What is a long-term liability?

- Present obligation, payable by sacrifice of economic benefit in the future
- Settled >12 months (or operating cycle, whichever is longer)

Important likely characteristics:

- Interest
- Covenants or restrictions

Notes payable and Bonds payable:

- Why issue bonds?

Bond Indenture

- Contract representing a promise to pay:
  1. a sum of money at a designated maturity date, plus
  2. periodic interest at a specified rate.
  Generally a fixed rate (Stated, nominal, or coupon rate)
- Generally pay interest semi-annually

Types of Bonds

- Debenture bond
- No collateral security
- Secured bonds
- Backed by pledge of collateral (Mortgage)
- Term bonds
- Maturity in lump-sum
- Serial bonds?
- Matures in installments
Types of Bonds

Callable bonds
Issuer has right to retire bonds before maturity at a specified price.

Registered bonds
Record maintained of debt holders

Bearer bonds
Unregistered holder clips coupons to receive interest

Convertible bonds
Convertible to common stock at option of the investor

Deep discount bonds
Sold at a discount that provides the buyer's total interest payoff at maturity.

Revenue bonds
Interest paid from specified revenue sources

Income bonds
Pays no interest unless the issuing company is profitable.

BONDS- FAIR VALUE CONCEPT
The value the purchaser gets is what they pay, based on the interest rate in effect on the date the bond is purchased.

- This is why there are premiums and discounts:
  - If today's rate is 2.5% and I can go buy a bond that pays me 12%, would I pay the same for a bond that pays me 12% as I would for one that pays me 2%?
  - NO I would not, I would be willing to pay a "premium" for the 12% bond.
  - If I buy a bond today that pays interest at 5% and the market rate subsequently declines to 2%, would the fair value of the bond be impacted?
    - YES, I could sell it for more than I paid for it, I would be able to sell it for a premium.

Two Interest Amounts

What is the interest rate called that is written in the terms of the bond indenture (agreement)?

(Stated, Coupon, or Nominal rate)

What is the interest rate called that represents the rate actually earned by the bondholders?

(Market or Effective rate)
Two Interest Amounts

How do you calculate the amount of interest that is actually paid to the bondholder each period?

(Stated rate x Face Value of the bond)

How do you calculate the amount of interest that is actually recorded as interest expense by the issuer of the bonds?

(Market rate x Carrying Value of the bond)

Selling Price of Bond

1- Depends on Market Rate of interest
2- Computation of selling price:
   - PV of maturity value, plus
   - PV of interest payments, at what rate?
     - Market rate of interest
3- Semi-annual interest paying bonds:
   - Require doubling the periods
   - Halving the interest rate

Discount and Premium

Discount --
When the market rate is > the stated rate

Premium --
When the market rate is < the stated rate

Assume Stated Rate = 8%

<table>
<thead>
<tr>
<th>Market Interest</th>
<th>Bonds Sold At</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Assume Stated Rate = 8%

Market Interest | Bonds Sold At
---|---
6% |
| |
| |

Assume Stated Rate = 8%

Market Interest | Bonds Sold At
---|---
6% | Premium
| |
| |

Assume Stated Rate = 8%

Market Interest | Bonds Sold At
---|---
6% | Premium
| |
| |

Assume Stated Rate = 8%

Market Interest | Bonds Sold At
---|---
6% | Premium
| |
| |

10% | Discount
| |
| |

07:36
Assume Stated Rate = 8%

<table>
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<th>Market Interest</th>
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<tr>
<td>6%</td>
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<td>8%</td>
<td></td>
</tr>
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<td>10%</td>
<td>Discount</td>
</tr>
</tbody>
</table>

Illustration 14-3 (Bonds)

- Three (3) year bond
- Face Value = $100,000
- 8% coupon rate, 10% yield rate
- Interest is payable semi-annually on June 30, and Dec. 31- assume semi-annual compounding

Selling Price w/ 6% Mkt. Rate

PV of Principle:
$100,000 x .8375 = 83,748$

PV of Interest:
$4,000 x 5.417 = 21,669$

Selling price $105,417
Selling Price w/ 8% Mkt. Rate

<table>
<thead>
<tr>
<th>PV of Principle:</th>
<th>79,031</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100,000 x .7903 =</td>
<td></td>
</tr>
<tr>
<td>PV of Interest:</td>
<td>20,969</td>
</tr>
<tr>
<td>$4,000 x 5.242 =</td>
<td></td>
</tr>
<tr>
<td>Selling price</td>
<td>$100,000</td>
</tr>
</tbody>
</table>

Selling Price w/ 10% Mkt. Rate

<table>
<thead>
<tr>
<th>PV of Principle:</th>
<th>$74,622</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100,000 x .7462 =</td>
<td></td>
</tr>
<tr>
<td>PV of Interest:</td>
<td>20,303</td>
</tr>
<tr>
<td>$4,000 x 5.076 =</td>
<td></td>
</tr>
<tr>
<td>Selling price</td>
<td>$94,924</td>
</tr>
</tbody>
</table>

Selling Price Summary

<table>
<thead>
<tr>
<th>Market rate 6%</th>
<th>$105,417</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market rate 8%</td>
<td>100,000</td>
</tr>
<tr>
<td>Market rate 10%</td>
<td>94,924</td>
</tr>
</tbody>
</table>

SO, the entry to record the sale of each:

- 6% Bonds
  - DR. 105,417
  - CR. 100,000
  - Bond Payable 100,000
  - Bond Premium 5,417
- 8% Bonds
  - DR. 100,000
  - CR. 0
  - Bond Payable 100,000
- 10% Bonds
  - DR. 94,924
  - CR. 94,924
  - Bond Payable 100,000
  - Bond Discount 5,076

Premium/ Discount Amortization

The premium or discount must “go away” over the life of the bonds. Think about it, on the last day, in our example, we owe $100,000. The debits and credits work out nicely if the premium or discount is not there anymore. If it is, then whatcha gonna do?

We amortize the premium or discount over the life of the bonds, PREFERABLY using an “effective interest” method. (can use straight line if produces materially consistent results)
Effective Interest Method

Each period we record interest expense of the net value of the bonds using the fair value-rate.
In other words, we ignore the stated rate and face value and instead we record interest expense based on the adjusted bond amount (Bond payable net of premium or discount) and apply the market rate of interest. It’s really quite simple!

Discount and Premium

Bond interest expense is increased by amortization of a .......
Discount
and decreased by amortization of a .......
Premium

Illustration 14-3 (Bonds)
- Three year bond
- Face Value = $100,000
- 8% coupon rate, 10% yield rate
- Bonds issued on January 1, 2004
- Interest is payable semi-annually on July 1 and January 1.

WANNA SEE IT?

| Face Value | 100,000 |
| Stated Rate | 8% |
| FV Rate | 10% |
| Semi-annual payment | 4,000 |
| PV of 100,000 LS at 5%, 6 periods | 74,922 |
| PV annuity at 5%, 6 periods | 20,303 |
| Present | 94,225 |
| Discount | 5,775 |
| Payment Interest Amortiz. Balance |
| Face Val | 100,000 |
| OPENING | 94,225 |
| 1 | 4,000 | 4,746 | (746) | 95,981 |
| 2 | 4,000 | 4,754 | (754) | 96,737 |
| 3 | 4,000 | 4,823 | (823) | 97,510 |
| 4 | 4,000 | 4,864 | (864) | 98,346 |
| 5 | 4,000 | 4,907 | (907) | 99,148 |
| 6 | 4,000 | 4,952 | (952) | 100,000 |
| (5,775) |

Because we always recognize a little more interest than paid, we are amortizing the discount. AND the ending balance ends up the same as the face value upon maturity!
**Discount and Premium**

On the balance sheet, the face value is reported as a liability, with the discount being **Deducted** and the premium being **Added** to the Face Value of the Bond.

IN OTHER WORDS: THE BOND APPEARS ON THE FACE OF THE BALANCE SHEET, NET OF THE PREMIUM OR DISCOUNT.

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**Extinguishment of Debt**

From 1975-2003, all early extinguishments of debt that resulted in a gain or loss were treated as an extraordinary item under SFAS No. 4. In 2003, the FASB issued FASB No. 145, Recession of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections. Regarding early extinguishment of long-term debt:

- Gain or loss is reflected as an extraordinary item if it is both Unusual and Infrequent (now subject to same criteria as other ex-items)

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**Long-Term Notes Payable**

APB Opinion No. 21 insures proper accounting where the form does not reflect the economic substance. Following categories are considered:

- Zero Interest-Bearing Notes Issued for Cash
- Interest-Bearing Notes with an Effective Rate Different than the Stated Rate

Imputing an interest rate: The rate that would have resulted if an independent borrower and lender had negotiated a similar transaction.

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**Exercise**

On January 1, 2002, Ellen Greene Company makes the following acquisitions:

1. Purchases land having a fair market value of $200,000 by issuing a 5-year non-interest-bearing promissory note in the face amount of $337,012.
2. Purchases equipment by issuing a 6%, 8-year promissory note having a maturity value of $250,000 (interest payable annually).

The Company has to pay 11% interest for funds from its bank. Instructions:

(a) Record the two journal entries that should be recorded by Ellen Greene Company for the two purchases on January 1, 2002.
(b) Record the interest at the end of the first year on both notes using the effective interest method.
Exercise

How was the $337,012 calculated?
Fair Value of Land $200,000
Future value factor x 1.68506
Future value $337,012

Exercise

Journal entry --
Land 200,000
Discount on notes payable 137,012
Notes payable 337,012
Interest --
Interest expense 22,000
Discount on notes payable 22,000

This will amortize the discount to zero over life of loan

Exercise

What value should be recorded for equipment?
Face value $250,000
Present value factor x .43393
108,482
Interest paid $ 15,000
Present value factor x 5.14612
77,192
Total present value $185,674

Exercise

Journal entry --
Equipment 185,674
Discount on notes payable 64,326
Notes payable 250,000
Interest --
Interest expense 20,424
Discount on notes payable 5,424
Cash 15,000
OTHER CONSIDERATIONS

Cost of issuing bonds

- Debit to a deferred charge account (asset)
- Amortize over life of bonds to “match” (generally a straight-line method is applied)

Same is true of all debt- if you pay a commission to a broker or points to a lender, capitalize as an intangible asset and amortize over the life of the loan.