Matthew Braham · Frank Steffen
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# Power, Freedom, and Voting

Essays in Honour of Manfred J. Holler

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# 8. Pivotal Voting Theory: The 1993 Clinton Health Care Reform Proposal in the U.S. Congress

Joseph Godfrey
*WinSet Group, Fairfax, Virginia, USA*

Bernard Grofman
*Department of Political Science, University of California, Irvine, USA*

## 1. Introduction

Theories of lobbying differ considerably about which legislators are most likely to be lobbied by which types of interest groups. In particular, there is not agreement as to whether lobbyists will focus on those likely to be sympathetic to the interest group (their friends), or those likely to be unsympathetic to the interest group (their enemies).[1] Plausible arguments can be made in each direction. One lobbies one's friends to offer information that will help them draft legislation and fend off criticism, and to remind them of past obligations and future payoffs (carrots); one lobbies one's enemies because they need to be exposed to arguments and facts countervailing their most likely position, and to alert them that this is an important vote that will be remembered and might cost them the opposition of an interest group in future re-election efforts (sticks).

However, regardless of disagreements about whether lobbying is likely to be directed primarily at an interest group's friends or at its enemies, there does appear to be a high degree of consensus in the interest group literature on the proposition – one with clear rational choice roots – that major lobbying efforts by virtually all special interests will include swing voters likely to be pivotal. But, the interest group literature also identifies some complicating factors that are also relevant from a decision-theoretic perspective. For example, some legislators, e.g., those in positions of power, or those seen by their fellow legislators as particularly experienced or knowledgeable, may be more likely to be influential, and thus lobbying efforts di-

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[1] See Austen-Smith and Wright (1994, 1996), Baumgartner and Leech(1996*a*, 1996*b*).

rected at them may have a more important impact on outcomes than lobbying directed toward 'ordinary' legislators, even if potentially pivotal ones.

Also, some legislators may be seen as potentially more pliable than others. For example in the U.S. Senate, with six year terms, legislators up soon for re-election may have election concerns that make them more open to persuasion by interest groups offering either carrots or sticks than those whose next re-election campaign is further away. Also, in the Senate, it may make more sense for lobbyists with limited resources to focus their grass-roots lobbying efforts to indirectly influence a Senator my mobilizing forces within his constituency of the Senators from small states.[2]

In this essay we make no pretence to test the full range of competing theories of lobbying. Rather, we will focus on one simple hypothesis: that major lobbying efforts will be directed toward potentially pivotal legislators. Moreover, we will not use new data but instead rely almost entirely on data provided by Goldstein (1999) in his chapter looking at special interest lobbying activities on the Clinton 1993 Health Care reform proposal.[3]

Goldstein (1999: Chapter 5) reviews lobbying activities and tracks changes in health care reform proposals as they move through Congress. Goldstein interviewed lobbyists on health care reform in 1993 representing a number of the special interest groups (SIGs) active in the debate.[4] Of these SIGs, 8 were pro Clinton's plan and 13 were against. Trade associations broke down 7 to 1 against Clinton's plan; and lobbies of individual corporations broke down 3 to 0 against. Ideologically defined groups broke down in the predicted fashion, with the 7 groups on the left in Goldstein's sample being for the plan, and the 3 groups on the right being against it.[5]

Bills concerning health care reform were considered in the House Ways and Means Committee, the House Energy and Commerce Committee, the House Education and Labor Committee, the Senate Finance Committee and the Senate Labor and Human Resources Committee. Because neither the Labor Committee in the House nor the Labor and Human Resources Committee in the Senate attracted much lobbying attention,[6] both Goldstein and we focus on the three remaining committees which were the focus of the most intense lobbying.

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[2] Goldstein (1999: 103) quotes a lobbyist on exactly this point: '[f]ifty small businessmen are more likely to influence [Senator] Max Baucus in Montana than a lot more than fifty small businessmen are going to influence [Senator] Moynihan in Manhattan.'

[3] Most of the book is on issues related to political participation that are outside the scope of this paper. Moreover the nature of its specialized focus means that the data collected is not ideal for present purposes. Nonetheless, his is the only empirical data set on lobbying activity with which we are familiar that allows us to investigate the usefulness of spatial power score ideas in studying lobbying efforts.

[4] He also interviewed party leaders and key figures in Hilary Clinton's health care taskforce.

[5] Goldstein reports this information in Table 5.1, p. 75. Also see the discussion in his book immediately below and after this table.

[6] See discussion below.

For each of these three committees, Goldstein was able to learn which congressional legislators each SIG lobbied (either directly, or indirectly, through lobbying at the grassroots to generate communications with the legislator from his or her constituents). Goldstein also reports information on roll-call voting scores of the members on one standard index (ADA scores) provided by the liberal group, Americans for Democratic Action. This 0–100 measure is commonly used as a measure of general ideology, with high values indicating liberalism and low values indicating conservatism. Even more importantly, for the period shortly after the Clinton proposal is unveiled, Goldstein reports data on how legislators on key committee are classified by one key lobbying group, the National Federation of Independent Businesses (NFIB) in terms of their sympathy for small business concerns.[7] He recodes NFIB data into a 5 point scale, with voters in the middle seen as potentially open to lobbying, while voters at the extremes are expected to vote for or against the Clinton proposal with near certainty. A combination of these two measures will allow us to identify which legislators on each of the three heavily lobbied committees were regarded as potential swing voters.[8]

Goldstein (1999) makes a number of important contributions to our understanding of lobbying.[9] For present purposes, however, we will emphasize how his use of lobbying data on health care reform in the U.S. in 1993 leads to ways to test pivotal voter theory.

First, Goldstein shows that the committees which attract attention from lobbyists are those where the lobbyists think that they might influence outcomes, and where they regard the outcome of the committee deliberations as likely to be influential on the floor. Goldstein estimates the first of these two factors by looking to see what proportion of the committee Democrats had already signed on as co-sponsors of the Clinton bill, since the partisan climate at the time was such that no Republican in any of these committees was a co-sponsor of the Clinton proposal. Goldstein estimates the second of these two factors by comparing the ADA scores of the Democratic majority in each committee with the position of the overall floor median. His argument, which we find persuasive, is that, given how closely divided the two

[7] This issue played itself out in the Clinton health care debate primarily in terms of so-called employer mandates, i.e., requirements that employers provide some kind of health care insurance for their employees. At issue was how large a firm would have to be in order to be subject to this mandate, and whether requirements for firms would vary with firm size.

[8] In particular, we combine the information from ADA and NFIB roll-call measures to develop a two-dimensional representation of the legislative space. While the full NFIB scale is a 100 point scale; since only five values occur, at these are at equal intervals apart, it is straightforward to recast that scale as a five point scale. The correlation between the original scale and the recoded scale is 1.0.

[9] In general, Goldstein's chapter on Clinton's health care proposal focuses on the role of grass roots lobbying, i.e., on the mobilization of constituents by interest groups to influence legislators, a form of indirect lobbying by interest groups.

chambers were along party lines, and the degree of partisan and ideological polarization around the issue of health care reform, and the great importance and huge potential costs attached to this issue, only proposals close to the views of the median floor voter had any real chance of passage.

Goldstein finds that two of the five committees considering health care reform, the Labor Committee in the House and the Labor and Human Resources Committee in the Senate, with ADA means of 87 and 85 for their Democrat members, were somewhat further to the left of the overall floor median than was true for Democrats on the three committee which were the subject of major lobbying efforts (an ADA mean of 77.8).[10] Also, these two labor committees had a much higher proportion of committee Democrats who were already co-sponsors (i.e., introducing signators) of the Clinton bill (53% for Senate Labor and Human Resources, 54% for House Education and Labor, compared to a mean of 30% for the other three committees), thus making the outcome of the vote in the former committees mostly foregone.[11] The combination of these factors leads him to expect that the two labor committees will not be the targets for extensive lobbying, and this is exactly what he finds. Of the 21 SIGs about which Goldstein has data, 15 of 21 lobby House Ways and Means Committee, 16 the House Energy and Commerce Committee, 20 the Senate Finance Committee, but only 4 lobby the House Education and Labor Committee and only 5 of 21 lobby the Senate Labor and Human Resources Committee.

Second, Goldstein's study of the 21 SIGs reveals that they primarily focus on legislators whom they see as swing voters. For example, he finds that 16 of the 21 special interests groups about whom he gathers data (67%) claim to focus their attention on the 'undecided' legislators.[12] Moreover, within each of the three more heavily lobbied committees, when we calculate the correlations between NFIB scores and SIG lobbying efforts directed at individual legislators within that committee,[13] we get very substantial values: .84, 0.81, and 0.70, for the Senate Finance Committee, the House Ways and Means Committee, and the House Energy and Commerce Committee, respectively.[14]

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[10] These differences are statistically significant.

[11] See Goldstein (1999: 80, Table 5.3).

[12] Of the remaining 5 groups, 3 focus attention on legislators who are already on their side, and 2 on opponents (see Goldstein 1999: 84, Table 5.5).

[13] Since NFIB scores were on a scale of 1 to 5, to obtain this correlation we have subtracted the extremism of NFIB ratings (defined as absolute value (NFIB-3)) from 2 to give us a scale which runs from 0 to 2, with 2 indicating maximum centrality. At the level of lobbying groups, SIG values were coded as dummies in that either a committee member was lobbied (coded as one) or s/he was not (coded as zero) . The value for each legislator is simply the sum of his/her scores across the 21 SIGs.

[14] Although Goldstein reports various kinds of numerical data, he does not do any form of statistical analysis on his data other than simple tabulations. Thus, these correlations were created by the present authors.

In this paper we build on Goldstein's work. We see the original contributions of this paper as five-fold: First, we make use of both ADA scores *and* NFIB roll-call voting scores to locate the Senators and House members on the three most lobbied committees in a two-dimensional policy space which captures, in an *a priori* fashion, their likely attitudes toward health care reform rather than using one or the other of these measures in isolation from one another. ADA scores may be taken as a rough proxy for the dimension of health care reform that had to do with the role of government in administering the program., e.g., should it be privately administered or should it look more like Medicare, the so-called *single-payer* option. NFIB scores may be taken as a rough proxy for a slightly different health care reform issue having to do with *employer mandates*, i.e., how much of the burden of health care insurance would be passed on to employers, and where would the threshold be set in terms of firm size to determine which firms must contribute to the health care insurance costs of their employees. While attitudes on these dimensions tended to be strongly correlated, the correlation was not perfect.

Second, we calculate for each committee member the spatial analogue of the well-known Shapley value of pivotal power, the Shapley-Owen value (Owen and Shapley 1989). As far as we are aware, this is the first attempt to calculate Shapley-Owen values for real-world legislative data.[15]

Third, we compare the Shapley-Owen calculations of pivotal power to which legislators on these committees were actually lobbied. We illustrate that, while NFIB scores and Shapley-Owen scores generally agree for legislators who appear centrally placed in the policy space, they can differ substantially for outliers in our two-dimensional representation, i.e., legislators who are high in their NFIB rating but low on ADA, or conversely. [16] We also find that lobbyists systematically neglect the legislators located at the fringes of the space that our game-theoretic calculations nonetheless identify as pivotal.

Fourth, we test the usefulness of Shapley-Owen scores by looking to see whether legislators missed by unidimensional analysis, but identified as pivotal by their Shapley-Owen scores, behave differently in their voting behavior from those potentially pivotal legislators whom lobbyists did

[15] Work in the 1950s for the RAND Corporation by Lloyd Shapley uses an earlier variant of the Shapley index to understand voting patterns in the U.S. Supreme Court; Grofman et al. (1987) calculate Shapley-Owen values in their reanalyses of experimental committee voting games run by economists and others, and examine from a mathematical perspective the connections between Shapley-Owen scores and the social choice solution concept, the *Copeland winner*, Feld and Grofman (1990) look at the mathematical link between Shapley-Owen values and another social choice concept, the *yolk* (Mckelvey 1986).

[16] While the two measures are very highly correlated, the correlations are not perfect. For examples for the House Energy and Commerce Committee and the House Ways and Means Committee, the correlations are 0.94 and 0.79, respectively. Thus, we can identify outliers who are high on one score and low on the other, or vice versa.

identify and target. Some legislators whom we identify as pivotal but who were left out of lobbying efforts were, in fact, less likely to vote for final passage of the bill within the committee (in the two committees where a bill was reported out) than the highly pivotal legislators identified by more conventional means of analysis who were lobbied. Thus, we argue that lobbyists missed viewing as important, and hence failed to influence, some potentially pivotal legislators whom a two-dimensional perspective using Shapley-Owen scores based both on sympathy to the NFIB position and generalized ideological location could have allowed us to identify. But we also recognize that the small sample and limitations of our data do not allow us to fully test this claim.

Fifth and finally, we look at another solution concept, the *Copeland winner* and show how it can be applied to legislative data. The Copeland winner is the location which can defeat the most other alternatives in paired competition (Straffin 1980). We make use of Shapley-Owen calculations to determine the location of the Copeland winner.[17] The Copeland winner can be viewed as the alternative that is closest to a majority rule core (i.e., majority undominated) outcome in the committee voting space. Thus, it can be taken to be an *a priori* prediction of where the committee consensus will emerge in a majority rule setting. For the two committees we look at who did report out a bill, we take the location of the Copeland winner as a plausible estimate of the location of the reported bill.

In the next section of the paper we briefly review the notion of pivotal power and show, in a relatively intuitive way, how Shapley-Owen scores can be calculated. Then, in the succeeding section we apply the Shapley-Owen measure. First we show the 1993 locations of the members of the three committees on which interest group lobbying efforts were concentrated (the Senate Finance Committee, the House Ways and Means Committee, and the House Energy and Commerce Committee) in the two-dimensional policy space defined by ADA scores and NFIB evaluations. Then, for each of the three committees, we look at measures of lobbying activity vis-a- vis Clinton health care reform proposals, and then we test the pivotal legislator theory of lobbying efforts, and compare what happened in the committee to the prediction based on the location of the Copeland winner.

## 2. Calculating the Shapley-Owen Value for Senate Committees

A standard game-theoretic approach to calculating the power of individual voters or blocs of voters in situations involving voting is to determine the

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[17] Owen and Shapley (1989; see also Grofman et al. 1987) show that, in spatial voting games, the Copeland winner (also known as the *strong point*) can be calculated from the policy locations and Shapley-Owen values of the voters. In particular, the strong point can be expressed as a weighted average of the voter ideal points, where each voter ideal point is weighted by that voter's Shapley-Owen power score.

expected proportion of time that a given voter or bloc can be expected to be pivotal or decisive on the outcome. For example, in Shapley's (1953) approach the power of a voter (or bloc) is calculated by looking at the likelihood that a voter (or bloc) will put a given coalition 'over the top,' by converting a losing coalition to a winning one as a result of his joining the coalition. Game-theoretic measures of *a priori* power such as the Shapley value or the Banzhaf index make strongly simplifying assumptions about feasible coalitions in voting situations. The Banzhaf index assumes all combinations of actors are equally likely, while the Shapley value takes all permutations of voters to be equally likely. There have been a number of attempts to build in to power calculations more realistic assumptions about which coalitions are likely to arise. The most interesting of these for our purposes is the Shapley-Owen value.[18]

The Shapley-Owen value applies to spatial voting games, i.e., to games where voters and alternatives can be regarded as points in some multidimensional issue or policy space. It estimates the proportion of times that a given actor (or bloc) will be pivotal as we consider possible 'lines of choice' in the space. While all choice lines are posited to be equally likely, this does not mean that all coalitions are equally likely. Rather, coalitions involving voters who are 'central' to the policy space are going to be more likely, and thus voters who are central are going to have greater pivotal power – where centrality is a concept that an be defined in a quite precise way. We can illustrate the calculations for a simple three voter example.

Consider three (equally weighted) voters, {1,2,3}, located in a two-dimensional space, whose axes we have labelled 'guns' and 'butter' simply for illustrative purposes. Each voter's bliss point, represented by a black dot, represents that voter's preferred combination of spending on guns and butter, respectively. We assume Euclidean distance, so that voters prefer points (i.e., combinations of spending on guns and butter) closer to them to points further away. Imagine that the choice is between two spending alternatives, A and B, which are located somewhere on the line we have labeled 'choice line 1' (or located, for that matter, on any line that is parallel to that line: by symmetry we will need to look at only one line in any given direction, since the results we get will be the same for all parallel lines). We can project the voter ideal points onto this choice line by dropping perpendiculars from the voters to the line. It is easy to see that, under the given assumptions, if voters are restricted to choices on this line, the voter i will prefer his projection on this line to any other point on the line, and will prefer points on the line closer to his projection to points on the line further away.[19] We can also identify the median voter on this line.

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[18] What was to become the Shapley-Owen index in its present form is introduced in Grofman et al. (1987), reporting work of which Guillermo Owen is the author.

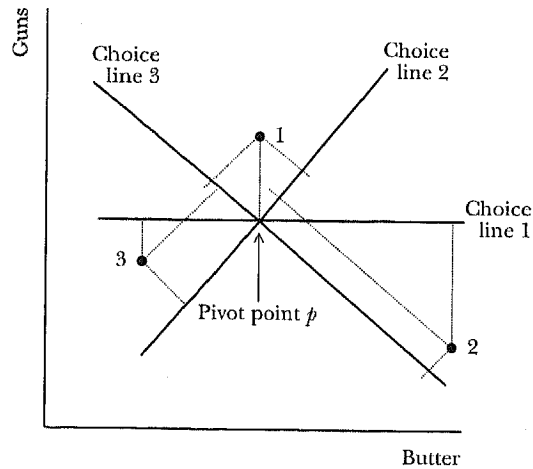[19] See e.g. Feld and Grofman (1987).

**Fig. 1.**    Illustrative three voter example of Shapley-Owen calculations

The location of the two alternatives determines the angle of the choice line. Without loss of generality, because outcomes on all parallel lines are identical, we can consider only choice lines that pass through pivot point p. Looking at Fig. 1 we see that voter 1 is median on choice line 1, since that voter's projection is the median projection onto the line. But, on choice line 2, it is apparent that voter 2 is the median voter; while on choice line 3, it is voter 3 who is median. But, by Black's theorem on single-peaked preferences (Black 1958), if voting is by simple majority, we know that on any given line it is the median voter who will be the pivotal voter. The simple intuition behind the Shapley-Owen value is to figure out the proportion of choice lines on which each voter will be median, and thus pivotal. That proportion is their Shapley-Owen value. To obtain this value we consider all angles in the space, and identify which voter is median on each. The measure of those angles (normalized so that the sum across all voters is one) is the voter's Shapley-Owen value.

In a triangle the Shapley-Owen values have a particularly simple form. Each voter's Shapley-Owen value is simply the arc of the triangle subtended by that voter, normalized by dividing by 180 degrees. Thus, in the three voter case, a voter who is located at an obtuse angle is more powerful (more likely to be pivotal) than a voter who is located at an acute angle. In general, Shapley-Owen values are calculated by finding the *star angles* associated with each voter, which are the angles within whose range the voter is median.[20]

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[20] For further details see Godfrey (2005) who provides a computer algorithm for calculating Shapley-Owen values for two dimensional spatial voting games based on the theorems in Owen and Shapley (1989). For readers familiar with Krehbiel's 1998 book, *Pivotal Politics*, we would note that the idea of pivotal power based on spatial Shapley-Owen values can be thought of as

## 3. Three Case Studies

In President Clinton's first term, due to spiraling health care costs and increasing numbers of citizens who lacked medical coverage, and the trigger of Harris Wofford's upset victory in a special election in Pennsylvania for the U.S. Senate in which he had made health care reform the cornerstone of his campaigning, health care reform became a major priority for the Democrats (Skocpol 1996; Goldstein 1999: 72–73; Hacker 1999). A task force spearheaded by Hillary Rodham Clinton offered an innovative (and complex) scheme that made use of what was called 'managed competition,' involving the creation of dozens of new health care entities from among whom voters would choose. While there were multiple policy choices which needed to be made in crafting health care reform, one way to think about the choices confronting Congress in a simple fashion is to consider Clinton's plan as a compromise between the Republican approach, which was to allow the private market to handle health care, and the approach of the most liberal Democrats, which was to adopt some variant of the Canadian single payer scheme with government regulating and financing of at least some elements of universal health care.

Presidential supporters introduced bills into both Houses of Congress that were reported to committee. However, as noted earlier, in neither chamber was the committee assignment unique. In the House, bills were assigned to the Ways and Means Committee, and the Energy and Commerce Committee, and the Education and Labor Committees; in the Senate, bills were assigned for markup to both the Senate Finance Committee and the Senate Labor and Human Resources Committee,[21] The chairs of the House committees were Dan Rostenkowski, John Dingell, and William Ford, respectively; the chairs of the Senate committees were Daniel Moynihan, and Ted Kennedy, respectively.

The failure of Clinton health care reform has been a topic much written about, including at least two book length studies (Skocpol 1996; Hacker 1999). The defeat of the Clinton Health Care reform initiative within Congress was a major watershed in the Clinton presidency, with ramifications that continue to this day in terms of still unaddressed issues involving health care costs and accessibility, and in terms of consequences for voter perceptions about Democrats competence to craft and implement policies in the public interest.

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the natural extension of ideas of pivotality based on unidimensional party competition. But we will not attempt to directly relate our work on lobbying to Krehbiel's attempts to model the conditions for legislative gridlock and the breaking thereof. That topic we must reserve for a future paper. The algorithm reported by Godfrey measures star angles with a finite precision. Hence the computed Shapely Owen values are not exact. The Shapely-Owen values reported in this paper have a precision of about 0.005.

[21] For present purposes we will not look at the (internal) political considerations that led to multiple referrals in each chamber .
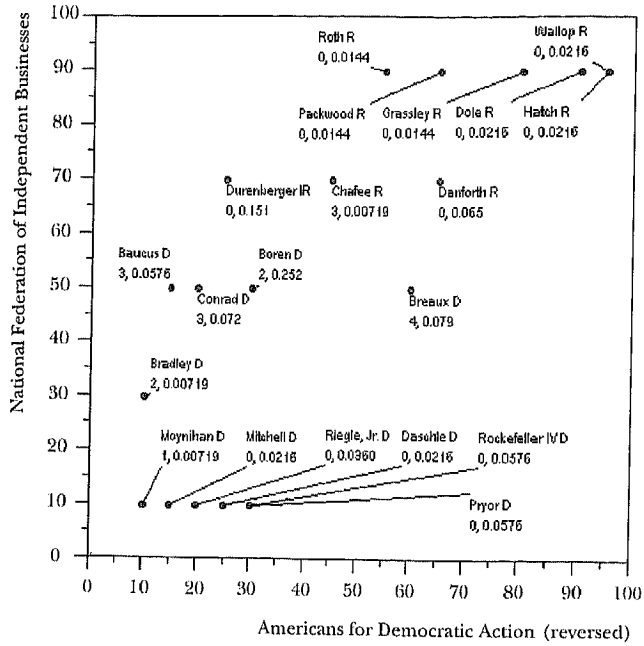
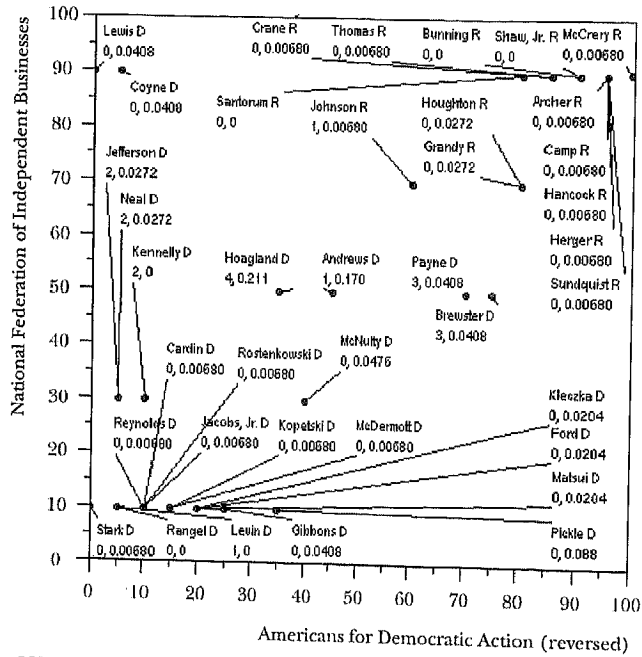**Fig. 2.** US Congress – 103rd Session, 1993–94 (House/Finance/*)



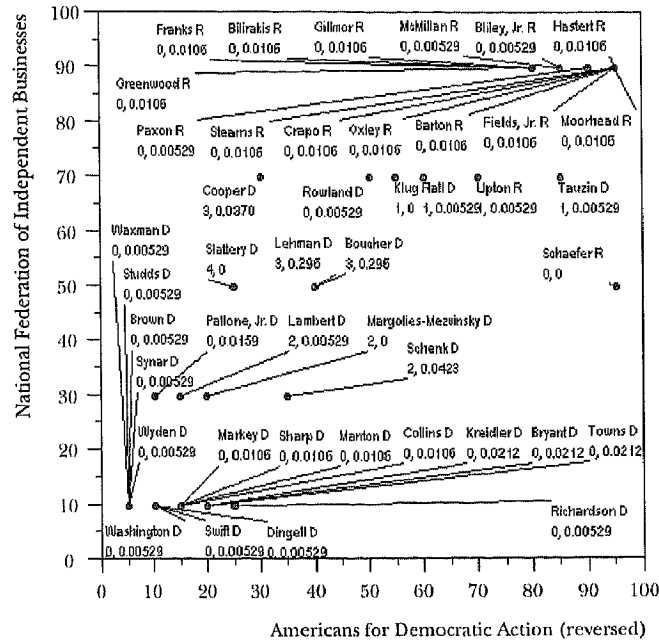**Fig. 3.** US Congress – 103rd Session, 1993–94 (House/Ways and Means/*)

**Fig. 4.** US Congress – 103rd Session, 1993–94 (House/Energy and Commerce/*)

Here we will draw largely from Goldstein's study of the 1993-94 struggle within these various congressional committees to shape a health care reform package that could pass Congress. That study focuses heavily on the role of grass roots lobbying, and our own research will be limited to the topic of the choices made be lobbying organizations as to which legislators to target for grassroots lobbying activity.

The issue of why Clinton's proposals went down to defeat is of only incidental interest in this paper, and we will discuss the contents of alternative proposals only in passing. While we do identify lobbying targets that were missed, and Goldstein suggests ways of crafting bills that might have attracted broader legislative support, it is clear that, as Goldstein observes (1999: 74): 'Lobbying efforts in general, and grass roots tactics in particular, alone, cannot explain the demise of the Clinton plan. Some of the credit – or blame – must go to an overreaching plan devised in secret, a divided Democratic party, a determined Republican opposition, and a problem-plagued presidency.'

As noted earlier, Goldstein separately used ADA scores and NFIB scores as proxies for legislator's likely attitudes toward health care reform. As shown in Figs. 2–4, using ADA and NFIB roll call voting evaluations, we can construct a two dimensional plot of legislator positions for the members of the three congressional committees considering health care reform which

were the main targets of lobbying activity. For each committee member, we show locations on the ADA and NFIB dimension and indicate the Shapley-Owen value (decimal) of each member. In addition, information about the level of lobbying activities of the special interest groups involved with health care issues, for which Goldstein has collected data, is also shown in the figures. Associated with each legislator is the number of firms (out of 21 interviewed by Goldstein) that mobilized for the legislator.

Several things should be obvious from those figures. First, since ADA and NFIB scores are correlated, member positions fall largely along a diagonal in the two-dimensional space.

Second, once we identify party, it is apparent that, by and large, Democrats and Republicans are located in different portions of the space. In particular, Democrats are in the lower left (low ADA, low NFIB) and Republicans in the upper right (high ADA, high NFIB).

Third, as previously suggested, we see that most of the lobbying was concentrated on committee members located in the middle of the NFIB scale, i.e., located in a vertical swath toward the center of each of the figures. Indeed, legislators located at one far extreme or the other of the NFIB scale were essentially never contacted by special interest group lobbyists. Thus, we see strong support for the notion that lobbying will be largely devoted to voters seen as potentially pivotal. However, there are some puzzling anomalies. For example, in the data for the Senate Finance Committee shown in Fig. 2 we see that Senators Danforth and Durenberger are not lobbied, despite their being within the vertical swath of heavily lobbied Senators.[22]

Fourth, while high Shapley-Owen scores are by and large found for members whose location is near the center of the unit square shown for each of the four committees, and low Shapley-Owen scores are largely found in members whose location is far away from the center of the unit square, this relationship is far from perfect. In other words, using the Shapley-Owen measure of voting power, we obtain some counterintuitive notions of which members are most likely to be pivotal. For example, in Fig. 2, consider Senators Rockefeller and Prior. With Shapley-Owen values of 0.06 they are almost as pivotal as the centrally located Senator Breaux, with an Shapley-Owen score of 0.08.

The lack of good fit between lobbying levels and member's Shapley-Owen power scores is demonstrated by the fact that correlation between the two are very far from perfect. For the Senate Finance Committee, the Pearson correlation between Shapley-Owen values and SIG lobbying efforts is only 0.26; in the House Ways and Means Committee it is 0.54 , and in the House Energy and Commerce Committee it is 0.51. Recall, however, that the corresponding correlations for an NFIB-based measure of centrality

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[22] One other anomaly in Fig. 2, the lobbying attention devoted to Senator Moynihan, can be explained simply by recalling that he was then committee chair.

were 0.84, 0.81, and 0.70. Thus, if we were simply interested in making *a priori* predictions of which legislators in each of these three committees would be lobbied, then we would have been better off looking not to the Shapley-Owen measures but to our constructed measure of NFIB centrality.[23] Still, the question remains: 'Does the fault lie with the Shapley-Owen value for failing to be a good indicator of pivotal power,[24] or does the fault lie with lobbyists who wrongly neglected some critical members of the committee whom they should have lobbied?'

In the remainder of this section we will turn our attention to this issue of optimal lobbying by looking at proposals within the three committees and at what type of bill emerged (or did not emerge) from each. In particular, we look at who supported the final bill as a function of their location in the two-dimensional space, their Shapley-Owen value, and whether or not they were lobbied.[25] We will also look at the relationship between the Copeland winner and our estimated location of committee outcomes.

### 3.1 *Senate Finance Committee*

In the Senate Finance Committee, Senator Moynihan, while personally favoring a government-sponsored health plan, believed that for the health bill to survive a filibuster on the Senate floor bipartisan support was required. He therefore worked to amend the bill in such a way as to attract moderate Republicans. He did so by removing certain language offensive to small business interests (rewriting the section on *employer mandates* referred to earlier). In the Senate Finance Committee, as shown in Fig. 5, there were 12 yes votes and 8 no votes on final passage, with 2 Republicans and 10 Democrats voting yes, and 7 Republicans and 1 Democrat voting no.

Fig. 5 shows voter locations (the same as given in Fig. 2) and votes on final passage of the bill reported out by the committee. The figure also gives our estimate of the location of the amended proposal, namely the Copeland winner (shown as a circle containing a dot).

If we look at who voted yes on final passage, in addition to the usual suspects, i.e., the Democrats located in the bottom right hand corner of Fig. 2,

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[23] However, if we look to ADA centrality we get a more mixed comparison. For example, for the House Energy and Commerce Committee outperforms the Shapley-Owen measure in predicting who will be lobbied, since the correlation between ADA centrality, measured as twice (fifty minus absolute value (ADA score -50)) is 0.63, higher than the corresponding value of 0.51 for the Shapley-Owen correlation. But for the House Ways and Means Committee the advantage goes in the other direction (0.54 for the Shapley-Owen measure but only 0.35 for the ADA measure).

[24] Alternatively, does the fault lie with the way in which we operationalized our construction of the Shapley-Owen values?

[25] In some instances we also look at idiosyncratic factors identified by Goldstein (1999), or in other research on the 1993–94 struggle for health care reform, that may have influenced the votes of particular Representatives or Senators.
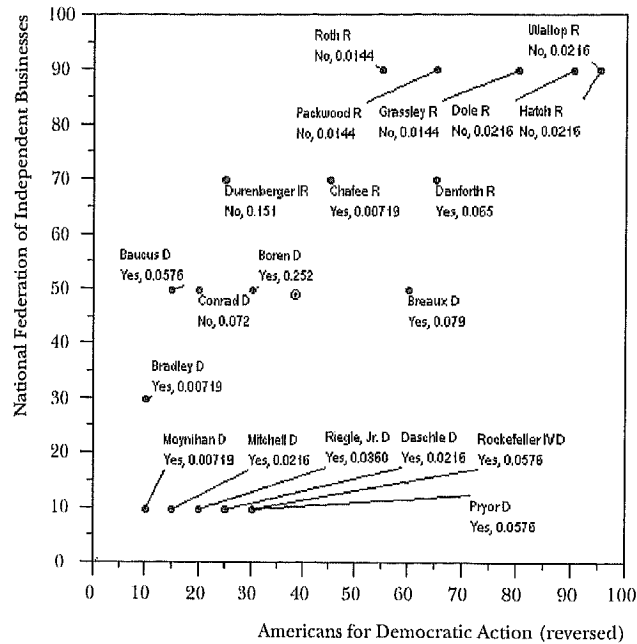
**Fig. 5.**    US Congress – 103rd Session, 1993–94 (Senate/Finance/*)

we see unexpected yes votes from Republican Senators Chafee and Danforth, only the former of whom was subject to substantial SIG lobbying, but who each may have been persuaded to vote yes by the changes in the bill made by Senator Moynihan. We also see an unexpected no vote from a Democrat, Kent Conrad, who was also heavily lobbied; but the other two most heavily lobbied Democrats, Sen. Baucus and Senator Breaux, voted with their party. Senator Durenberger, who voted with his party and against the bill, would have seemed to have been, given the final coalition, a possible yes vote that was lost.

Senator Durenberger was not up for immediate re-election, so, while having an exceptionally high Shapley-Owen value, the fact that he was not lobbied vindicates Goldstein's claim that SIGs believe their (grassroots) lobbying efforts will have relatively little influence on Senators who will not soon face the voters, and so expend their resources elsewhere. We regard this as a mistake. Senator Conrad, on the other hand, was up for re-election, and was heavily targeted. Given that his location in the two-dimensional configuration would appear to predispose him to join his fellow Democrats, he is a real anomaly.[26] Another anomaly is that Boren and Bradley were Democ-

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[26] Oppositional lobbying seems remarkably efficacious in its effects on Senator Conrad's vote unless, for some reason, it was unidirectional and he was never lobbied by the pro-Clinton side. Because, for confidentiality reasons, we do know which lobby groups lobbied which legis-

ratic senators who were subject to comparable levels of lobbying, despite the fact that their high Shapley-Owen scores suggested that only one was likely to prove influential; both, however, voted with the vast bulk of their fellow party members, to accept the Moynihan compromise.

Given the observed votes, the maximum likelihood axis of cleavage is one that runs from around (0, 90) to around (100, 70). Such an axis is the line that minimizes the number of mistaken predictions. Only Senator Conrad would be mispredicted, although both Senators Chafee and Durenberger would be very close to the edge of our hypothesized line of cleavage – and thus natural targets for lobbying if this were realized. If we draw in such a line of cleavage, given our estimate of the location of the amended version of the bill, we can identify the hypothetical location of the status quo as the *reflection* of that point through the axis of cleavage, by dropping a perpendicular from our estimate of the location of the amended version of the bill to the our estimated line of cleavage and extending the perpendicular the same distance above the line as the amended bill is below the line. We would also observe that the location of the Copeland winner that we have calculated from the Shapley-Owen values of the legislators using the Shapley-Owen approach is not very far from where we believe (impressionistically) the final amended bill in the committee to lie.

### 3.2 House Ways and Means Committee

Next we consider the House Ways and Means committee. This committee experienced some turnover during the markup process due to legal difficulties faced by its chairman, Democratic Congressman Dan Rostenkowski, that led to his resignation as chair, but nothing that fundamentally affects our analysis.

The vote on final passage was along party lines with all but four Democrats voting YES and all Republicans voting NO. Looking at Fig. 6, we see that the noticeable anomalies among the Democrats are Reps. Andrews, Hoagland and McDermott, who voted no; and Lewis who voted yes. Andrews and Hoagland would seem to be Democrats on the cusp, the first of whom the Democrats may have lost to heavy lobbying, but the other of whom was not heavily lobbied despite his substantial Shapley-Owen score. Rep. Brewer, the other Democratic no vote is a relatively conservative legislator, who looks only somewhat more moderate than a Republican.[27] Thus, perhaps, his vote is not that inexplicable. He, too, was subject to heavy lobbying (see Fig. 3). Rep. Lewis voted yes from a position that would seem to augur for a no vote, but he is African-American, and a well known liberal and loyal Democratic, so his vote may not be that surprising.

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lators, we cannot resolve that issue.

[27] Rep. Payne, a Democrat, with a similar location, voted yes instead of no.
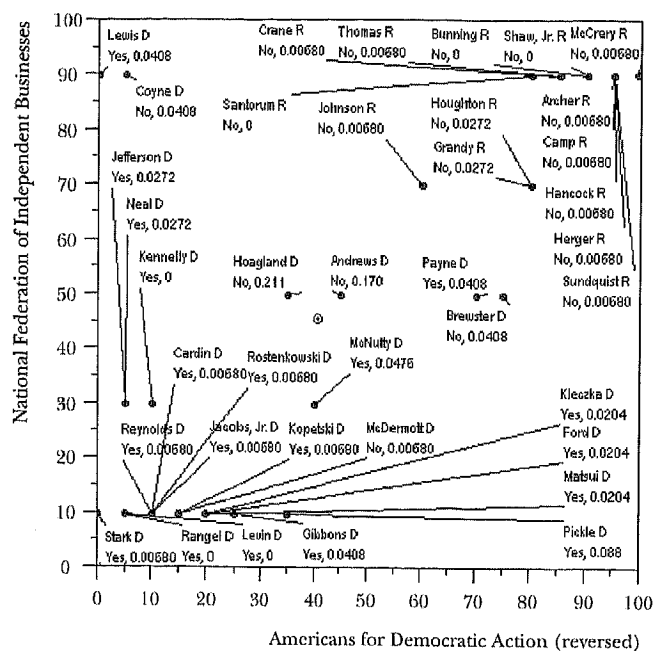
**Fig. 6.** US Congress – 103rd Session, 1993–94 (House/Ways and Means/*)

Rep. McDermott, however, voted no from a position that would seem to augur for a yes vote. Trying to make sense of the voting choice of Rep. McDermott suggests that the assumption of ordinary (Euclidean) distance may not always be appropriate. According to Goldstein, McDermott insisted on a heavily subsidized public health issuance plan and would settle for absolutely nothing less. However, he did not get his desired changes, something not that surprising given what would appear to his limited bargaining power, with a Shapley-Owen value of only 0.007. Insistent on his position, he voted NO.[28]

Perhaps, however, the most peculiar vote of all is that of Rep. Coyne, a Republican, who although a co-sponsor of the original bill, voted against the committee version. Still, based on his spatial location and his party, it would seem that the anomaly is not having him vote no on final passage, but having him as a sponsor of the bill in the first place.

Another anomaly has to do with lobbying activities. Rep. Coyne and Rep.

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[28] We do not attempt to account for the apparent special nature of Rep. McDermott's utility function in the present analysis. We might also note a bargaining game that went the other way despite the relatively low Shapley-Owen bargaining power of the representative (0.041) was that involving Rep. Payne. He was from Virginia, a major tobacco growing state, and objected to certain tax provisions against tobacco in the bill. In exchange for removing those provisions he supported the amended bill.

Lewis each had very high Shapley-Owen scores relative to the rest of the committee, yet neither was lobbied. Both were cross-pressured in terms of NFIB and ADA score locations (high on each). Representative Lewis voted yes; Representative Coyne voted no. If we assume that a YES vote is the default option for Democrats, then the failure by either proponents or opponents to lobby him to any great degree might not appear to matter that much. Yet, certainly, it would seem from our analysis that there was at least some potential for Representative Lewis to vote NO. Moreover, given Lewis' Shapley-Owen score, it would have seemed that he should have been an influential player in working out compromises, yet the failure to lobby him would seem to have made that less likely. As for Representative Coyne, the failure to lobby him seems quite clear in that, while he co-sponsored the original bill, a signal of interest in finding a solution to health care problems, he ultimately voted NO!

When we look at the Copeland winner in the House Ways and Means Committee and compare it to our (impressionalistically) estimated location of the final amended bill reported out of the committee we find the two to be quite close. However, if we now try to locate an axis of cleavage that will (optimally) separate the legislators into YES and No voters, we find ourselves making more mistakes in absolute numbers, but not in percentage terms, than we did when we considered the Senate Finance Committee. The most plausible possibility is a slightly upward sloping line, from roughly (0, 30) to roughly (100, 55). With that hypothesized axis of cleavage, Reps. Lewis, Pane and McDermott would be erroneously classified and Rep. Jackson would be very close to the cusp.

### 3.3 *House Energy and Commerce Committee*

The Energy and Commerce committee was one in which the chairman, Rep. Dingle, wanting to push through the health bill with minimal markup, was unable to gain much cooperation. An analysis based on Shapley-Owen values makes the challenge facing Dingle particularly clear. We see from Fig. 4 that Reps. Boucher and Lehman have the same ideal point, each receiving an Shapley-Owen value of 0.306. Between the two them they have 0.612 of the total value.[29] To report the bill unchanged, Dingle would have had to ask Boucher and Lehman to give up a considerable amount of utility, i.e., to support a proposal far from their preferences. And he would still have had Reps. Slattery and Cooper to persuade, whose pivotalness would be strengthened if Reps. Boucher and Lehman shifted position.

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[29] There are some problems applying our computer algorithm to this committee; because it is an even-numbered committee with many members sharing the same ideal point. However, after experimenting with minor adjustments of ideal points to avoid the compounding of coincidence errors, Boucher and Lehman continue to command well over 60% of the game value. So qualitatively, at least, the representation given in the test is accurate.

According to our analyses of Shapley-Owen values and policy locations, for Rep. Dingle to insist on reporting out the original bill from his committee with minimal markup was a doomed strategy. The best Dingle could have hoped to accomplish was to ask Reps. Boucher and Lehman to mark up the bill to their satisfaction (perhaps asking them to consult with Slattery and Schenk to draw the ideal point of the proposal more toward the Democratic corner). Had Rep. Dingle, in essence, delegated mark-up to Reps. Boucher and Lehman, the result would have been a bill whose ideal point matched fairly closely the corresponding bills reported by Senate Finance and the House Ways and Means committees, Instead not surprisingly from our analysis, due to internal disagreement, no bill was reported out of the House Energy and Commerce Committee.

### 3.4 *Congress as a Whole*

The impasse in the House Energy and Commerce Committee was an augur for a breakdown of the usual legislative process, since the House Energy and Commerce Committee was widely (and correctly) regarded as a good mirror of the House. In part because of the failure of the House Energy and Commerce Committee to report out a bill, the House leadership asked the Senate to work on the health care reform issue before ordering a floor vote on any health care reform proposal in the House. The Senate Democratic leadership, presumably operating at the behest of President Clinton, chose to disregard the bill reported by the Senate Finance Committee and restored the provisions Senator. Moynihan had, through compromise removed.

But the Senate Finance committee was a very good mirror of the Senate as a whole. Thus, ignoring the political information encoded in the Finance committee's bill was to generate a bill that lacked adequate support. . The Senate Democratic leadership, in effect, followed Rep. Dingle in refusing to compromise and the decided not to allow forward a proposal that they knew would fail to pass on the floor. The result was a stillborn bill in the Senate that, combined with dissensus in the House, ensured the defeat of the Clinton health initiative.

### 4. Discussion: Pivotal Power Matters

There are two issues raised by our work. The first has to do with how well SO value matches interest group lobbying behavior. Here we find (using regression analysis) that the SO value calculations do about as well in predicting who is lobbied as the two types of roll-call scores do when each is taken separately. However, there is also a strong normative component to our work. Here, deviations from the expectations generated by Shapley-Owen scores suggest sub-optimal lobbying choices by special interest

groups. For example, Rep. Dingle's disregard of the pivotal power of some members of his committee, is caught by our analysis. This disregard arguably made political compromise about health care impossible in his committee, which in turn was a factor in the breakdown of the political process in the House. Similarly, failing to recognize the need for political compromises about health care reform, the Senate Democratic leadership threw out the information from the bargaining done in the Senate Finance committee. That, too, was a committee that well mirrored the overall Senate, and thus one whose negotiated compromises might have been the basis for majority agreement. In sum, failure to recognize such political realities that Shapley-Owen analyses can capture, and the concomitant inability to compromise, led the Clinton health care initiative to a defeat that had far reaching political implications for the Democratic Party.

## Acknowledgements

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