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{Div_1^e}{(1 + k_e)} + \frac{P_1^e}{(1 + k_e)} \quad (1)
  
  \text{Div}_1^e = \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 $D_t^e$ = 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.”