Why Pollsters are Wrong but Lobbyists Always Win

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Special Interest Lobbing

- retroactive copyright extension – unanimously passed US Congress, upheld by the Supreme Court
- nobody voted for it
- more serious: bank bailouts – payments from the poor many to the rich few

What is it all About

- small groups seem more effective at lobbying, large groups at winning elections
- lobbying seems to work the best when the stakes are not too high: Disney wins, but pharmaceutical companies not
- the outcome of lobbying seems more certain than that of voting

Overview

- groups are social organizations formed for reasons separate from that political activity: farmers engage in lobbying they do not become farmers for that purpose

"People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices." [Adam Smith]

- social organizations through their social networks enforce social norms. Failure to conform to social norms is punished: by exclusion, by ostracism – or worse.

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

Social Norms

- in order to enforce social norms it is necessary for peers in social networks to monitor one another. Monitoring is imperfect and costly. It introduces incentive constraints into the study of groups.

"An equivalent (but somewhat looser) view is that α [the degree of altruism assumed in the model] is some reduced-form measure of the extent to which within-group monitoring, along with promises and threats, manages overcome the free-rider problem of individual contribution." [Esteban and Ray in their study of conflict]

- Groups collectively choose social norms to achieve group objectives. Or put differently: groups collectively design mechanisms for their members recognizing that individual incentives may cause members to diverge from group objectives. [Elinor Ostrom]

Political Contests

think of country like Greece where the political party that wins the election gets a lot of government jobs to reward its followers

- two groups, large L and the small S. government jobs are worth V
- relative size is $\eta_L > \eta_S > 0$ with $\eta_L + \eta_S = 1$
- effort by a group is $0 \leq \varphi_k \leq 1$
- cost of effort $c > 0$
- greatest aggregate effort $b_k = \varphi_k \eta_k$ wins the prize: “the bid”

The All-Pay Auction: Why Pollsters are Wrong

elections: and all-pay auction – both sides pay their bid

a unique Nash equilibrium with two key characteristics:

- the equilibrium is not in pure strategies so the outcome of the election is necessarily unpredictable.
- large party never does worse than the small party and sometimes better with higher stakes favoring the large party.

No Pure Strategy Equilibrium

- No positive probability of a tie: push your bid a bit higher to break the tie. If you cannot do so there must be a tie at V and you are winning only half the time, so have negative utility
- With pure strategies and no tie one party loses for sure so must bid 0. Hence the other party should not submit a positive bid
- Bids near zero: since no ties, the loser at the lowest bound should cut cost by bidding zero
- One group gets zero: the group that loses for sure by bidding zero

Uncertainty principle: optimal strategy depends on what you think the other group is going to do

If pollsters tell who is going to win then it changes turnout

Willingness to Bid

$W_k = \min\{V/c, \eta_k\}$

most effort a group is willing and able to provide

$W_S \leq W_L$

- no bids above W_S
- the large group gets at least $V - cW_S$: can just bid a bit above W_d
- bids near W_S: otherwise the group getting zero would just bid a bit more

Surplus

Theorem: There is a unique equilibrium and the large party gets $V - cW_S$ while the small party gets 0.

same result as if it was a second price auction

the outcome of lobbying more certain than that of voting because lobbying is a winner pay auction and voting an all-pay auction

this does not explain why small groups are effective at lobbying and large groups at voting

Small Groups

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

% agriculture: percent of value added in the agricultural sector

farm subsidy hours: number of hours worked per capita to pay farm subsidies

Fixed Costs: Chores

- Is it worth it to take the time and effort to find, learn about, join and support an anti-farm lobby in hopes of getting an extra 11 hours a year?
- Is it worth it to a lobby to vet me, process my application and so forth if I am only going to contribute the equivalent of a few hours a year?
- Cannot simply write a check for 32 cents to the “anti-farm lobby”
- Fixed cost of effort provision = “chore”

Committed Voters: Duties

- Civic duty of voting
- Camaraderie of the polling place
- Expressive voting

Bottom line: some people turn out to vote not in hope of changing the outcome but because they like to do so

The opposite of a fixed cost-of-effort

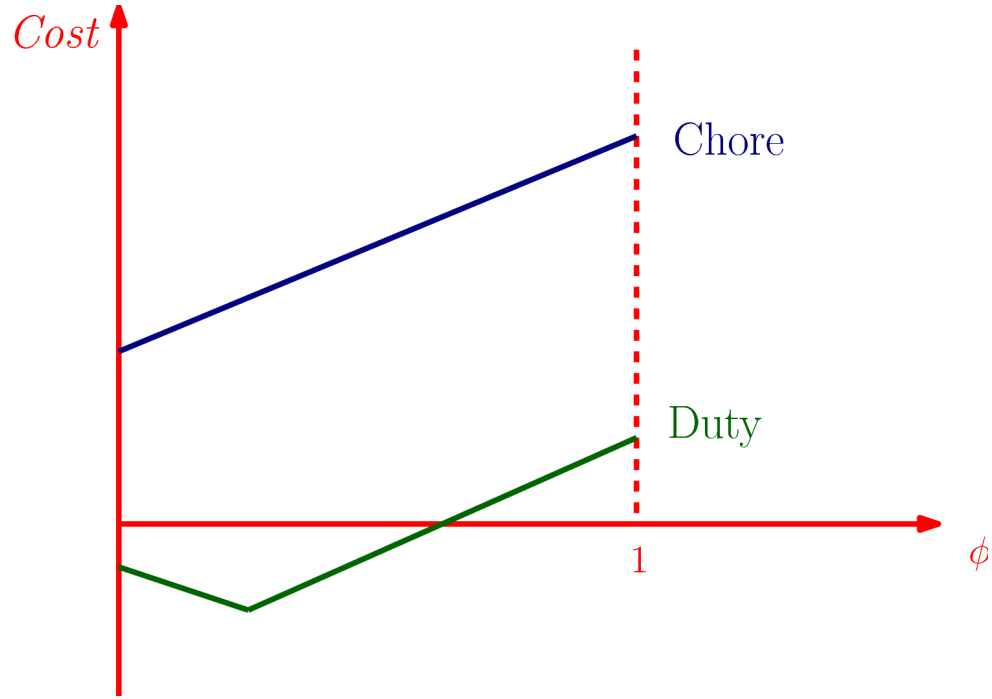
Committed voters = “duty”

Cost of Effort

- per capita fixed cost $F \geq 0$
- individual level of duty $\underline{\varphi} \geq 0$
- until the duty is fulfilled the marginal cost of effort is negative $-f < 0$
- still have above the duty that additional effort has marginal cost of c
- can organize without providing effort: pay the fixed cost while never-the-less providing an effort level of 0.

either fixed cost or duty but not both

Cost of Effort



Game Between Groups

$q_k \in \{0, 1\}$ decision of whether to pay the fixed cost, with 0 meaning to stay out and 1 meaning to pay the fixed cost

$\varphi_k \in [0, 1]$ effort level decision

pure strategy for group k a pair (q_k, φ_k) such that if $\varphi_k > 0$ then $q_k = 1$

cost function of group k (per capita)

$$C(q_k, \varphi_k) = q_k F - f \max\{0, \underline{\varphi} - \varphi_k\} + c \max\{0, \varphi_k - \underline{\varphi}\}.$$

overall objective of the group: maximize the expected value of winning the prize minus η_k times cost

Willingess to Bid Again

greatest amount of effort the group willing and able to provide to get the prize for certain

always willing to provide $\eta_k \underline{\varphi}$

greater level of effort has additional cost $\eta_k F + c\eta_k(\varphi_k - \underline{\varphi})$.

desire to bid:

$B_k = \eta_k \underline{\varphi} + \frac{V - \eta_k F}{c}$.

less than $\eta_k \underline{\varphi}$ willingness to bid $W_k = \eta_k \underline{\varphi}$

greater than η_k willingness to bid $W_k = \eta_k$

the benefit of duty f does not figure because the group get is regardless of whether or not it wins the prize

Advantage and Stakes

$B_k < \eta_k \underline{\varphi}$ for both we say both are disadvantaged

otherwise a group with the highest willingness to bid is *advantaged* and the other *disadvantaged*

prize *very small*: if $V < F\eta_S$

prize *small*: $\eta_S F < V < F\eta_L + c\eta_S$

prize *large*: $V > F\eta_L + c\eta_S$

the *surplus:* 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

Tripartite Auction Theorem

Tripartite Auction Theorem In a second-price auction, menu auction and all-pay auction a disadvantaged group gets 0 and an advantaged group gets the surplus. It follows that the expected effort provided is the same for all three mechanisms.

Note that this is different from revenue equivalence. Revenue equivalence it about indifference on the part of the seller when there is private information. This is about indifference on the part of the bidders when the prize has a commonly known value.

Who has the Advantage?

Theorem: For a chore with a very small prize both groups are disadvantaged. For a chore with a small prize the small group is advantaged. For a large prize or a duty the large group is advantaged.

Short version: the large group wins elections, the small group wins the lobbying unless the prize is large

Non-greediness: lobby groups should not be too greedy

Average Cost

cost to group k of a bid b

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

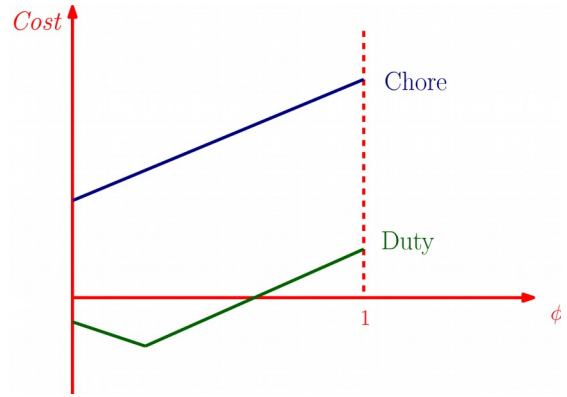
lower average cost per capita = advantaged

small group must provide higher per capita effort for a given bid

hence small group advantage when average cost is declining

average cost declining = concave cost = small group advantage

average cost increasing = convex cost = large group advantage



Groups and Public Goods

So far nothing I said makes the least sense

Lobbying groups are huge: over two million farms in the United States

Why should any farmer contribute? A farmer wants to win but wants the other farmers to bear the cost

Everything should be decided by voting of the committed voters

The “paradox of voting” and we know this isn’t true

And we know why not: peer pressure to contribute effort

Individual Effort Decisions

individual group members may or may not contribute a single indivisible unit of effort

group members are *ex ante* identical but *ex post* draw different participation costs

the standard Palfrey-Rosenthal voting model

- group members independently draw types y_k
- uniformly distributed on $[0, 1]$ and may contribute 0 effort at 0 cost or contribute a single unit of effort at a cost of $d(y_i)$
- where we assume the types are ordered so that this is a non-decreasing function and more strongly that cost is linear $d(y_i) = d_0 + \gamma y_i$ where $\gamma > 0$

Social Norms

effort and cost for group k is determined by a social norm: a threshold φ_k for participation

those types with $y_i < \varphi_k$ are expected to contribute

and those with $y_i > \varphi_k$ are not expected to contribute.

If the social norm is followed the expected fraction of the group that will participate is φ_k

group large so assume expected fraction is actual fraction

of course individual group members just want to minimize their costs: should provide effort if and only if $d(y_i) = d_0 + \gamma y_i > 0$

$\underline{\varphi} = -d_0/\gamma$ limited to $[0, 1]$ is fraction of committed members

Peer Enforcement

large groups have little difficult in overcoming public goods problems: they do it through coercion, in this context generally peer pressure

- contributions are observable by everyone
- only a noisy signal of the type for non-participants
- $z^i \in \{0, 1\}$ where 0 means "good, followed the social norm" and 1 means "bad, did not follow the social norm."
- if social norm was violated so that $y_i < \varphi_k$ but member i did not participate, bad signal is generated for sure,
- if i did not participate but did follow the social norm so that $y_i > \varphi_k$ there is never-the-less a chance θ of the bad signal
- θ is a measure of the noise of the signal

The Social Network

- group members belong to a simple social network on the circle.
- signal is observed only by adjacent network members who report it honestly to the group
- honest reporting can be replaced with rounds of punishment if you like
- when bad signal is reported the “violator” receives a punishment of size P_k

Incentive Compatible Social Norms

social norm φ_k is *incentive compatible* if and only if $P_k = d(\varphi_k)$

- 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
- any member with $y > \varphi_k$ prefers to pay the expected cost of punishment θP_k over the participation cost of voting $c(y)$.

as the punishment is paid by a member, it is a cost to the party

Group Cost of Participation

total cost (per capita) of choosing an incentive compatible social norm $\varphi_k \geq \underline{\varphi}$ denoted $C(\varphi_k)$ with the convention that $C(\varphi_k) = 0$ for $\varphi_k \leq \underline{\varphi}$

total cost has two additive components $C(\varphi_k) = T(\varphi_k) + M(\varphi_k)$

turnout cost $T(\varphi_k) = \int_{\underline{\varphi}}^{\varphi_k} d(y)dy$: participation cost of those who participate

monitoring cost $M(\varphi_k) = \int_{\varphi_k}^{1} \theta P_k dy$: expected cost of punishing party members who did not vote; substitute the incentive compatibility condition $P_k = c(\varphi_k)$ we find $M(\varphi_k) = \theta d(\varphi_k)(1 - \varphi_k)$

Concavity and Convexity Again

turnout cost $T(\varphi_k) = \int_{\underline{\varphi}}^{\varphi_k} d(y)dy$ is the integral of an increasing function – it is convex (advantage to the large party)

monitoring cost is also quadratic

at $\varphi_k = \underline{\varphi}$ nobody needs to be monitored – there is no monitoring cost

at $\varphi_k = 1$ everybody participates so nobody gets punished – there is no monitoring cost

monitoring cost is *concave* (advantage the small party)

The Old Model Again

if $\theta = 1/2$ the quadratic parts of the turnout and monitoring cost exactly cancel

recall that

$\underline{\varphi} = -d_0/\gamma$ limited to $[0, 1]$

define $F = \max\{0, d_0/2\}$

define $c = F + (\gamma/2)\left(1 - \underline{\varphi}\right)$

then $C(\varphi_k) = F + c(\varphi_k - \underline{\varphi})$

recall that d_0 is the lowest cost in the population of a unit of effort

- if this is negative we have a duty
- if it is positive we have a chore