Econ 308: Financial Market Illustrations
Some Stock-Market Basics

(Substantially modified notes from F. Mishkin, *Money, Banking, and Financial Institutions*, 2004, Chapter 7)

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Topics:

• What distinguishes fundamental from behavioral models of stock market pricing?

• Form and interpretation of the one-period common stock valuation model and its generalized version

• Are “price bubbles” ruled out by the one-period stock valuation model? The generalized model?
Alternative Views of Stock Market Pricing

1. Fundamental Finance View: Stock prices are largely determined by the true financial conditions of firms, as reflected in their price/earnings ratios, capitalization, R&D prospects, etc.

2. Behavioral Finance View: Stock prices exhibit “bubbles” because they are strongly affected by market psychology: e.g.,

   • “irrational exuberance” or pessimism;
   • “beauty contest” guesses about the most attractive stocks to buy based on what other people are buying or selling.
Fundamental View of Stock Valuation

• **Basic Principle of Finance (Fundamental View)**
  For any security S,
  
  \[ \text{Current Market Value of } S = \text{Present Value of its Future Cash Flow} \]

• **One-Period Common Stock Valuation Model**
  \[ P_1^e = \text{Stock market price at time 1 expected by investor at time 0} \]
  \[ k_e = \text{Discount rate ("Required return on investments in equity")} \]
  \[ P_0 = \text{Actual stock market price at time 0} \]
  \[ P_0 = \frac{\text{Div}^e_1}{(1 + k_e)} + \frac{P_1^e}{(1 + k_e)} \]  (1)

\[ \text{Div}^e_1 = \text{Dividend at time 1 expected by investor at time 0} \]
Equation (1) reflects view that the current market price $P_0$ is an *equilibrium* market price:

1. **Right side of (1)** is what investors are willing to pay for the stock, given their current desires and beliefs.

2. If right side of (1) were **greater** than the current market price, investors would increase their demand for the stock and thus bid up this market price.

3. If right side of (1) were **less than** current market price, investors would reduce their demand for the stock, thus causing this market price to fall.
Generalized Stock Valuation Model: Fundamental View

- Let $D_t^e = \text{Expected dividend during holding period } t$

$$P_0 = \frac{D_1^e}{(1 + k_e)^1} + \frac{D_2^e}{(1 + k_e)^2} + \ldots + \frac{D_n^e}{(1 + k_e)^n} + \frac{P_n}{(1 + k_e)^n} \quad (2)$$

- If the last term of equation (2) $\to 0$ as $n \to \infty$ (no “price bubble”), equation 2 can be written as

$$P_0 = \sum_{t=1}^{\infty} \frac{D_t^e}{(1 + k_e)^t} \quad (3)$$

- If the last term in (2) does NOT $\to 0$ as $n \to \infty$, the stock price is said to exhibit a “price bubble.”