Standing Assumptions.

01/19/2018.

- Everyone has an <u>infinite</u> line of credit.
  - ⇒ <u>Most</u> of the time we do <u>not</u> focus on credit risk.
- $\boxed{\text{Single}}$ <u>prevailing</u> interest rate:
  - → <u>same</u> for <u>lending</u> and <u>borrowing</u>
  - → <u>same</u> for <u>everyone</u>
  - → in M339D: deterministic, i.e., $\boxed{\text{non-random}}$

In <u>Interest Theory</u>:

- <u>usually</u>: i ... <u>effective</u> interest rate

↓

$i^{(m)}$ ... nominal COMPOUNDED m-thly

↓

δ ... the force of interest
* in life contingencies *

↕

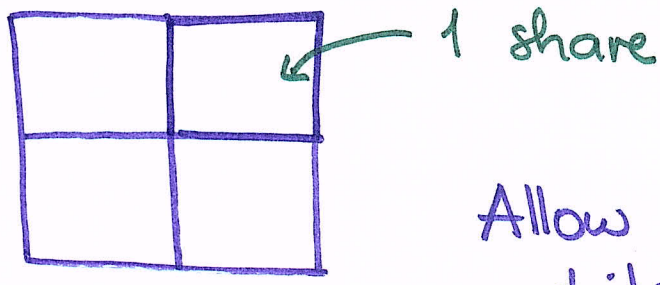
r ..... continuously compounded, risk-free interest rate

- <u>Money</u> is arbitrarily subdivideable:

  e.g., £ $\frac{17}{11}$;

  - \$ $e^{-0.05}$

- <u>Shares of stock</u>



Allow for shares to be arbitrarily subdivisible.

e.g., $\frac{2}{7}$ of a share of stock;

$e^{-0.02}$ —"—

- <u>Reasons</u> for investing in shares.

↓

Compensation for shareholders from the company's proceeds:

$\boxed{\text{DIVIDENDS}}$

↙ No dividends.

↘ Yes, dividends!

↙ Discrete.

↘ Continuous.

$\boxed{\text{Convention.}}$ If no dividends are mentioned, <u>assume</u> non-dividend-paying asset.

• Stocks are tradeable ⇒ stock exchanges

$\boxed{\text{Market Makers (MM)}}$

$\boxed{\text{Different}}$ ↓ Bid < Ask

- **Bid** prices: what the MM is willing to pay;
- **Ask** prices: what the MM wants to receive.

the difference is called the

$\boxed{\text{bid-ask spread}}$

↓

See Lecture note #2.
A problem in HW#1 on this

↓ afterwards, assume **no** bid-ask spread!

$\boxed{\text{Brokers.}}$ Charge commissions/fees per transaction.

↓

- Proportional.
- Fixed.

Afterwards: Assume NO TRANSACTION COSTS!!!