Systematic and Unsystematic Risk

What are the sources of Risk?

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Announcements & Exp. Returns

- Actual returns (R) *will be*:

  $\bar{R}$ + U (expected + unexpected)

- Investors form "expectations" about future
  - Expected information is already <u>discounted</u> by the market
    - i.e., the **value** of the information is already incorporated into the stock prices
    - Attempts to exploit *Public* information (make large returns) will not be successful

Surprises

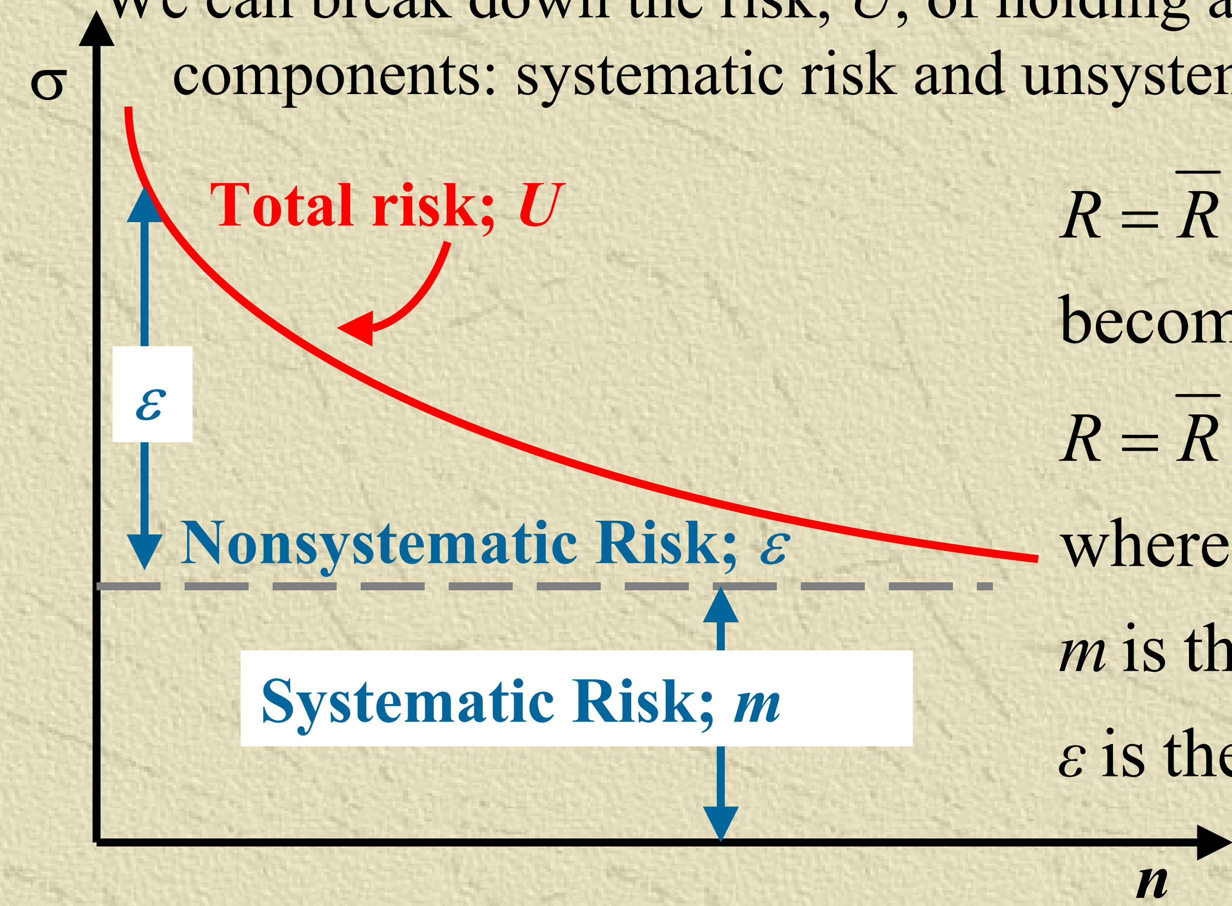
- *Unexpected Returns:* caused by surprises
  - Surprises can be GOOD or BAD!
- *Total return* (R) = E(R) + U
- Announcements are news only to the extent they contain "surprise" element
  - "No burglary in BG on Sept. 28" --no ***news***
  - "No burglary in **New York** on Sept. 28"-- **major news!**

Systematic vs. Unsys. Surprises

- Systematic risk:
  - surprises that affect "large" no. of assets
    - Usually in the same "direction"
    - I/Rs, Unemployment, Elections, GDP,……
- Unsystematic risk:
  - surprises that affect "small" no. of assets
- Some "firm-specific" news turn into "economy-wide" events!!!
- $R = \bar{R} + U = \bar{R} + m + \varepsilon$

Risk: Systematic &Unsystematic

We can break down the risk, U, of holding a stock into two components: systematic risk and unsystematic risk:



$$R = \overline{R} + U$$

becomes

$$R = \overline{R} + m + \varepsilon$$

where

m is the systematic risk

ε is the unsystematic risk