Dividing and Discarding:
A Procedure for Taking Decisions with Non-transferable Utility[*]

Vinicius Carrasco[†]   William Fuchs[‡]

October 6, 2008

Abstract

We consider a setting in which two players must take a single action. The analysis is done within a private values model in which (i) the players' preferences over actions are private information, (ii) utility is non-transferable, (iii) implementation is Bayesian and (iv) the welfare criterion is utilitarian. We characterize an optimal monotonic allocation rule. Instead of asking the agents to directly report their types, this allocation can be implemented dynamically. The agents are asked if they are to the left or to the right of the midpoint of the interval of possible types (e.g., $1/2$ for the initial interval $[0,1]$). If both reports agree, the section of the interval which none preferred is discarded and the remaining interval is divided in two parts, and the process continues until one agent chooses left and the other right. In that case, the midpoint of this remaining interval is implemented. This implementation can be carried out by a Principal who lacks commitment, implying this process is an optimal communication protocol.

[†]Department of Economics, PUC-Rio
[‡]Department of Economics, University of Chicago