The Risk and Term Structure of Interest Rates

Money and Banking

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Beyond the role of interest rates

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- But what is "i" made of and why it may differ from one asset to another?
- Moreover, what causes "i" to fluctuate over time?
Bonds with the same maturity have different interest rates due to:

- Default risk: probability that the issuer of the bond is unable or unwilling to make interest payments or pay off the face value. U.S. Treasury bonds are considered default free (government can raise taxes).
- Risk premium: the spread between the interest rates on bonds with default risk and the interest rates on (same maturity) Treasury bonds.
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  - Tax considerations

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A bond with default risk will always have a positive risk premium and the latter increases whenever the former increases.
### Risk and interest rates: private solution to information asymmetries

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<th>S&amp;P</th>
<th>Fitch</th>
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Term structure of interest rates: stylized facts

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2. When short-term interest rates are low, yield curves are more likely to have an upward slope; when short-term rates are high, yield curves are more likely to slope downward and be inverted.

3. Yield curves almost always slope upward.
Term structure of interest rates: What may explain this?

- **Expectations:**

  The interest rate on a long-term bond will equal an average of the short-term interest rates that people expect to occur over the life of the long-term bond.

  Buyers of bonds do not prefer bonds of one maturity over another; they will not hold any quantity of a bond if its expected return is less than that of another bond with a different maturity.

  Bond holders consider bonds with different maturities to be perfect substitutes.

  **Example**

  Let the current rate on one-year bond be 6%. You expect the interest rate on a one-year bond to be 8% next year. Then the expected return for buying two one-year bonds averages \((6\% + 8\%)/2 = 7\%\). The interest rate on a two-year bond must be 7% for you to be willing to purchase it.
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