15.511 Corporate Accounting
Recitation 6

July 7, 2004
Agenda

- Marketable Securities (lecture notes)
- Bonds
- Leases
- Deferred tax
Accounting for Bonds
- Terminology

- Par value
- Proceeds from issuance
- Coupon rate
- Market rate of interest at issuance
- Current market interest rate
- Book value of bond
- Coupon payment
- Interest expense
- Zero-coupon bond
# Accounting for Bonds - Par/Discount/Premium

<table>
<thead>
<tr>
<th>Bond sells</th>
<th>Proceeds from issuance</th>
<th>Market rate at issuance</th>
<th>Coupon payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Par</td>
<td>=Par value</td>
<td>=Coupon rate</td>
<td>=Interest expense</td>
</tr>
<tr>
<td>At a Discount</td>
<td>&lt;Par value</td>
<td>&gt;Coupon rate</td>
<td>&lt;Interest expense</td>
</tr>
<tr>
<td>At a Premium</td>
<td>&gt;Par value</td>
<td>&lt;Coupon rate</td>
<td>&gt;Interest expense</td>
</tr>
</tbody>
</table>
Accounting for Bonds
- Entries

- At issuance:
  - At par: Dr. Cash (proceeds) Cr. Bond Payable (principal)
  - At a discount: Dr. Cash Dr. Discount Cr. Bond Payable
  - At a premium: Dr. Cash Cr. Bond Payable Cr. Premium

- During the period when bond is outstanding
  - At par: Dr. Interest expense Cr. Cash
  - At a discount: Dr. Interest expense Cr. Discount Cr. Cash
  - At a premium: Dr. Interest expense Dr. Premium Cr. Cash

- Payback of principal
  - Dr. Bond Payable Cr. Cash
Accounting for Bonds - Calculations

- Use market interest rate at issuance \( (r) \) to discount and calculate the interest expense. Coupon rate is ONLY used to calculate the coupon payment.

- Proceeds from issuance = coupon payments * PVOA \( (r,n) \) + principal * PV\( (r,n) \)

- Premium/Discount = proceeds from issuance – par value

- Interest Expense = book value of bond (net bond payable) * \( r \) = (par value +/- Premium/Discount balance) * \( r \)

- Premium accrual = coupon payment – interest expense

- Discount accrual = interest expense – coupon payment
Accounting for Leases

- Terminology
  - Operating Lease: Lessee rents the property. Lessee charges rent expenses as they become due in each period.
  - Capital Lease: Lessee essentially owns the property. Lessee records the leased asset in B/S together with the corresponding lease obligation. During the term of the lease, lessee charges depreciation expenses and interest expenses.

- Criteria for lease capitalization: a lease is considered a capital lease if ANY of the following conditions apply.
  - Essential transfer of ownership at the end of lease term: no payment for leased asset, or Bargain purchase option (BPO) (payment below market value after the lease term).
  - Minimum present value of lease payments (including BPO, if any) at lease 90% of asset’s market value.
  - Lease term is 75% of asset’s remaining useful life.
Accounting for Leases
- Entries for capital leases

- Accounting is similar to acquiring an asset with 100% debt financing.
- Any payment in advance is recorded as an immediate reduction in the lease liability.
- During the lease term, interest expense and depreciation expense are recognized.
- When the lease terminates, the Lease Obligation is zero and Leased Property – Acc. Depre. = 0.

- Lease inception: Dr. Leased Property Cr. Lease Obligation
  - Leased Property = PV of Lease payments

- Each lease period:
  - Dr. Interest Expense Dr. Lease Obligation Cr. Cash
  - Dr. Depreciation Expense Cr. Accumulated Depreciation
  - Interest Expense = interest rate * Beginning balance of Lease Obligation
Deferred Tax

- Permanent differences: Differences between pre-tax GAAP income and pre-tax taxable income that will never be reversed, e.g. Government Fines, Tax-Exempt Revenue.

- Temporary timing differences: Differences between pretax GAAP income and pre-tax taxable income that will be reversed at some point in the future. Temporary differences create Deferred Tax Liabilities and Deferred Tax Assets.

- Deferred Tax Liabilities (DTL)
  - Taxable Income < Pre-tax GAAP income, Tax Payable < Tax Expense
  - Taxpayer pays lower taxes today. A liability must be recorded to account for the added taxes to be paid at some point in the future.

- Deferred Tax Assets (DTA)
  - Taxable Income > Pre-tax GAAP income, Tax Payable > Tax Expense
  - Taxpayer pays higher taxes today. An asset must be recorded to account for the value of lower taxes to be paid at some point in the future.
Deferred Tax – effective tax rate vs. statutory tax rate

- (GAAP pre-tax income – income from tax-exempt investments – foreign income taxed at rate lower than 35% - inter-corporate dividends received) * statutory rate = Tax expense
- Tax expense / pre-tax GAAP income = effective tax rate
- Taxable income (including not only the adjustments above, but also different accounting treatments such as depre. Method) * statutory rate = Tax payable
- Conclusion: DTL/DTA does not contain permanent differences. However, the difference between effective tax rate and statutory tax rate is partially caused by permanent differences.
## Marketable Securities

<table>
<thead>
<tr>
<th>Securities Type</th>
<th>Sale of Securities</th>
<th>Price change – not sold yet</th>
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</thead>
<tbody>
<tr>
<td><strong>Trading securities</strong></td>
<td>I/S – Realized gains/losses</td>
<td>I/S – Unrealized holding gains/losses</td>
</tr>
<tr>
<td><strong>Available-for-sales</strong></td>
<td>I/S – Realized gains/losses</td>
<td>B/S (Other Equity) – Unrealized holding gains/losses</td>
</tr>
</tbody>
</table>
Marketable Securities - example

- Harvard, Ltd. And MIT Unlimited made the same investment – 200 shares of YOU Corporation at a cost of $12/share on Nov.12,2002. Harvard accounts for this investment as a trading security and MIT accounts for this investment as AFS. On Dec.31,2002 the market value YOU Corp. at $45/share. Both Harvard and MIT elected to keep the shares at this point of time and the tax rate is 30%. On Feb.14,2003 both Harvard and MIT decided to sell theirs shares in YOU, then trading at $50/share. Record the effects on the BSE of these transactions.
Marketable Securities - example

Harvard, Ltd. – Trading securities

<table>
<thead>
<tr>
<th>Date</th>
<th>Cash</th>
<th>Trading securities</th>
<th>Trading securities Adj.</th>
<th>= DTL</th>
<th>Other Equity</th>
<th>Retained Earnings</th>
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<tbody>
<tr>
<td>11/12/02</td>
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<tr>
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## Marketable Securities - example

### MIT – AFS

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