defined benefit plan, on the other hand, the employer promises the employee a specified amount at retirement, and contributes funds to an account, in the hands of a

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trustee, which are invested to accumulate enough cash to be able to pay the specified amount to the employee at retirement.

- The accounting we have discussed is necessary for a defined benefit plan. That plan requires complex calculations of what the benefit will be, what each year’s service adds to that benefit, and how much cash the employer should contribute to provide for that future benefit.
- The defined contribution plan is much simpler because the employer decides only how much to contribute. That is their pension expense each year.
- The defined contribution plan, while easier for the employer to manage and account for, is riskier for the employee. The employer promises only to make the contributions to the investment the employee chooses. The employer does not guarantee that the investments made will accumulate to any specific amount. In fact, the investments could in a rare instance decline in value over time.

In-class discussion: Ethics: Funding status

“Pension funding gap growing.” This headline was followed by an article that included the following:

The Pension Benefit Guaranty Corp. (PBGC), the government agency that insures pensions, said Thursday that underfunded, single-employer retirement plans had $235 billion in benefit liabilities over the expected lifetimes of current employees and retirees and just $182 billion in assets to pay for them—a deficit 40% above 1991’s $38 billion.

The PBGC attributed much of the underfunding growth to declining interest rates, which reduced pension plan earnings. But it said funding by many companies did not keep pace with growing liabilities because of weaknesses in the law.

- Is the funding gap based on accumulated benefit obligation or projected benefit obligation? Explain.
- What is the importance of this funding gap? Is it important to you? Why or why not?
- Are the companies knowingly deceiving their employees by promising pensions they cannot pay? Explain.
- Is the problem serious enough to need regulatory action? Explain.
- What would you suggest be done?

Solution

- The projected benefit obligation is the more logical base for comparison with funding, since it is difficult to imagine that the employees will receive no salary increases before retirement. Pensions will be based on pre-retirement salaries.
- The funding gap is important because employees are led to believe money will be available when they retire. If a funding gap exists, it is conceivable that when some workers retire, insufficient cash will be available to pay them their pensions. Many see this as another potential call on public funds.
- Many people are raising serious questions about just how much additional burden working taxpayers can afford to take on. Tax-cutting is a much-debated topic. Everyone can see both sides of the problem. We do not want to find our pension does not exist when we need it, nor do we want to have to pay the bill when some other company's pensioners look for government aid to make up their pension deficit.
- The problem may or may not be a form of deliberate deception. In most cases inadequate planning is the more likely cause. Underfunded companies are quick to point out that operating cash in a given year can make up any gap. They may claim this is a temporary situation caused by economic conditions and low interest rates, which will be corrected in the future. However past problems in pension plans as well as other areas make the public wary of such statements. The problem may not be taken seriously because it is a future, not a
present problem, and everyone hopes it will take care of itself before anyone is actually harmed.

- Students will be divided regarding the question of more regulations. Many people think we already are over-regulated. They are opposed by those who are quick to say, “There oughta be a law!” The suggestions for action to solve the problem tend to be divided along these lines.