An evolutionary approach to social choice problems with q-majority rules [*]

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Abstract This paper examines a dynamic process of n-person social choice problems, in which people choose one from a set of alternatives by q-majority voting. We characterize stochastically stable alternatives of these settings. Over time players select an alternative as a proposal and vote on it. A pairwise q-majority rule determines the social choice of the next period; The proposal will be implemented if it receives at least q votes, and the status quo will remain otherwise. The evolution of social conventions is studied with the presence of stochastic noise which leads players to cast a suboptimal vote. A Condorcet winner is stochastically stable for all q-majority rules under the best response with mutations rule. While, the logit choice rule is in favor of a winner of the Borda rule under certain conditions.

Keywords: Stochastic stability; Social choice; Voting.

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