Candidate stability and voting correspondences

Abstract We extend the analysis of Dutta et al. (in Econometrica, 69:1013–1038, 2001) on strategic candidacy to multivalued environments. For each agenda and each profile of voters’ preferences over running candidates, a voting correspondence selects a set of running candidates. A voting correspondence is candidate stable if no candidate ever has an incentive to withdraw her candidacy when all other potential candidates run for office. In the multivalued framework, candidates’ incentives to withdraw depend on candidates’ preferences over sets. If candidates cannot vote and they compare sets of candidates according to their expected utility

This paper is a revised version of the second chapter of my Ph.D. Dissertation submitted to the Universitat Autònoma de Barcelona. I am indebted to my supervisor Salvador Barberà for his advice, encouragement, and patience. I thank the hospitality of the Wallis Institute of Political Economy at the University of Rochester, where the revision of this paper was conducted. I am grateful to two anonymous referees and the Associate Editor, John Weymark, for their exhaustive and insightful comments. I also thank Dolors Berga, Carmen Beviá, Walter Bossert, Jernej Čopič, Bhaskar Dutta, Matt Jackson, Jordi Massó, Diego Moreno, David Pérez-Castrillo, and Yves Sprumont for helpful conversations and suggestions. Financial support through Research Grant 1998FI00022 from Comissionat per Universitats i Recerca, Generalitat de Catalunya, Research Project PB98-870 from the Ministerio de Ciencia y Tecnología, Fundación Barrié de la Maza, and Consejería de Innovación, Ciencia y Empresa, Junta de Andalucía is gratefully acknowledged. The usual disclaimer applies.

C. Rodríguez-Álvarez
Departamento de Economía,
Universidad Carlos III de Madrid,
28903 Getafe (Madrid),
Spain

C. Rodríguez-Álvarez (✉)
Departamento de Teoría e Historia Económica,
Universidad de Málaga.
Plaza El Ejido s/n Ap. Of. Suc. 4,
29071 Málaga, Spain
E-mail: carmelo@uma.es
conditional on some prior probability assessment, then a voting correspondence satisfies candidate stability and unanimity if and only if it is dictatorial. If the probability assessments are restricted to be uniform, candidates’ preferences over sets are consistent with leximin preferences, or candidates can vote, then possibility results are obtained.

1 Introduction

The decision of a candidate to run for office or not may be of capital importance for the result of an election. Of course, candidates must run to win the election. But, in fact, the presence (or the absence) of a candidate can affect the final result of the election, even if that candidate has no chance of winning.

In a recent paper, Dutta et al. (2001) (henceforth DJL) initiate the study of candidates’ incentives to manipulate the result of an election by withdrawing.1 DJL analyze deterministic voting procedures that select a winning candidate for each set of running candidates and each profile of voters’ preferences over running candidates. They introduce a stability condition called candidate stability. A voting procedure is candidate stable if no candidate has an incentive to withdraw when all other potential candidates run for office. Candidate stability incorporates the idea that the set of running candidates is the result of a Nash equilibrium. Assuming that candidates cannot vote, DJL show that in their single-valued framework, only dictatorships satisfy candidate stability and unanimity. If candidates can vote, then candidate stable and unanimous voting procedures do exist. However, every candidate stable voting procedure fails to satisfy minimal regularity conditions.

In the present work, we generalize DJL’s analysis to multivalued voting rules. Therefore, we model elections as voting correspondences. For each set of running candidates and each profile of voters’ preferences over running candidates, a voting correspondence selects a set of running candidates. A voting correspondence can be interpreted as a first screening device that narrows the social agenda to a smaller set of candidates. Candidates know this first selection but they are not aware of the final resolution of the social choice. Therefore, candidates consider the selected set as the result of the election.

When the result of the social choice is multivalued, the study of the candidates’ strategic concerns becomes problematic since preferences over candidates do not contain enough information to compare sets of candidates. We explore two alternative approaches. First, we assume that candidates are equipped with preferences over sets of candidates. These preferences over sets are supposed to be consistent with some initial preferences over candidates.2 We analyze candidates’ incentives when candidates’ preferences over sets are consistent with expected utility maximization. We also study domains of preferences over sets that are consistent with extreme attitudes toward risk, such as leximin preferences. Alternatively, we propose two stability conditions that incorporate the idea that candidates cannot

---

1 Other important articles analyze candidates’ incentives for specific voting rules. For instance, Osborne and Slivinski (1996) and Besley and Coate (1997) concentrate on large elections with plurality rule and ideological positions of the candidates. On the other hand, Dutta et al. (2002) examine strategic candidacy in the context of voting by successive elimination.

2 See Barberà et al. (2004) for a recent survey on the topic of extending preferences over objects to preferences over sets of objects.