

Fraternities and Labor Market Outcomes

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Summary

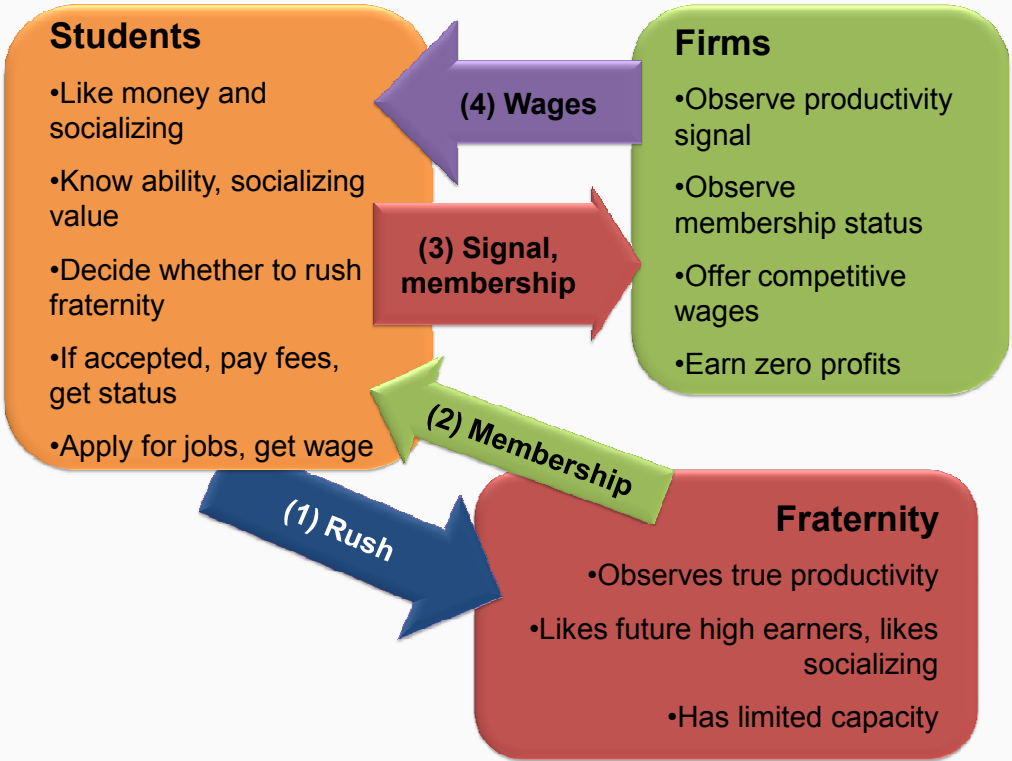
We model how students' choices to "rush" a fraternity, and fraternity's choice of whom to admit, interact with signals firms receive about student productivities to determine labor market outcomes.

- Students are distinguished by their ability and socializing values.
- The fraternity and students care about future wages and socializing values.
- Firms observe a noisy signal of a student's ability and fraternity membership status — the outcome of the student's rush decision, and the fraternity's acceptance decision.

We provide sufficient conditions under which, in equilibrium, most fraternity members have intermediate abilities: weak students apply, but are rejected unless they have high socializing values, while most able students do not apply to avoid being tainted by association with weaker members.

We show this equilibrium can reconcile the ability distribution of fraternity members at the University of Illinois, and estimate the welfare impact of the fraternity on different students.

Agents' Interactions



Intuition

Less able students gain more than high ability students from the filtering benefit by the fraternity — separated from those low ability students who are rejected. Indeed, non-membership can be a good signal for very able students — separated from intermediate ability students who are members.

Estimation implications

- There is allocative inefficiency: wage structure makes high-ability students stay outside the fraternity.
- If you are in the top 40% of the class, and not too social, existence of the fraternity affects you negatively.
- If you are in bottom 60%, and manage to get into the fraternity, you are better off.

Observations

- In general, there is allocative inefficiency.
- This model can also be used to describe ROTC training or unpaid internships.

Students' Problem

Students observe offered wage functions and choose

$$E_{\tilde{\theta}} [w_C(\tilde{\theta})|\theta] + n\mu - c \geq E_{\tilde{\theta}} [w_{\bar{C}}(\tilde{\theta})|\theta]$$

Rush

Do not rush

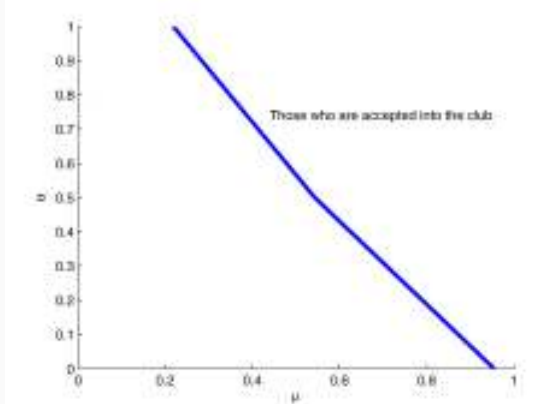
	Meaning
θ	Individual's real productivity: higher value means more productivity at work
μ	Individual's socializing value: higher value means better socializing payoff, no effect on working
$\tilde{\theta}$	Individual signal about her productivity; appears after the rush game, has MLRP property
n	Marginal utility of socializing
c	Cost of joining the fraternity

Fraternity Problem

Fraternities choose set B to solve

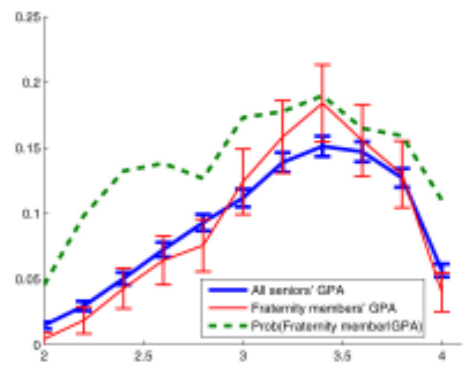
$$\int_{(\theta, \mu) \in A \cap B} [W_1 E_{\tilde{\theta}}(w_C(\tilde{\theta}|\theta)) + W_2 \mu] h(\theta, \mu) d\theta d\mu, \\ \text{s.t. } \int_{(\theta, \mu) \in A \cap B} h(\theta, \mu) d\theta d\mu \leq \Gamma$$

When signals have MLRP structure, fraternity's solution can be represented with a threshold rule:

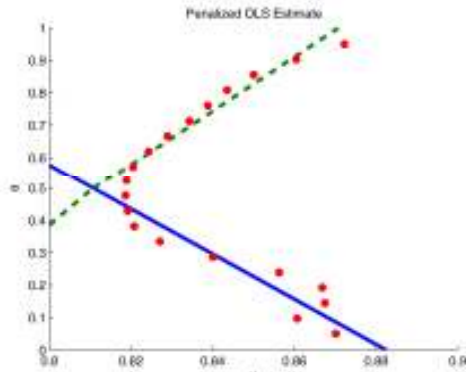


Estimation Results

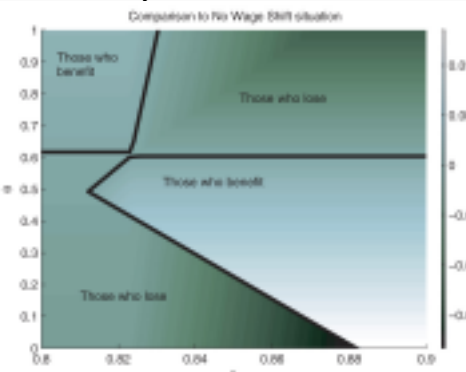
We use the data from UIUC graduates in 2007. We have a sample of GPAs of all seniors (8634) and a sample of GPAs of seniors in fraternities (701).



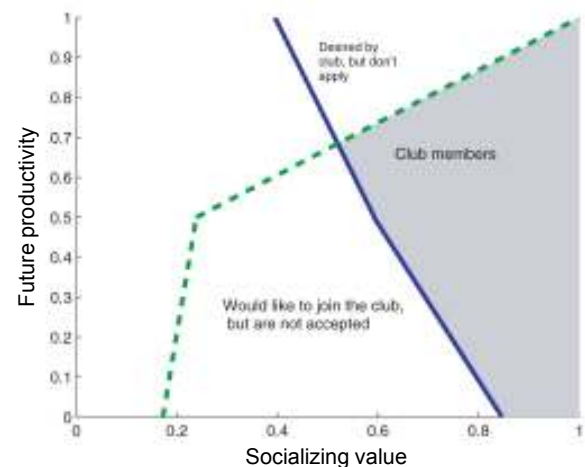
- Cost of joining is 23% of productivity spread between best- and worst-productive students.
- Utility from joining the fraternity is at most 28%.
- Fraternity capacity is 15% of population.
- Fraternity values extra social value 6 times more than extra income.



We compare utilities of students when firms do not adjust wages conditional on fraternity membership with the case when they do.

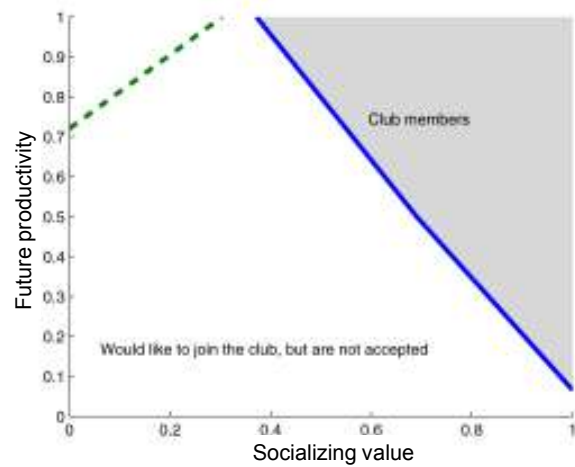


Hump-Shaped Equilibrium



- In this equilibrium, not everyone who can be taken in wants to join.
- Exists if costs are big enough, but not too big to destroy the joining incentives of high-type people.
- If capacity increases, not necessarily implies that new members will benefit, or old members keep their benefits.
- Explains why fraternities introduce stipends for able students.

Elitist Equilibrium



- Most people want to join, some of them are accepted.
- If capacity increases, new members will benefit, old members might suffer.
- Fraternity has a motivation to increase membership costs.
- Notice that there are highly-able people who do not want to join; there's a reason for general existence of hump-shaped equilibrium.