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Lecture 19: Social capital and contract enforceability

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1 Institutions: formal and informal

• No one quite knows what an institution is.

• Economists think of them as long-lived supra-individual entities that constrain the interaction between people.

  Grameen Bank is an institution

  A village Grameen group is an institution

• Institutions can be:

  Formal: based on rules that are binding with explicit penalties associated with violating them.

  Informal: based on rules that are voluntarily followed without any formal enforcement

• A case study of an informal institution: the Maghribi trading system in the 11th-century!

  Some of their documents were found in a synagogue (the “geniza”) → this study is based on them.

2 The historical context

• Maghribi: 11th-century Jewish traders operating along the Mediterranean coast (mostly North Africa).
They were shipping goods from one place to another.

They operated through agents: for a fee, the agents:

* load and unload the ship
* take care of the goods
* decide when and under what conditions to sell them

Working through an agent provides many benefits:

* can work in many locations → diversification
* can avoid the risk and cost of travel

However, there is a fundamental commitment problem: Which?

→ Need for an institution which helps people commit ex ante to be honest ex post

A “modern” institution would entail:

- 
- 
- 

This type of institution was not present in the case of Maghribi traders:

* No legal contracts.
* Contracts were very lengthy affairs (a letter indicates that 50 years after Nahum-al-Hazan was cheated by Hillel ben Isaac, his grandchildren were still fighting the case in court!).
* Difficulty in obtaining information reliably: reports could reach merchants several months after they had been sent → too late to verify all the claims!

However, fellow traders were exchanging information → if someone had cheated a merchant, it would be known by the entire community. This formed the basis of the institution developed by the Maghribi traders.

3 A Model

• M merchant
• A agents

• discount factor $\beta$ (a unit of utility tomorrow is worth $\beta < 1$ today)

• A merchant who decides to hire nobody earns $\kappa > 0$

• utility of an unemployed agent: $\bar{w} \geq 0$

• An employed merchant can decide whether to cheat or be honest. Payoffs:

<table>
<thead>
<tr>
<th>Merchant</th>
<th>Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent cheats</td>
<td>0</td>
</tr>
<tr>
<td>Agent is honest</td>
<td>$\gamma - w$</td>
</tr>
</tbody>
</table>

• The merchant can then decide whether to terminate the relationship or not.

• There is a chance of exogenous separation (ex. merchant dies, or changes region), $\tau$ in each period.

Assume:

1. Cooperation is efficient:

   sum of utility in cooperation $\geq$ sum of utility in isolation

   In months:

2. Agent prefers to cheat them rather than getting its reservation utility

3. Cheating entails loss of welfare

4. A merchant prefers being by himself rather than being cheated.

5. A merchant prefers being by himself rather than paying a wage $\alpha$

3.1 The multilateral punishment strategy

Strategy:

• Pay a wage $w^*$

• If the merchant is honest, reemploy him (unless the forced separation occurs)

• If he cheats, do not reemploy him.
• Never employ a merchant who has cheated anybody.

• Never fire an honest agent.

What determines \( w^* \): \( w^* \) must ensure that the agent is honest today.

• The agent compares the utility of being employed today and being honest.

• If honest today, get \( w^* \) today, and tomorrow \( V_h \) again or the utility of unemployment (\( V_u^h \))

\[
V_h = w^* + \beta(1 - \tau)V_h + \beta \tau V_u^h
\]

• If dishonest get:

\[
V_c = \alpha + \beta V_u^c
\]

\( V_u^h \) is the utility of an honest unemployed, \( V_u^c \) is the utility of a cheater unemployed. The utility of unemployment is

\( w^* \) must be such that \( V_h > V_c \)

- Carrot: utility higher than \( w \) if employed
- Stick: threat of being fired and not reemployed.

- \( w^* \) is a function of

  * probability of being reemployed if honest (\( h^h \))
  * probability of being reemployed if cheated (\( h^c \))
  * \( \beta \)
  * \( \mu \)
  * \( \alpha \)
  * \( \tau \)

• Compare with a situation where all the merchant can do is to sever the relationship with the agent.

• How does the collective strategy effect:

  - \( h_c \)?
- $h_h$?

• How does it effect $w^*$?

→ it makes cooperation more likely in a collective punishment than in an individual punishment.

3.2 Why is the strategy self-enforcing?

• Would a merchant want to employ an agent who has cheated once? Nobody else does.
  wage honest: $w^*(h_h, 0, \beta, \overline{w}, \alpha, \tau)$
  wage cheater: $w^*(?, 0, \beta, \overline{w}, \alpha, \tau)$

  - What is $h_h$ for a cheater?
  - Who gets the higher wage?
  - Will the merchant want to hire a cheater?

• Would a merchant want to employ a non-network member?
  wage network member: $w^*(h^N_h, 0, \beta, \overline{w}, \alpha, \tau)$
  wage outsider: $w^*(h^o_h, h^o_c, \beta, \overline{w}, \alpha, \tau)$

  - $h^o_c > 0$ why?
  - $h^o_h < h^N_h$ why?

→ Who gets the higher wage?

• Would the merchant ever want to call someone a cheater if he has not cheated?

→ The strategy was self reinforcing.

3.3 Implications

• Maghribi traders traded only with Maghribi traders.

• They collectively punished cheaters.

• Cheaters were rare (only 5% of the contracts mention a suspicion of cheating).
  → This enabled trade.
A very effective system but potentially fragile.