

Chapter 12

Long-Term Liabilities



What Is A Liability?

“Probable future sacrifice of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events.”



Current Liabilities

A **current liability** is a debt that can reasonably be expected to be paid:

- from existing current assets or through the creation of other current liabilities, and
- within 1 year or the operating cycle, whichever is longer.



Valuing Current Liabilities

Valuing current liabilities on the balance sheet:

- Ignore present value
- Report at face value

Primary concern is to ensure that all existing current liabilities are reported on the balance sheet.



Examples of Current Liabilities

- Accounts payable
- Short-term debts
 - Short-term notes
 - Current maturities of long-term debts
- Dividends payable
- Unearned revenues
- Interest payable
- Income tax payable



Accounting for Long-Term Obligations

- Record the asset acquired in the exchange at its fair market value.
- Record a discount if the obligation exceeds the fair market value of the asset acquired.



Bonds

Are a form of interest-bearing notes issued by corporations, universities and governmental agencies.

Are sold in small denominations (typically in \$1,000 increments), which makes them attractive to investors.



Terminology--Bonds

Face value – The amount printed on the instrument's face, to be repaid by the borrower at the maturity date.

Coupon rate – The percentage applied to the instrument's face value to determine periodic payments of interest. This is not always the same as the current market rate of interest for valuing the bond.



Terminology--Bonds

Date of issuance – The date when the instrument becomes effective.

Date of maturity – The date when the instrument is to be repaid in full.



Bonds

Floating rates – A rate that may change over time. Many of these agreements tie the promised periodic payments to the London Interbank Offer Rate (LIBOR) (i.e., the interest rate most international banks charge one another for overnight loans in the London market).



Restrictions on Borrower's Actions

The restrictions on the borrower's actions or financial condition are referred to as covenants. These are generally viewed in the "negative," since they restrict or prohibit the borrower from engaging in certain behavior.

The failure to maintain covenant requirements can result in **technical default**. Lenders often bargain to work out of such problems.



Examples of Negative Covenants

A dividend covenant may limit the amount of dividends a borrower may pay.

A covenant may require that borrowed funds be put to a specific use (e.g., expanding manufacturing capacity).

Covenants may require the borrower to maintain specified financial statistics, like a specified current ratio and/or debt-to-equity ratio.



Normal Rights of Borrower and Lender

Callable (выкупаемые) bonds are subjected to retirement at a stated dollar amount prior to maturity at the option of the issuer (i.e., borrower).

Convertible (конвертируемые) bonds can be converted into common stock at the bondholder's (i.e., lender's) option.



Rights of Borrower and Lender in Default

In general, lenders get some decision-making or control upon default.

Collateral (обеспечение) or Security – Assets the lender can seize if the borrower defaults (e.g., home mortgages are secured by the house).

Unsecured notes – Financial instruments that rely on the borrower's general credit worthiness for their repayment.



Rights of Borrower and Lender in Default

Seniority – The order in which claims are to be paid if default occurs. Senior debt must be paid before junior, or subordinated, debt.

Recourse – The lender's right to seek another party for repayment, if the borrower defaults (e.g., airport authority bonds).



Price of Bond

Bond prices for both new issues and existing bonds are quoted as a percentage of the face value of the bond, which is usually \$1,000.

Thus, a \$1,000 bond with a quoted price of 97 sells at a price 97% of the face value, or \$970.



Market Value of Bonds

The current market value (present value) of a bond is a function of three factors:

- Dollar amounts to be received
- Length of time until the amounts are received
- Market interest rate



Market Value of Bonds

There are two cash inflows associated with bonds:

- the amount received at maturity and
- the amount received in interest payments.



Market Value of Bonds

The longer the period of time until maturity, the less the present value of the cash inflow associated with the maturity.

The market interest rate is the rate investors demand for loaning funds to the corporation.



Accounting for Bond Issues

Bonds are generally issued at either:

- Face value
- Below face value (discount)



Market Value of Bonds

Assume that Rhody issues \$1,000,000 of 10-year, 10% (coupon rate) bonds when the market rate of interest is 10%. Interest is payable annually. What is the present value of the bonds?



Market Value of Bonds

The present value of the bonds is a function of the present value of the \$1,000,000 that will be paid back at the end of ten years plus the present value of the stream of interest payments (i.e., present value of an annuity). If the coupon rate equals the market rate (as in this case) then the market value of the bond equals \$1,000,000.



Market Value of Bonds

Proof:

$$\begin{array}{rcl} 1,000,000 \times .38554^a & = & \$385,540 \\ 100,000 \times 6.14457^b & = & \underline{614,457} \\ & & \$999,997^* \end{array}$$

a - Present value of a lump sum at the end of ten years at a discount rate of 10%

b - Present value of an annuity (i.e. stream of payments) for ten years at a discount rate of 10%

***Rounding**



Issuing Bonds at Face Value

Journal Entry:

Cash	1,000,000	
Bonds Payable		1,000,000



Market Value of Bonds

Continuing with the original example, what amount will Rhody pay in interest expense for the year and what is the journal entry to record the interest expense?



Interest Expense – Issued at Face Value

Rhody will pay interest expense of \$100,000 ($\$1,000,000 \times 10\%$) and the journal entry to record this expense is:

Journal Entry:

Bond Interest Expense	100,000	
Cash		100,000



Bond Discount

A bond discount occurs when the contractual rate of the interest is less than the market value of the interest. Therefore, since the contractual rate is less than the market rate, the present value of the bond is less than the face value. The difference between the face value and market value is referred to as bond discount.



Discount on Bonds

Discount represents an additional cost of borrowing and should be recorded as bond interest expense over the life of the bond.



Market Value of Bonds When Issued at Discount

Assume that Rhody issues \$1,000,000 of 10-year, 8% (coupon rate) bonds when the market rate of interest is 10%. Interest is payable annually. What is the present value of the bonds?



Market Value of Bonds - Discount

Again, the present value of the bonds is a function of the present value of the \$1,000,000 that will be paid back at the end of ten years plus the present value of the stream of interest payments (i.e., present value of an annuity). In this case, since the coupon rate is less than the market rate, the market value of the bond (\$877,106) is less than the face value (\$1,000,000) of the bonds.



Market Value of Bonds -Discount

Proof:

$$\begin{aligned} 1,000,000 \times .38554^a &= \$385,540 \\ 80,000^c \times 6.14457^b &= \underline{491,566} \\ & \$877,106 \end{aligned}$$

a - Present value of a lump sum at the end of ten years at a discount rate of 10%

b - Present value of an annuity (i.e., stream of payments) for ten years at a discount rate of 10% .

c - Note that the amount of interest is the coupon rate times the face value of the bonds \$80,000 (8% x \$1,000,000).



Issuing Bonds at Discount

Journal Entry:

Cash	877,106	
Discount on Bonds	122,894	
Bonds Payable		1,000,000



Market Value of Bonds -Discount

Continuing with the discount example, what amount will Rhody pay in interest expense for the year and what is the journal entry to record the interest expense?



Interest Expense – Discount

Rhody will pay interest expense of \$80,000 (\$1,000,000 x 8%). Remember, the interest is calculated using the contractual rate, not the market rate. The journal entry to record this expense is:

Journal Entry:

Bond Interest Expense	80,000	
Cash		80,000



Amortization of Discount

Since the entity received less than the face value of the bonds, the bond discount can be viewed as prepaid interest. Therefore, in addition to the interest expense that the entity records to reflect the cash payment made to the bondholders, the entity also has to amortize the bond discount, and reflect that as interest expense, over the life of the bonds. One method for amortizing the bond discount is the straight-line method.



Discount on Bonds

The amortized discount would be \$12,289 (\$122,891 ÷ 10 years) per year.

Journal Entry:

Interest Expense	12,289	
Bond Discount		12,289

Note: Total interest is \$92,289 (\$80,000 cash + \$12,289 amortized discount).



Carrying Value of Bonds

The carrying value of the bonds is equal to the face value of the bonds minus the bond discount and represents the fair market value of the bonds at a point in time.



Carrying Value of Bonds at Issuance

At Issuance:

Long-term liabilities	
Bonds payable	\$1,000,000
Less: Discount on bonds	<u>122,894</u>
	\$877,106

After Amortization Year 1:

Long-term liabilities	
Bonds payable	\$1,000,000
Less: Discount on bonds	<u>110,605</u>
	\$889,395



Redeeming (выкуп) Bonds Before Maturity

A company may decide to retire its bonds before the maturity date to reduce interest cost and remove the debt from its balance sheet. A company should retire debt early only if it has sufficient cash resources.



Redeeming Bonds Before Maturity

When bonds are retired before maturity, it is necessary to:

- Eliminate the carrying value (the face value of the bonds less unamortized bond discount) if there is a discount at the redemption date.
- Record the cash paid, and
- Recognize the gain or loss on redemption.



Redeeming Bonds Before Maturity

Continuing with the discount example, assume that at the end of year 7, Rhody redeems the bonds at 102 (that is 2% more than face value - a premium for redeeming early). Recall that Rhody amortized the bonds using the straight-line method. The carrying value of the bonds at the redemption date is \$963,129 [\$877,106 + (7 x \$12,289 annual amortization of bond discount)]. What is the gain or loss on the redemption? What is the journal entry to record the redemption?



Redeeming Bonds Before Maturity

Rhody will recognize a loss of \$56,871 on the redemption of the bonds. The loss represents the difference between the cash paid of \$1,020,000 (\$1,000,000 x 1.02) to redeem the bonds and the carrying value (\$963,129) of the bonds. The loss on the redemption of the bond is reported as an extraordinary item on the income statement.



Redeeming Bonds Before Maturity

Journal Entry:

Bonds Payable	1,000,000	
Loss on Bond Redemption	56,871	
Bond Discount		36,871
Cash		1,020,000



Leases

Operating leases

- Lessee assumes no risk of ownership
- At end of lease term, right to use the property reverts to the owner



Leases

Capital leases

- Effectively an installment purchase
- Lessee assumes rights and risks of ownership
- Treated as purchases



Leases

Criteria for Capital Lease

- Lease transfers ownership of the property to lease
- Lease contains a bargain purchase price
- The lease term is 75% or more of useful life of property
- The present value of all lease payments equals or exceeds 90% of the fair market value of the property



Lease Example

On January 1, Rhody decides to lease a bulldozer for 5 years at \$10,000 per year. You can acquire it for a nominal amount at the end of the lease. The useful life of the bulldozer is 5 years. If Rhody wanted to borrow funds to purchase the bulldozer instead, the interest rate would be 10%. Is this a capital or operating lease? If so, what is the value of the bulldozer for accounting purposes?



Lease Example

Because Rhody can acquire the asset at the end of lease for a nominal amount, it is a capital lease. To determine the value of the asset for accounting purpose, we need to take the present value of the lease payments. Thus, the present value of an annuity at 10% for 5 years is \$37,908.
 $10,000 \times 3.79079 = 37,908$



Lease Example

For accounting purposes, Rhody will recognize the present value of the lease as an asset and as a liability. It will also depreciate the asset over its useful life. In addition, as Rhody makes its annual lease payment of \$10,000 it will allocate a portion of the lease payment as a reduction of its lease liability and recognize a portion of the lease payment as interest. In essence, this recognizes that the "lease" is really a financing transaction. The reduction of the lease liability is equal to the amount of the liability times the interest rate.



Lease Example

Journal Entry Jan. 1

Bulldozer	37,908	
Lease Liability		37,908

Journal Entry Dec. 31

Depreciation expense	7,582
Accumulated depreciation	7,582

(\$37,908/5 years = 7,582)



Lease Example

Journal Entry Dec. 31 - Year 1

Interest Expense	3,791*	
Lease Liability	6,209**	
Cash		10,000

*($\$37,908 \times 10\% = \$3,791$)

** Plug



Amortization of Lease

Year	PV-Lease	Payment	Interest	Lease
1	\$37,908	\$10,000	\$3,791	\$6,209
2	\$31,699	\$10,000	\$3,170	\$6,830
3	\$24,869	\$10,000	\$2,487	\$7,513
4	\$17,356	\$10,000	\$1,736	\$8,264
5	\$ 9,092*	\$10,000	\$ 909	\$9,091

Note: The \$1 difference (\$9,092 - \$9,091) is due to rounding



Non-Current Debt to Total Assets Ratio

Indicates the extent to which a company's long-term debt could be repaid by liquidating assets.

Long-term to Total Assets Ratio

Long-term Liabilities
Total Assets



Times Interest Earned Ratio

Provides an indication of company's ability to meet interest payments as they come due.

Times Interest Earned Ratio

Income Before Interest Expense & Income Tax
Interest Expense

