Norman Schofield · Gonzalo Caballero · Daniel Kselman *Editors*

Advances in Political Economy

Institutions, Modelling and Empirical Analysis

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A deeper concern is that preferences may not be representable by weighted Euclidean utility functions: indifference curves may have shapes that are not elliptical. Weighted Euclidean utilities represent a particular class of convex preferences. Preferences are (strictly) convex if the upper contour set defined by each indifference curve is (strictly) convex; that is, if the set of policies preferable to policy x is convex, for any x. Representable (strictly) convex preferences are representable by (strictly) quasiconcave utility functions. If preferences are not strictly convex, they cannot be represented by Euclidean utility functions, neither unweighted nor weighted ones. The curvature imposed by Euclidean utilities is simply not adequate to represent the preferences.

An alternative assumption to Euclidean preferences is city-block preferences, which define square indifference curves (with squares tilted at a 45 degree angle relative to the axes of coordinates), and are representable by utility functions that are decreasing in the l_1 distance $\|x - x^*\|_1 = \sum_{k=1}^{K} |x_k - x_k^*|$, where x_k is the policy on issue $k \in \{1, \ldots, K\}$. That is, agents with city block preferences calculate the distance between two points by adding up the distance dimension by dimension, as if traveling on a grid (that is why the l_1 or city block distance is sometimes called "Manhattan distance"), and they prefer points closer to their ideal according to this notion of distance. If preferences are city block, their utility representation is not strictly quasiconcave, and it is not differentiable. Classic results on the instability of simple majority rule (Plott 1967; McKelvey 1976) do not apply if agents have city block preferences. In fact, the core of simple majority rule is not empty under more general conditions if agents have city-block preferences (Rae and Taylor 1971; Wendell and Thorson 1974; McKelvey and Wendell 1976; Humphreys and Laver 2009).

Humphreys and Laver (2009) invoke results from psychology and cognitive sciences (Shepard 1987; Arabie 1991) to argue that agents measure distance to objects with separable attributes by adding up the distance in each attribute, which implies that if the object under consideration is a policy bundle on separable issues, agents measure distance according to the city block function.

Grynaviski and Corrigan (2006) find that a model that assumes voters have city block preferences provides a better fit of vote choice in US presidential elections than an alternative model that assumes voters have linear Euclidean preferences. Westholm (1997) finds that a model with city block preferences outperforms a model with quadratic Euclidean preferences, when aiming to predict vote choice in Norwegian elections. However, a binary comparison between city block utilities based on the l_1 metric $\|x - x^*\|_1 = \sum_{k=1}^{K} |x_k - x_k^*|$ and the linear Euclidean utilities based on the l_2 metric $\|x - x^*\|_2 = (\sum_{k=1}^{K} (x_k - x_k^*)^2)^{\frac{1}{2}}$ is unnecessarily restrictive: l_1 and l_2 are special cases of the Minkowski (1886) family of metric functions, which parameterized by δ, gives the distance between x and x^* as:

$$\|x - x^*\|_\delta = \left(\sum_{k=1}^{K} (x_k - x_k^*)^\delta \right)^{\frac{1}{\delta}}. \tag{1}$$

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Rather than comparing $\delta = 1$ (linear city block) and $\delta = 2$ (linear Euclidean), it appears more fruitful to estimate parameter δ. Rivero (2011) estimates δ for several Spanish regional elections and finds that $\hat{\delta} \in (0.92, 1.17)$; none of the estimates is significantly different from $\delta = 1$, and they are all significantly different from $\delta = 2$. These tests support the use of linear city block over linear Euclidean utility functions.

Utility functions that are linearly decreasing in expression (1) are not additively separable unless $\delta = 1$. To satisfy additive separability, the utility function must be linearly decreasing in the δ power of $\|x - x^*\|_\delta$, so that

$$u(x, x^*) = -\sum_{k=1}^{K} (x_k - x_k^*)^\delta, \tag{2}$$

with linear city block utilities corresponding to $\delta = 1$, and quadratic Euclidean to $\delta = 2$. Notice that any parameter $\delta > 1$ results in strictly convex preferences and strictly quasiconcave and differentiable utility functions, while $\delta < 1$ results on preferences that are not convex, and utility functions that are neither strictly quasiconcave, nor differentiable. Ye et al. (2011) estimate parameter δ using the utility function (2) and voting data from the American National Election Studies corresponding to the 2000, 2004 and 2008 Presidential elections. However, their results are inconclusive, obtaining estimates that vary greatly across elections and, most puzzlingly, across candidates.

Further empirical work appears necessary to establish which utility functions provide a better fit, and whether the standard assumption of convex preferences is justified.

Most of the literature, and all of the discussion above, considers the set of alternatives as exogenously given: there is a subset $X \subseteq \mathbb{R}^K$ that is given, and agents have preferences over X. In this view, the question on the adequate assumption on the shape of the utility functions (Euclidean, city block, Minkowski with parameter δ) is a question on what primitive preferences over alternatives do we believe that agents have on $X \subseteq \mathbb{R}^K$.

However, the spatial representation of the set of feasible policies is itself a representation used for convenience, just as the utility functions are representations of underlying preferences. If, for instance, there are three policies x, y and z and agent i prefers x to y to z, and agent i is indifferent between y and a fair lottery between x and z, then we can map the three policies to the real line using a mapping $f : \{x, y, z\} \to \mathbb{R}$ such that $f(x) = 0$, $f(y) = 0.5$ and $f(z) = 1$ and then we can say that the agent has a linear utility function over [0, 1] with ideal point at 0. But we can represent the same underlying preferences using a mapping $g : \{x, y, z\} \to \mathbb{R}$ such that $f(x) = 0$, $f(y) = \sqrt{\frac{1}{2}}$ and $f(z) = 1$ and say that the agent has a quadratic utility function over [0, 1] with ideal point at 0. Under this perspective, we see that the shape of the utility function is an object of choice for the theorist who wishes to study an individual: using a different mapping of the set of alternatives into a vector space leads to indifference curves of different shapes. The spatial representation of

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the set of alternatives and the utility function we use in this space jointly determine the assumptions we make on the underlying preferences of the agent.

Once we recognize that the spatial representation of the set of alternatives is an endogenous choice made by the theorist who wishes to model preferences, we can ask new questions: can all preferences over policies be represented by Euclidean utility functions *in some space?* if not, what preferences can be represented by Euclidean utility functions? If we accept a spatial representation with great dimensionality, we obtain a positive result: any preference profile with N agents can be represented by utility functions that are Euclidean for all N agents if we let the mapping of the set of alternatives X into $\mathbb{R}^K$ contain $K \geq N$ dimensions (Bogomolnaia and Laslier 2007). If we care for the number of dimensions in our spatial representation, we do not obtain such a positive result. Suppose the policy issues are exogenously given, and we want to use no more than one dimension per issue in our spatial representation. In this case, while we can represent any single-peaked, separable preference relation of a single individual using quadratic Euclidean utility functions over an appropriately chosen spatial representation of the set of alternatives, we cannot represent the preferences of all N individuals with quadratic Euclidean utility functions in any spatial representation unless the underlying preference profile satisfies very restrictive conditions (Eguia 2011a).[3]

For any single-peaked preference profile with separable preferences, we can map the set of alternatives into $\mathbb{R}^K$ so as to represent the preferences of a given agent by quasiconcave utility functions over the chosen map. However, depending on the preference profile, any mapping that achieves this may be such that the utility representations of the preferences of other agents violate quasiconcavity and/or differentiability. Whether preference profiles in any given application are such that the preferences of all agents can be represented in some map with quasiconcave utility functions is an open empirical question.

4 Concerns About Separability of Preferences

Expressions (1) or (2) above, or variations with weights for each dimension, allow us to relax the assumption that indifference curves have circular or elliptical curvature. We are free to assume any degree of curvature, including preferences that are not convex by choosing $\delta < 1$. These generalizations of the standard model from $\delta = 2$ to any $\delta > 0$ preserve the assumption that preferences are separable across issues: ordinal preferences over alternatives on a given issue do not depend on the realized outcome on other issues.

Milyo (2000b) and (2000a) notes that preferences over multiple dimensions of public spending cannot possibly be separable. Suppose a fixed unit of national income is to be allocated between public spending on policy one, public spending on

[3]Calvo et al. (2012) analyze an additional complication: agents may not agree on which alternative is to the right or left of another on a given issue. If so, we cannot use a unique spatial representation; rather, we must have subjective maps of the set of the set of alternatives, one for each agent.

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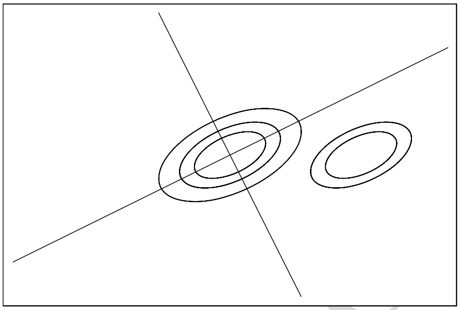

Fig. 1 Obtaining separability by using a new basis of vectors

policy two, and private consumption. Decreasing marginal utility over consumption of public goods means that as public spending on policy one increases, the opportunity cost of spending on issue two also increases, so the ideal amount of expenditures on issue two must decrease with the amount spent on issue one. Preferences over public spending on issues one and two cannot be separable. This problem is easily solved by redefining the policy dimensions over which we assume that agents have separable preferences: let the first dimension be total public spending, and let the second dimension be the fraction of public spending devoted to issue one. Preferences may well be separable under this representation of the set of issues, and in any case they escape Milyo's (2000b) and (2000a) critique.

A more insidious difficulty arises if preferences are truly non-separable, not due to budgetary concerns, but because agents' ideal values on a given issue actually depend on the outcomes on other issues. For instance, it is possible that agents have non-separable preferences about immigration policy and the social safety net, preferring a more generous safety net if immigration policy is restrictive so redistributive policies benefit only natives, than if immigration policy is lax so redistributive policies would in part favor immigrants. Lacy (2001a,b, 2012) uncovers evidence of such non-separability across various pairs of issues.

If agents have non-separable preferences, but the correlation between issues is the same for all agents, then the problem is addressed by considering new, endogenous policy dimensions over which agents have separable preferences. Suppose that there are two complementary issues, such that for any agent i,

$$u(x_1, x_2) = -\left(x_1 - x_1^i\right)^2 - \left(x_2 - x_2^i\right)^2 + \left(x_1 - x_1^i\right)\left(x_2 - x_2^i\right).$$

These utility functions, depicted for two arbitrary agents in Fig. 1, are not separable over the two issues. However, if we use a different basis of vectors, as depicted in Fig. 1, and consider the new two dimensional vector space given by the two tilted axes of coordinates in Fig. 1, then agents have separable preferences over the new, endogenous dimensions.

This solution fails if agents have non-separable preferences and the correlation between preferences on different issues is heterogeneous across agents. In this case, we cannot create dimensions to make all agents separable over our newly defined dimensions. For instance, returning to non-separability between immigration and

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social safety net, if some agents prefer a larger safety net to help needy immigrants when immigration policy is lax, while other agents prefer a smaller safety net to not spend money on immigrants when immigration policy is lax, then we can redraw the axes to make the preferences of one group of agents separable, but in doing so, the preferences of the other group of agents remain non-separable. In very non-technical terms, agents have non-separable preferences if their indifference curves are tilted; if all agents have curves equally tilted, we can tilt the whole map to return to a standard model over newly defined dimensions.

If, on the contrary, different agents have preferences tilted in different directions, we cannot correct this problem by tilting the whole map. We need instead to introduce parameters to accommodate the correlation across issues. This is a considerable setback, similar to the problem of agents who assign different relative weights to the various dimensions -but more damaging, because we need more parameters to fix it. In order to accurately represent the preferences of agents who disagree on the weights they assign to the different dimensions we need to add one parameter per dimension per agent or group of agents who disagree on these weights, for a maximum of $(K-1)(N-1)$ new parameters if there are N agents and K dimensions. In order to represent the preferences of agents who disagree on the correlation in preferences between issues, we must add one correlation parameter per possible pair of issues and per agent or group of agents who disagree, for a maximum of $\frac{K(K-1)}{2}N$ new parameters.

While violations of separability do not affect classic results on the instability of simple majority rule as long as preferences are smooth (Plott 1967; McKelvey 1979), they affect how we can interpret and use common spatial models. Consider the structured-induced equilibrium theory (Shepsle and Weingast 1981), which proposes that the instability is solved by choosing policy dimension by dimension. In the standard structured-induced equilibrium theory, the order in which the legislature considers the various policy dimensions is irrelevant, because preferences are separable. With non-separable preferences, the order in which each policy dimension is considered affects the chosen policy outcome. For a second example, consider the ideal point estimation literature (Poole and Rosenthal 1985; Clinton et al. 2004): if preferences are not separable, estimating the ideal point of each legislator is not enough to predict vote choice.

5 Discussion

Theoretical and empirical work questions not only the standard assumption of Euclidean utility functions in multidimensional spatial models, but the more general assumptions of separable, convex and/or smooth preferences.

Standard spatial models suffer from limitations that I have not considered here. For instance, an increasing body of literature argues that we must add a candidate valence term to capture the actual preferences of voters about candidates. Valence is any quality that all voters agree is good, and makes the candidate who possesses

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more of it more attractive to all voters. Current research on valence seeks to endogenize it and to analyze its relation to the candidate's spatial location (Ashworth and Bueno de Mesquita 2009; Zakharov 2009; Serra 2010 and 2012; Krasa and Polborn 2010, 2012; or Schofield et al. 2011). In this chapter I analyze concerns about a basic pillar of the spatial model: the assumption that agents have preferences over a vector space that represents the set of feasible policies, preferences that can be represented by analytically convenient utility functions. Valence, dynamics, uncertainty, bounded rationality, other-regarding preferences or other improvements can be added to the basic spatial model to generate richer theories, but any theory with a spatial component must address the challenges posed in this chapter about the appropriate formalization of spatial preferences in the theory.

Further empirical work is necessary to establish whether agents have convex preferences over policy bundles with multiple policy issues. Assuming the functional form (1) or, if we want to satisfy additive separability, functional form (2) for the utility functions, empirical work must estimate parameter δ. If the estimated parameter $\hat{\delta}$ is less than 1, the consequences for theoretical work are dramatic: Preferences are not convex, and hence utility functions are neither quasiconcave, nor differentiable. Standard results in the literature that rely on these assumptions, most notably the instability of majority rule (Plott 1967; McKelvey 1976; Schofield 1978), would not apply. Whereas, results that rely on city block preferences (Humphreys and Laver 2009) or on non-differentiable utility functions (Kamada and Kojima 2010) would become more relevant, and further theoretical work would be needed to establish what results in the literature obtained under assumptions of quasiconcavity or differentiability of preferences are robust and apply in environments with agents whose preferences are not representable by quasiconcave or differentiable utility functions.

If the estimated parameter $\hat{\delta}$ is consistently greater than 1, even if it is not near 2, much of the theoretical literature will be validated. The main impact of obtaining a better estimate of δ in utility functions of the form (2) that is $\hat{\delta} \neq 2$ but $\hat{\delta} > 1$ will be to improve the fit of further empirical work on ideal point estimation models (Clinton et al. 2004; Poole and Rosenthal 1985), or vote choice models, by assuming that agents have utility functions with the curvature corresponding to the best estimate of δ within the parameterized family of utility functions (2), instead of assuming that agents have utility functions with parameter $\delta = 2$ even though parameter $\delta = 2$ provides a poorer fit for the model.

With regard to separability, violations of the assumption typically do not affect equilibrium existence or convergence results on models of electoral competition or policy choice. However, application of spatial models to specific real world polities or electorates should take into account existence evidence on non-separability across various pairs of issues (Lacy 2001a,b, 2012), so that if the models explicitly include such issues, utility functions are not assumed to be separable over them. Many spatial models do not include many issues; rather, they collapse the list of all issues onto two dimensions, one that groups economic issues (from left/pro-state to right/pro-market) and another that includes all cultural issues (from left/progressive to right/conservative). It is more difficult to determine whether preferences are separable or not over such dimensions, which are not precisely defined. Nevertheless, if

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future empirical work reveals evidence of a systematic correlation between preferences across economic and cultural issues, models should either seek to define new dimensions (new ways of bundling or weighing the issues) in such a way that preferences are separable over the new dimensions, or else, if this cannot be achieved, then it may be necessary to allow for non-separable preferences, estimating not only an ideal point, but also a degree of correlation between dimensions for each agent or group of agents.

Euclidean preferences have been an extremely useful tool in the development of multidimensional spatial models that can explain electoral competition, government formation and legislative policy-making. Generalizations that show that several theoretical results are robust if preferences are not Euclidean but are convex and smooth allowed us to conjecture that Euclidean preferences are only a simplifying shortcut with limited effect on our ability to understand the political processes we model. Nevertheless, we lack convincing empirical evidence that preferences are convex and smooth. If preferences are not convex and smooth, nor separable, and our theoretical models assume that they are, we are impaired in our ability to understand and predict the political processes we study.

Future empirical work shall establish whether preferences are convex and smooth, and whether we can find systematic evidence of differentiated non-separability over pairs of issues, or systematic differences in the weights assigned to different dimensions, across different groups of voters or legislators. Future (better) theories must make assumptions that are consistent with these future empirical findings.

References

Arabie P (1991) Was Euclid and unnecessarily sophisticated psychologist? Psychometrika 56(4):567–587

Ashworth S, Bueno de Mesquita E (2009) Elections with platform and valence competition. Games Econ Behav 67(1):191–216

Azrieli Y (2011) Axioms for Euclidean preferences with a valence dimension. J Math Econ 47(4–5):545–553

Banks JS, Duggan J (2008) A dynamic model of democratic elections in multidimensional policy spaces. Q J Polit Sci 3:269–299

Berinsky AJ, Lewis JB (2007) An estimate of risk aversion in the U.S. electorate. Q J Polit Sci 2:139–154

Black D (1948) On the rationale of group decision-making. J Polit Econ 56(1):23–34

Black D (1958) The theory of committees and elections. Cambridge University Press, Cambridge

Bogomolnaia A, Laslier J-F (2007) Euclidean preferences. J Math Econ 43:87–98

Calvert R (1985) Robustness of the multidimensional voting model: candidate motivations, uncertainty and convergence. Am J Polit Sci 29:69–95

Calvo E, Hellwig T, Chang K (2012) The eye of the beholder: ideological lensing, information effects, and the vote. In: Fundacion Juan March conference on contemporary applications of the spatial model

Clinton JD, Jackman SD, Rivers D (2004) The statistical analysis of roll call data: a unified approach. Am Polit Sci Rev 98:355–370

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D'Agostino M, Dardanoni V (2009) What's so special about Euclidean distance? Soc Choice Welf 33(2):211–233
Davis OA, DeGroot MH, Hinich MJ (1972) Social preference orderings and majority rule. Econometrica 40(1):147–157
Degan A, Merlo A (2009) Do voters vote ideologically? J Econ Theory 144(5):1868–1894
Downs A (1957) An economic theory of political action in a democracy. J Polit Econ 65(2):135–150
Duggan J (2007) Equilibrium existence for zero-sum games and spatial models of elections. Games Econ Behav 60:52–74
Duggan J, Kalandrakis T (2012) Dynamic legislative policy bargaining. J Econ Theory
Eguia JX (2009) Utility representations of risk neutral preferences in multiple dimensions. Q J Polit Sci 4(4):379–385
Eguia JX (2011a) On the spatial representation of preference profiles. Econ Theory (accepted for publication)
Eguia JX (2011b) Foundations of spatial preferences. J Math Econ 47(2):200–205
Eguia JX (2012) A spatial theory of party formation. Econ Theory 49(3):549–570
Feddersen TJ (1992) A voting model implying Duverger's law and positive turnout. Am J Polit Sci 36(4):938–962
Grynaviski JD, Corrigan BE (2006) Specification issues in proximity models of candidate evaluation (with issue importance). Polit Anal 14:393–420
Hotelling H (1929) Stability in competition. Econ J 39(153):41–57
Humphreys M, Laver M (2009) Spatial models, cognitive metrics and majority rule equilibria. Br J Polit Sci 40(1):11–30
Kamada Y, Kojima F (2010) Voter preferences, polarization and electoral policies. Working paper
Kramer GH (1973) On a class of economic conditions for majority rule. Econometrica 41(2):285–297
Kramer GH (1977) A dynamical model of political equilibrium. J Econ Theory 16(2):310–334
Krasa S, Polborn M (2010) Competition between specialized candidates. Am Polit Sci Rev 104(4):745–765
Krasa S, Polborn M (2012) Political competition between differentiated candidates. Games Econ Behav 76(1):249–271
Lacy D (2001a) A theory of nonseparable preferences in survey responses. Am J Polit Sci 45(2):239–258
Lacy D (2001b) Nonseparable preferences, measurement error, and unstable survey responses. Polit Anal 9(2):1–21
Lacy D (2012) Nonseparable preferences, issue voting, and issue packaging in elections. In: Fundacion Juan March conference on contemporary applications of the spatial model
McCarty N, Meirowitz A (2007) Political game theory. Cambridge University Press, Cambridge
McKelvey RD (1976) Intransitivities in multidimensional voting models and some implications for agenda control. J Econ Theory 12:472–482
McKelvey RD (1979) General conditions for global intransitivities in formal voting models. Econometrica 47(5):1085–1112
McKelvey RD, Wendell RE (1976) Voting equilibria in multidimensional choice spaces. Math Oper Res 1(2):144–158
Miller G, Schofield N (2003) Activists and partisan realignment in the United States. Am Polit Sci Rev 97(2):245–260
Milyo J (2000a) A problem with Euclidean preferences in spatial models of politics. Econ Lett 66(2):179–182
Milyo J (2000b) Logical deficiencies in spatial models: a constructive critique. Public Choice 105(3–4):273–289
Minkowski H (1886) Geometrie der Zahlen. Teubner, Leipzig
Osborne M (1995) Spatial models of political competition under plurality rule: a survey of some explanations of the number of candidates and the positions they take. Can J Econ 28(2):261–301

UNCORRECTED PROOF

EDITOR'S PROOF

Patty JW, Snyder JM, Ting MM (2009) Two's company, three's an equilibrium: strategic voting and multicandidate elections. Q J Polit Sci 4(3):251–278

Plott CR (1967) A notion of equilibrium and its possibility under majority rule. Am Econ Rev 57(4):331–347

Poole K, Rosenthal H (1985) A spatial model for roll call analysis. Am J Polit Sci 29:331–347

Poole KT, Rosenthal H (1997) Congress: a political-economic history of roll call voting. Oxford University Press, London

Rae DW, Taylor M (1971) Decision rules and policy outcomes. Br J Polit Sci 1:71–90

Rivero G (2011) Integrality and separability in multidimensional voting models: ideology and nationalism in Spanish regional elections. Center for Advanced Study in the Social Sciences, Fundacion Juan March, 2011/265, December

Schofield N (1978) Instability of simple dynamic games. Rev Econ Stud 40(3):575–594

Schofield N (2007a) Political equilibria with electoral uncertainty. Soc Choice Welf 28:461–490

Schofield N (2007b) The mean voter theorem: necessary and sufficient conditions for convergent equilibrium. Rev Econ Stud 74:965–980

Schofield N, Claassen C, Gallego M, Ozdemir U (2011) Empirical and formal models of the United States presidential elections in 2000 and 2004. In: Schofield N, Caballero G (eds) Political economy of institutions, democracy and voting. Springer, Heidelberg

Schofield N, Sened I (2006) Multiparty democracy. Cambridge University Press, Cambridge

Serra G (2010) Polarization of what? A model of elections with endogenous valence. J Polit 72(2):426–437

Serra G (2012) Does charisma discourage experience? an election with two types of valence. ICOPEAI II conference paper

Shepard RN (1987) Toward a universal law of generalization for psychological science. Science 237:1317–1323

Shepsle KA, Weingast BR (1981) Structure-induced equilibrium and legislative choice. Public Choice 37(3):503–519

Wendell RE, Thorson SJ (1974) Some generalizations of social decisions under majority rule. Econometrica 42:893–912

Westholm A (1997) Distance versus direction: the illusory defeat of the proximity theory of electoral choice. Am Polit Sci Rev 91(4):865–883

Wittman D (1977) Candidates with policy preferences: a dynamic model. J Econ Theory 14(1):180–189

Wittman D (1983) Candidate motivation: a synthesis of alternatives. Am Polit Sci Rev 77(1):142–157

Ye M, Li Q, Leiker KW (2011) Evaluating voter-candidate proximity in a non-Euclidean space. J Elect Public Opin Parties 4:497–521

Zakharov A (2009) A model of candidate location with endogenous valence. Public Choice 138:347–366

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A Non-existence Theorem for Clientelism in Spatial Models

Daniel Kselman

1 Introduction

In spatial models of political competition, political parties typically announce positions on one or more issue dimensions; voters then choose from among these parties according to their preferences over the same issue dimensions. Put otherwise, spatial models typically analyze *programmatic* elections in which the link between voter choice and elite behavior is consummated indirectly, via collectively applicable policy issues.[1] In contrast, a growing body of research in comparative politics and comparative political-economy investigates *clientelistic* linkages between citizens and elected officials. Such linkages are grounded not in national-level public policy debates, but rather in a direct and contingent exchange of votes (or other forms of political participation…) for tangible material or professional rewards. These inducements take many forms: jobs in the public sector, access to the electric grid, washing machines, alcohol, fuel, etc. In such contexts, in addition to evaluating political parties' policy stances on one or more programmatic issues, voters choose based on parties' ability to provide targeted inducements.

A series of recent papers, reviewed in Sect. 2 below, has analyzed clientelism in a game theoretic setting. While all make valuable contributions to the literature on contingent electoral exchange, none explicitly introduces clientelistic concerns into the traditional spatial model, which has for decades been the work-horse in formal political theory. This paper develops a spatial model in which political parties strategically choose: (1) their programmatic policy position, (2) the effort they

[1] A similar accountability mechanism underpins the 'Responsible Party Government' model, which dates at least to Lipset and Rokkan (1967), and sees ties between political parties and voters as grounded in campaign and governance strategies on issues of national-level public policy.

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devote to clientelism as opposed to the promotion of their programmatic position, and (3) the set of voters who are targeted to receive clientelistic benefits. Section 3 presents the model's actors, their utility functions, and the actions which comprise their choice sets. Section 4 then demonstrates that, absent stronger restrictions on candidate behavior, there will never exist Nash Equilibria with positive clientelistic effort: given some clientelistic proposal by their opponent, candidates can always propose a slightly 'narrower' set of recipients and win an electoral plurality.

This is not to say that the game in its most general form is always characterized by instability. On the contrary, if voter responsiveness to clientelistic resources is sufficiently low, then the game's Nash Equilibrium will be for all candidates to choose the median voter's ideal point, and to devote 100 % of their campaign effort to promoting this platform. Thus, the game in its most general form yields either traditional median voter convergence or theoretical instability. Section 5 relates this general result to past literature on instability in coalition formation processes. It also discusses a set of necessary conditions for the emergence of Nash Equilibria with positive levels of clientelism. One condition is that parties have differential abilities to target distinct subsets of voters. A second condition is that political parties face a *binding turnout constraint*. When turnout is not a given and parties have differential abilities to target distinct subsets of voters, 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.

2 Theories of Clientelism

So as to highlight this paper's specific contributions, here I briefly outline recent theoretical research on the causes of clientelism. In the Introduction to their edited volume, Kitschelt and Wilkinson (2007) present an argument to explain the mix of clientelistic and programmatic appeals in politicians' vote production functions. Driving this mix is the interaction between economic development and electoral competitiveness.[2] At low levels of economic development politics is heavily clientelistic, and increasingly so as competitiveness increases. At high levels of economic development, politics is heavily programmatic and increasingly so as competitiveness increases. Finally, it is at intermediate levels of development that politicians invest more equitably in both forms of linkage. To complement these basic comparative statics, the authors also highlight the role of a publicly controlled political-economy and formal political institutions in conditioning the mix of linkage strategies.

[2]Competitiveness is a notably tricky concept to precisely define and operationalize. Different authors have assigned the concept different empirical referents. Kitschelt and Wilkinson (2007) define competitive elections as those in which "…elections are close between rival blocs of parties… and there is a market of uncommitted voters sufficiently large to tip the balance in favor of one or another bloc." (p. 28)

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