

Lobbying and Political Influence in Britain: Testing a Signalling Model of Group-Government Interaction

Patrick Bernhagen
University of Aberdeen
P.Bernhagen@abdn.ac.uk

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Abstract

Questions of the political influence of business and other organized interests are at the heart of democratic theory and political science. But little is known empirically about the effectiveness of interest group activities – lobbying – for affecting political outcomes. This paper applies a theoretical model predicting when policymakers change their plans to cater to special interests, and when they honour their promises and override lobbyists' messages. The model is tested empirically using data on the policy positions and lobbying activities of firms, trade associations, labour unions, and other organized groups in the context of 71 policy proposals advanced by UK governments between 2001 and 2007. The results show that lobbyists are more likely to influence policy when the electoral costs from adverse policy effects are high relative to the policymaker's commitment to the original policy proposal. Although the material costs of lobbying and lobbyists' reputation are crucial variables according to theory, the data do not seem to support a role of these variables in determining the actions of lobbyists and policymakers.

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According to Lasswell's (1958 [1936]) famous aphorism, politics is about 'who gets what, when, and how'. This puts questions about the influence of special interests at the very heart of inquiry in political science and related fields, as well as current affairs. Some commentators see the root causes of the economic crisis of 2008–2009 in policymakers' willingness to cater to financial interests (e.g. Hutton 2008) and others blame business lobbying for the inadequate regulation of financial markets that contributed to the crisis (Krugman 2008). Scholarly concern for the political influence of business and other organized interests has a long tradition. Normatively, it is feared that interest groups' influence-seeking activities can undermine political equality and democratic accountability (Dahl 1989; Schattschneider 1960; Scholzman and Tierney 1986). It is not difficult to see why this is a valid concern. According to Rokkan (1966, 105), 'votes count, but resources decide'. In terms of politically useful resources ranging from technical expertise to money, few groups in society are a match for business actors. Other organized interest too can muster considerable political resources. Yet, for lobbying to cause problems for democracy or affect welfare, it has to be effective in steering policy decisions away from their legitimizing democratic mandate.

To date, fundamental questions concerning the political influence of special interests remain unanswered. Do organized interests really wield power over democratic politics? If so, how do they achieve this? As Mitchell (1997) put it, if business interests are so powerful, why 'do they still sometimes lose policy fights in the political system?' While many areas of political science and international relations research have made remarkable progress over recent decades, the study of interest groups in general and of the effectiveness of their political activities is lagging behind (Jordan and Halpin 2005). It has been acknowledged for some time that this lag has to do with persistent methodological problems (March 1955). More recent surveys of the literature on interest groups in the United States consider the question of influence to be 'exceedingly difficult to answer' (Loomis and Cigler 1995, 25) and characterize it as an area of 'confusion' in the literature (Baumgartner and Leech 1998, 13). Yet, as Dür (2008) argues, the difficulties of gauging interest group influence are not insurmountable. Important advances have been made in recent years in furthering our understanding of the impact of interest groups on policy outcomes in Europe and the USA (Mahoney 2007; Baumgartner et al. 2009). Data on interest group lobbying across many

issues can provide novel insights as well as methodological leverage over persistent problems and puzzles (Baumgartner and Leech 1998; Dür 2008; Lowery et al. 2008).

In this paper, I propose a step in that direction by testing a theoretical model of lobbying by special interest groups developed by Bernhagen and Bräuninger (2005). In the model, a lobbyist communicates private information about a pending policy's adverse consequences to a policymaker, who must infer the credibility of this message from the observed levels of costly political action before deciding whether to enact the policy as planned or heed the lobbyist's words and abandon or significantly modify the policy. The model predicts the conditions under which policymakers choose to heed lobbyist's complaints, and when they override them. The model can provide insights into the underlying mechanisms that determine political influence, and it has been evaluated in the context of qualitative case studies (Bernhagen and Bräuninger 2005). But like most formal models in the field of interest group research it has so far not been subjected to quantitative tests. Using elite survey data on 71 policy proposals advanced by UK governments between 2001 and 2007, this paper will implement such a test. The data contain information on the policy positions and lobbying activities of firms, trade associations, labour unions, and other organized groups; the level of policymakers' commitment to the policy; the relationship between lobbyist and policymakers; and whether or not the policy was eventually enacted as promised.

Lobbyists, Policymakers and Political Influence

Actors are politically influential if they succeed in obtaining/preventing policies they prefer/dislike, even if these policies are disliked/preferred by other actors (cf. Weber 1978, 53). In representative democracies, the power and influence of interest groups is often seen as circumscribed by policymakers' need to balance political support from any one group against other likely sources of support (Galbraith 1954; Denzau and Munger 1986; Vogel 1996), including the countervailing power of public opinion (Truman 1951). This limits the ability of organized interests to influence policy decisions by making blatantly self-seeking demands when lobbying policymakers. Instead, lobbyists have incentives to appeal to interest other than merely their own self interest. This could be the 'public interest' or, perhaps less ambitiously, the interest of the policymaker. A lobbyist can then offer his advice to a policymaker, who can in turn use this advice to further her own goals, the public good, or both (in representative democracy, a positive correlation between these goals is often assumed). These goals may include winning elections, regaining office, implementing desired

policy or some mixture if these. In the pursuit of their goals, policymakers have to avoid implementing policies with negative electoral, fiscal or other bad consequences. These consequences can be related to the macro economy, e.g. through stifling growth or discouraging investment. But they may also afflict regulatory policies, where decentralized responses to authoritative decisionmaking can render measures of public policy inefficient or even exacerbate the very problem they were intended to address (Peltzman, 1973; Sunstein, 1998, pp. 234-236). Put differently, any policy can potentially have *negative inducement effects* that policymakers seek to avoid. To the extent that policymakers trust them, lobbyists can use private information, such as technical expertise, data on markets and production costs, and information on citizen preferences, to help policymakers in their assessment of the likelihood of these bad consequences. However, by the same token, they may also use this information to influence political decisionmaking for the advancement of their own political goals.

Drawing on informational approaches to special interest politics (Ainsworth, 1993; Austen-Smith, 1993; Grossman and Helpman, 2001), Bernhagen and Bräuninger (2005) have formulated a model of interest group lobbying in which lobbyists have to balance incentives to misrepresent a policy's likely consequences *and* to maintain a reputation of trust with policymakers. Policymakers, for their part, have to balance incentives to deliver on their policy pledges with the need to avoid policies that have bad consequences. In this situation, lobbyists can offer useful advice. The problem for policymakers is that they often lack the information required to assess the accuracy or veracity of the lobbyist's advice. While policymakers may well be aware of general structural constraints ('it's the economy, stupid!'), they are often less clear about what exactly this implies with respect to particular policies and policy areas. By contrast, much of the information required for the assessment of negative inducement effects is routinely available to special interest groups. This is what special interests specialize in. As a result, interest groups enjoy informational advantages *vis-à-vis* policymakers due to the latter's capacity constraints, and because of groups' own strong incentives to pool resources and routinely conduct research on issues of concern to their members. If the special interest group in question is business, this informational asymmetry is expected to be even greater: Firms accumulate knowledge about relevant policy issues in the course of performing their everyday activities (Polk, 2002). And membership-based interest

groups routinely collect data about costs, demand or technological expertise as private information that is important for political decisionmaking.¹

However, lobbyists also have a strong, long-term interest in maintaining a reputation as suppliers of good information (Berry, 1989, pp. 143-146). Thus, when devising a lobbying strategy, interest groups have to be careful to avoid situations in which wildly exaggerated predictions become exposed. At the same time, lobbyists often do have important and helpful messages to bring across. Because policymakers know that lobbyists are self-interested they are suspicious of the possibility of misrepresentations, and ‘helpful’ lobbyists have to find ways to distinguish themselves from less useful sources. One way of achieving this is by making their messages credible and underlining their resolve with costly campaigning. The problem is that this also provides insincere lobbyists with incentives to emulate their helpful peers. As both ‘types’ of lobbyists, those whose interests concur with the interests of the policymaker and those who pursue mainly or purely self-seeking goals thus have incentives for costly lobbying, the policymaker cannot know which type of lobbyist she is dealing with. In this situation, a signalling game ensues in which the lobbyist ‘reminds’ the policymaker that her lot is structurally tied to the goals of the interest group, while the policymaker is aware that the veracity of this claim varies according to a parameter that is unknown to her: whether or not the pending policy leads to negative inducement effects.

In the model developed by Bernhagen-Bräuninger (2005), there are two actors, a lobbyist L and a policymaker P , and a pending policy proposal that may (or may not) have negative inducement effects. The game proceeds as follows. Nature chooses whether a pending policy will induce negative effects ($t_1 \in T$) with probability θ_1 , or not ($t_2 \in T$) with probability $\theta_2 = 1 - \theta_1$, and reveals its move to the lobbyist, but not the policymaker. Privately informed about the state of the world, the lobbyist sends a costly message (signal s_1) to the policymaker to inform her decision, or refrains from doing so (signal s_2). The policymaker can take one of two actions – pass the policy in question (a_1), or retain the status quo (a_2). The resulting payoffs for the policymaker and the lobbyist depend on which of the two states of the world

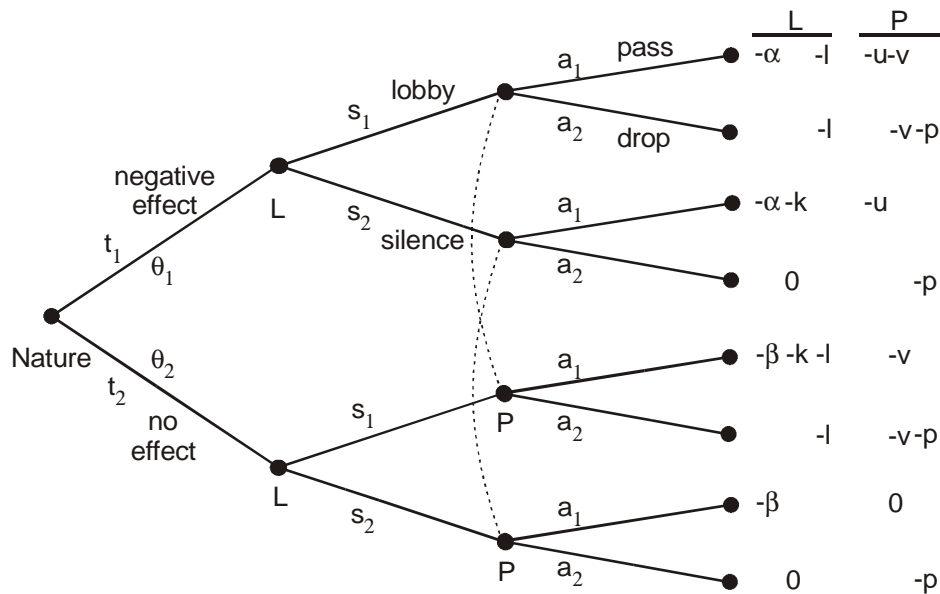
¹ In contrast to previous studies of interest group influence (e.g. Austen-Smith, 1993), Bernhagen and Bräuninger assume that being informed is costless for lobbyists. In reality, lobbyists have to pay for at least some of the policy-relevant information they want to acquire. The rationale for the assumption of zero information-acquisition costs for firms is rather that many of the relevant expenses will have already been made by the time the lobbyist decides whether or not to lobby around a particular policy.

is realized. In t_1 , the policy has severe negative effects of size α on the lobbyist. Also in t_1 , the policy backfires or negatively affects the policymaker's ability to gain another term in office at the next election or to achieve her various other goals. These negative inducement effects for the policymaker are represented by u .

Regardless of the state of the world, if the policymaker chooses a_2 she incurs a decline in credibility and reputation and may be punished at the next election for defaulting on her policy pledges and selling out to special interests. These pledge costs are denoted by p . Finally, while the policymaker can, to some extent, infer the credibility of the lobbyist's claims from the observed levels of costly political action the lobbyist is willing to employ in the lobbying process, there are limits to playing tough and enticing the lobbyist into showing his teeth. As research on the economic effects of regulation has shown, *expectations* about regulatory regime change can be just as important for the behaviour of non-state actors as the actual regulatory change itself (Binder, 1985; Granato, 1996). Open disputes over contested legislation can have negative effects on investment, conferring on the policymaker a 'confidence cost' v whenever the interest group decides to lobby.

The lobbyist incurs minor policy costs of size β in situation t_2 , but is relieved of all costs except any material lobbying costs l if the policymaker complies with his lobbying demands (a_2). In contrast to previous signalling models, Bernhagen and Bräuninger's model also considers the *reputational* costs of 'lying' as well as the *material* costs of lobbying. Thus, if it turns out that the lobbyist duplicitously sent s_1 (s_2), he will incur an exogenous penalty for lying k , which can be interpreted as being denied access to the policymaker for future representations. It is assumed throughout that misinformation can only be detected once the policymaker has passed the policy. The structure of the game and its payoffs are depicted in Figure 1.

Figure 1 A signalling model of lobbying



Lobbyist's (L) payoffs

- α severe policy costs
- β mild policy costs
- l material lobbying costs
- k reputation costs

Policymaker's (P) payoffs

- u severe policy costs
- p pledge costs
- v lobbying costs

Equilibria of the Lobbying Model

Using the concept of perfect Bayesian equilibrium (PBE)², Bernhagen and Bräuninger (2005) identified numerous equilibria of the lobbying game. In a separating equilibrium the two possible types of lobbyists send different messages and the policymaker, having observed the signal, can infer the state of nature with certainty. Consequently, her updated belief coincides with the true type of the lobbyist. In a semi-separating equilibrium, a lobbyist who foresees

² A PBE of the lobbying game is a strategy-belief triple (Fudenberg and Tirole, 1991) requiring that (i) for any type t of lobbyist his strategies must be optimal given the strategy of the policymaker; (ii) the policymaker's strategy maximizes her expected payoff given her posterior beliefs about the type of lobbyist; and (iii) the posterior beliefs satisfy Bayes' rule whenever possible.

negative inducement effects sends a signal s_1 to the policymaker, whereas a lobbyist who is not so affected randomizes between the signals s_1 and s_2 . In a pooling equilibrium of type I, all types of lobbyists send the same message s_1 claiming negative inducement effects of the pending policy. Finally, in a pooling equilibrium of type II, both types of lobbyist refrain from action, i.e. they ‘send’ signal s_2 . In neither situation can the policymaker learn anything from the message and her beliefs do not change after receiving the signal.

In these principal situations nothing is said about the policymaker’s response to either pass the policy or pull back and retain the status quo. Bernhagen and Bräuninger (2005) proposed that the behaviour of the lobbyist and the policymaker’s response both depend on two parameters: the ratio of material lobbying costs to the costs of being caught lying, and the ratio of (electoral) pledge costs to (economic-electoral) negative inducement costs. The following propositions are taken directly from Bernhagen and Bräuninger (2005), who also provide formal proofs.

Proposition 1: There is a separating PBE

a) if $\beta/k < l/k < \alpha/k + 1$ and $p/u < 1$:

$$((s_1 | t_1, s_2 | t_2), (a_2 | s_1, a_1 | s_2), (1,0)) ;$$

b) if $l/k < 1$ and $1 < p/u$:

$$((s_1 | t_1, s_2 | t_2), (a_1 | s_1, a_1 | s_2), (1,0)) .$$

In the first case (1a) pledge costs are smaller than negative inducement costs, so that the policymaker has an incentive to be responsive to the signal sent by the lobbyist: she withdraws the proposal if the lobbyist signals severe adverse effects but passes the policy if the lobbyist remains silent. The lobbyist’s utility, on the other hand, is marked by a balanced ratio l/k of the (material) costs of lobbying to costs of lying such that informative lobbying is indeed in equilibrium. In the second case (1b), the policymaker expects relatively high pledge costs from retaining the status quo and consequently always passes the regulation whatever the signal is. Here, the lobbyist still separates as the costs for lying exceed the material lobbying costs. Thus, if pledge costs are high, the separating behaviour on the side of the lobbyist can be in equilibrium even if the costs for lobbying are low.

Proposition 2: There is a semi-separating PBE if $l/k < \beta/k$ and $\theta_1 < p/u < 1$:

$$((s_1 | t_1, ([s_1, y; s_2, 1-y] | t_2), ([a_1, x; a_2, 1-x] | s_1, a_1 | s_2), (\pi, 0));$$

where $y = \frac{\theta_1(u-p)}{p\theta_2}$, $x = \frac{\beta-l}{\beta+k}$, and $\pi = p/u$.

According to Proposition 2, if the policymaker's cost ratio is at a moderate level but the lobbyist's minor policy costs exceed those for lying, both actors play mixed strategies in equilibrium. If the lobbyist is severely affected by the proposed regulation, he will send the corresponding signal with certainty. Otherwise, the lobbyist has the incentive and the ability to misrepresent, where the probability for misrepresentation is increasing in the negative inducement costs u , but decreasing in the pledge costs p .

Proposition 3: There are pooling PBE of type I if $l/k < \beta/k$ and $p/u < \theta_1$:

$$((s_1 | t_1, s_1 | t_2), (a_2 | s_1, a_1 | s_2), (\theta_1, \pi)), \quad \text{where } \pi < \min\{p/u, 1\}.$$

In a pooling equilibrium of type I, the lobbyist always claims to be severely affected. This only happens if both cost ratios are small, i.e. when there is little incentive to misrepresent on the side of the lobbyist and only a weak incentive not to withdraw the proposal on the side of the policymaker.

Proposition 4: There are pooling PBE of type II

a) if $l/k > 1$ and $\theta_1 < p/u$:

$$((s_2 | t_1, s_2 | t_2), (a_1 | s_1, a_1 | s_2), (\pi, \theta_1)), \quad \text{where } \pi < \min\{p/u, 1\};$$

b) if $l/k > \max\{\alpha/k + 1, \beta/k\}$ and $\theta_1 < p/u$:

$$((s_2 | t_1, s_2 | t_2), (a_2 | s_1, a_1 | s_2), (\pi, \theta_1)), \quad \text{where } p/u < \pi < 1;$$

c) if $p/u < \theta_1$:

$$((s_2 | t_1, s_2 | t_2), (a_2 | s_1, a_2 | s_2), (\pi, \theta_1)), \quad \text{where } p/u < \pi < 1;$$

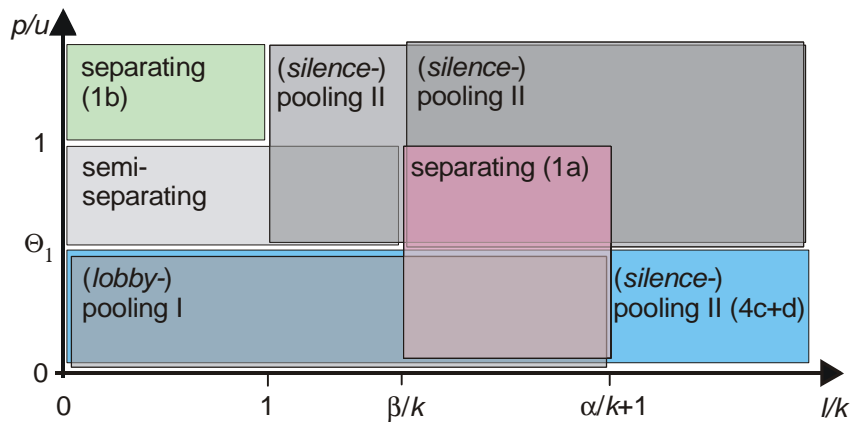
d) if $p/u < \theta_1$:

$$((s_2 | t_1, s_2 | t_2), (a_1 | s_1, a_2 | s_2), (\pi, \theta_1)), \quad \text{where } \pi < \min\{p/u, 1\}.$$

According to Proposition 4, there are four sub-cases of pooling equilibria of type II when the lobbyist refrains from sending a costly message. In the first three situations, lobbying costs

exceed the costs of lying so that the lobbyist has no incentive to send a costly message whatever the state of the world. The policymaker's equilibrium response to such 'silence' is to pass the policy if the pledge-to-economic-costs ratio is considerably high (4a, 4b), and to retain the status quo if the ratio is reasonably low (4c, 4d). In the latter cases, a low cost ratio for the policymaker induces pooling II equilibrium with a compliant policymaker, whatever the cost ratio for the lobbyist. Figure 2 summarizes the findings and illustrates how all equilibria of the game can be identified by their location on a two-dimensional space defined by l/k and p/u .

Figure 2: Equilibria of the lobbying game



Lobbyist's (L) payoffs

- α severe policy costs
- β mild policy costs
- l material lobbying costs
- k reputation costs

Policymaker's (P) payoffs

- u severe policy costs
- p pledge costs
- v lobbying costs

Testing the Model

While formal models of political behaviour should in principle enable researchers to develop more precise empirical hypotheses, this seems to be a challenging task whenever two or more players interact strategically (Carruba, Yuen and Zorn 2007; Signorino 1999, 2003).

Unfortunately, such cases make up a large share of research in political science and international relations, and are among arguably the more interesting things to study in the field. The model presented above is one of these cases. The problems identified in the

literature concern, firstly, difficulties in specifying the correct functional form of statistical models given the theoretical models they are supposed to test. Each hypothesis derived from a game-theoretic model is actually a joint hypothesis about the assumed social and information structures, the procedure, a particular form of rationality, and usually a specific equilibrium refinement (Kennan and Wilson 1993, 54). Theoretical models rarely recommend obvious ways of how these different factors should be combined in a statistical model. Secondly, there is a contradiction between statistical models giving positive probability over all outcomes and the deterministic prediction of (subgame-perfect) Nash equilibrium in which some outcomes are reached with certainty while other outcomes are given no positive probability (the ‘zero-likelihood’ problem).³ Thirdly, mixed strategies are common, not least in games of imperfect information, but observable implications are virtually impossible to identify. And fourthly, empirical analyses of games of limited and asymmetric information have to confront the problem that the information known privately by one of the players is often also inaccessible to the researcher (Bresnahan and Reiss 1991). In such situations few (if any) specific recipes for operationalization exist beyond the general imperative that ‘that one must carefully operationalize predictions generated by strategic behaviour’ (Carruba, Yuen and Zorn 2007, 480).

In the following paragraphs I will develop hypotheses based on the comparative statics of the lobbying game reported in the previous section. As is highlighted in Figure 2, the equilibria of the lobbying game frequently overlap to large extents with respect to the utility ratios, so that they will be observationally equivalent in some instances. Moreover, it is unclear what observable implications, if any, the mixing behaviour implied in the semi-separating PBE has. And lastly, few of the pooling equilibria will lead to specific empirical predictions unless something is known about the state of the world. The exceptions are pooling equilibria 4c and 4d, which between them are observationally equivalent but lead to (identical) specific predictions, as will be argued below.

³ While highlighting a fundamental problem in the relationship between deterministic theories and statistical empirical models, the zero-likelihood problem might arguably little practical implication for applied research. The assumptions about actors’ motivations and computational capacity underlying standard rational choice models concern ideal types that in the empirical world are at best approximated. Erratic behavior abounds, as do errors in social scientists’ efforts to observe strategies and measure utilities and outcomes. It is far from clear how and to what extent the different sources of error affect the relationship between theoretical and empirical models.

In PBE 1a identified in Proposition 1, the lobbyist's actions will truly reflect the state of the world and the policymaker will act accordingly: she will drop the policy if the interest group lobbies against it, but otherwise enact the policy. As is evident from Figure 1, the probability of such a separating equilibrium is expected to increase the smaller the ratio of the policymaker's reputation constraints from pre-election policy commitments to the electoral costs from adverse policy effects (p/u). Furthermore, a separating equilibrium of this type should become more likely as the material costs of lobbying increase relative to the lobbyist's reputation constraints (l/k), but only up to a certain point. A very high ratio of material to reputational lobbying costs should make a separating PBE, in which the policymaker heeds the lobbyist's signal, less likely. Thus,

$$H.1: \quad \Pr(PBE1a) = a - b_1 \frac{p}{u} + b_2 \frac{l}{k} - b_3 \left(\frac{l}{k} \right)^2 + e$$

Next, a PBE of type 1b, in which a resolute policymaker presses ahead with the policy regardless of what the lobbyist would do and the lobbyist therefore acts sincerely becomes likely when the policymaker's reputation constraints from pre-election policy commitments (p) are larger than the electoral costs from adverse policy effects (u) and lobbying costs (k) are smaller than the lobbyist's reputation costs (k). Thus, the likelihood of this equilibrium is expected to increase with (p/u) while being negatively correlated with (l, k):

$$H.2: \quad \Pr(PBE1b) = a + b_1 \frac{p}{u} - b_2 \frac{l}{k} + e$$

Lastly, PBEs 4c and 4d result when the ratio of the policymaker's reputation constraints from pre-election policy commitments to the electoral costs from adverse policy effects (p/u) is small. This relationship dominates the actors' decisions to such an extent that lobbying costs and the lobbyist's reputation constraints (l, k) are irrelevant. Thus,

$$H.3: \quad \Pr(PBE4c, d) = a - b \frac{p}{u} + e$$

Data and Measurement

The role of organized interests in policymaking processes varies across countries (Richardson, 1982; Schmitter and Lehmbruch, 1979) as well as policy areas and industrial

sectors (Grier, Munger and Roberts, 1994; Lowi, 1964). In the present study, systemic differences at the country level are held constant by restricting the analysis to one country. To control for issue area and sectoral factors, the analysis encompasses all major policy areas. Data collection proceeded in three steps.

Firstly, an archival search of seven major U.K. broadsheets (*The Daily Telegraph*, *The Financial Times*, *The Herald*, *The Guardian*, *The Independent*, *The Scotsman*, *The Times*) was carried out to compile a list of policy proposals. Because of the U.K.'s executive-dominated parliamentary system of government, the focus is only on proposals that emanate from the government or from individual ministries. A governmental policy proposal is defined as *any statement of intent by a member of government to effect policy change by means of drafting, enacting and implementing a collectively binding decision*. Enacting the policy proposal may or may not require a formal vote in parliament, and we are able to control for such a requirement. Using LexisNexis, search terms encompassed word triplets and their grammatical permutations such as [government + introduce + legislation], [government + announced + legislation], [minister + plans + policy]. A complete list of search terms used is provided in the Appendix.

The starting point of the sampling period was June 1, 2001 – the date when the most recent government that completed a whole term resumed office in Westminster. Policy proposals were collected until August 31, 2007. This procedure yielded the initial sample of proposals. In total, we counted 1,176 distinct policy proposals uttered by a member of the Westminster or Holyrood governments (we excluded Northern Ireland from the analysis). We distinguish explicit *proposals* (e.g. white papers or legislative proposals), recommendations by public bodies (e.g. green papers), formal *reviews*, and public *attention* to an issue that has been recognized by policymakers and hence is on the policymaking agenda. We have coded the cases accordingly and are able to control for the nature of the proposal in our analysis.

In only 184 cases of reported governmental policy proposals – fewer than 16 percent – did the newspaper article mention an actor other than the policymaker or representative of the opposition parties. This is surprising: A Dahlian perspective of a pluralist policy process assumes conflict around the bulk of policy issues. Yet the overwhelming majority of policy proposals reported on did not mention a single societal actor whose interests might be affected by the policy in one way or another or who got involved in the policy debates

according to the news media. This is unlikely to be the result of a bias in media reporting. In pluralist societies, conflict generates newsworthiness, which makes it more attractive for commercial newspapers to report interest group involvement than to merely propagate government policy without any view to organized interests. If anything, therefore, any media bias should exaggerate rather than depress reported levels of group mobilization.

In a second step, LexisNexis searches for those policy proposals for which at least one societal actor was mentioned were used to identify all actors – government agencies, firms and business associations, citizen groups, labour unions and think tanks – that have been reported to take an interest in or a position on the proposal. Of the 184 policy proposals, 22 had not yet been decided by the policymaker by 16th March 2009, our cut-off date, so that no outcome could be coded. These cases were dropped from further data collection and analysis. For the remaining 163 cases, we coded whether or not the policy was eventually enacted as originally announced by the policymaker, whether it was abandoned, or significantly modified. For this variable, a new internet search was launched that went beyond the newspaper base to include official government documents.

Of course, much influence-seeking activity is not reported by the media. The problem is that the visibility of political activities may be different for different types of lobbyists. For example, business interests are often found to employ outside lobbying strategies to a lesser extent than do non-business groups (Salisbury 1984). Thus, much political activity by business may have taken place behind the scenes that will not be captured by our data. The lack of interest group attention reported by the media may therefore lead us to underestimate the true level of business activity concerning our policy issues relative to the political activity levels of non-business interests. To check for possible sampling bias as a result of such visibility filters, we compare our data to previous studies on interest group lobbying. In the context of agricultural lobbying, Salisbury found that business groups (firms and trade associations) are considerably underreported by the *New York Times*, accounting for 31 percent of newspaper mentions whilst making up twice that contingent (63 percent) of advocates according to Close's (1982) directory of *Washington Representatives*. However, the share of business groups according to our newspaper coding is close to *Washington Representatives* figures reported in Salisbury (1984). The representation of different types of actors around policy proposals according to our newspaper counts is also similar to other lobbying data reported by US interest group studies covering policy areas beyond agriculture

(Table 1). When the different kinds of business actors (firms, trade and peak associations) are added up to a into a single category of business actors, our share or business actors of 49 percent is not far off the average of the US studies (56 percent) and between the lowest (48 percent, Leech, 1995) and highest (63 percent, Baumgartner and Leech, 2001) US estimates. While our figures are not identical to the US multi-domain studies (which among themselves display a good deal of variation) they are a far cry from the publicity bias identified by Salisbury for the US agricultural sector. Similarly, our estimated share of citizen groups (26 percent) is close to the US average of 20 percent and at any rate sits comfortably between the US minimum (14 percent) and maximum (29 percent).

Table 1: Types of Organization Mentioned in the News Media

	<i>Schlozman and Tierney 1986 (1981)</i>	<i>Leech 1998 (1995)</i>	<i>Baumgartner and Leech 2001 (1996)</i>	<i>Average from US studies</i>	<i>UK Newspaper Search (2001-2007)</i>
	N=175	N=1,442	N=1,711	N=1,109	N=561
Businesses	30	24	41	32	22
Trade Associations	26	24	22	24	27 [†]
Nonprofits and Citizen Groups	18	29	14	20	26
Professional Associations	7	15	9	10	4
Institutions			7		
Unions	11	3	2	5	9 [‡]
Governments		3	2	3	8 [§]
Other	7	2	3	4	4 [¥]
Total	99	100	100	100	100

Notes: Cell entries are percentages of organization type. [†]Including peak associations; [‡]Including TUC; [§]Includes some of Baumgartner and Leech's 'institutions'; [¥]Think Tanks.

The 163 proposals are spread across 26 different policy categories as defined by the Comparative Manifesto Project (Klingemann et al., 2006). The most frequent policy categories are 'market regulation, positive' (23 percent), 'environmental protection, positive' (13 percent) and 'law and order, positive' (11 percent). On the other end of the spectrum, categories like 'protectionism, positive', 'economic orthodoxy, positive' or 'minority groups' account for less than one percent each (see appendix).

In a third step, an internet survey was used to ask the lobbyists identified in the previous step about their positions with respect to the cases they are associated with and the actions – if any – they took to influence the policy process. This enables us to measure central variables in the model presented in the previous section: the lobbying effort made by the actors, their relationship with policymakers, the degree of the policymaker’s commitment to the policy, and the expected costs and benefits of the policy for lobbyists and policymakers. Actors that appeared in the context of several policy proposals were asked to go over several questionnaires in face-to-face or telephone interviews with the investigator. Two organizations have been surveyed in this way: Staff at the Confederation of British Industry (CBI) completed twelve questionnaires in interviews with the investigator (in addition to completing an online survey on a thirteenth policy proposal) while a citizen group took three surveys on the phone (in addition to completing one online).⁴

Of the 561 questionnaires that were sent out, 111 were completed and returned. The overall response rate is thus 20 percent, but this differs considerably for different types of actors. On one end, business peak associations (including the Institute of Directors and the National Farmers Union) responded to 37 percent of requests, followed by trade associations with a response rate of 29 percent. This is similar to survey rates of return reported by other studies on industry associations in European countries (e.g. Eising 2007, 342). On the other end of the scale, professional associations and think tanks returned only two percent of the questionnaires sent to them, while the peak association of organized labour, the TUC, declined to take any of the surveys. While most returned questionnaires were complete or almost complete, a small number of respondents chose to leave some questions unanswered. Moreover, some responses from the same actor type are for the same policy proposal, leading to overlap that further reduces the response rate at the level of the policy proposal. For example, of the 29 TAs that returned a questionnaire, only 25 answered the question whether the policy has been/ would have been beneficial for their members. Of these, three responses concerned the same policy, so that data on one or more TA assessment of a policy’s implications could be recorded for 22 policy proposals. For the dataset as a whole, this has

⁴ One other citizen group opted for the telephone option for answering the questionnaire on the sole policy proposal the group was associated with.

led to 71 policy proposals for which survey responses from at least one actor are available on most variables of interest.

While theoretically, a Perfect Bayesian Equilibrium is defined by strategies and beliefs, empirically, the equilibria are defined only by the actions that constitute them: enacting (a_1) or not enacting (a_2) a policy, and lobbying in a costly manner (s_1) or not (s_2). The three observable equilibria of the lobbying game are PBE 1a (enact | ~lobby, ~enact | lobby); PBE 1b (enact | ~lobby, enact | lobby); and PBE 4c+d (~enact, ~lobby).⁵ All firms and interest groups in the sample are to greater or lesser extent lobbyists in the sense that they were at least reported to have a stake in the respective policy proposal. By contrast, costly lobbying (s_1) is defined here as reporting more than the sample average of 18 possible lobbying acts respondents were asked about in the survey.⁶ A list of items that were presented to respondents, as well as descriptions and descriptives of this and all other variables used in the analysis are given in the appendix. Using ‘above average’ as a measure of costly lobbying makes substantive sense: The world of political advocacy is a noisy one, so the decision to stick out above the general noise by turning up the lobbying effort over and above what is ‘normal’ is a decision to send a more costly signal. Because notions of ‘normal’ lobbying activity are likely to differ for different kinds of lobbyist (firms, trade associations, citizen groups, etc.), averages have been calculated by actor type.

Next, we have to distinguish costly lobbying in support of or against a government policy proposal. For this, respondents were asked whether the policy is beneficial or detrimental to their aims or for their members. While this information was originally recorded on a five-point ordinal scale ranging from strong agreement to strong disagreement with the policy’s

⁵ It would have been possible in principle to ask respondents about their beliefs. But to capture the logic of sequential-form games of asymmetric information, this would mean asking respondents not only about their probability assessments concerning different states of the world but also what they thought the other party believed about what they believed about them. It is not difficult to see why these questions would not form part of a methodologically defensible questionnaire.

⁶ Respondents were asked, ‘[i]n your efforts to influence the government’s plans for [POLICY], did you pursue any of the following activities? If so, could you please indicate whether the activity was peripheral or core to your political strategy? [PLEASE TICK ONLY ONE BOX ON EACH ROW].’

negative effects⁷, a dichotomous version was created and used jointly with the costly lobbying measure to categorize costly lobbying as supportive and opposed, respectively.

To capture the policymaker's commitment to a proposal (p), respondents were asked to indicate how much they thought the government was committed to the policy.⁸ For the electoral repercussions of enacting policies that were likely to produce unintended side effects (u), respondents were asked, '[t]o what extent do you think the government's plans for introducing [POLICY] may affect how satisfied or dissatisfied voters are with the government?' Possible answers on a five-point ordinal scale range from '[t]he policy would lead to voters being ... much more satisfied' to 'much more dissatisfied'.

Material lobbying costs (l) are the estimated monetary expenses made by organizations in the context of the respective policy proposal. For this, respondents were asked to indicate one of six categories into which their expenses fell, ranging from less than £5,000 to more than £500,000 (alternatively, respondents could indicate that they did not spend any money at all). While this item enjoyed a high response rate, the need to minimize data attrition required imputing non-responses with data from a similar question asking about staff hours used for working on the policy episode.

To gauge the reputation that would be at stake if lobbyists were found to disseminate unreliable information (k), respondents were asked about the frequencies of their interactions with four different types of policymakers: MPs, ministers, senior civil servants, and regulators. Options for answers on six-point ordinal scales ranged from 'no contact' at all to 'at least once a week'. The vast majority of respondents answered all four questions, and responses were averaged whenever more than one item was answered.

Lastly, as the four utilities that form the cost ratios are measured on incommensurate scales, they were transformed to non-negative standard scores.

⁷ 'Below is a list of statements about the possible impact the government's plans for [POLICY] may have had on your company. To what extent do you agree or disagree with the following statements? a) "The policy would be beneficial for my company." b) "The policy would be costly for my company."' The coding of actors' policy positions was based on responses on statement (b).

⁸ 'On a scale from 0 to 10 (with 0 indicating no commitment and 10 indicating very high commitment), how committed do you think the UK government was to introducing [POLICY]?'

Results

Table 2 reports probit estimates of the determinants of four equilibria of the lobbying game in order of the three hypotheses. There is some support for Hypothesis 1, which states that a separating equilibrium of type 1a is more likely at lower levels of p/u . The model's prediction concerning lobby and reputation costs, by contrast, is not supported. While the coefficients for the respective terms have the signs implied by the hypothesized curvilinear relationship, they are very small – indeed much smaller than their standard errors. No support emerges for Hypotheses 2 and 3 (columns 3 and 4). In these models, no role has been specified for lobby and reputation costs, while the explanatory burden rests entirely with p/u . However, that variable does not significantly affect the statistical likelihood of the silence equilibria 4c and 4d.

Table 2. Probit estimates of the determinants of four equilibria of the lobbying game

	Separating Pr($PBE1a$)	Separating Pr($PBE1b$)	Silence Pr($PBE4c,d$)
p/u	-0.177 (0.074)*	0.041 (0.063)	0.031 (0.074)
l/k	0.086 (0.194)	0.023 (0.045)	
l/k -squared	-0.000 (0.005)		
Constant	0.112 (2.406)	-0.284 (1.259)	-1.594 (0.760)*
N	61	71	71
Log pseudo-likelihood	-35.25	-34.785	-22.77
Pseudo R-squared	0.12	0.01	0.00
LR	9.27*	0.63	0.18

Standard errors in parentheses; * significant at 5%; ** significant at 1%.

Discussion

This paper has devised and implemented an empirical test of a formal model of interest group lobbying using data on 71 recent British policy episodes. The results suggest that lobbyists are more likely to influence policy when the electoral costs from bad policy consequences are high relative to the policymaker's commitment to the original policy proposal. The lobbyists' influence in these situations is problematic in terms of the normative underpinnings of representative democracy – above all political equality. Whether such influence can serve to improve the quality of political decisionmaking in other respects and thereby contribute to enhancing the 'output legitimacy' (Scharpf 1999) of the political process or instead lead to economic and social decline (Olson 1982) is debatable. Although the material costs of lobbying and lobbyists' reputation are crucial variables according to theory, the data do not support a role of these variables in determining the actions of lobbyists and policymakers.

There is much room for improvement of the empirical strategy. Firstly, more precise hypotheses should be formulated incorporating the theoretical predictions for concrete values of p/u and l/k (e.g. unity proving a cut-off point for several equilibria). Secondly, interactive effects of p/u and l/k might have to be modelled to better capture the logic of the lobbying game. Thirdly, better measurement of the outcomes (equilibria) can be achieved by utilizing information on states of the world, which can be approximated with survey data. And fourthly, constraints should be placed on the constant in the empirical model to be non-negative.

Appendix

Table A1: LexisNexis Search Terms

<i>General Search</i>	<i>Constraints</i>
Minister* announce* policy	Within five words
Minister* announce*	Within five words single line
Government announce* policy	Within five words over three lines
New government policy	Within five words over one line
New government policy announce*	Same sentence over four lines
Government propose* policy	Within five words over three lines
Government legislation announce*	Within five words over three lines
Government intend* legislation	Within five words over two lines
Government intend* policy	Within five words over two lines
Government tackle* legislation	Within five words over two lines
Government tackle* policy	Within five words over two lines
Government address* legislation	Within five words over two lines
Government address* policy	Within five words over two lines
Government solve* legislation	Within five words over two lines
Government solve* policy	Within five words over two lines
Minister* introduce* legislation	Within five words over three lines
Government introduce* legislation	Within five words over two lines
Minister* plan* policy	Within five words over three lines
Government plan* policy	Within five words over three lines
Policy promise*	Within three words over two lines
Policy announce*	Within three words over two lines
Policies announce*	Within three words over two lines
Policy shift announce*	Within three words over three lines
<i>Within Single Paragraph Search</i>	
Minister* announce* policy	Two line search
Minister* announce	Two line search
Minister* announce*	Two line search
Minister* announce	Single line search
Table A1 continued	
Minister* announce*	Single line search
Minister* plans policy	Three line search
Minister* introduce* legislation	Three line search
New government policy	Single line search
New government policy announce*	Three line search
Government propose*	Over one line search
Government propose* policy	Three line search
Government intend*	Single line search
Government intend* address	Three line search
Government announce* legislation	Three line search
Government announce* policy	Three line search
Government introduce* legislation	Over three line search
Government introduce* legislation	Single line search
Government plan* policy	Three line search
Policy promise*	Over one line search
Policy announce*	Over one line search
Policy shift announce*	Three line search

Table A2: Policy proposals per MRG Policy Category

<i>MRG/CMP Policy category</i>	<i>Frequency</i>	<i>Percent</i>
Market Regulation +	38	23
Environmental Protection +	21	13
Law and Order +	18	11
Infrastructure +	16	10
Free Enterprise +	13	8
Welfare +	6	4
Incentives +	5	3
Welfare -	5	3
Education +	5	3
Labour +	5	3
Gov-Admin Efficiency +	4	2
Non-economic Groups +	4	2
Social Justice +	3	2
Education -	3	2
Military +	2	1
Freedom-Hum Rights +	2	1
Controlled Econ +	2	1
Nat Way Life +	2	1
Farmers +	2	1
Foreign Special +	1	1
Internationalism +	1	1
Central +	1	1
Protectionism +	1	1
Economic Goals	1	1
Econ Orthodoxy +	1	1
Minority Groups +	1	1
Total	163	101

Table A3. List of lobbying activities

a) Carried out or commissioned research
b) Newspaper adverts or press releases
c) Contacted MP
d) Wrote letter to the government
e) Organised a petition or e-petition
f) Met with government representatives or ministers
g) Gave evidence at a committee hearing or provided a consultation response
h) Participated in a feasibility study or working group
i) Set up a campaign website
j) Organised an info event, workshop, or press conference
k) Organised a social event
l) Organised a site visit
m) Coordinated with other companies
n) Coordinated with trade association or industry group
o) Hired a political consultant
p) Organised a protest
q) Coordinated with trade union
r) Other (please specify)

Note: This is the version for firms. Slight variations for items *m*, *n*, and *q* have been used for other types of actors.

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