Recitation 9: Social Preferences

Aaron Goodman

Outline

Hjort (2014)

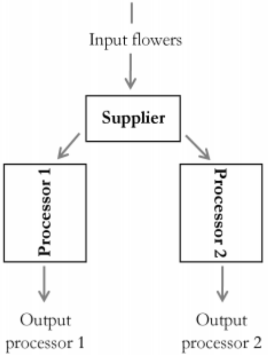
- Another good example of field research on social preferences in the workplace
- Complements our discussion in lecture of Bandiera et al. (2005), Beza et al. (2018), Rao (2019), Lowe (2019)
- Highlights the importance of employers' compensation and personnel policies when workers have social preferences

Setting

- Flower packaging plant in Kenya
- Workers are drawn from two rival tribes (Kikuyu and Luo)
- Workers must collaborate in teams of three to produce packages of flowers
- One “supplier” prepares roses and passes them to two downstream “processors”

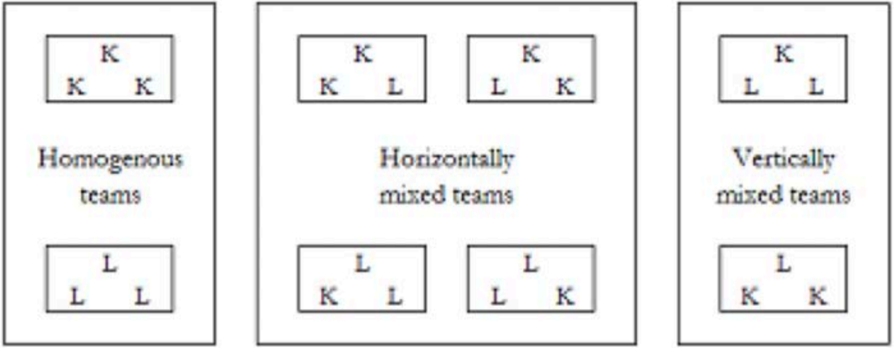
Production Teams

Figure 1a: Organization of team production



Courtesy of Jonas Hjort. Used with permission.

Possible Team Configurations



Compensation Policy and Timeline of Events

Initial compensation policy at beginning of sample period:

- Suppliers are paid a piece rate w
- Processors are paid a piece rate $2w$

December 2007:

- Presidential election takes place
- Leads to political and violent conflict between the tribes
- Firm continues to operate

February 2008:

- Firm changes its compensation policy for processors
- Processors are now paid w per package produced by the team, rather than $2w$ per package produced individually

Simple Model

- Let y denote income and e denote effort
- Let s denote the supplier, p_1 denote the first processor, and p_2 denote the second processor
- Allow the supplier have social preferences:
  - Attaches weight α_y to utility of processors from the same tribe
  - Attaches weight α_n to utility of processors from a different tribe
- Assume for simplicity that the processors do not have social preferences

Supplier Utility

Supplier's utility given by:

$$u(y_s, e_s) + \alpha_1 u(y_{p_1}, e_{p_1}) + \alpha_2 u(y_{p_2}, e_{p_2}),$$

where

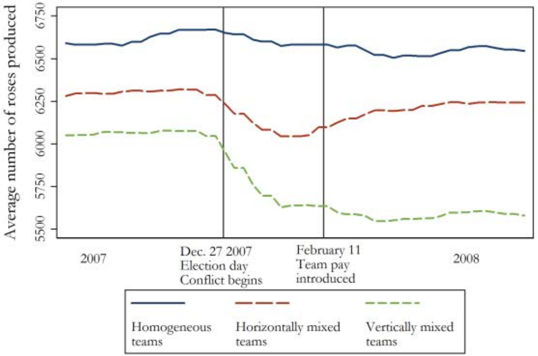
$$\alpha_i = \begin{cases} \alpha_y & \text{if processor } i \text{ is from same tribe} \\ \alpha_n & \text{if processor } i \text{ is from different tribe} \end{cases}$$

Effects of the Election and Compensation Change

- Within the model, how might we account for the heightened conflict caused by the presidential election?
- How do we think the presidential election would affect the productivity of:
  - Homogenous teams?
  - Horizontally mixed teams?
  - Vertically mixed teams?
- How do we expect the ensuing compensation change to affect:
  - Homogenous teams?
  - Horizontally mixed teams?
  - Vertically mixed teams?

Observed Effects

Figure 2: Output in homogeneous and mixed teams across time



Courtesy of Jonas Hjort. Used with permission.

Hjort (2014): What Did We Learn?

- Workers have social preferences
- Compensation policies interact with social preferences; employers' optimal compensation policies depend on their workers' preferences
- Employers can also affect productivity with non-compensation personnel policies:
  - What if the firm reassigned its workers so that all teams were homogenous?
  - Short-run vs. long-run effects of worker segregation?

Outline

Problem Set 4

- With just one paper to cover in recitation this week, we thought it would be helpful to address any questions and talk through the general approach to each part
- Any particular questions?

Part 1: General Approach

- Workers have utility

$$u_i(y_i, q_i) = y_i - c(q_i) + \alpha \sum_{j \neq i} u_j(y_j, q_j)$$

- Workers can be:
  - Selfish: $\alpha = 0$
  - Altruistic: $\alpha > 0$
- Compensation can be:
  - Piece-rate: $y_i = pq_i$
  - Relative: $y_i = pq_i - \gamma \sum_{j \neq i} \frac{q_j}{N-1}$
- So four possible cases. Before doing any math:
  - Should we expect the workers' optimal effort to be different in each of the four cases?
  - If not, which subset(s) of the four cases have the same solutions?

Part 2: Setup

- Alex's payoff is x_1 and Aaron' payoff is x_2. Aaron's utility is:

$$u_2(x_1, x_2) = \begin{cases} \rho x_1 + (1-\rho)x_2 & \text{if } x_2 \geq x_1 \\ \sigma x_1 + (1-\sigma)x_2 & \text{if } x_2 < x_1 \end{cases}$$

Part 2: General Approach

How do we interpret ρ and σ?

- $\sigma \leq \rho < 0$
  - Simple competitive preferences; Aaron's utility always increasing in his own payoff and always decreasing in Alex's payoff.
  - Aaron becomes more competitive when his own payoff is smaller than Alex's.
- $\sigma < 0 < \rho < 1$
  - Aaron becomes altruistic only when his own payoff is larger than Alex's.
- $0 < \sigma \leq \rho \leq 1$
  - "Social-welfare preferences" (Charness and Rabin 2002): Aaron's utility is always increasing in both his and Alex's payoff.
  - Aaron cares more about Alex's payoff when his own payoff is larger than Alex's.
- $\sigma = \rho = 0$
  - Simple self-interest; Alex's payoff never matters to Aaron.