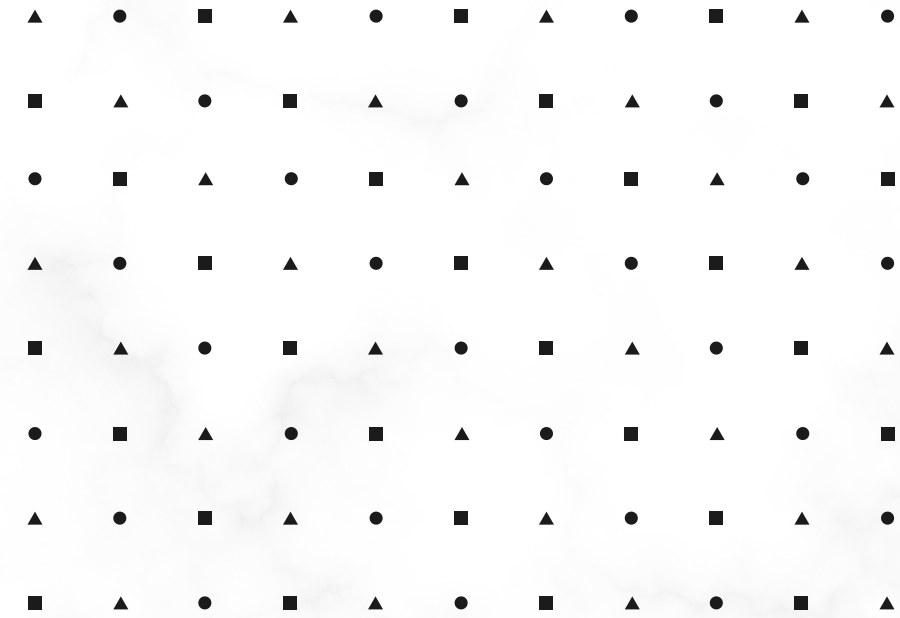


# **understanding economics ii**

# **corporations**







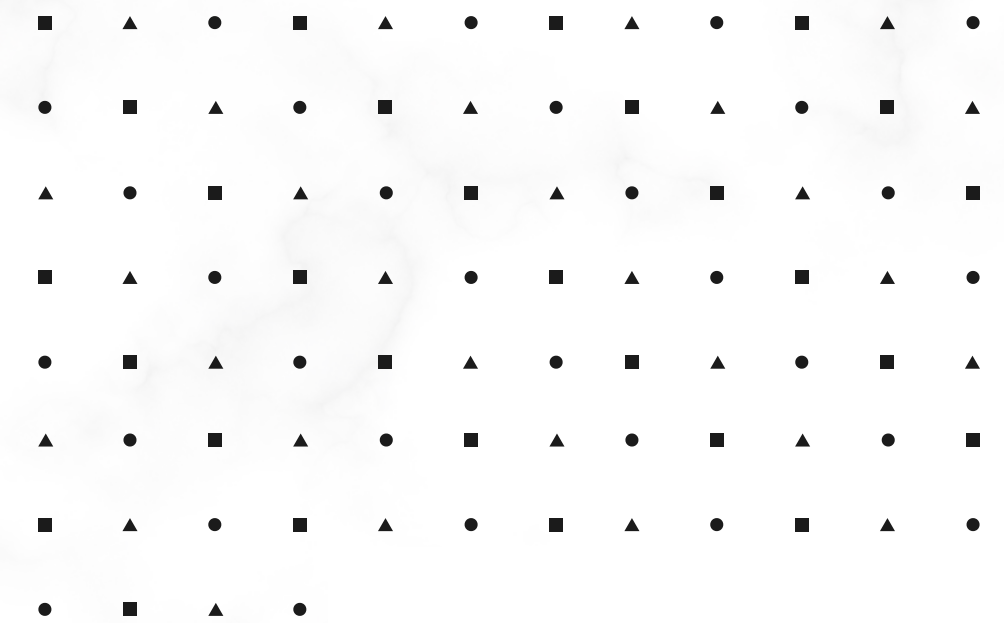
## general advice

- nuanced actor analysis – a corporation
  - does not make decisions as if it was one individual actor
  - is not always just 'profit incentivised'
- always link to the impact on the consumers' lives



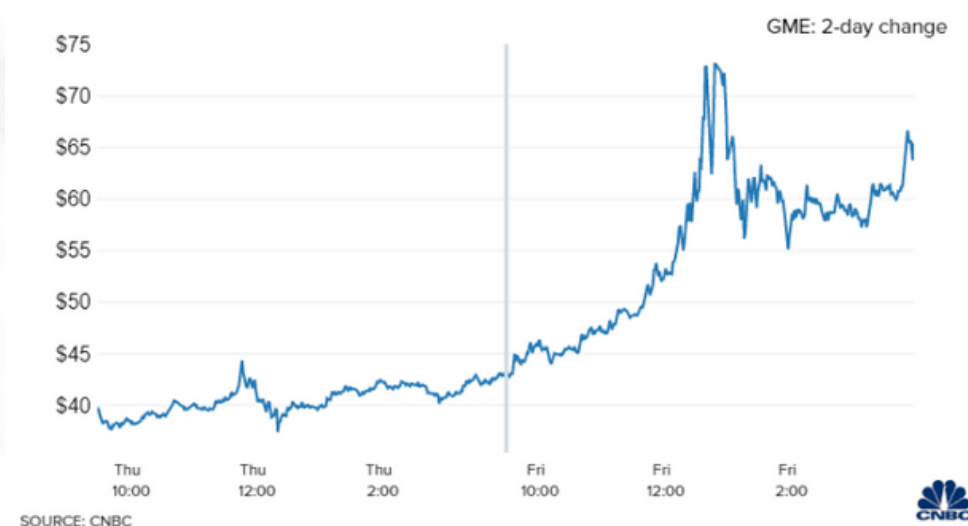
# how companies gather capital

- sources of investment
  - owner capital
  - private investors
  - profit
  - debt (loans, bonds)
    - size of the company affects bond yield
  - stocks
- public vs. non-public companies
  - a public company is a company that has sold all or a portion of itself to the public via an initial public offering (IPO)
  - a private company is owned by the company's founders, management, or a group of private investors





GameStop explodes



## stocks

- why do people buy stocks?
  - dividends (hedge funds, individuals looking for a stable investment portfolio)
  - control (other companies, wealthy people)
  - speculations (quantitative trading firms, individual traders with their apps)
- what affects their decisions?
  - confidence in the general economy
  - confidence in the company
  - trading trends (useful to analyse bubbles)
- the value of a stock **does not equal** the value of the company
  - what is short selling?
  - what is a short squeeze?
    - gamestop short squeeze



# initial public offering

- advantages of an IPO

- money money money

- capital for expansion
    - existing business structure
    - innovation (R&D)
    - diversification

- aligning material interests with profit

- bonuses in shares for high administrative positions
  - minimum shareholding requirements
    - \$7.5 million McDonald's CEO

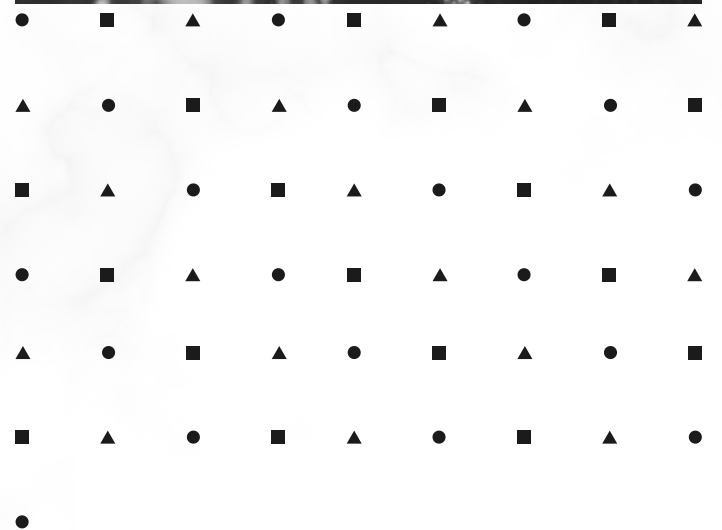
- disadvantages of an IPO

- loss of control

- shareholders have voting rights
  - hostile takeovers

- transparency

- quarterly reporting requirements etc.
    - a quarterly report is a financial statement detailing a company's balance, income and cash flows over the previous financial quarter
  - scrutiny
    - investors want to make profit → choose not to invest or to short you



# corporate decision making structures



- corporate hierarchies & degrees of separation
  - board of directors
    - care about: shareholder profit
  - chief officers (CEO, CTO, CFO)
    - care about
      - profit (personally / don't wanna get fired)
      - good working life
      - legacy
  - various forms of management
    - care about
      - money
      - working conditions
      - corporate advancement (want to be able to claim credit for innovation)
  - normal employees
    - care about
      - money
      - working conditions
- shareholders
- consumers
  - various concerns → voting with their wallets (creation of market niches that companies try to capture)



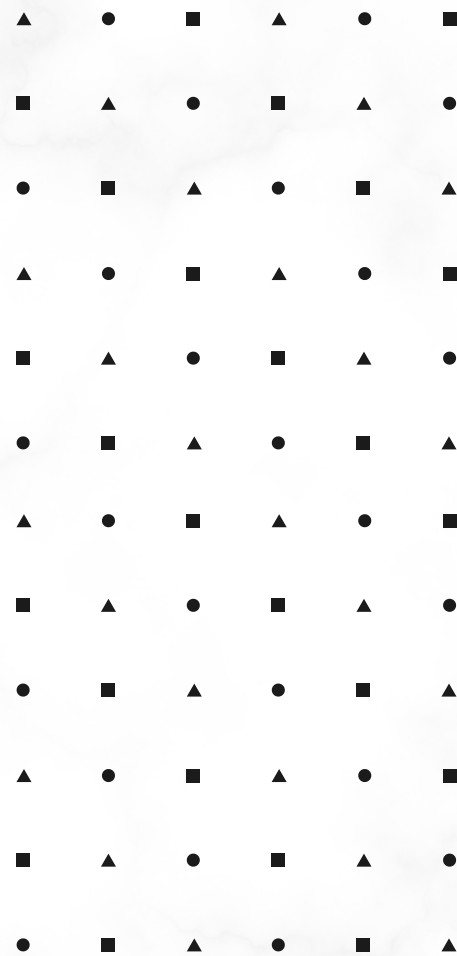


## lobbying

- direct lobbying
- indirect lobbying (economic importance)

## competition

- why is competition good?
  - translate to consumer good
- price gouging
- cross-subsidisation
  - Amazon makes losses on delivery, Costco makes a loss on a bunch of products at the back of the shop
- monopolisation
  - does not have to be an actual monopoly - effective competition
  - once they're a monopoly you often can't break them up → need for pre-emptive regulation



## research, development and expansion

- **patents**
  - necessary for development incentives but can make certain goods inaccessible
- **risk**
  - confidence & stable policy
  - amounts of capital and eating risk (e.g. Amazon can do lots of research)
  - derivatives as a method of hedging risk in asset prices
    - e.g. European call option

```
#include <cmath> // mathematical library
#include <vector>
#include "fin_recipes.h" // define the black scholes price

double option_price_european_call_dividends( const double& S,
                                              const double& X,
                                              const double& r,
                                              const double& sigma,
                                              const double& time_to_maturity,
                                              const vector<double>& dividend_times,
                                              const vector<double>& dividend_amounts) {

    double adjusted_S = S;
    for (int i=0; i<dividend_times.size(); i++) {
        if (dividend_times[i] <= time_to_maturity) {
            adjusted_S -= dividend_amounts[i] * exp(-r*dividend_times[i]);
        }
    };
    return option_price_call_black_scholes(adjusted_S, X, r, sigma, time_to_maturity);
};
```

Code 8.2: European option price, dividend paying stock



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