Special Interests in Politics and Markets

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Lobbying in the United States

- Senator Chris Dodd was famous for carrying the water of the motion picture industry
- if the industry wanted the internet shut down so that their films could not be pirated, he was there to fight for them
- after he left office in 2011 he took a several million a year job as the CEO of the Motion Picture Association of America

when as a sleek lobbyist Chris Dodd appears in the office of one of his former colleagues, do you suppose the message he brings is

> "this copyright restriction is good for your constituents for the following reasons?"

or do you suppose his message is

> "look how rich I am - if you play ball like I did you too can one day be a rich and sleek lobbyist like me?"

Size and Effectiveness of Special Interests

Mancur Olson: small is beautiful

country	% agriculture	farm subsidy hours
Switzerland	0.8	23
Japan	1.2	19
U.S.	1.3	11
Norway	1.6	17
E.U.	1.7	14
Canada	1.7	8
Australia	2.4	2

over 200,000 farms in Canada

A Political Contest

- two groups, the large L and the small S
- compete over a prize worth V to each
- groups have a fixed set of members
- relative size of the two groups is $\eta_L > \eta_S > 0$ with $\eta_L + \eta_S = 1$

A Model of Lobbying Groups

- group members decide whether or not to participate: to provide a unit of effort
- group members independently draw types y_i uniformly distributed on $[0, 1]$ and may contribute zero effort at zero cost (not participate) or contribute a single unit of effort (participate)
- cost of participation is $c(y_i)$, where we assume that types are ordered so that this is a non-decreasing function: higher types have higher cost furthermore, we assume that cost is linear $c(y_i) = c_0 + y_i$ and that $c_0 > 0$

Group Social Norm

- effort for group k is determined by a threshold φ_k for participation: this is a *social norm*
- types with $y_i < \varphi_k$ are expected to participate and those with $y_i > \varphi_k$ are not
- social norm is followed, the expected fraction of the group that will participate is φ_k and 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

The Group Free Rider Problem

- everybody want other group members to contribute, but nobody wants to contribute themselves
- from an individual point of view the social norm seems meaningless: nobody participates
- in practice large groups have little difficult in overcoming public goods problems
- often coercion is involved: for example through mandatory voting laws, a military draft or penalties for tax evasion
- in the setting of special interest groups this kind of direct coercion is not relevant
- another form of coercion: peer pressure

Peer Pressure

- a crucial reason people participate is because they want to keep the good opinion of members of their social networks
- the key role of peer pressure as a motivation is well documented, and it is widely discussed in the sociology literature, for example Coleman and Ostrom

A Model of Peer Monitoring

- assume that group members are organized into a simple social network on the circle
- action of a member, whether she has participated or not, is observable by everyone, but there is only a noisy signal of the type
- for those who did not participate: signal $z^i \in \{0, 1\}$ where 0 means "good, followed the social norm" and 1 means "bad, did not follow the social norm."
- if social norm violated, that is $y_i < \varphi_k$ but member i did not participate: bad signal generated for sure
- social norm followed, that is $y_i > \varphi_k$, nevertheless a chance π of the bad signal where π is a measure of the noise of the signal
- signal observed only by adjacent network members, who report it honestly to the group

Incentive Compatibility

- no cost to observing and reporting signals. If there is, additional rounds of monitoring and punishment needed so that the monitors will behave honestly
- bad signal reported then group member receives punishment in the form of a utility loss P_k
- a social norm φ_k is *incentive compatible* if and only if $P_k = c(\varphi_k)$.
- Any member with $y \leq \varphi_k$ would be willing to pay the participation cost $c(y)$ rather than face the certain punishment P_k, while any member with $y > \varphi_k$ prefers to pay the expected cost of punishment πP_k over the participation cost $c(y)$

Costs of Punishment

- punishment itself, as it is paid by a member, is a cost to the party
- may be other costs: for example, if the punishment is ostracism this may not only be costly to the member punished, but also to other party members who might otherwise have enjoyed the company of the ostracized member
- assume this cost to be ψP_k where ψ could be less than one (transfer payments) or bigger than one (cost to other members than just the punished member)
- set $\theta = \psi\pi$

Costs of Participation

measure all costs per capita

- *total cost* of choosing an incentive compatible social norm denoted by $C(\varphi_k)$ decompose into two additive components
- *turnout cost* $T(\varphi_k) = \int_0^{\varphi_k} c(y)dy$, which is the participation cost of the member types who participate: this is convex
- *monitoring cost* $M(\varphi_k) = \int_{\varphi_k}^{1} \theta P_k dy$, which is the (expected) cost of punishing party members who did not participate

substituting the incentive compatibility condition $P_k = c(\varphi_k)$ we can write $M(\varphi_k) = \theta c(\varphi_k)(1 - \varphi_k)$: this is concave

Total Cost

- total cost is $C(\varphi_k) = T(\varphi_k) + M(\varphi_k)$.
- define $\xi = (1-\theta)c_0 + \theta$ and $F = \theta c_0$

compute the total cost as

$$C(\varphi_k) = F + \xi\varphi_k + ((1/2) - \theta)\varphi_k^2$$

- if $\theta \geq 1/2$ this is concave and we assume this hereafter
- if $\theta \leq 1$ this is increasing and we assume this hereafter

The Second Price Auction

- two groups compete in a second price auction
- *willingness-to-bid* of a group W_k is the greatest amount of effort the group would be willing to provide to get the prize for certain

equate cost to per capita value of prize V/η_k to find the *desire to bid* B_k

$$F + \xi B_k + ((1/2) - \theta)B_k^2 = V/\eta_k$$

- $F > V/\eta_k$ then $W_k = 0$
- $0 \leq B_k \leq \eta_k$ then $W_k = B_k$
- $B_k > \eta_k$ then $W_k = \eta_k$

only examine the interesting case in which $F < V/\eta_S$ otherwise neither group is willing to enter

When Lobbyists Win

- group with the highest willingness to bid is called the *advantaged* group and the other group is called *disadvantaged*
- the prize is *medium* if $V \leq F\eta_L + \xi\eta_S + ((1/2) - \theta)\eta_S^2/\eta_L$ otherwise the prize is *high*
- Let d be the disadvantaged group: define the *surplus* as the difference between the value of the prize and the cost to the advantaged group of matching the willingness to bid of the disadvantaged group if this is positive, zero otherwise

Theorem: The disadvantaged group gets zero, the advantaged group gets the surplus. The small group is advantaged with a medium prize, the large group is advantaged with a high prize.

Proof of Theorem

surplus result is standard second price auction

cost to group k of a bid b

$$\eta_k C(b/\eta_k) = b\,(C(b/\eta_k)/(b/\eta_k))$$

- group with the lower cost for the bid b will be the one for whom the average cost is lower
- small group must always choose a higher value of φ_k to match a bid of the large party
- $C(\varphi_S)$ concave so average cost is decreasing
- so small group advantaged as long as it can match the willingness to bid of the large group: that is, unless $W_L > \eta_S$

Why not a Cartel?

- lobbying groups are very effective at overcoming the public goods problem through peer enforcement
- despite the fact these groups are large in absolute size they are very effective at lobbying
- in addition to lobbying firms would like to form a cartel, reduce output, and split monopoly profits
- like lobbying, forming a cartel poses a public goods problem for the group
- conventional wisdom in industrial organization is that in an industry with many producers this is difficult
- if peer enforcement can be used to overcome the public goods problem for common good of lobbying, why is it not equally effective in overcoming the public goods problem of forming a cartel?

Anti-Trust?

if farmers got together and talked about colluding to reduce output this would be legally problematic

if they get together - as they do - to discuss best farming practices and agree that a number of fields should be left fallow, that less fertilizers and less intensive farming is a better practice – and if this were a social norm enforced by peer sanctions - it seems unlikely it would run afoul of anti-trust policy. Moreover, most governments encourage farmers to discuss and adapt best farming practices.

Monitoring Costs?

- Is monitoring is more difficult in a cartel setting than in a public goods setting?

not immediately obvious that farmers living in a farm community are less able to observe how many fields their neighbors plant than to observe their neighbors contribution to farm lobbying efforts

Cost of Contributing

- Is the cost to a farmer of reducing output much greater than that of contributing to a lobbying effort?

Why do not farmers engage in a “minor cartel'” reducing output a modest amount?

We Do Observe Large Cartels

- some industries with a large number of “firms” do indeed have peer enforced social norms of restricting output
- called “labor unions”
- workers exploit their monopsony power
- there is a social norm of “do not work too hard” with social sanctions against those who are overly energetic
- very common one in many blue-color settings
- demand for effort is downward sloping so workers as a group can take advantage of their monopsony power by reducing effort
- and they do

A Competitive Industry

- industry with many identical firms with per firm output x
- production at constant marginal cost up to a capacity constraint $\overline{x}$
- margin between price and cost as a function of average firm output $\mu(x)$ is smooth and strictly decreasing. Assume $\mu(0) > 0$ and for sufficiently large x we have $\mu(x) < 0$.
- x^C the unique per firm competitive $\mu(x^C) = 0$ and assume that $x^C \leq \overline{x}$.
- assume the monopoly problem of maximizing $\mu(x)x$ subject to $x \leq \overline{x}$ has a unique solution x^M

A Peer Cartel

regard an x with $\mu(x) > 0$ as a quota set by a cartel of colluding firms – the social norm of the cartel

- cartel members observe a noisy signal of whether each individual firm adheres to the quota
- a firm that violates the quota is caught for sure
- a probability π that a firm that adheres to the quota is never-the-less believed guilty of cheating.

competitive assumption: individual firms too small to have any important effect on the price

- if the quota is x the optimal way to cheat is to produce $\overline{x}$
- gives an extra profit of $\mu(x)(\overline{x} - x)$

Crime and Punishment

- do not cheat you suffer the punishment P with probability π.
- cheat you suffer the punishment P with probability 1.
- incentive constraint $\mu(x)(\overline{x} - x) - P \leq -\pi P$.
- optimal size of the punishment needed to enforce the social norm is $P = \mu(x)(\overline{x} - x)/(1 - \pi)$.

When everyone follows the social norm the fraction of the population that suffers this punishment is π

The Optimal Social Norm

define $\theta = \psi\pi/(1-\pi)$

per firm cartel profit accounting for monitoring costs

$$\mu(x)x - \theta\mu(x)(\overline{x} - x).$$

assume single peaked; maximum of this subject to $x \leq \overline{x}$ and denote unique argmax by $\hat{x}$

if solution $\widehat{x} = x^C$ we say that the *cartel does not form*

When Do Cartels Form?

since $x^C \leq \overline{x}$ we can compute the left derivative of cartel profit with respect to x at the competitive equilibrium (where $\mu(x^C) = 0$) as $\mu'(x^C)(x^C - \theta(\overline{x} - x^C))$

μ' negative so cartel does not form if and only if $x^C \leq \theta(\overline{x} - x^C)$

two ways to write this

1. $\theta \geq x^C/(\overline{x} - x^C)$

2. $\overline{x} \geq x^C/(\psi\pi)$

first case - if the monitoring inefficiency because θ is large

- obvious, unsurprising and would equally inhibit lobbying
- relevant in industries where firms do not have close social ties: in this case we should not expect and do not see either lobbying or cartel formation

Why Cartels are Different

second case is the most interesting

says that, regardless of the demand and marginal cost and of the corresponding competitive equilibrium, monopoly solution and potential monopoly profit: if the capacity constraint is sufficiently large the cartel will not form

- reveals the key difference between cartel formation and other public goods problems
- standard public good problem – such as lobbying – the incentive to cheat is the amount that is saved by reducing effort to zero
- the cartel equivalent is to increase output to the competitive level
- however, a cheating firm should not limit its output to x^C
- should produce as much as it can $\overline{x}$

What Do We Learn?

- If many firms and each can easily replace the output of another firm by hiring additional inputs we should not expect to see peer enforced cartels
- if “firms” are individual workers they are capacity constrained by the hours and intensity with which they work: cannot simply increase output by going out and hiring additional inputs to increase their output
- capacity constraints are more significant in the setting of workers and less binding in the case of firms: coincides with the observation that we do not see peer enforced cartel behavior with firms, but we do with workers

Overview

industry	monitoring cost	capacity	lobbying	cartel
manufacturing	low	high	yes	no
plant workers	low	low	yes	yes
hair dressers	high	low	no	no