Outside Influence

Joel Sobel

UCSD and UAB

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OUTSIDE INFLUENCE

Lobbyist wants to persuade a group to adopt a project.
Lobbyist can provide access to information to subset of group members.
Group members decide whether to check lobbyist's information.

- N committee members.
- One Sender.
- Benefits: $s > 0$ and $r_i \in \{-L, G\}$.
- p_i probability G.
- Ex ante no one knows anything.
- Selected committee members may learn their benefit at a cost.

THE GAME

- Sender decides whether/how may have access to information.
- If no one selected, committee decides based on prior information.
- If Sender selects a committee member i, this person decides to investigate (cost $c > 0$) or not.
- Investigation decision is not verifiable.
- R_i decides whether to endorse the project.
- Process continues (with knowledge of R_i's "vote").

COMMENTS AND QUESTIONS

Differences from earlier models:

- Verifiable information
- Private investigation
- R cannot lower cost of investigation
- Separation between informed party and decision makers

Questions

- Who gets information?
- Does Sender benefit when group is more “homogeneous"?
- Does Sender benefit when group benefits more from the project?

PRELIMINARY: ONE RECEIVER

- Rubberstamp

  S does not let R investigate. R approves.

  Need $p \geq \frac{L}{L+G} \equiv p_0$.

- Investigate and Approve if Good.

  $p \in (p_-, p_0)$, where $p_- = c/G$

  (assume $c < GL/(L+G)$, so that

  $p- < p_0 < p_+ \equiv 1 - c/L$.)

- R will accept always if $p > p_+$.

Four regions:

- Always accept without investigating.
- Accept without information. Investigate given a chance.
- Reject without information. Investigate given a chance.
- Always reject.

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Two-member Committees, Unanimity, Deterministic

Let P be probability that $r_i = G$ both i.
Note: information general information structure.
Possible outcomes for S:

- Committee always accepts.
- Committee accepts if project satisfies R_1.
- Committee accepts if project satisfies R_2.
- Committee accepts if project satisfies both.

Ignoring information search, if $p_1 \geq p_2$, then these outcomes are in order that S prefers.

ANALYSIS

- Ask for rubber stamp if both R willing to approve.

  Otherwise:

  - If R_1 approves without investigation, do not give him information. In effect, R_2 makes decision.
  - If R_1 investigates, conditionally ask R_2 if and only if necessary.

Cannot implement the project if R_1 always approves and R_2 would reject as dictator.

Might be able to implement the project if R_1 is willing to investigate.

Insights:

Does good news from one R change the mind of another R?

Will R want to investigate if given the chance?

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COMPARATIVE STATICS

Internal congruence: Assume that R's information structure is a mixture of nested and independent. Specifically, given $p_1 > p_2$, if R_1 thinks the project is good that R_2 thinks that the project is good with probability $\rho p_2/p_1 + (1-\rho)p_2$. That is, $\rho \in [0,1]$ is a measure of the affiliation or congruence of the committee's preferences.

Raising internal congruence increases the probability that the project is accepted.

Raising p_1 ("external" congruence) may lower acceptance probability.

Increasing committee size (even under unanimity) may increase the chance of acceptance.

STOCHASTIC MECHANISMS

Randomization may help Sender. If R_2 does not know whether R_1 investigates, S can raise acceptance probability. (Unconditional support is not needed for R_2 to support. Getting unconditional support is costly because R_1 might reject.

LARGE COMMITTEES

With nested information, pick the person whose approval will convince decisive coalition to support the proposal.

ISSUES

- What do papers sell?
- Origin and Persistence of Bias?
- Does Competition Improve Outcomes?

Relevance:
Production and Consumption of Information in Group Environments.

MODEL

1. Underlying information t.
2. Newspapers receive $d = t + \epsilon$.
3. Newspapers select “slant" (report $n = d + s$ given d) and price P.
4. With multiple newspapers, first public and simultaneous announcement of s, then select price.

t and ϵ normal, mean zero.
Readers know the variance, but might have a biased estimate of mean of t.

READER PREFERENCES

$$V - As^2 - B(n-b)^2 - P$$

Where $A, B, V \geq 0$, V valuation, P price.
Reduced-form model of value of information.
If $B > 0$ agent loses utility when reported news differs from bias.
Expected utility computed using the true distribution of d.

RATIONAL AGENTS

If $B = 0$, then monopolist sets $s = 0$ and fully extracts surplus.
If $B = 0$, then there exists an equilibrium with two sellers in which $s = P = 0$.
(There are other, weird, equilibria.)
Reason: $s \neq 0$ simply lowers valuations.
Unbiased news is the result of optimization by newspapers (not competition).

Homogeneous Bias

$B > 0$ and $b \neq 0$, but common to all readers.
Monopoly policy: Report

$$\frac{Bb + Ad}{A + B}$$

(so slant is $B(b - d)/(A + B)$)
Price extracts all surplus:

$$P = V - AB(b^2 + \nu_d)/(A + B),$$

where ν_d is the variance of d.
(This requires $P > 0$, otherwise there is no market.) This is a direct computation. Solution has “obvious" sensitivity properties.
Monopolist maximizes utility of representative reader.
Competition: There exists an equilibrium with the same slant and $P = 0$.

Heterogeneous Bias: Monopoly

Assume that b is uniformly distributed on $[-c, c]$ for $c > 0$.
If c is small, then monopolist serves entire market.

$$s = -\frac{Bd}{A+B}$$

and

$$P = V - \frac{AB(b^2 + \nu_d)}{A+B} - B^2c^2.$$

If c is large, extreme readers don't buy the newspaper.
This analysis is similar to the homogeneous bias case, but heterogeneity lowers prices and profits.
If biases are not symmetrically distributed, then reported.

Heterogeneous Bias: Duopoly

$$s_1 = \frac{B(1.5c - d_1)}{A + B}$$

,

$$s_2 = \frac{B(-1.5c - d_2)}{A + B}$$

, and

$$P = \frac{6B^2c^2}{A + B}$$

That is, the papers take extreme positions – more biased than their most biased readers – and divide the market.
Taking extreme positions permits firms to maintain higher prices.
“Competition" leads to more biased information than monopoly.
Details depend functional forms, form of competition, and the assumption that there are just two papers.

MODELING SLANT

Mullainathan and Shleifer sketch a model in which papers generate bias by omission.
A conscientious reader could get full information by sampling different sources.

CONCLUSIONS

1. Competition lowers price, but does not increase information.
2. Diversity of readers may increase information.

CRITIQUE

- People care about slant, not information.
- Modeling of preferences and information informal.