

# Value

## Market Value

*Price*: amount for which can buy/sell

Objective, Public

## (Intrinsic/Economic/Fair/True) Value

*Worth*: most willing to pay/least willing to accept

Subjective, Private

## Compare Price and Value

$$\text{Value} \left\{ \begin{array}{l} > \\ = \\ < \end{array} \right\} \text{Price} \Rightarrow \left\{ \begin{array}{l} \text{Buy} \\ \text{Hold} \\ \text{Sell} \end{array} \right\} \Rightarrow \text{Price} \left\{ \begin{array}{l} \text{rises} \\ \text{falls} \end{array} \right.$$

Though not identical, Price and Value will be equal in equilibrium.

## Market Efficiency

Since people can acquire and act on information, prices reflect values (and information).

# General Valuation Model

## Concept

Value of *any* asset—real or financial—is PV of expected future cash flows associated with it, discounted at investor's required rate of return.

## Dimensions of Value

Value depends on characteristics of future cash flows:

- Size
- Timing
- Risk

## Process

1. Estimate Future Cash Flows ( $CF_t$ )
2. Determine Required Rate of Return ( $k$ )
3. Discount

$$\begin{aligned} \text{Value} = PV &= \frac{CF_1}{1+k} + \frac{CF_2}{(1+k)^2} + \dots + \frac{CF_n}{(1+k)^n} \\ &= \sum_{t=1}^n \frac{CF_t}{(1+k)^t} \end{aligned}$$

# Discount Rate

## Required Rate of Return

Opportunity Cost = Time Value of Money + Risk Premium

## Determinants

- Risk of Cash Flows

$$k_d = k_{RF} + DRP + LP + MRP$$

$$k_s = k_{RF} + \beta_s(k_M - k_{RF})$$

- General Level of Interest Rates

$$k_{RF} = k^* + IRP$$

$k^*$  reflects Production Opportunities, Time Preference