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Non-manipulable solutions in a permit sharing problem: Equivalence between non-manipulability and monotonicity. (English) [Zbl 1008.91064](#)

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Summary: Consider a problem of sharing a fixed amount of input (for example, pollution permits) among a group of agents who own technologies which transform an input good into an output good and who are interested in their shares of output only. A solution assigns each profile of technologies a pair of input and output shares for each agent. A solution is optimal if it maximizes the aggregated output by an appropriate distribution of the total permits among agents. We adopt the dominant strategy equilibrium and consider the issue of manipulation via technology. We show that, among optimal solutions, a solution is non-manipulable if and only if it is monotonic: a solution is monotonic if an agent's output share increases when the agent's technology changes in such a way that the aggregate output increases.

MSC:

[91B32](#) Resource and cost allocation (including fair division, apportionment, etc.) Cited in **2** Documents

Keywords:

[permit sharing](#); [manipulability](#); [optimality](#); [monotonicity](#)

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