Social Mechanisms and Political Economy: When Lobbyists Succeed, Pollsters Fail and Populists Win

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http://www.dklevine.com/general/sociology/index.htm
Special Interests

• small in relative size
• large in absolute size
• successful at lobbying
The Farm Lobby

<table>
<thead>
<tr>
<th>country</th>
<th>% gdp agriculture</th>
<th>farm subsidy hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>0.8</td>
<td>23</td>
</tr>
<tr>
<td>Japan</td>
<td>1.2</td>
<td>19</td>
</tr>
<tr>
<td>U.S.</td>
<td>1.3</td>
<td>11</td>
</tr>
<tr>
<td>Norway</td>
<td>1.6</td>
<td>17</td>
</tr>
<tr>
<td>E.U.</td>
<td>1.7</td>
<td>14</td>
</tr>
<tr>
<td>Canada</td>
<td>1.7</td>
<td>8</td>
</tr>
<tr>
<td>Australia</td>
<td>2.4</td>
<td>2</td>
</tr>
</tbody>
</table>

over 200,000 farms in Canada
The Problem of Special Interests

- inefficient: they restrict markets
- they subvert democracy
- they lead to populist backlash
Some Questions

• If small groups are so good at lobbying why don’t they subvert markets as well?
  
  if they do not anti-trust is not needed; if they do anti-trust won’t work
  
  some do: trade unions

• If small groups are so good at lobbying why can’t they win elections?
  
  some do: USA teachers unions

• If small groups are so good at lobbying why are minorities discriminated against?
What Do Political Groups Do?

• raise resources for political contests: elections and lobbying
• they are large so face a free-rider problem
• a theory of special interests must explain how they overcome that free-rider problem
• it must explain why sometimes (politics) they overcome the free-rider problem and sometimes (cartels) they do not
Two Key Ideas

• groups can provide incentives through ostracism and other forms of peer pressure

Woman who ran over husband for not voting pleads guilty. *USA Today*, April 21, 2015

• groups are good at solving mechanism design problems

two Nobel Prizes awarded for showing that this is true: Coase, Ostrom, plus Townsend

• would be better if lobbying groups weren’t so good at solving the free rider problem
Raising Resources

member \( i \) chooses the amount of public good \( x^i \geq 0 \) to produce at unit marginal cost with a capacity constraint \( X > 1 \)

average output of the group \( \bar{x} \) a public good benefiting each member by \( W(\bar{x}) \)

utility of member \( i \) is

\[
W(\bar{x}) - x^i
\]
group may establish a target level of output - a social norm - $\varphi$ and receive a noisy signal $z^i \in \{0, 1\}$ about whether member $i$ respected the social norm where 0 means “good, respected the social norm” and 1 means “bad, failed to respect the social norm”

social norm was respected ($x^i = \varphi$) the bad signal occurs with probability $\pi \geq 0$; if the social norm was violated ($x^i \neq \varphi$) the probability of the bad signal is at least as high $\pi_1 \geq \pi$.

When the signal is bad the group imposes an endogenous utility penalty of $P \geq 0$ on the member with the bad signal. The social norm $\varphi$ and penalty $P$ is a social mechanism
Incentive Compatibility

maximize

\[ W(\varphi) - \varphi - \pi P \]

subject to the incentive constraint

\[ W(\varphi) - \varphi - \pi P \geq \max_{x^i} W(\varphi) - x^i - \pi_1 P \]
Direct, Monitoring, and Total Cost

given $\varphi$ minimize $\pi P$ subject to incentive compatibility

$\hat{P}$ be the solution to that problem

two sources of cost of producing output $\varphi$

direct cost $D(\varphi) = \varphi$

monitoring cost $M(\varphi) = \pi \hat{P}$

total cost $C(\varphi)$ is simply the sum of the two

so maximize $W(\varphi) - C(\varphi)$
Monitoring Cost is Proportional to the Incentive to Deviate

Let $x$ be the optimal deviation against $\varphi$

A social norm $\varphi > 0$ is feasible if and only if $\pi_1 > \pi$ in which case the optimal incentive compatible punishment is

$$\widehat{P} = (u(x) - u(\varphi))/(\pi_1 - \pi)$$

Monitoring difficulty defined as $\theta \equiv \pi/(\pi_1 - \pi)$

Monitoring cost is

$$M(\varphi) = \theta(u(x) - u(\varphi))$$
**Lobbies Versus Cartels**

the gain to deviating in a resource contribution problem is the cost $\varphi$

the gain to deviating in a cartel is the price cost margin times $X - \varphi$

<table>
<thead>
<tr>
<th>industry</th>
<th>monitoring cost</th>
<th>capacity</th>
<th>lobbying</th>
<th>cartel</th>
</tr>
</thead>
<tbody>
<tr>
<td>manufacturing</td>
<td>low</td>
<td>high</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>plant workers</td>
<td>low</td>
<td>low</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>hair dressers</td>
<td>high</td>
<td>low</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

Or why anti-trust or competitions policy is probably a waste of time
Participation with Hidden Cost

- typically people will face different participation costs
- previously looked at common cost with continuous output
- now look at private cost with discrete output
Palfrey and Rosenthal

group members independently draw types $y^i$ uniformly distributed on $[0, 1]$

may contribute zero effort at zero cost (not participate) or contribute a single unit of effort (participate).

cost of participation is

$$c(y_i) = c_0 + y^i$$

where $c_0 \geq 0$
social norm is a threshold $\varphi$ for participation:

those types with $y^i < \varphi$ are expected to participate and those
with $y^i > \varphi$ are not

social norm is followed, the expected fraction of the group that will
participate is $\varphi$

in a large group we may assume that since we are averaging
over many independent draws the realized participation is equal
to the expected value.
Monitoring

participation is observable

for those who did not participate there is only a noisy signal of their type $z^i \in \{0, 1\}$

0 means “good, was not supposed to participate, so followed the social norm”

1 means “bad, was supposed to participate, so did not follow the social norm”

social norm was violated bad signal is generated with probability $\pi_1$

social norm respected still a probability $\pi$ of the bad signal where $\pi \leq \pi_1$

A bad signal is punished with a utility cost of $P$
Monitoring Cost

What is the cost of inducing participation $\varphi$?

The direct cost is

$$D(\varphi) = \int_{0}^{\varphi} c(y) dy$$

monitoring cost of doing so is the cost of punishing the innocent

$$M(\varphi) = \int_{\varphi}^{1} \pi P dy$$
**Incentive Compatibility**

optimal incentive compatible punishment

\[ \hat{P} = c(\varphi)/\pi_1 \]

\[ \theta \equiv \pi/\pi_1 \]

\[ F \equiv \theta c_0 \]

\[ \gamma \equiv [(1/\theta) - 1] F + \theta \geq 0 \]

\[ D(\varphi) = (F/\theta)\varphi + (1/2)\varphi^2 \text{ (convex)} \]

\[ M(\varphi) = F + (\theta - F)\varphi - \theta \varphi^2 \text{ (concave)} \]

\[ C(\varphi) = F + \gamma\varphi + (1/2)(1 - 2\theta)\varphi^2 \]
**Political Auctions**

two groups, the large $L$ and the small $S$

relative size of the two groups is $\eta_L > \eta_S > 0$ with $\eta_L + \eta_S = 1$

prize worth $V$

participation rate by group $k \in \{L, S\}$ is fraction of members $0 \leq \phi_k \leq 1$.

both groups have the same monitoring technology so cost of participation is given by $C(\phi_k)$

participation level (bid) of $b_k = \phi_k \eta_k$ costs $\eta_k C(\phi_k)$.

contest decided by an all-pay (voting), second price or first price auction (lobbying)
**Tripartite Auction Theorem**

\[ V - \eta_k C(b_k/\eta_k) = 0 \]

Willingness to Bid

party with the higher willingness to bid is advantaged, with the lower is disadvantaged

the disadvantaged party gets zero

the advantaged party gets the difference between the value of the prize and the cost of matching the willingness to bid of the disadvantaged party

the difference between the all-pay and winner-pays auctions: all-pay equilibrium must be in mixed strategies – the outcome must be uncertain, this is why pollsters are wrong
Who is Advantaged?

\[
\frac{C(b_k/\eta_k)}{b_k/\eta_k} b_k = V
\]

advantage goes to lowest average cost

convex then increasing average cost large party with lower fraction has lower average cost

concave then decreasing average cost small party with higher fraction has lower average cost
Average Cost

\[
\frac{C(\varphi)}{\varphi} = \frac{F}{\varphi} + \gamma + (1/2)(1 - 2\theta)\varphi
\]

\[
F \equiv \theta c_0
\]

small \(V\) then small \(\varphi\) average cost declining fast, small group advantaged

bigger monitoring costs the stronger is this effect and reinforced by linear term

constraint: group cannot bid more than \(\eta_k\)

large \(V\) constraint binds on small group large group advantaged
our theory predicts a relationship between monitoring costs and turnout: higher monitoring costs, less turnout

• this is why some measures designed to make it easier to vote have decreased turnout – they make monitoring more difficult

• likely also the explanation of the long-term decline in turnout: social networks are more sparse

• in the UK it used to be the aristocrats in their clubs and the workmen in their pubs
When Lobbyists Win

small group favored:
high monitoring costs
low stakes

elections: broad issues, big stakes
lobbying: narrow issues, small stakes
small group must avoid being too greedy

• make lobbying more difficult: helps the lobbyists
Populism

- corrupt leadership
- discriminate against minorities
- pay money to lobbies

how to profit from the bidding war: choose prizes to maximize profits

two types of interest groups

- groups that want money: fungible prize can use prize money to pay politician, favors small group
- groups that want civil rights: non-fungible prize large group can afford to pay more

minorities can get rights only through persuasion of the majority