

ECON 4921: Lecture 5

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

Cooperatives

- A cooperative is a firm where:
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Cooperatives

- A cooperative is a firm where:
 - workers own the means of production
 - ... and have full control over all economic decisions
- Conventional firms:
 - a) Suppliers of capital and labor are distinct individuals
 - b) Capitalists hold residual claimancy and right of control.
- Worker cooperatives (coops):
 - a) member-owners supply both labor and capital
 - b) ... and hold residual claimancy and rights of control.

Examples

- Mondragon Corporation in Spain are the biggest group of cooperatives in the world.
 - Account for 4 percent of local GDP in the Basque country.
 - Interests in various sectors: supermarkets, finance, white goods and car parts.
- Norway
 - Coops are rare. One example: Kantega
- US
 - More common
 - Craig and Pencavel study plywood firms in Washington

Moene and Wallerstein (1993)

- How does the economic impacts of unions differ from that of coops?

Assumptions

- a) Unions and coops maximize income of members
- b) ... are internally egalitarian
- c) ... and do not have any impact on productivity (other than through changes in capital intensity)
- d) Industry with large number of (possibly heterogenous) firms produce homogenous product
- e) Free entry
- f) Industry is small relative to aggregate economy

Unions vs. coops

- 1. Competitive capitalist equilibrium**
2. Competitive equilibrium with worker ownership
3. Competitive equilibrium with collective bargaining

Competitive capitalist equilibrium

- Two types of firms, differ only in their relative efficiency:

$$\begin{aligned}\pi_1 &= p\beta_1 F(L_1) - w_1 L_1 - C \\ \pi_2 &= p\beta_2 F(L_2) - w_2 L_2 - C\end{aligned}\quad \beta_1 > \beta_2 \quad (1)$$

$$F'(\cdot) > 0 \quad F''(\cdot) < 0$$

- Fixed number of productive firms: n_1
- Free entry of less productive firms: n_2

Competitive capitalist equilibrium

- Price determined by aggregate production:

$$p = p[n_1\beta_1F(L_1) + n_2\beta_2F(L_2)] \quad p'(\cdot) < 0 \quad (2)$$

- Competitive labor market:

$$w_1 = w_2 = r. \quad (3)$$

Competitive capitalist equilibrium

- Firms max profit wrt L :

$$p\beta_1 F'(L_1) = r \quad (4)$$

$$p\beta_2 (F'(L_2) = r. \quad (5)$$

- Free entry \rightarrow Type2-firms earn zero profits:

$$p\beta_2 F(L_2) - rL_2 - C = 0. \quad (6)$$

- (2),(4),(5),(6) determine p, L_1, L_2 and n_2

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Competitive equilibrium with worker ownership

- Income per worker in type i firm:

$$y_i = \max_{L_i} \left[\frac{p\beta_i F(L_i) - C}{L_i} \right]. \quad (7)$$

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- FOC:

$$p\beta_1 F'(L_1) = \frac{p\beta_1 F(L_1) - C}{L_1} \quad (8)$$

$$p\beta_2 F'(L_2) = \frac{p\beta_2 F(L_2) - C}{L_2}. \quad (9)$$

Competitive equilibrium with worker ownership

- Free entry \rightarrow type 2 coops will enter as long as average income per member $> r$.
- In equilibrium: $y_2 = r$,

$$\frac{p\beta_2 F(L_2) - C}{L_2} = r. \tag{10}$$

- (2), (8), (9), (10) determine p, L_1, L_2 and n_2

Coops vs. Capitalist firms

- Assume that prior capitalist firms are not compensated, then:
 - a) Price and output do not change
 - b) L_1 do not change
 - c) L_1 decrease
 - d) n_2 increase

Coops vs. Capitalist firms

a) Price and output do not change

b) L_2 do not change

- Follow from free entry and exog. Res. Wage.
- Type2 firms with worker ownership (9,10):

$$p\beta_2 F'(L_2) = \frac{p\beta_2 F(L_2) - C}{L_2} = r$$

- Type2 firms with capitalist ownership (5):

$$p\beta_2 (F'(L_2)) = r$$

Coops vs. Capitalist firms

c) L_1 decrease

- Follow from comparison of employment setting conditions:
- Type1 firms with worker ownership (8):

$$p\beta_1 F'(L_1) = \frac{p\beta_1 F(L_1) - C}{L_1}$$

- Type1 firms with capitalist ownership (4):

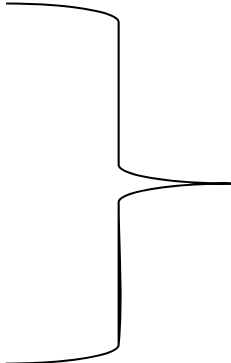
$$p\beta_1 F'(L_1) = r$$

Coops vs. Capitalist firms

- Differentiate employment setting conditions wrt β and L :
- Capitalist ownership: $\frac{dL}{d\beta} > 0$ More eff. Firms hire more!
- Worker ownership: $\frac{dL}{d\beta} < 0$ Less eff. Firms hire more!
- Since L_2 is unaltered (from b), L_1 must decrease.

Coops vs. Capitalist firms

d) N_2 increase

- L1 decrease
 - L_2 unchanged
 - Output unchanged
- 
- Number of type2 firms increase.
- Total employment in industry may go up or down. Why?
 - Are workers better off in coops?

Coops vs. Capitalist firms

- What if coops have to fully compensate previous owners?
- Then there is no effect on price, output, income or employment.
- Workers and employers neither gain, nor lose.
- Why not?

Unions vs. coops

1. Competitive capitalist equilibrium
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3. **Competitive equilibrium with collective bargaining**

Competitive equilibrium with collective bargaining

- Assume:
 - New entrants will be unionized
 - Workers earn more than reservation wage

$$w_1 = w_2 = w \quad \text{with} \quad w > r. \quad (11)$$

- Each firm max profits wrt L , given w :

$$p\beta_1 F'(L_1) = w \quad (12)$$

$$p\beta_2 F'(L_2) = w. \quad (13)$$

- Type2 firm, zero profits:

$$p\beta_2 F(L_2) - wL_2 - C = 0. \quad (14)$$

Collective bargaining vs. Capitalist firms

- a) Price increase, output decrease
- b) L_1 decrease, L_2 decrease
- c) Effect on N_2 ambiguous

Collective bargaining vs. Capitalist firms

a) Price increase, output decrease

- From (14): $\frac{dp}{dw} = \frac{L_2}{\beta_2 F(L_2)} > 0$

Collective bargaining vs. capitalist firms

b) L_1 decrease, L_2 decrease

- From (14): $\frac{dp}{dw} \frac{w}{p} = \frac{wL_2}{p\beta_2 F(L_2)} < 1$

Variable costs

Income

- Elasticity of price wrt to wage less than one \rightarrow w/p increase.
- From (12): $\beta_1 F'(L_1) = \frac{w}{p} \rightarrow L_1$ decrease

Collective bargaining vs. capitalist firms

c) Effect on N_2 ambiguous

- More attractive to enter since fixed costs become smaller relative to price
- More attractive to enter since unions create monopoly rents
- Less attractive to enter since demand decreases

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 - Type 1 firms: it depends...
- "Weak unions": $w \rightarrow r$, better off in coop

Collective bargaining vs. coops

- Are workers better off in unions or coops?
 - Type 2 firms: always better off since, $w > r$
 - Type 1 firms: it depends...
- "Weak unions": $w \rightarrow r$, better off in coop
- "Strong unions": $w \rightarrow \bar{w}$, better off in union
 \bar{w} :wage level where type1 firm makes zero profits

Intuition:

collective bargaining \rightarrow monopoly rents \rightarrow price incr \rightarrow workers income increase

Collective bargaining vs. coops

- Cooperatives
 - Workers obtain entire pie
 - But rents limited to intrinsic advantage of some firms , i.e. Firm specific rents
- Unions
 - Enforce floor on wages througout industry
 - Monopoly rents, i.e. industry specific rents

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 - Enforce floor on wages througout industry
 - Monopoly rents, i.e. industry specific rents
- Strong unions
 - Capture entire pie & get monopoly rents
 - All workers better off
- Weak unions
 - Capture small share of a larger pie

Collective bargaining vs. coops

- These conclusion hinges on the assumptions:
 - New entrants also organized through unions
 - Coops do not enter unionized industry
 - Productivity unaffected by ownership