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**BARTHÉLÉMY F. (CEMOTEV), LEPELLEY
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PLAYERS AND THE QUOTA IN WEIGHTED
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Authors : Fabrice Barthélémy (CEMOTEV), Dominique Lepelley, Mathieu Martin & Hatem Smaoui

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Abstract :

In a weighted voting game, each voter has a weight and a proposal is accepted if the sum of the weights of the voters in favor of that proposal is at least as large as a

certain quota. It is well-known that, in this kind of voting process, it can occur that the vote of a player has no effect on the outcome of the game; such a player is called a "dummy" player. This paper studies the role of the quota on the occurrence of dummy players in weighted voting games. Assuming that every admissible weighted voting game is equally likely to occur, we compute the probability of having a player without voting power as a function of the quota for three, four and five players. It turns out that this probability is very sensitive to the choice of the quota and can be very high. The quota values that minimize (or maximize) the likelihood of dummy players are derived.

JEL classification: C7, D7

Keywords: Cooperative game theory, weighted voting games, dummy player, probability of voting paradoxes

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