Norman Schofield · Gonzalo Caballero · Daniel Kselman *Editors*

Advances in Political Economy

Institutions, Modelling and Empirical Analysis

This book presents latest research in the field of Political Economy, dealing with the integration of economics and politics and the way institutions affect social decisions. The focus is on innovative topics such as an institutional analysis based on case studies; the influence of activists on political decisions; new techniques for analyzing elections, involving game theory and empirical methods.

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of deviations which increases her probability of winning to 100 %. What Lemma 2 tells is that, for any value of $G_P < 1$, if the deviation from $\mathbf{v}_m$ to $\hat{x}_P(G_P) = x_m$ and a bare plurality target set does not increase P's probability of winning, then there does not exist an payoff-improving deviation for that level G_P. This leads to the following result:

Proposition 1 *When* $\eta = 1$, *if* $\delta \geq 1/2$ *then* $\mathbf{v}_1^* = \mathbf{v}_2^* = \mathbf{v}_m$, *and if* $\delta < 1/2$ *then the game has no Nash equilibrium.*

The Appendix contains the proof. For any value of $\delta < 1/2$ at least one deviation exists which grants the deviating party $\pi_P > 50$ %. For any value of $\delta \geq 1/2$ no such deviation exists. If a deviation does exist (i.e. if $\delta < 1/2$) this sets in motion the strategic dynamic uncovered in Theorem 1, by which both parties continually cut into one another's target sets, until both parties eventually end up back at the median-voter programmatic strategy vector $\mathbf{v}_m$. This in turn sets in motion another series of deviations, and so on *ad infinitum*. As such, when $\delta < 1/2$ the two parties cycle infinitely between the competing linkage strategies, and the game has no Nash Equilibrium. While numerically different, the same qualitative implications obtain regardless of the value of η: at high levels of δ the game's Nash Equilibrium will be $\mathbf{v}_1^* = \mathbf{v}_2^* = \mathbf{v}_m$, and at lower levels the game will have no Nash Equilibrium.

5 Discussion

The absence of Nash Equilibria with positive levels of clientelism in the most general model arises from the fact that candidates can continually usurp their opponent's clientelistic supporters by adopting overlapping but distinct target sets. This result is related to general instability results in non-cooperative models of coalition formation (see Humphreys 2008 for an excellent review). Early research on the subject came primarily in the form of cooperative game theory (Nash 1953), and among other things tended to uncover the potential for theoretical instability and cycling in coalitional processes. While non-cooperative approaches initially generated greater theoretical stability (though often Nash equilibria were not unique), recent work introducing sequential bargaining strategies has once again uncovered the possibility for theoretical instability in coalition processes. Both the existence of stable equilibria and the properties of stable coalitions depend, crucially, on the assumptions one makes regarding the set of 'allowable' coalitions; and in turn this set of allowable coalitions is dependent on the commitment technologies with which one endows strategic actors (Humphreys 2008, p. 377).

With regards to the model above, the notion of 'allowable' coalitions can be thought of as the set of voters we allow electoral candidates to target with clientelistic goods. Assumptions 1 and 2, which are primarily technical, serve as preliminary restrictions on the set of allowable clientelistic coalitions which can form. However, Theorem 1 above demonstrates that, without additional restrictions, no set of clien-

telistic coalitions is stable in equilibrium. I am now experimenting with additional constraints which allow for equilibria with positive levels of clientelism. While I reserve these extensions for future research, here I report on a series of results which emerge when we assume that each candidate can only effectively target voters on one side of the political spectrum, i.e. that one candidate can only target voters on the 'right' and the other can only target voters on the 'left', such that the only voter potentially in both parties' target sets is the median voter. Interestingly, in a simple game in which this additional restriction is added to Assumptions 1 and 2, we once again end with an instability result: any deviation from the median-voter programmatic outcome leads to an infinite cycle of competitive vote jockeying for the median voter's clientelistic loyalties.

For example, suppose for argument's sake that P has an optimal deviation from the strategy vector $\mathbf{v}_1 = \mathbf{v}_2 = \mathbf{v}_m$ characterized by an effort allocation of $G_P = .8$ (such that $C_P = .2$), a policy position $x_P = .7$, and a target set $\Theta_P = [.5, .7]$. In response to this deviation P's opponent $\sim P$ could choose an identical allocation effort $G_{\sim P} = .8$ and $C_{\sim P} = .2$, a policy position $x_{\sim P} = .3$, and a target set $\Theta_{\sim P} = [(.3 + \varepsilon), x_m]$, where $\varepsilon \to 0$. By doing so, $\sim P$ will win the median voter's support since its effort $C_{\sim P}$ is distributed over a slightly narrower target set than P's effort C_P. In turn, P can respond similarly, and so on such that both parties pursue the median voter's support by continually shrinking the target set of which this median voter is a part. Such jockeying proceeds until both candidates include only the median voter in their target sets, at which point either party can deviate to the median voter programmatic strategy vector $\mathbf{v}_m$ and win the election with probability 1. The cycle then recommences.

This instability arises due to the fact that competitive parties can continually alter their campaign strategy so as to concentrate greater and greater emphasis on the median-voter's desires, without having to concern themselves with the turnout of more ideological voters. I have now established that, by combining the above restriction on allowable target sets with a *binding turnout constraint*, it is possible to generate Nash equilibria with positive levels of clientelism. Define μ as a voter's *reservation utility*, such that voters whose utility for both candidates is less than μ choose not to vote in the election. When $\mu > .5$ the game's turnout constraint becomes 'binding', insofar as some subset of voters on the ideological extremes will abstain from the election when $\mathbf{v}_1 = \mathbf{v}_2 = \mathbf{v}_m$. This stricter turnout constraint implies that policies which cater too closely to the median voter's interests may alienate extremist voters whose participation is uncertain. If candidates can only target voters on one side of the political spectrum and $\mu > .5$, then the need to balance one's interest in courting the electoral median with that in maintaining the support of one's ideological base leads at times to the adoption of positive equilibrium levels of clientelism.

Based on preliminary results which employ these additional constraints, we can begin to examine the comparative static consequences of moving from high to low values of δ. Begin with a hypothesis which caries a grain of counter-intuition: the model's equilibrium level of clientelistic targeting is *not* monotonically related to the size of δ. In fact, overall levels of clientelism are higher when δ assumes intermediate values than when δ assumes extremely low values. Put otherwise, higher

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voter susceptibility to targeted goods does not always lead to higher overall levels of clientelistic effort. The intuition behind this result is as follows: when δ is very small, the median voter's high responsiveness to targeting increases her preference that candidates announce *small target sets*.

Indeed, the equilibrium with extremely small δ is characterized by much smaller target sets than those which emerge when δ is intermediate. In the latter, parties target clientelist effort to all voters on their respective sides of the political spectrum; in the former parties cater only to a small set of centrist supporters at or near the electoral median. When target sets are small, in order to win the election candidates must ensure that some subset of voters not included in their target set nonetheless provides them with electoral support. In equilibrium this forces candidates to choose significant levels of G_P. It also forces them adopt increasingly polarized policy positions: since only centrists are included in parties' target sets, extremists must be placated in order to gain their votes.

Not only does the equilibrium when δ is small represent the paper's first in which parties choose programmatic positions other than the median voter's ideal point; it is a highly polarized equilibrium in which both parties occupy ideological positions well-removed from the electoral median. When δ is sufficiently small the median voter will prefer that candidates keep their target sets narrow, *even if* it means devoting less overall effort to clientelistic targeting and choosing more polarized programmatic stances. Embedded in this logic are a series of curvilinear intuitions. Firstly, as already noted, the extent of a political system's clientelist linkage efforts display a 'hump-shaped' relationship with δ, such that programmatic policy appeals are most prevalent at very high and very low levels of δ. Similarly, ideological polarization should display a 'hump-shaped' relationship with the extent of a political system's clientelist linkage efforts: parties' programmatic positions should approximate the median voter's ideal point at both very low and very high levels of clientelist effort, and should be more polarized at intermediate levels of clientelist effort. Finally, the 'inclusiveness' of parties' target set should bear a 'quasi U-shaped' relationship to clientelist effort. At very low levels of clientelist effort policy is purely programmatic and centrist, i.e. parties have no target sets ($\Theta_P = \emptyset$); at intermediate levels of clientelist effort parties have narrow target sets concentrated near the electoral median; and at high levels of clientelism parties have broad target sets which cater to all voters of their ideological orientation.

These hypotheses constitute, perhaps, the paper's most empirically relevant theoretical results. Information collected via an Expert Survey on Citizen-Politician Linkages (ESCPL), developed and administered by Duke University political scientists with World Bank support, provides data on a number of the above model's basic parameters in a contemporary cross-section of 88 world democracies. First of all, the ESCPL will allow us to estimate the intensity of efforts that parties expend on clientelism vis-à-vis programmatic competition. Secondly, it provides data on the relative moderation or extremism of political parties' programmatic positions. Finally, it also provides data about the target sets of clientelistic parties: expert respondents in all countries were asked to identify the interest groups parties target with clientelist goods (profession, religion, socioeconomic status etc) as well as whether targeted goods are distributed to party loyalists or swing voters.

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Although this newly emerging data set may permit empirical testing of the paper's main claims, it must be admitted that the above results are limited in their empirical applicability in a number of important ways. Firstly, the equilibrium results above all come in the form *symmetric* strategy profiles. The symmetry of parties' policy decisions arises from the symmetry of their strategic situations: both parties face identical budget constraints, have access to equally-sized target sets, and face an ideologically unbiased electorate. Ideally, future work will extend the current model to situations in which parties have distinct strategic options, which in turn might lead to equilibria in which one party is clientelistic while the other is not; one party is extreme while the other is not, etc. Furthermore, the model contains only two political parties, which endows the median voter with a pivotal role in establishing the game's equilibrium outcomes. Whether the above comparative static hypotheses are robust to multi-party situations in which the median voter's role is reduced is a question left to future research.

Beyond the paper's empirical implications, its results carry implications for the normative debate on clientelism's viability as a democratic linkage mechanism. It is not unusual to hear arguments in both academic and policy circles which criticize clientelism as a flawed form of accountability with perverse consequences for political governance, economic growth, and the consolidation of democratic norms and practices. There is undoubtedly much to this position. However, a growing current in studies of clientelism offers a more nuanced normative appraisal of clientelistic linkage. Keefer and Vlaicu (2008) note that the presence of local patrons, who are capable of serving as intermediaries between average citizens and elected officials, often improves aggregate social welfare in environments without credible elected officials. Fernandez and Pierskalla (2009) find that clientelism's political-economic consequences are not as clear cut as we might have expected; clientelist countries in fact outperform their counterparts on select dimensions of economic and human development (e.g. infant mortality and literacy). Finally, my own work on the governance consequences of electoral institutions (Kselman 2008) suggests that, in the absence of an exogenous legal and bureaucratic infrastructure capable of constraining self-interested politicians, electoral rules associated with personalistic politics actually *improve* governance when compared to less personalistic rules. Stated another way, in countries where public institutions are insufficient to constrain political rent-seeking, personalistic accountability is, while certainly imperfect, better than the total *absence* of accountability.

Though in different contexts, these papers share the undercurrent that at times clientelistic linkage may serve as a 'second-best' option when the exogenous environment is not conducive to more normatively palatable forms governance and accountability. Highly clientelistic systems in this model are also associated with ideological moderation and political inclusiveness, values which many consider laudable in and of themselves. On the other hand, systems with intermediate levels of clientelism tend to generate extremism and 'exclusiveness', which many consider perilous for democracy. Thus, not only will future empirical analysis of this model's predictions serve to identify its predictive capacity; as well it will provide information germane to the debate on clientelism's normative status.

Theoretical Appendix

6.1 Proof of Lemma 2 for the Case $G_P \leq 1/2$

If $G_P \leq 1/2$ and P's opponent $\sim P$ chooses $\mathbf{v}_m$, it will be impossible to for P to persuade any voters on programmatic grounds. To see this note that, when $G_P \leq 1/2$, no voter will have a purely programmatic utility for P greater than $1/2$ (i.e. $u_{i,P}(\text{prog}) \leq 1/2$ for all voters). As well, note that all voters have a programmatic utility of at least $1/2$ for any candidate $\sim P$ who chooses $\mathbf{v}_m$: the voters least satisfied with this platform are those with ideal points $x_i = 1$ and $x_i = 0$, and for these voters $u_{i,\sim P}(\text{prog}) = 1/2$ for any party $\sim P$ which chooses the median voter programmatic vector $\mathbf{v}_m$.

As a result, when $G_P \leq 1/2$ and P's opponent $\sim P$ chooses $\mathbf{v}_m$, P will only gain the support of voters who are in its target set. In turn, any deviation from the outcome $\mathbf{v}_1 = \mathbf{v}_2 = \mathbf{v}_m$ will need to involve a target set of at least half the electorate in order to give P a chance of winning. Furthermore, any target set greater than a bare plurality contains more voters than necessary to win the election, and thus will not represent the necessary condition choices $\underline{\hat{x}}_P(G_P)$, and $\hat{\overline{x}}_P(G_P)$ (recall above definition of necessity).

By Assumption 1 above, this bare plurality target set will include the median voter. The median voter will be the voter from this target set whose allegiance will be most difficult to gain, since the opposing party $\sim P$ chooses the median voter's ideal point at $\mathbf{v}_m$. It follows that $\hat{x}_P(G_P) = x_m$.

6.2 Lemma 3 and the Ideological Swing Voter

When $G_P > 1/2$ and P's opponent $\sim P$ chooses $\mathbf{v}_m$, it may be *possible* to for P to persuade some voters on programmatic grounds. In turn, there may exist payoff-enhancing deviations for P which do not involve choosing a bare plurality target set. Lemma 3 establishes the necessary condition strategy for a payoff-enhancing deviation which does not involve a bare plurality target set. Put otherwise, if the strategy identified in Lemma 3 leads does not lead to $\pi_P > 1/2$, then no deviation without a bare plurality target set is payoff-enhancing. Lemma 3 establishes the necessary condition strategy for a payoff-enhancing deviation on the political right; a symmetric condition applies on the political right.

Lemma 3 *For any $G_P > 1/2$, the necessary condition strategy without a bare plurality target set on the political right is $\hat{x}_P(G_P) = 3/2 - G_P$ and $\hat{\Theta}_P(G_P) = [x_m, (3/2 - G_P)]$.*

This lemma, tells us that for any $G_P > 1/2$ the necessary condition strategy for payoff-enhancing deviation on the political right involves the platform $\hat{x}_P(G_P) =$

$(3/2 - G_P)$ and the target set $\Theta_P = [x_m, (3/2 - G_P)]$. For example, if $G_P = .8$ then $\hat{x}_P(.8) = .7$ and the $C_P = .2$ units of clientelistic effort will be targeted to voters in the range $\hat{\Theta}_P = [.5, .7]$.

Proof of Lemma 3 When one party $\sim P$ chooses the median-voter programmatic strategy vector $\mathbf{v}_m$ and her opponent P chooses x_P and $G_P > 1/2$, define x_S as the swing ideological voter, a voter whose programmatic utility for party P is the same as his or her programmatic for party $\sim P$:

$$u_{S,P}(\text{prog}) = u_{S,\sim P}(\text{prog}) \quad \Rightarrow \quad G_P \cdot \big(1 - abs[x_P - x_S]\big) = 1 - abs[x_m - x_S]. \tag{A.1}$$

We will now identify, for any $G_P > 1/2$, the swing ideological voter x_S when $\sim P$ chooses $\mathbf{v}_m$ and P chooses $x_P > 1/2$, i.e. when P chooses an ideological deviation on the political right. An identical process applies for deviations on the political left. Note first that swing ideological voters may exist both in the range $[1/2, x_P]$ and in the range $[x_P, 1]$, i.e. both voters to the left and to the right of x_P may be indifferent between the parties' respective programmatic stances.[10]

Define $\underline{x}_S$ as a swing ideological voter in the range $[1/2, x_P]$. Given our specification of programmatic utility $u_{i,P}(\text{prog})$, for any $G_P > 1/2$ the following expression implicitly defines $\underline{x}_S$ when $\sim P$ chooses $\mathbf{v}_m$ and P chooses $x_P > 1/2$:

$$1 - (\underline{x}_S - 1/2) = G_P \cdot \big\{1 - (x_P - \underline{x}_S)\big\}. \tag{A.2}$$

This can be rewritten as:

$$\underline{x}_S = \frac{3/2 - \{G_P \cdot (1 - x_P)\}}{1 + G_P}. \tag{A.3}$$

Based on (A.3) I establish the following Sub-lemma:

Sub-lemma 1 *For any $G_P > 1/2$, when $\sim P$ chooses $\mathbf{v}_m$ and P chooses $x_P > 1/2$, there is no swing voter ideological voter $\underline{x}_S$ in the range $[1/2, x_P]$ for values of $x_P < 3/2 - G_P$.*

Proof of Sub-lemma 1 We are looking for swing ideological voters in the range $[1/2, x_P]$. As such, if (A.3) generates a value $\underline{x}_S > x_P$, then there is no swing ideological voter $\underline{x}_S$ in the range $[1/2, x_P]$. To see this, note that (A.2) above applies only to voters in the range $[1/2, x_P]$. In turn, if (A.3) generates a value $\underline{x}_S > x_P$, we know that the indifference conditions for a swing voter in the range $[1/2, x_P]$ are not satisfied for voters in the applicable range, such that there is no swing voter ideological voter $\underline{x}_S$ in the range $[1/2, x_P]$. It is then straightforward to establish that (algebra omitted), for any $G_P > 1/2$:

[10] Voters with ideal points $x_i < 1/2$ will all have a higher programmatic utility for $\sim P$ than for P since: (a) they are located closer to $\sim P$ in policy space, and (b) $G_{\sim P} = 1 > G_P$.

$$\underline{x}_S = \frac{3/2 - \{G_P \cdot (1 - x_P)\}}{1 + G_P} > x_P \quad \text{if and only if} \quad x_P < 3/2 - G_P.$$

□

In turn, for any $G_P > 1/2$ Sub-lemma 1 allows to express $\underline{x}_S$ as follows:

$$\underline{x}_S = \begin{cases} \emptyset & \text{if } 1/2 < x_P < 3/2 - G_P, \\ \frac{3/2 - \{G_P \cdot (1 - x_P)\}}{1 + G_P} & \text{if } x_P > 3/2 - G_P. \end{cases} \tag{A.4}$$

We now move to identifying ideological swing voters $\overline{x}_S$ in the range $[x_P, 1]$. Given our specification of programmatic utility $u_{i,P}(\text{prog})$, for any $G_P > 1/2$ the following expression implicitly defines $\overline{x}_S$ when $\sim P$ chooses $\mathbf{v}_m$ and P chooses $x_P > 1/2$:

$$1 - (\overline{x}_S - 1/2) = G_P \cdot \left\{1 - (\overline{x}_S - x_P)\right\}. \tag{A.5}$$

This can be rewritten as:

$$\overline{x}_S = \frac{3/2 - \{G_P \cdot (1 + x_P)\}}{1 - G_P}. \tag{A.6}$$

Based on (A.6) we can establish the following Sub-lemmas:

Sub-lemma 2 *For any $G_P > 1/2$, when $\sim P$ chooses $\mathbf{v}_m$ and P chooses $x_P > 1/2$, there is no swing voter ideological voter $\overline{x}_S$ in the range $[x_P, 1]$ for values of $x_P < 1/2G_P$.*

Sub-lemma 3 *For any $G_P > 1/2$, when $\sim P$ chooses $\mathbf{v}_m$ and P chooses $x_P > 1/2$, there is no swing voter ideological voter $\overline{x}_S$ in the range $[x_P, 1]$ for values of $x_P > 3/2 - G_P$.*

Proof of Sub-lemma 2 We are looking for swing ideological voters in the range $[x_P, 1]$. By definition, if (A.6) generates a value $\overline{x}_S > 1$, then there is no swing ideological voter $\overline{x}_S$ in the range $[x_P, 1]$: no voters in the applicable range satisfy the indifference condition in (A.6). It is then straightforward to establish that (algebra omitted):

$$\overline{x}_S = \frac{3/2 - \{G_P \cdot (1 + x_P)\}}{1 - G_P} > 1 \quad \text{if and only if} \quad x_P < 1/2G_P. \qquad \square$$

Proof of Sub-lemma 3 We are looking for swing ideological voters in the range $[x_P, 1]$. By definition, if (A.6) generates a value $\overline{x}_S < x_P$, then there is no swing ideological voter $\overline{x}_S$ in the range $[x_P, 1]$: no voters in the applicable range satisfy the indifference condition in (A.6). It is then straightforward to establish that (algebra omitted),

$$\overline{x}_S = \frac{3/2 - \{G_P \cdot (1 + x_P)\}}{1 - G_P} < x_P \quad \text{if and only if} \quad x_P > 3/2 - G_P. \qquad \square$$

Sub-lemmas 2 and 3 allow us to express $\overline{x}_S$ as follows:

$$\overline{x}_S = \begin{cases} \emptyset & \text{if } 1/2 < x_P < 1/2G_P, \\ \frac{3/2-\{G_P\cdot(1-x_P)\}}{1+G_P} & \text{if } 1/2G_P < x_P < 3/2 - G_P, \\ \emptyset & \text{if } x_P > 3/2 - G_P. \end{cases} \tag{A.7}$$

Taken together, expressions (A.4) and (A.7) tell us that, for any $G_P > 1/2$, when $\sim P$ chooses $\mathbf{v}_m$ and P chooses $x_P > 1/2$ the game never has more than one swing voter, i.e. the existence conditions stipulated in Sub-lemmas 1, 2, and 3 are never simultaneously satisfied for both $\underline{x}_S$ and $\overline{x}_S$. Furthermore, they allow us to precisely identify the swing ideological voter for any $G_P > 1/2$ and $x_P > 1/2$:

$$x_S = \begin{cases} \emptyset & \text{if } 1/2 < x_P < 1/2G_P, \\ \overline{x}_S & \text{if } 1/2G_P < x_P < 3/2 - G_P, \\ \underline{x}_S & \text{if } x_P > 3/2 - G_P. \end{cases} \tag{A.8}$$

In words, when $1/2 < x_P < 1/2G_P$ the game has no swing ideological voters. At such moderate values of x_P, all voters have a higher programmatic utility for party $\sim P$ than for party P, because the latter has not sufficiently distinguished her programmatic stance from the median voter policy adopted by $\sim P$. In contrast, at intermediate values of $x_P (1/2G_P < x_P < 3/2 - G_P)$ the game's swing ideological voter will be $\overline{x}_S \in [x_P, 1]$, and the subset of extremist voters in the range $[\overline{x}_S, 1]$ will have a higher programmatic utility for P than for $\sim P$ despite the fact that $G_{\sim P} = 1 > G_P$. Finally, at more extreme values of $x_P > 3/2 - G_P$, the game's swing ideological voter will be $\underline{x}_S \in [1/2, x_P]$, and all voters in the range $[\underline{x}_S, 1]$ will have a higher programmatic utility for P than for $\sim P$ despite the fact that $G_{\sim P} = 1 > G_P$.

Note from the above swing voter analysis that, for any value of $x_P > 1/2G_P$, voters with ideal points in the range $[x_S, 1]$ have a higher programmatic utility for party P than for party $\sim P$. It follows immediately from (A.8) that, for any $G_P > 1/2$, the programmatic position $x_P = 3/2 - G_P$ is the position which maximizes the range of $[x_S, 1]$, i.e. maximizes the number of voters who prefer P on purely programmatic grounds. For any $G_P > 1/2$ and $x_P > 1/2$, P will only target clientelistic goods to some subset of voters with ideal points $x_i < x_S$, since those with ideal points $x_i > x_S$ can be counted on to choose P on purely programmatic grounds. It follows that the necessary condition strategy given some $G_P > 1/2$ includes the platform $\hat{x}_P(G_P) = 3/2 - G_P$: this is the policy position which maximizes the number of P's ideological supporters, and in turn minimizes the size of Θ_P to which P's clientelistic efforts will need to be targeted so as to secure a bare majority.

When P chooses $\hat{x}_P(G_P) = 3/2 - G_P$, it is straightforward to see from (A.8) above that the game's swing ideological voter has ideal point $x_S = 3/2 - G_P$, i.e. that the swing ideological voter is the voter whose ideal point is identical to P's programmatic position. All voters with ideal points $x_i < 3/2 - G_P$ prefer $\sim P$ to P on purely programmatic grounds, and vice versa for voters with ideal points $x_i > 3/2 - G_P$. In turn, given that $\hat{x}_P(G_P) = 3/2 - G_P$ we know that $\hat{\Theta}_P = [x_m, (3/2 - G_P)]$, i.e. that target set most conducive to securing a bare majority victory, is that

which targets all voters between the median ideal point and the swing voter $x_S = \hat{x}_P(G_P) = 3/2 - G_P$. □

6.3 Proof of Lemma 2 for the Case $G_P > 1/2$

The median voter receives a utility of '1' from the set of actions $\mathbf{v}_m$. On the other hand, Lemma 2 tells us that, when $\eta = 1$, the median voter's utility for necessary condition deviations when $G_P < 1/2$ will be:

$$u_{m,P}\left(\hat{x}(G_P,), \hat{\Theta}_P(G_P)\right) = G_P + \left(\frac{1 - G_P}{\delta + 1/2}\right). \tag{A.9}$$

When $G_P > 1/2$, party P can consider both locally optimal deviations with a bare majority is target set and the median policy stance (Lemma 2), or deviations to the political right or left (Lemma 3). If the former, the median voter's utility when $\eta = 1$ will be (A.9). If the latter, the median voter's utility for locally optimal deviations when $\eta = 1$ will be:

$$u_{m,P}\left(\hat{x}(G_P,), \hat{\Theta}_P(G_P)\right) = (G_P)^2 + \left(\frac{1 - G_P}{\delta + 1 - G_P}\right). \tag{A.10}$$

To prove Lemma 2, I first establish that, for any $G_P > 1/2$, the median voter will always receive a higher utility from the deviation stipulated in Lemma 2 than that stipulated in Lemma 3: (A.9) > (A.10) (algebra omitted). This in turn implies that the strategy identified Lemma 2 is more likely to yield payoff-enhancing deviations than is that identified in Lemma 3, i.e. if the strategy from Lemma 2 yields a payoff-enhancing deviation then so does the strategy in Lemma 3, but not vice versa. This establishes Lemma 2 in the text, i.e. that for any value of $G_P < 1$ Lemma 2 identifies the necessary condition strategy for payoff-enhancing deviations.

6.4 Proof of Proposition 1

When $\eta = 1$, as long as $\delta > 1/2$ there *does not* exist a payoff-improving deviation from $\mathbf{v}_m$ to a value $G_P < 1$, and conversely as long $\delta < 1/2$ there *does* exist a payoff-improving deviation from $\mathbf{v}_m$ to a value $G_P < 1$.

Given a deviation from $\mathbf{v}_m$ to the necessary condition strategy, it is straightforward to see that, as long as the median voter prefers the deviating candidate P to the her opponent $\sim P$, then do all other voters in P's target set. The median voter receives a utility of '1' from the set of actions $\mathbf{v}_m$. On the other hand, when $\eta = 1$, the median voter's utility for the necessary condition strategy when $G_P < 1$ will be:

$$u_{m,P}\left(\hat{x}(G_P,), \hat{\Theta}_P\right) = G_P + \left(\frac{1 - G_P}{\delta + 1/2}\right). \tag{A.11}$$

In turn it is straightforward to see that, for values of $G_P < 1$, the function $G_P + (\frac{1-G_P}{\delta+1/2})$ can only be greater than '1' if $\delta > 1/2$ (algebra omitted).

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Nonseparable Preferences and Issue Packaging in Elections

Dean Lacy and Emerson M.S. Niou

1 Introduction

Suppose a candidate in a two-candidate plurality rule election faces an opponent who has adopted the policy position of the median voter. We know from work by Hotelling (1929), Black (1948), and Downs (1957), that in a one dimensional policy space the best the challenging candidate can do is to also adopt the policy position of the median voter, yielding a tied election. Suppose further that the candidates are restricted from moving freely in the policy space, perhaps due to party reputations on the issue or to voters penalizing the candidates for changing positions. A candidate who is pinned to a losing position in a one-dimensional policy space has no recourse but to accept defeat.

In this chapter we ask: what strategies are available to a candidate facing an opponent who is unbeatable in the current policy space? As Schattschneider (1960) observed, losers in a political conflict may benefit from expanding the scope of the conflict. Schattschneider originally conceived of this strategy as bringing new groups into the conflict. But his observation extends to bringing new issues into the election. Losing candidates can potentially win elections by introducing new issues.

Whether the strategy of introducing new issues into an election will succeed depends on the structure of voter preferences on the original policy space and the new

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