Egalitarian Allocations and the Inverse Problem for the Shapley Value

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In a cooperative transferable utilities game, the allocation of the win of the grand coalition is an Egalitarian Allocation if this win is divided into equal parts among all players. The Inverse Set relative to the Shapley Value of a game is a set of games in which the Shapley Value is the same as the initial one. In the Inverse Set we determined a family of games for which this Shapley Value is a coalitional rational value. The Egalitarian Allocation of the game is efficient, so that in the Inverse Set relative to the Shapley Value, the allocation is the same as the initial one, but may not be coalitional rational. In this paper, we shall be finding out in the same family of the Inverse Set, a subfamily of games for which the Egalitarian Allocation is also coalitional rational. We show some relationship between the two sets of games, where our values are coalitional rational. Finally, we discuss the possibility that our procedure may be used for solving the same problem for other efficient values. Numerical examples show the procedure to get solutions for the efficient values.
Key Words. Egalitarian Allocation, Coalitional Rationality, Inverse Problem.