

ECON 4921: Lecture 3

Jon Fiva, 2009

Roadmap

1. Introduction
2. Institutions and Economic Performance
- 3. The Firm**
4. Organized Interest and Ownership
5. Complementarity of Institutions
6. Institutions and Commitment
7. Agency problems: Voters- Politicians-Bureaucrats
8. Fiscal Federalism
9. System Competition

Coase 1937: The Nature of the Firm

- Why do not all economic transactions take place through market exchange?
- Why do we need firms?
 - "What has to be explained is why one integrating force (the entrepreneur) should be substituted for another integrating force (the price mechanism)." (p.398)
- Generally: impossible to conceive all possible states of the world, and even if we could, prohibitively costly to write complete contracts.
 - incomplete employment contracts

Coase 1937: The Nature of the Firm

- Structure of the firm addresses the incentive problems arising from incomplete contracts.
 - Introduce authority relationship between employer and employee
 - Some aspects within authority of employer
- Compared to market: yields lower cost through hierarchical command.
 - Number of contracts reduced: series of contracts substituted with one.
 - General term contract, details decided upon later.

Putting-out system vs. capitalist factory production

- 1. Putting out system (workshop)**
2. Complete contracts
3. Authority relation
4. Contingent renewal

The Putting out system

- aka workshop system
- A means of subcontracting work
 - Highly decentralized
 - Putter-out (P-O): Employer, works as coordinator
 - Individual home workers (high skilled)
- Historically: in use up till 19th century
 - E.g. textile, small arms, lock making
- P-O supplies hirelings with materials
- Price of finished product decided in advance
- Workers choose work speed
- No monitoring

General setup

- Workers with utility fn. $U = U(w, e)$
 - w : wage
 - e : effort

$$U_w > 0, U_e < 0, U_{ww} \leq 0, U_{ee} \leq 0 \text{ and } U_{we} \geq 0$$
$$U^0 = U(0, 0)$$

General setup

- Factory production in production unit

$$x = F(L, e)$$

L: Employment per production unit ('firm')

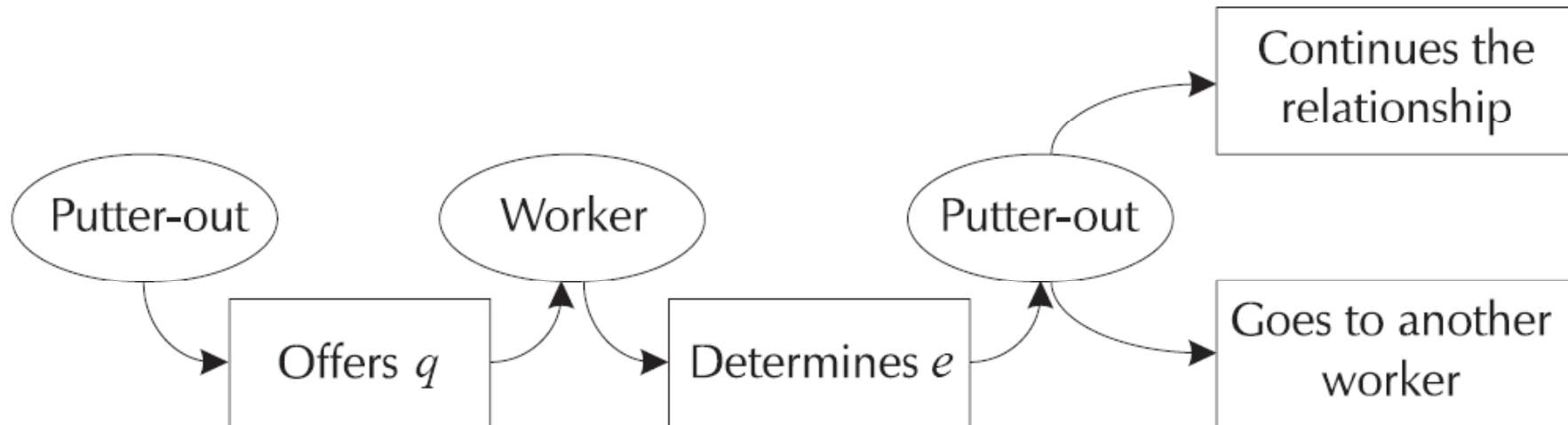
$$F_L > 0, F_e > 0, F_{LL} < 0, F_{ee} < 0 \text{ and } F_{Le} > 0$$

- Home production (in putting out-system):

$$x = f(e) \quad \text{where} \quad f'(\cdot) > 0 \quad \text{and} \quad f''(\cdot) < 0$$

- Case with team gains: $F(L, e)/L > f(e)$

Putting-out system



Decision making sequence:

- 1) P-O offers q (price)
- 2) Worker determines e (effort)
- 3) P-O continues relationship or goes to another worker (search cost, $b > 0$)

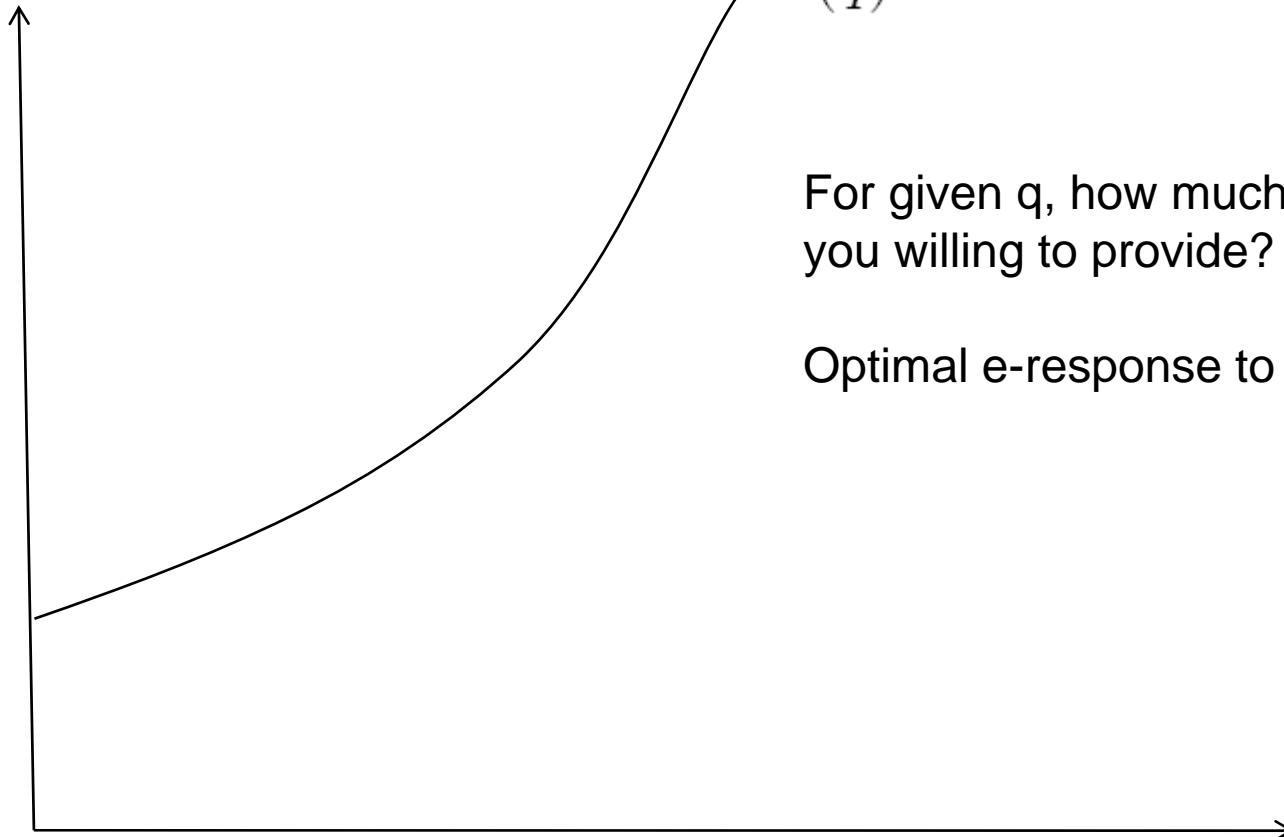
- P-O sells product for a given price =1
- Pay each worker: $w = qf(e)$
- P-O surplus per worker: $s = (1 - q)f(e)$
- Home worker chooses e to max $U(qf(e), e)$

→FOC: $qf'(e) = -U_e/U_w$

Gives optimal effort response to incr. price:

$e(q)$ Assume $SE > IE \rightarrow e'(q) > 0$.

q , price per unit sold



$e(q)$

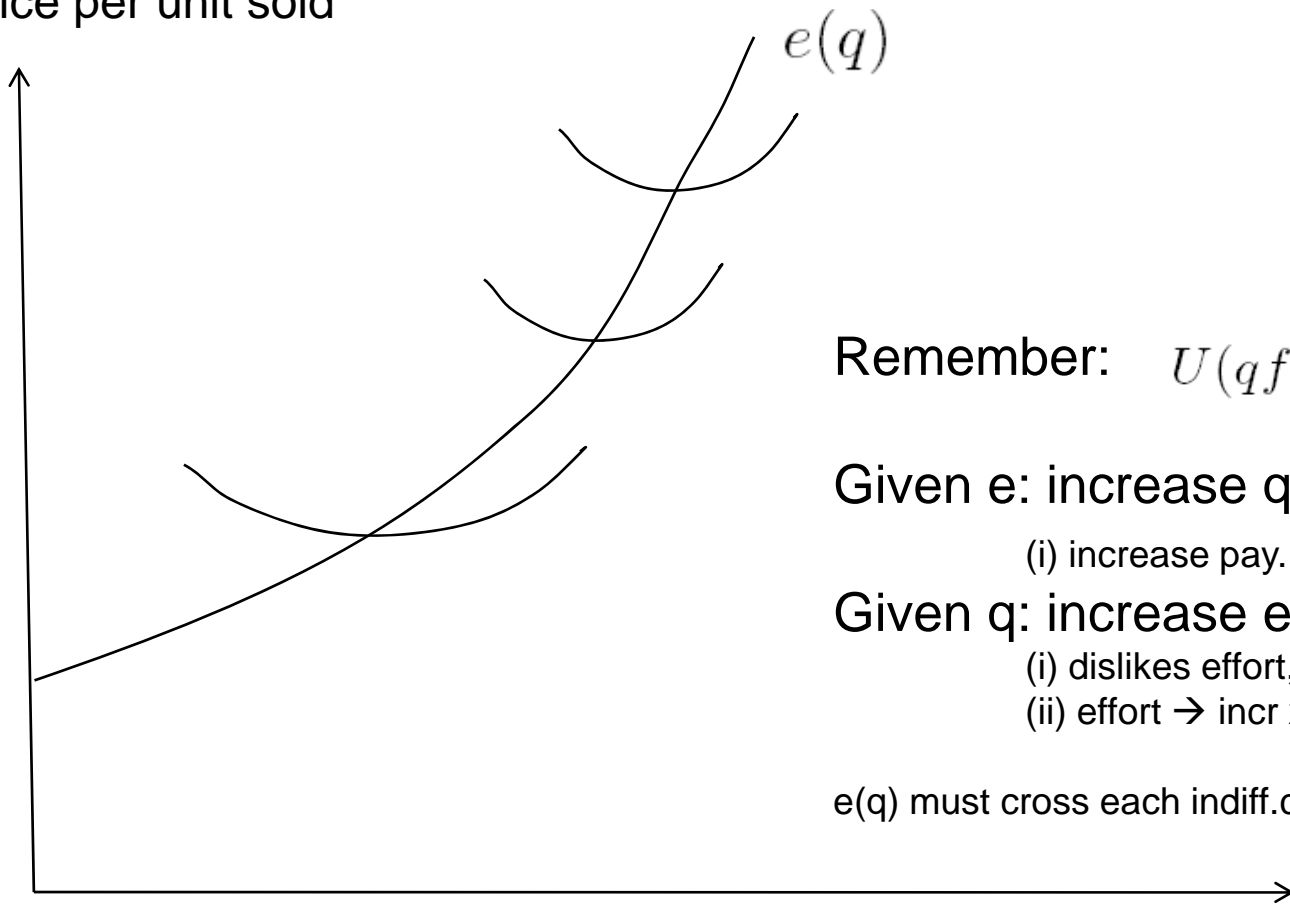
For given q , how much effort are you willing to provide?

Optimal e-response to q .

e

Adding indifference curves

q, price per unit sold



Remember: $U(qf(e), e)$

Given e: increase q:

(i) increase pay.

Given q: increase e:

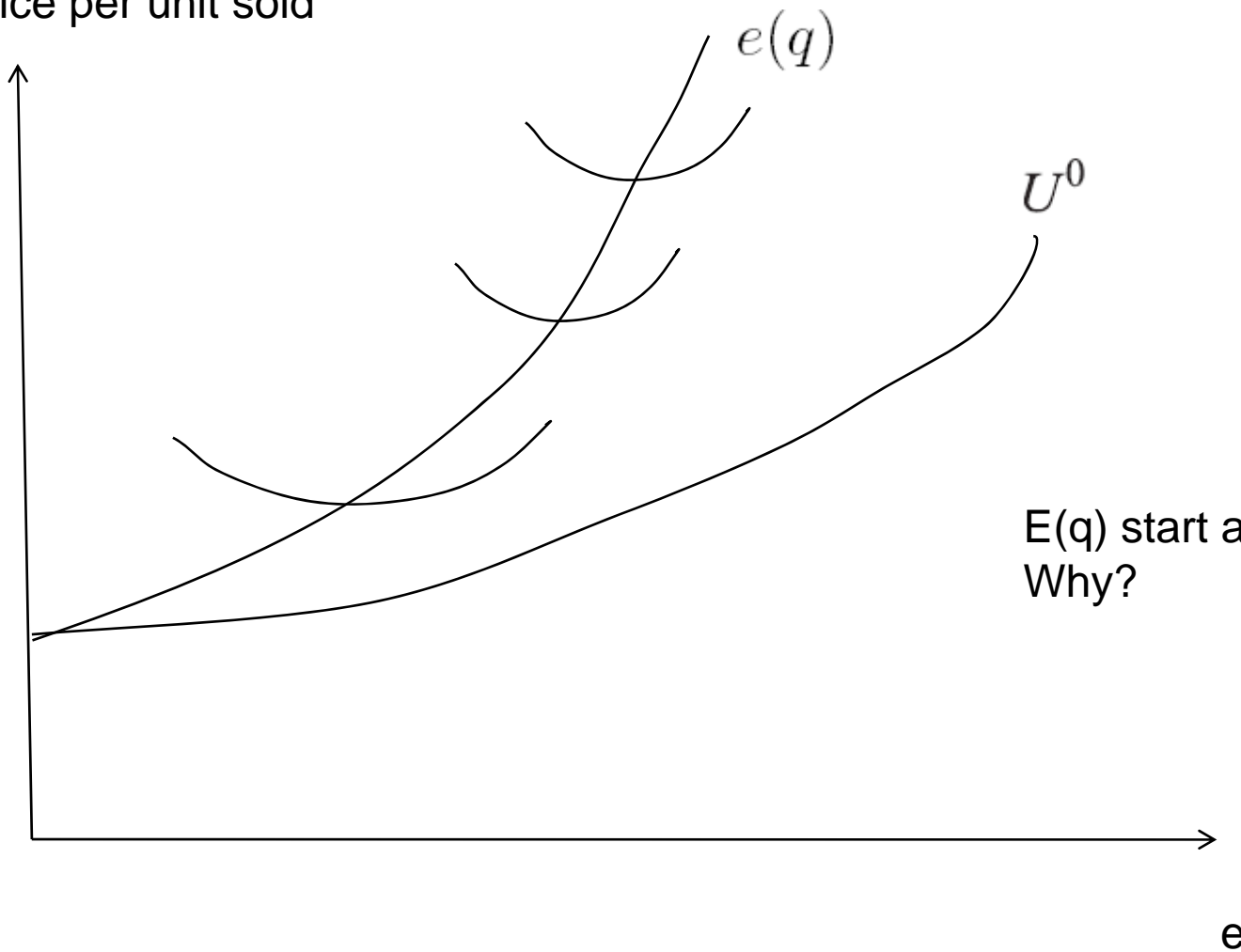
(i) dislikes effort,

(ii) effort \rightarrow incr x \rightarrow increase pay.

$e(q)$ must cross each indiff.curve at bottom. Why?

e

q, price per unit sold

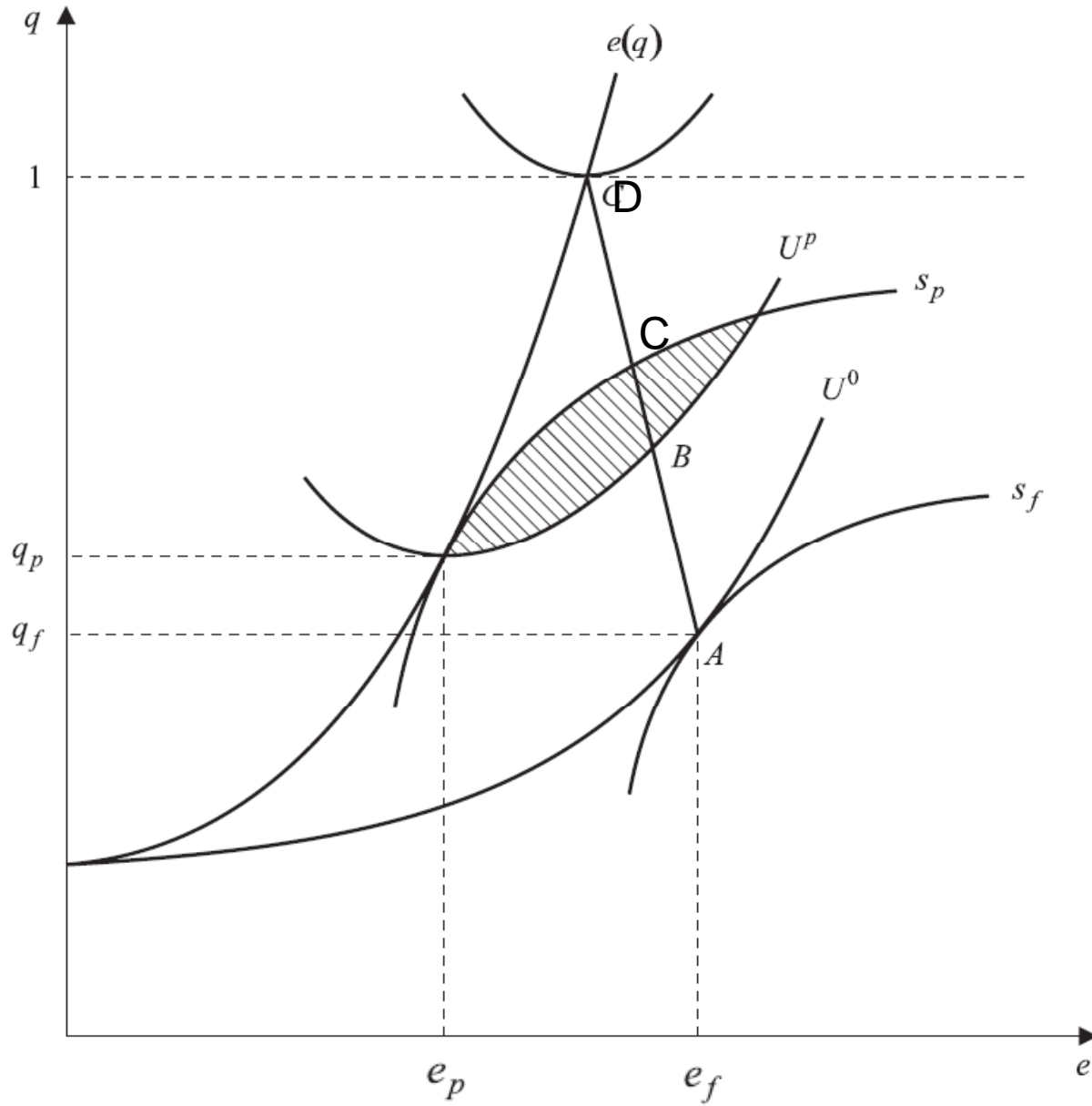


$E(q)$ start at same point as U^0
Why?

- P-O maximizes $s = (1 - q)f(e)$ given that $e = e(q)$
→ FOC: $(1 - q)f'(e(q)) = f(e(q))/e'(q)$

Equilibrium: (q_p, e_p)

- Tangency between isoprofit curve (s_p) and effort response curve of worker ($e(q)$).

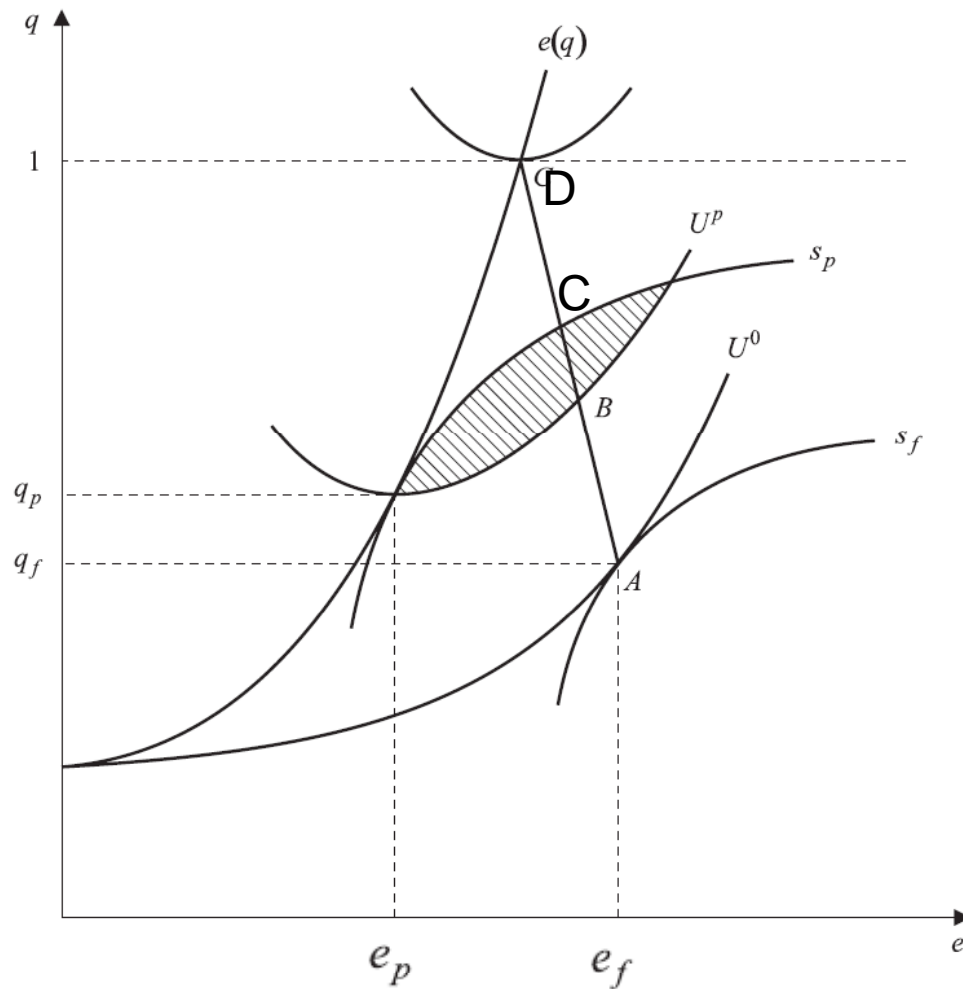


Why must equil. be characterized by tangency between isoprofit and $e(q)$?

$U_p > U^0$

- Workers better off employed by P-O than as unemployed. Why?
 - Let s^* be average surplus per worker
 - P-O strategy: $s = \max[s_p, s^* - b]$
- All workers are identical: $s^* = s_p$
 - P-O cannot credibly commit to quit established relationship: $s = s_p$. New hirelings are no better than current hirelings.
 - Cannot squeeze to U^0 .
 - To some extent locked in with hireling.

Equil. Is not pareto-optimal



- Both would prefer to move into hatched area.
- Why isn't this combination of e, q reached?