Standing Assumptions.

- Everyone has an infinite line of credit.
  - Most of the time we do not focus on credit risk.

- Single prevailing interest rate:
  - same for lending and borrowing
  - same for everyone
  - in M339D: deterministic, i.e.,
    - non-random

In Interest Theory:

- usually: \( \hat{i} \) ... effective interest rate

\[ i^m \] ... nominal COMPOUNDED \( m \)-thly

\( \delta \) ... the force of interest
  - *in life contingencies*

\( r \) .... continuously compounded, risk-free interest rate
• Money is arbitrarily subdivisible:
  \[ \frac{17}{11}, \quad e^{-0.05} \]

• Shares of stock
  
  ![Diagram of shares](image)
  
  Allow for shares to be arbitrarily subdivisible.
  \[ \frac{2}{7} \text{ of a share of stock}, \quad e^{-0.02} \]

• Reasons for investing in shares.
  
  Compensation for shareholders from the company's proceeds:
  
  ![DIVIDENDS](image)

  No dividends. Yes, dividends!

  [Convention] If no dividends are mentioned, assume non-dividend-paying asset.
- Stocks are tradeable $\Rightarrow$ stock exchanges

- **Different**

- $\text{Bid} < \text{Ask}$

- The difference is called the **bid-ask spread**

- See Lecture note #2.

- A problem in #4 on this afterwards; assume no bid-ask spread.

- **Brokers.** Charge commissions/fees per transaction.

- **Proportional.**

- **Fixed.**

Afterwards: Assume NO TRANSACTION COSTS!!!