Interest Group Influence in the United States:
A Comparison with an Economic Model of Special Interest Group Influence and Lobbying

Introduction

The United States has a long history of distrust in government. From the beginning, America has been defined by the negotiations of power between populations and interest groups. The original 13 colonies broke away from the British monarchy over taxation and representation. The wild west was defined by violent conflict between individual actors, municipal power structures, larger private interests, and indigenous peoples. The late 19th and early 20th century saw the rise of expansive corporate trusts which controlled major facets of the American Economy, only to be confronted by a myriad of anti-trust laws aimed at preventing collusion and improving competition. Even the very role of government has come into question, with some parts of the conservative party taking issue with the size of federal bureaucracy.[1]

One of the modern negotiations taking place in the United States is the role of private interests in politics. With Information Technology organizations which hold significant sway over the spread of political opinions and news,[2] natural gas and oil companies which stand at the precipice of a renewable energy transition[3] and a healthcare sector under universal scrutiny for unbearable costs, the stakes of legislative conflict have taken center stage in many sectors of the American economy. This focus on political outcomes is accompanied by the desire to shape legislation in ways conducive to private interests, manifested through lobbying and special interest groups.

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[1] https://www.theatlantic.com/ideas/archive/2021/08/big-government-conservative-vaccines-masks/619792/
[2] https://www.pewresearch.org/fact-tank/2021/06/01/facts-about-americans-and-facebook/
[3] https://www.mckinsey.com/industries/oil-and-gas/our-insights/the-big-choices-for-oil-and-gas-in-navigating-the-energy-transition

While public opinion of lobbying and lobbyists remains low,[4] the issue represents a vital mechanism for informed policymaking. Backdoor meetings often provide politicians with crucial information that cannot be obtained through government agencies alone due to a lack of manpower, resources, and access. However, SIGs can also wield their power to influence policy through campaign contributions. A candidate who provides electoral victories conducive to an SIGs business or ideological interests is likely to receive more support in upcoming elections. This brings up the issue of money drowning out the influence of less powerful interest groups, adding to its negative perception.

This paper will begin by going over the economic models we covered, then proceed to use literature reviews to summarize recent trends in lobbying and SIG influence, continue by comparing theory and real-world phenomena, then conclude.

Economic Models

Three of the models we studied are Grossman and Helpman's SIG lobbying, buying influence, and persuasive lobbying models. We start with a one-dimensional value dictating the intensity of a policy, according to states of the world in which different intensity policies are optimal. For lobbying, a politician is thought to maximize their utility when the policy implemented (p) is equal in our single dimensional value to the state of the world (θ):

$$G(p, \theta) = -(p - \theta)^2$$

Each SIG has a policy bias (δ), which means that the optimal policy is one as defined by their utility function:

$$U_i(p, \theta) = -(p - \theta - \delta_i)^2$$

[4] https://www.ncsl.org/bookstore/state-legislatures-magazine/yes-no-maybe-so-what-s-un-ethical-about-lobbying.aspx

This gives us a model where both policymakers and SIGs have single peaked preferences, with SIGs wanting to exaggerate or underestimate the true state of the world slightly compared to policymakers. The model simulates the lobbying efforts of SIGs, using their selective communication to gain favorable policy while policymakers attempt to use revealed information to make policy close to the true state of the world.

For buying influence, we model both policymaker and SIG utility as a function of the policy chosen (p) and the contribution of the SIG (c). In contrast to our lobbying model, here we assume that the policymaker has an optimal policy in mind given no contribution ($\hat{p}$), and will alter the policy implemented towards SIGs interests in return for contributions. SIGs prefer more intense policies to less intense. This results in general utility functions for the politician:

$$G(p,c)\ where\ G\ is\ single\ peaked\ at\ \hat{p}\ and\ \frac{dG}{dc} > 0$$

The utility function for the SIGs are:

$$U(p,c)\ where \frac{dU}{dp} > 0\ and \frac{dU}{dc} < 0$$

The key here is the tradeoff between contributions and policies implemented. Politicians will implement the socially optimal policy without contributions and increase their policy for contributions. SIGs try to find a tradeoff between the loss of utility from contributing and the positive effect from increases in policy intensity.

The final model involved represents the persuasion of policymakers towards a firm's preferred position over multiple games. Firms observe either states of the world referred to as left (L) or right (R), and the firm can choose whether to signal left (s_L) or right (s_R). Take as given that one state is

preferred, in our case left. The lobbyist wants to maximize the probability that their signal left will be received regardless of the true state of the world:

$$\max \pi(s_L|L) + \pi(s_L|R)$$

For the lobbyist to be believed, they must show the true state of the world more often than they lie. From a politician's perspective, this results in the following inequalities:

$$\pi(L|S_L) \geq \pi(R|S_L), \;\; \pi(R|S_R) \geq \pi(L|S_R)$$

Using bayes rule, we can derive the following inequality the politician uses to decipher whether the lobbyist is lying. p_L is the probability that state L occurs:

$$\pi(L|S_L) = \frac{\pi(S_L|L)p_L}{\pi(S_L|L)p_L + \pi(S_L|R)p_R}, \qquad \pi(R|S_L) = \frac{\pi(S_L|R)p_R}{\pi(S_L|L)p_L + \pi(S_L|R)p_R}$$

This in turn gives us the following when substituted into our original persuasion inequalities:

$$\frac{\pi(S_L|L)p_L}{\pi(S_L|L)p_L + \pi(S_L|R)p_R} \geq \frac{\pi(S_L|R)p_R}{\pi(S_L|L)p_L + \pi(S_L|R)p_R}$$

Because the firm always prefers the policy outcome associated with the state of the world being left, they will signal correctly if the true state of the world is left:

$$\pi(s_L|L) = 1, \pi(s_R|L) = 0$$

Given this bias towards signaling left, the question then becomes: When can the policymaker believe a left signal? The answer comes from simplifying the inequality and substituting:

$$\pi(S_L|L)p_L \geq \pi(S_L|R)p_R$$

$$\frac{p_L}{p_R} \geq \pi(S_L|R)$$

Since the firm wants to maximize the amount of time policymakers create policy with the left state of the world in mind, they will signal left as much as possible:

$$\pi(S_L|R) = \frac{p_L}{p_R}$$

This shows that even if the lobby is biased, it can be trusted a portion of the time. Moreover, it must signal against its wishes a portion of the time to remain trustworthy.

The first model regarding lobbying shows the positive effect that SIG influence can have, giving information to policymakers which can't be obtained otherwise even if it does come with potential bias. The second model shows a problematic effect, where politicians extract campaign contributions in return for altering optimal policies. The third model shows the limits of lying about the state of the world, showing that SIGs must provide useful information or risk being ignored.

Lobbying Behavior and Phenomena

There is a large and diverse literature studying lobbying trends. The portfolio has increased in the light of recent public interest, updated regulations regarding the disclosure of campaign contributions, and newfound collaboration between economists and political scientists. (Figueiredo and Richter, 2014)

According to opensecrets.org, 3.53 billion US Dollars were spent on campaign contributions and lobbying in 2020.[5] This spending is centralized, with larger organizations conducting more operations than smaller ones. (Ansolabehere 2002, Hansen 2004, Guo 2009, Hochberg 2009, Richter 2009, Hill 2013, Schuler 1996, Lee & Baik 2010, Bombardini & Trebbi 2012) Many lobbying firms operate as broad coalitions between donors instead of individual account representatives. However, there are a

[5] https://www.opensecrets.org/federal-lobbying

multitude of smaller groups represented as well. The level of involvement is also related to the resources an interest group has available. (Drope and Hansen, 2017)

Lobbying is dominated not only by larger firms, but more pragmatic ones as well. Figueiredo (2004) shows that approximately 84% of federal lobbying is done by interest-based groups, while a mere 2% is conducted by issue or ideology-based coalitions. Lobbying expenditures are also correlated with the stakes of legislation with respect to SIGs. (Caldeira 2000, Baumgartner & Leech 2002, Bonardi 2005, Leech 2005, Baumgartner 2011) Pralle (2006) studies how differences in the timing and intensity of anti-regulation campaigns resulted in very different outcomes for pesticides between the United States and Canada. American firms began earlier and stronger with their legislative efforts, weakening pesticide legislation in comparison to the Canadian outcome. Another example relates to the COVID-19 pandemic, where in quarter one of 2020 lobbying by the healthcare industry increased by 10.1% in response to the 3 trillion USD relief package. (Olson et al., 2020)

One possible explanation for why politicians are willing to listen to lobbyists comes from a diplomatic approach. Lobbying firms which represent a broad range of SIGs can show that their support for an issue comes from a coalition of several different sectors and firms. Policymakers in turn sometimes interpret this as broad support for a legislative outcome or amendment. (Lorenz 2019) Another important aspect of lobbying is the relationship between agents. Bertrand et al. (2011) shows how lobbyist relationships with bureaucrats can outweigh their issue expertise.

Comparison

The underlying idea of these models is sound, as pragmatic firms do routinely play a part in altering legislative outcomes. The addition of contributions creates a cost mechanism for SIGs, and the only change needed to make it indicative of the real world would be to measure contributions relative to the total resources dedicated to public influence. This would explain the findings in Drope and Hansen

(2017), as well as the centralized pattern we see. While many smaller firms take part in shaping legislation, it is the larger organizations which can sway outcomes and hence which have more incentive to keep lobbying expenditures high. The relative resources must account for the difference in power between smaller lobbying efforts and larger ones. The third model also includes an explanation for the relationship between lobbyists and politicians, ensuring that correct insights are shared at least some portion of the time.

Conclusion

The Grossman and Helpman models we study do seem to describe real world interactions between politicians and lobbyists. The lobbying model shows how SIGs will attempt to influence legislative issues in their favor. This matches real world examples in the healthcare and pesticide industries. Politicians use lobbying to guide their interpretation of coalition strength across multiple industries, and often will alter the agenda in their favor.

Larger firms have more sway, even though there are many participators in lobbying. This draws a parallel to the buying influence model, which especially makes sense due to the contribution mechanism. Larger groups can use smaller relative portions of their resources towards influencing policymakers. This would partially explain why lobbying expenditures are centralized and pragmatic.

The Persuasive Lobbying model describes the relationships between lobbyists and policymakers, where lobbyists will exaggerate on a consistent basis but are limited in doing so. Constant lying may end up working against them as their credibility falters. This is backed up by real world findings which provide evidence of the value for relationships built on credible communications between the private and public sectors.

Bibliography

Bertrand, Marianne, Matilde Bombardini, and Francesco Trebbi. 2014. "Is It Whom You Know or What You Know? An Empirical Assessment of the Lobbying Process." American Economic Review, 104 (12): 3885-3920.

HAEDER, S., & YACKEE, S. (2015). Influence and the Administrative Process: Lobbying the U.S. President's Office of Management and Budget. American Political Science Review, 109(3), 507-522. doi:10.1017/S0003055415000246

John M. de Figueiredo and Brian Kelleher Richter. “Advancing the Empirical Research on Lobbying” Annual Review of Political Science 2014 17:1, 163-185

John M. de Figueiredo, James J. Kim, When do firms hire lobbyists? The organization of lobbying at the Federal Communications Commission, Industrial and Corporate Change, Volume 13, Issue 6, December 2004, Pages 883–900, https://doi.org/10.1093/icc/dth035

Olson A, Barrick J, Tayler WB, Rajgopal S, Bai G. Lobbying Expenditures of the Health Sector During the COVID-19 Pandemic. J Gen Intern Med. 2020 Oct;35(10):3133-3136. doi: 10.1007/s11606-020-06085-6. Epub 2020 Aug 12. PMID: 32785824; PMCID: PMC7572927.

Sarah B. Pralle (2006) Timing and sequence in agenda-setting and policy change: a comparative study of lawn care pesticide politics in Canada and the US, Journal of European Public Policy, 13:7, 987-1005, DOI: 10.1080/13501760600923904