

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

& Dividends 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.

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

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

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

Convertible 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 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.

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.

Bonds are generally issued at either:

- & Above face value (premium)
- & Face value
- & Below face value (discount)

Market Value of Bonds

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

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

- 1 There are **two cash inflows** associated with bonds:
 - the amount received at maturity and
 - the amount received in coupon payments.
- 2 The longer the period of time until maturity, the less the present value of the cash inflow associated with the maturity.
- 3 The market interest rate is the rate investors demand for loaning funds to the corporation.

Market Value of Bonds

On Jan 1, 2004 Ebbers issues \$1,000 of 4-year, 10% coupon rate bonds. What does a buyer of the bond get?

Default assumption: Coupon payments made semiannually.

6/30/04	\$50	} Coupon payments
12/31/04	\$50	
6/30/05	\$50	
12/31/05	\$50	
6/30/06	\$50	
12/31/06	\$50	
6/30/07	\$50	
12/31/07	\$50	
12/31/07	\$1,000	} Face value

Present Values and Annuities - 1

Period	Factor					
1	$1 / 1.05^1$	=	0.9524	=	PV(\$1, 5.00%	, 1)
2	$1 / 1.05^2$	=	0.9070	=	PV(\$1, 5.00%	, 2)
3	$1 / 1.05^3$	=	0.8638	=	PV(\$1, 5.00%	, 3)
4	$1 / 1.05^4$	=	0.8227	=	PV(\$1, 5.00%	, 4)
5	$1 / 1.05^5$	=	0.7835	=	PV(\$1, 5.00%	, 5)
6	$1 / 1.05^6$	=	0.7462	=	PV(\$1, 5.00%	, 6)
7	$1 / 1.05^7$	=	0.7107	=	PV(\$1, 5.00%	, 7)
8	$1 / 1.05^8$	=	0.6768	=	PV(\$1, 5.00%	, 8)
			6.4632	=	ANN(\$1, 5.00%	, 8)

Bonds at par

Suppose the market interest rate is 10%. What will be market value of the bond?

As coupon rate equals the market rate then the market value of the bond equals \$1,000

Coupon	\$50	x	6.4632	b	=	\$323.16
Lump sum	\$1,000	x	0.6768	a	=	\$676.84
Total						\$1,000.00

a - Present value of a lump sum at the end of 8 periods at a discount rate of 5%; PV(\$1, 5.00%, 8)

b - Present value of an annuity (i.e. stream of payments) for 8 periods at a discount rate of 5%; ANN(\$1, 5.00%, 8)

Interest Expense – Issued at Face Value

Journal Entry:

Cash		1,000	
	Bonds Payable		1,000

Ebbers will pay coupon payment of \$50 and the journal entry to record this expense is:

Bond Interest Expense		50	
	Cash		50

Bond Discount

A bond discount occurs when the contractual rate (coupon rate) is less than the market value of the interest.

The present value of the bond $> = <$ than the face value.

The difference between the face value and market value is referred to as bond discount.

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

Present Values and Annuities - 2

Period	Factor					
1	$1 / 1.06^1$	=	0.9434	=	PV(\$1, 6.00%	, 1)
2	$1 / 1.06^2$	=	0.8900	=	PV(\$1, 6.00%	, 2)
3	$1 / 1.06^3$	=	0.8396	=	PV(\$1, 6.00%	, 3)
4	$1 / 1.06^4$	=	0.7921	=	PV(\$1, 6.00%	, 4)
5	$1 / 1.06^5$	=	0.7473	=	PV(\$1, 6.00%	, 5)
6	$1 / 1.06^6$	=	0.7050	=	PV(\$1, 6.00%	, 6)
7	$1 / 1.06^7$	=	0.6651	=	PV(\$1, 6.00%	, 7)
8	$1 / 1.06^8$	=	0.6274	=	PV(\$1, 6.00%	, 8)
	Sum		6.2098	=	ANN(\$1, 6.00%	, 8)

Bonds at discount

Suppose the market interest rate is 12%. What will be market value of the bond?

As coupon rate equals the market rate then the market value of the bond $> = <$ \$1,000

Coupon	\$50	x	6.2098	=	\$310.49
Lump sum	\$1,000	x	0.6274	=	\$627.41
Total					\$937.90

a - Present value of a lump sum at the end of 8 periods at a discount rate of 5%; PV(\$1, 6.00%, 8)

b - Present value of an annuity (i.e. stream of payments) for 8 periods at a discount rate of 5%; ANN(\$1, 6.00%, 8)

Carrying value – Issued at discount

Journal Entry:

Cash	937.90	
Discount on Bonds	62.10	
Bonds Payable		1,000.00

Liability or Debt or Carrying Value of Bonds
is Bonds Payable - Discount on Bonds = 937.90

Interest Expense – Discount

Ebbers will pay coupon payment of \$50.

The interest expense is computed on the carrying value and is calculated using the interest rate at issue date and equals
 $6\% \times 937.90 = 56.27$

Bond Interest Expense	56.27	
Cash		50.00
Discount on Bonds		6.27

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.

Amortization of Discount

	Coupon Payment	Interest Expense 6% of CV	Excess	Bond Discount	Carrying Value CV
1/1/04				62.10	937.90
6/30/04	50.00	56.27	6.27	55.82	944.18
12/31/04	50.00	56.65	6.65	49.17	950.83
6/30/05	50.00	57.05	7.05	42.12	957.88
12/31/05	50.00	57.47	7.47	34.65	965.35
6/30/06	50.00	57.92	7.92	26.73	973.27
12/31/06	50.00	58.40	8.40	18.33	981.67
6/30/07	50.00	58.90	8.90	9.43	990.57
12/31/07	50.00	59.43	9.43	0.00	1,000.00

Redeeming 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.

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 2, the market rate of interest goes down to 10%. Suppose the company redeems the bond.

The bond will sell in the market for
[Note that the coupon rate is 10%]
\$1,000

12/31/05			
Bonds Payable	1000.00		
Discount on Bonds		34.65	
Cash			1000.00
Loss on Bond Redemption		34.65	

Redeeming Bonds Before Maturity - 2

Where does the company have \$1,000. It has to borrow \$1,000 at 10% promising 10% coupon payments. The company will report a lower interest expense in the future

Interest Expense

Date	After	Before	Difference
6/30/06	50.00	57.92	7.92
12/31/06	50.00	58.40	8.40
6/30/07	50.00	58.90	8.90
12/31/07	50.00	59.43	9.43
		Total:	34.65

All bond redemption does here is to move profits from now to the future.

Redeeming Bonds Before Maturity - gains

Assume that at the end of year 2, the market rate of interest goes up to 14%.

The bond price will be $> = < 965.35$

Bonds Payable	1000.00	
Discount on Bonds		34.65
Cash		932.26
Gain on Bond Redemption		33.09

It has to borrow \$932.26 at 14% promising say 14% coupon payments. In the 5th period, the company will report interest expense of $7\% \times 932.26 = 65.26$ instead of 57.92

All bond redemption does here is to move profits from future to the now. **Earnings Management - bad**

GAAP: Extraordinary Gain

Leases

Operating leases

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

Capital leases: Effectively an installment purchase; so Treated as purchases

Criteria for Capital Lease - even if one

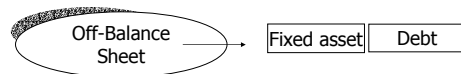
1. Lease transfers ownership of the property to lease
2. Lease contains a bargain purchase price
3. The lease term is 75% or more of useful life of property
4. The present value of all lease payments equals or exceeds 90% of the fair market value of the property

Why do firms Lease ?

Avoid showing debt on balance sheet

Assets		Operating Liabilities	
Fixed asset		Debt	
Other Fixed asset			Equity

Assets		Operating Liabilities	
		Debt	
Other Fixed asset			Equity



Capital Lease accounting

Balance sheet:
Asset and debt recognized

Income statement:
Depreciation and interest expenses – NO rental expense

How will ratios and picture that emerges from financial statements be affected by using operating lease accounting instead of capital lease accounting?

To compare companies, all leases should be capitalized.

Lease - Example

Annual lease payments	\$10,000
Years	4
Interest rate	10.00%
Present Value of Lease Payments	31,699
Tax Rate	40.00%
1- tax rate	60.00%

Capital Lease Accounting

Year	Lease payment A	Interest Expense = Rate x Total Obligation B	Reduction in Total Obligation C	Lease Obligation		
				Total Obligation D	Long term E	Short term F
0				31,699	24,869	6,830
1	10,000	3,170	6,830	24,869	17,355	7,513
2	10,000	2,487	7,513	17,355	9,091	8,264
3	10,000	1,736	8,264	9,091	0	9,091
4	10,000	909	9,091	0		
Total	40,000	8,301	31,699			

Capital Lease Accounting - Expense

Year	Expense = Depreciation 7,925 + Interest Expense H
1	11,095
2	10,412
3	9,660
4	8,834
Total	40,000

Lease Example

Journal Entry Jan. 1

Asset	31,699	
Lease Obligation – Short term		6,830
Lease Obligation – Long term		24,869

Journal Entry Dec. 31

Depreciation expense	7,925	
Accumulated depreciation		7,925

Interest Expense	3,170	
Lease Obligation – Short term	6,830	
Cash		10,000

Capital Lease Accounting – CFI and CFF

Year	CFO	CFI	CFF	CFO+CFI+CFF Total Cash Flow
1	(31,699)	31,699	0	(6,000)
2	830		(6,830)	(6,000)
3	1,513		(7,513)	(6,000)
4	2,264		(8,264)	(6,000)
5	3,091		(9,091)	(6,000)
Total	7,699	(31,699)	0	(24,000)

Operating Lease Accounting

	Rental expense	Tax Shield 40.00%	CFO
1	(10,000)	4,000	(6,000)
2	(10,000)	4,000	(6,000)
3	(10,000)	4,000	(6,000)
4	(10,000)	4,000	(6,000)
Total	(40,000)	16,000	(24,000)
Present value	(31,699)	12,679	(19,019)

Debt Ratios

Debt to Equity Ratio = Liabilities / Equity

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

Times Interest Earned Ratio

= Earnings Before Interest & Tax / Interest Expense

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