

# Robustness and Productive Communication

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“You can’t beat something with nothing.”  
Ken Shepsle

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## Equivalence of Objectives in Two Candidate Elections

John W. Patty \*

Department of Social and Decision Sciences  
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September 10, 2001

### Abstract

This paper examines the incentives facing candidates in two candidate elections. In particular, we provide a set of sufficient conditions for the optimal strategies of vote maximizing, plurality maximizing, and probability of victory maximizing candidates to be identical. In addition, we examine and provide counterexamples to two oft-cited results due to Hinich (1977) and Ledyard (1984) regarding the equivalence of these objectives in large two candidate elections.

## 1 Introduction

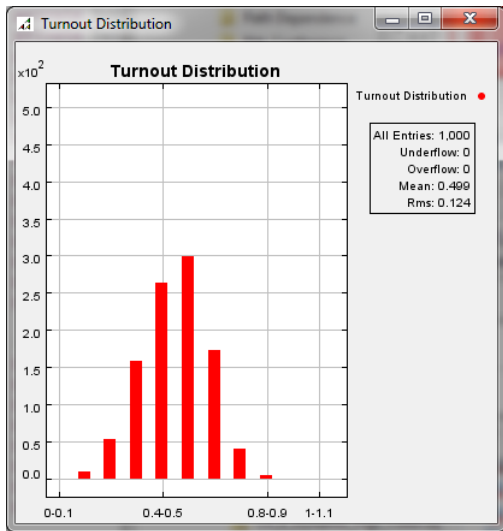
Spatial models of elections often assume that the candidates' sole goal is victory. To calculate the optimal strategy for such a candidate, one must take into account the probability of victory resulting from each strategy. In general, this probability is not a trivial computation, especially when studying probabilistic voting models (e.g., Hinich (1977), Coughlin and Nitzan (1981a), (1981b), and Ledyard (1984)).

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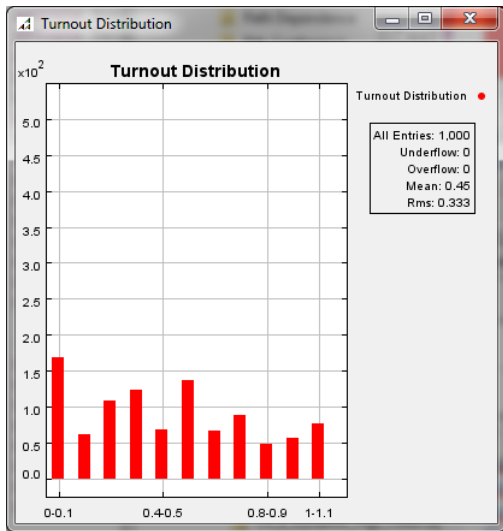
\*The author would like to thank Jeff Banks, Fred Boehmke, Kim Border, Richard McKelvey, Tom Palfrey, and two anonymous referees for helpful discussions and comments on earlier drafts of this paper. Special thanks are due to John Duggan for finding an error in a proof in an earlier draft of this paper. The Division of Humanities and Social Sciences at the California Institute of Technology and the Alfred P. Sloan Foundation provided financial support of this research.



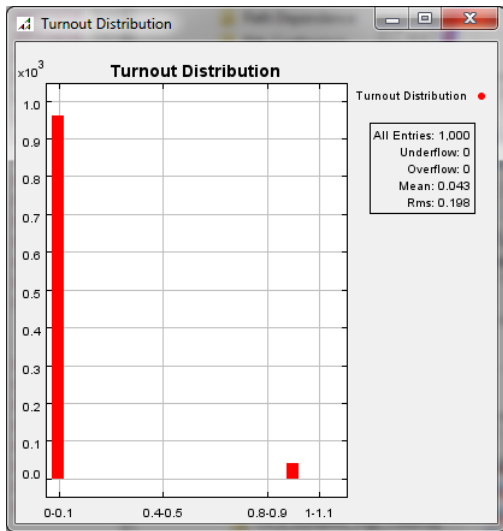
# Turnout Propensities Symmetric Bush-Mosteller



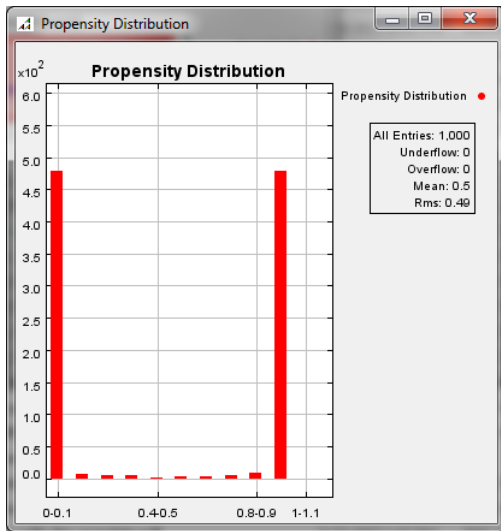
# Turnout Propensities Equal Adjustment



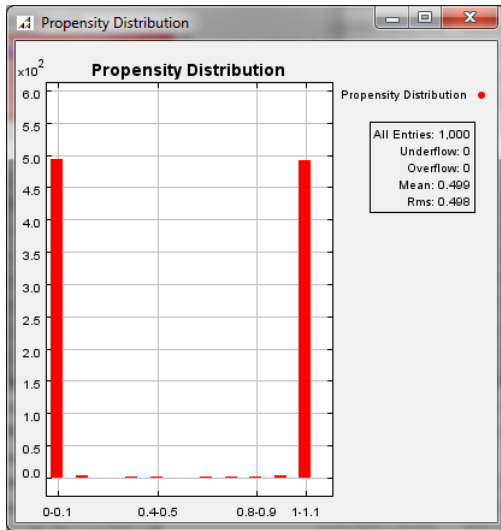
# Turnout Propensities Logistic Adjustment



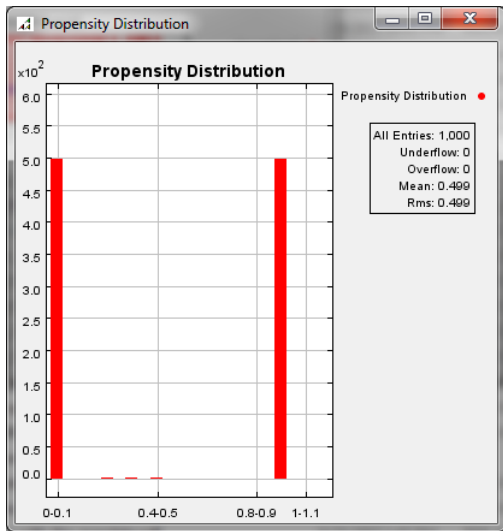
# Voting Propensities Symmetric Bush-Mosteller



# Voting Propensities Equal Adjustment



# Voting Propensities Logistic Adjustment



Moral: Relevance of behavioral assumptions depends on robustness of assumptions and on what questions we're asking.

If we're not speaking the same language, we can't have a productive discussion.



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