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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Econ 308: Financial Market Illustrations
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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?

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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.

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Fundamental View of Stock Valuation

- **Basic Principle of Finance (Fundamental View)**

  For any security S,

  Current Market Value of S = Present Value of its Future Cash Flow

- **One-Period Common Stock Valuation Model**

  P_1^e = Stock market price at time 1 expected by investor at time 0

  k_e = Discount rate ("*Required return on investments in equity*")

  P_0 = Actual stock market price at time 0

$$P_0 = \frac{Div_1^e}{(1+k_e)} + \frac{P_1^e}{(1+k_e)} \qquad (1)$$

Div_1^e = Dividend at time 1 expected by investor at time 0

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Fundamental View of Stock Valuation…Continued

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.

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Generalized Stock Valuation Model: Fundamental View

- Let D_t^e = Expected dividend during holding period t

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

- **If the last term of equation (2) → 0 as n → ∞ (no "price bubble")**, equation 2 can be written as

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

- If the last term in (2) does NOT → 0 as n → ∞, the stock price is said to exhibit a **"price bubble."**

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