Long-term Debt

Objectives:

• Extend our understanding of valuation methods beyond simple present value calculations.

•Understand the terminology of long-term debt

Par value

Discount vs. Premium

Mortgages

• Practice bookkeeping for debt issuance, interest accruals, periodic payments, and debt retirement.

• Understand how long-term debt affects the financial statements over time.

Bonds – Terminology

Par value - stated or face value of the bond; the amount due at maturity
Market value - the value assigned to the bond by investors

Three interest rates are relevant to bond accounting:

1) **Coupon rate** - the rate used to determine the periodic cash payments (if any)

2) **(Current) Market interest rate** - the rate used to determine the current market value of the bond. The market rate is based upon market conditions and the risk characteristics of the borrower

3) **Effective interest rate** - the ***market rate at issuance***, used to determine the interest expense and the book value of the liability

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Bonds – An Introduction

If at issuance the market rate = coupon rate then market value = par value. The bond is said to sell at **par** (also, face value). When a bond sells at par its coupon payment is equal to its interest expense.

While we will primarily focus on bonds sold at par, there are two other possibilities:

If at issuance the market rate is *greater than* the coupon rate then the market value is *less than* par value. The difference between market value and par value is called the **discount** on the bond and its coupon payment is less than its interest expense. An extreme case of this is the zero-coupon bond.

If at issuance the market rate is *less than* the coupon rate then the market value is greater than the par value. The difference between market value and par value is called the **premium** on the bond and its coupon payment is more than its interest expense.

Bonds

Consider a loan with proceeds of $10,000 initiated on 1/1/99. The market interest rate is 6% and final payment is to be made at the end of the third year (12/31/01). What annual payments are required under the following three alternatives?

I. Yearly payments of interest at the end of each year and repayment of principal at the end of the third year (typical bond terms).

II. Three equal payments at the end of each year (mortgage / new car loan terms).

III. A single payment of principal and interest at the end of year 3 (Zero-Coupon bond).

Bonds – Alternative Payment Streams

	I coupon	II mortgage	III zero
End of Year 1			
End of Year 2			
End of Year 3			
Undiscounted sum of payments			

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Bonds – Financial Statement Presentation

Balance sheet

L-T debt due in next 12 months in current liabilities
remainder of L-T debt in non current liabilities.

Income Statement

interest expense

Indirect SCF

Operations – add interest accruals not yet paid, amortization of discount
Investing - purchase / sale of debt held as an investment
Financing – proceeds from issuance, payments for retirement
+ supplemental disclosure of cash paid for interest

Notes

details on all of the above

Summary

- Long-term liabilities such as bonds are reported at PV
- Discount rate for PV calculation
  = market rate at time of issuance (= effective int. rate)
- Debt characteristics vary widely – we looked at 3 types.
- Interest payments ≠ interest expense if coupon rate ≠ effective interest rate
- Market value may substantially differ from reported book value of debt if market rate changes significantly after issuance.