

# Unit 6

## The Firm:

### Owners, Managers, and Employees

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# Introduction

# Introduction

How does the firm interacts internally and externally?

- Firms are legal entity, yet still are **composed by human**
  - internal: Owner(s) v.s. Managers
  - external: Employees (labor market), consumer (goods market)
- Internal conflict: asymmetric information (e.g. Akerlof (1970))
- External conflict: hidden action (Principal-Agent Problem)
- As before, wage is determined by  $MRS = MRT$
- Further reading: [Unit 6](#)

# Internal Structure of the Firm

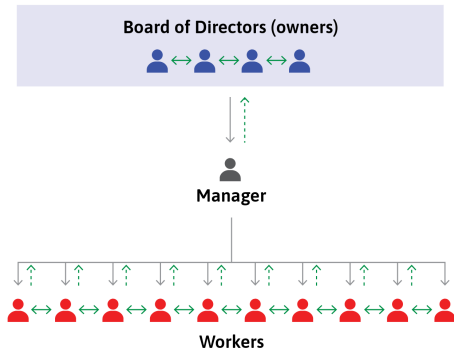
# Firm's Internal Structure

## Definition

Firm is a business organization which (1) hires ppl, (2) buy inputs to produce good/services, and (3) set prices  $\geq$  cost.

Black arrow downward:

- Owners: set long-term goal
- Managers: implement owners' goal by assigning tasks
- Workers: doing tasks



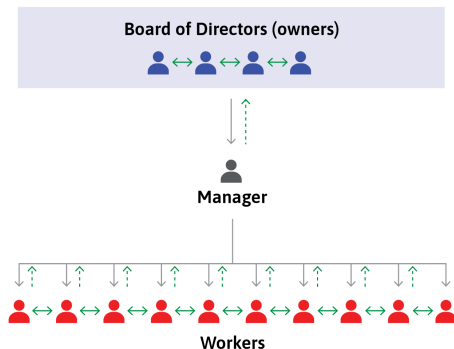
# Firm's Internal Structure

## Definition

Firm is a business organization which (1) hires ppl, (2) buy inputs to produce good/services, and (3) set prices  $\geq$  cost.

Green arrow upward:

- Owners: Receive profit as a result of management
- Managers: payment not directly related to effort  $\Rightarrow$  other's \$, riskier investment / lowering effort
- Workers: salary not increasing with effort



# Align the Interests

- Contracts are **incomplete**: outcome depends on **future/unknown** events, and hard to **measure** effort
- Incomplete contracts are inevitable, since modern job are mostly **not able to measure output** and **works as a team**
- Ways to alleviate incomplete contract:
  - ① pay with company shares: company profit ↑, share price ↑
  - ② piece rate pay: \$5 to assembly one toy (low-end job)
  - ③ monitoring

## Labor Discipline Model



# Why do workers work hard?

Workers work hard while firms' cannot directly measure effort because

- ① work ethic
- ② feelings of responsibility
- ③ reciprocate a feeling of gratitude for good working conditions
- ④ benefits for measurable output
- ⑤ promotions
- ⑥ fear of being fired

... Rational thinking sometimes means negative thinking 😊

# Fear of being Fired

- **Rent** in Economics: payment to the owner greater than the costs
- If workers being unemployed, they get unemployment benefits  $\Rightarrow$  **reservation wage**
- **Employment rent**: benefit from employment — disutility from work — reservation wage, includes
  - lost income when searching
  - cost to start a new job, e.g. relocation
  - Loss of non-wage benefits
  - Social costs (scarring effects, lost of company connections/skill)
- **Larger employment rent (higher wage)**  $\Rightarrow$  larger cost of job loss  $\Rightarrow$  workers work hard to reduce chance of getting fired

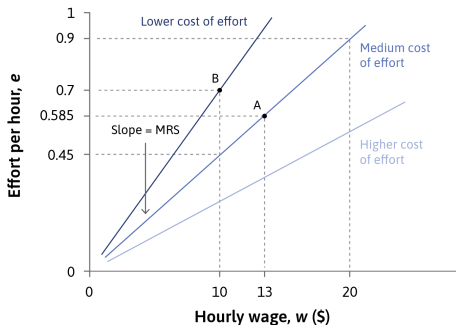
# Employment Game

- ① Employer: choose maximum wage to keep worker work hard enough
  - payoff:  $\text{output} - \text{wage}$
- ② Worker: choose minimum effort to keep him/herself from firing
  - payoff: employment rent
- ③ Workers are the **supply side** in labor market: trade off are **MRT**
- ④ Employers are the **demand side** in labor market: trade off are **MRS**
- ⑤ **Best response curve:**
  - for workers: optimal amount of effort workers will exert for each wage offered
  - for employers: optimal level of wage employers will offer for each targeted level of effort.

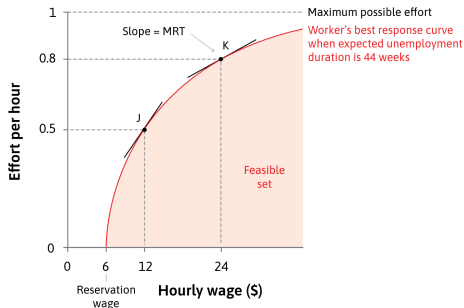
# Best response curves

Employers: **assume revenue doesn't change**, firms minimize cost to max profit

⇒ find a **isocost** line that minimize wage spending

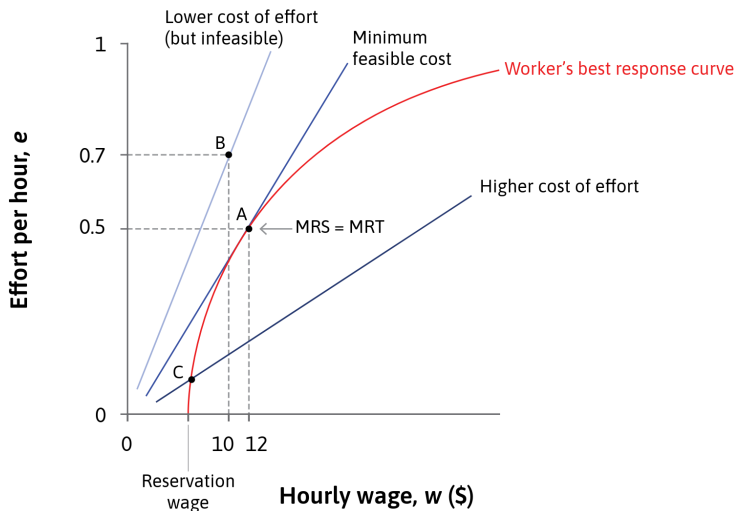


Workers: Feasible frontier for wage & effort



# Determining Wages

Equilibrium is at  $MRS = MRT$ , efficiency wage = 12 > reservation wage



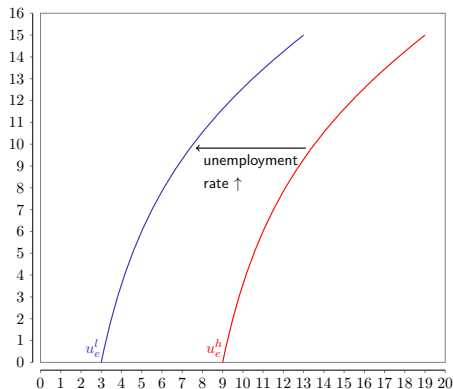
# Involuntary Unemployment

## Definition

**Involuntary unemployment** is being out of work, but preferring to have a job at the wages/working conditions as other workers.

- Must have involuntary unemployment in the labor discipline model!
  - $\therefore$  ensure employment rent is high enough for workers to put in effort.
- Foreshadowing: How is unemployment rate  $\uparrow$  affects the best response curve?

Worker's Best Response Curve with different unemployment rate



# Introduction for Principal-Agent Models

# Incomplete Contracts in General

- Incomplete contracts do not only occur in employment relationships.
- Incomplete contracts arise when:
  - information is not verifiable
  - the relationship covers periods of time
  - there is uncertainty
  - there are difficulties with measurement
  - judiciary is absent
  - preferences for omitting some information



# Principal-Agent models

- Principal-agent models capture interactions under incomplete contracts
  - e.g. the firm is the principal and the worker is the agent
- Agent takes action that is **hidden** from the principal, which is why the principal cannot verify it.
  - there is a conflict of interest between the principal and the agent
  - over some action that may be taken by the agent
  - and this action cannot be subjected to a complete contract.
- The information about the action may be either asymmetric or unverifiable.

# Appendix

# References I

Akerlof, George A. (1970) "The Market for "Lemons": Quality Uncertainty and the Market Mechanism," *The Quarterly Journal of Economics*, 84 (3), 488, 10.2307/1879431.