Lecture 2: Bond Prices and Interest Rates, Yield Curve

Bond Pricing – Key Points

1. Relationship between interest rates and bond prices.

2. Different types of bonds
   
   a. Discount Bond (T-Bills)
   b. Amortizing (fixed payment) Bond – car payment, mortgage.
   c. Coupon Bond – receive periodic coupon payment and face value at maturity.

3. Price of a bond is the present value of stream of payments promised by bond.

4. Two key relationships between interest rates and bond prices:
   
   a. Bond prices and interest rates move inversely.
   b. The elasticity of bond prices with respect to interest rates is increasing in maturity.
Yield Curve or Term Structure – Key Points

1. Definition – The relationship between the yield (interest rate) and maturity on bonds identical in all other respects.

2. Three key facts of yield curve behavior
   a. Interest rates move together – yield curve shifts up or down.
   b. When short rates are “low”, yield curve slopes upward. When short rates are “high”, yield curve has negative slope -- inverted.
   c. Typically, yield curve has positive slope.

3. Dominant theory of the term structure – **Expectations Hypothesis**.
   Theory: The current long rate is the average of current and expected short rates.

   Implication: The current *forward rate* is an *unbiased estimator* of the future spot rate.

4. Expectations Hypothesis is consistent with facts (a) and (b) but not (c). Need to introduce risk premium – but no satisfactory models of risk.