



Introduction to Fixed Income Markets

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Fixed Income Markets

- Fixed Income Security is another name of the Bond
- Amount and Timing of cash flows are know in advance – hence Fixed Income
- Long-term debt products – Bonds
- Short-term debt products – MM

Bond Instruments

- US Treasury Government Bonds
- Municipal Bonds
- Corporate Bonds

Money Market Instruments

- US Treasury Bills (T-bills)
- US Gov Agency Notes
- Municipal Notes
- CDs
- Commercial Paper
- Federal Funds
- Repurchase Agreements (repos) etc

Bond Terminology

- Example – \$10,000 bond Coupon Rate: 5%, maturity 5 years
- Principal/Face Value/Par Value/Nominal - \$10,000
 - Value of the loan
 - Amount returned at the end of the loan period
- Maturity – 5 Years
 - Agreed duration of time during in which the borrower pays the interest and returns the principle at the end of that time
- Bond Interest Rate or Coupon – 5%
 - Interest rate at which interest amounts are calculated
 - Usually per annum

Bond Terminology cont..

- **Coupon payments**
 - Each interest payment made to the lender
 - Eg: \$10,000 bond at 5% Coupon
 - $\$10000 * .05 = \500 p/a
- **Coupon Date** – dates on which the interest amount paid to the lender
 - Usually payments are made every 6 months
- **Issue Price** – price that lender pays to buy the bond
 - Some times it is lower than the face value
- **Cash Flows**
 - Payments from Issuer (coupon pmts + principal)
- **Indenture / covenant** – legal agreement that explains all terms and conditions
 - The obligations of issuer
 - Payments of interest and principal
 - Maintain collateral in good condition
 - Legal bonding between lender and borrower
 - Payments terms and dates
 - Protects the lender

Bond Market Structure

Market Players

- **Issuers / Borrowers**
 - Corporations/Govs/Agencies who borrow money
- **Investors**
 - Individuals and the firms who lend the money
- **Broker**
 - Broker who sells and buys bonds on behalf of his clients
- **Dealer**
 - Who works as an agent in issuing/selling bonds of Issuer
- **Broker/Dealer**
 - Who works as Broker as well as Dealer
 - Most of the Financial Firms
- **Rating Agencies**

Bond Ratings

- There are three major independent rating agencies
 - Moody's
 - S&P
 - Fitch

Bond Ratings

Credit Worth	Moody's	S&P	Fitch
High credit worth	Aaa → Baa3	AAA → BBB-	AAA → BBB-
Lower credit worth	Ba1 → B3	BB+ B	B+ → B-
Default or Risky	Caa → C	CCC+ → D	CCC+ → D

Bond Valuation/Pricing

Bond Vs Interest Rate

- Market Interest Rate is one of the key factor that decides market price of the bond
- If market interest goes up Bond price goes down
- If market interest goes down Bond price goes up
- **TRULY INVERSE RELATIONSHIP**
(negative relationship)

Bond Price

- **Premium Price**
 - If the bond is being sold at more than the par value then it is selling at **PREMIUM** price
- **Discount Price**
 - If the bond is being sold at less than the par value then it is selling at **DISCOUNT** price

Bond Quote

- Bonds are sold in units of \$1,000
- Bonds are quoted as percentage of par value
 - Quote - 110 means 110% of its par value
- Eg: \$10,000 bond quoted at 110, means its price is \$11,000 ($\$10,000 \times 1.10$)
 - Since the price is more than the par value it is being sold at PREMIUM
- Eg: \$10,000 bond quoted at 98, means its price is \$9,800 ($\$10,000 \times .98$)
 - Since the price is less than the par value it is being sold at DISCOUNT
- Fractions are quoted in 1/8 increments

Bond Quote - Example

Simple Quote

Symbol	Rate	Maturity	Bid	Ask	Ask/yld
AED 05	7 $\frac{3}{4}$	Feb 10	105:12	105:14	5.505
LTP ZR10	5 $\frac{3}{4}$	Feb 9	102:12	102:14	5.205

Bond Price

- Bond Prices are represented using PRICE POINTS
- Each Price Point is equal to \$10
- Bond prices are used for convenience purpose
- One unit (\$1000) is made with 100 points
- Eg: bond price moves are represented in points
- Price fractions are represented in 1/8 fractions

$$1/8 = \$1.25$$

$$1/4 = \$2.50$$

$$3/8 = \$3.75$$

$$1/2 = \$5.00$$

$$5/8 = \$6.25$$

$$3/4 = \$7.50$$

$$7/8 = \$8.75$$

$$1.0 = \$10.00$$

Bond Valuation - Yield

- Bonds are valued using their YIELD
- Yield is the interest that the bond would return
- Three types of YIELD
 - Coupon Yield / Nominal Yield
 - Current Yield
 - Yield To Maturity – Used in Trading
- Yield To Maturity (YTM)
 - Yield that is calculated using purchase price of the bond and the principal repayment at the maturity

Treasury Securities

Treasuries

- Key Bond Instrument in the World
- Issued by US Treasury
- Principal and interest is guaranteed by the US Government
- Considered as the safest securities
- Traded in all world markets
- Capital gains/losses are subject to income taxes

Treasury Market

- Primary Treasury Market
 - Primary Dealers
 - TreasuryDirect
- Primary Dealer
 - Sell initial issues
- TreasuryDirect
 - Direct auction by US Treasury
 - Individuals and Financial institutions can participate
 - <http://www.treasurydirect.gov>
- Secondary Treasury Market
 - Dealers and Brokers

Treasury Types

- Treasury Security Types
 - Treasury Notes (2-10yrs)
 - Treasury Bills (less than year)
 - Treasury Bonds (more than 10yrs)
 - TIPS (Treasury Inflation Protected Securities)
- Quoted using percentage of par and 32 seconds of point (fractions)
- Eg: 96:13 means $96 \frac{13}{32}$
- Also specified as: 96-13 or 96'13

Zero Coupon Bonds

- Bonds that do not pay periodic coupon
- Sold at discount price
- Difference between the purchase price and the face value is an investment return to the investor
- Short term zero coupon bonds are T-bills
- STRIP is another type of zero coupon bond
 - Separate Trading Registered Interest and Principal
 - Created by private entities but usually represent Treasury instruments
 - Principal and Coupon are separated and sold
 - Sold by only broker/dealers



Thank You
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