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Fair social decision under uncertainty and belief disagreements. (English) Zbl 1422.91232
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Summary: This paper aims to address two issues related to simultaneous aggregation of utilities and beliefs. The first one is related to how to integrate both inequality and uncertainty considerations into social decision making. The second one is related to how social decision should take disagreements in beliefs into account. To accomplish this, whereas individuals are assumed to abide by Savage model's of subjective expected utility, society is assumed to prescribe, either to each individual when the *ex ante* individual well-being is favored or to itself when the *ex post* individual well-being is favored, acting in accordance with the maximin expected utility theory of *I. Gilboa* and *D. Schmeidler* [J. Math. Econ. 18, No. 2, 141–153 (1989; Zbl 0675.90012)]. Furthermore, it adapts an *ex ante* Pareto-type condition proposed by *G. Gayer* et al. ["Pareto efficiency with different beliefs", J. Legal. Stud. 43, No. S2, 151–171 (2014; doi : 10.1086/676636)], which says that a prospect Pareto dominates another one if the former gives a higher expected utility than the latter one, for each individual, for all individuals' beliefs. In the context where the *ex ante* individual welfare is favored, our *ex ante* Pareto-type condition is shown to be equivalent to social utility taking the form of a MaxMinMin social welfare function, as well as to the individual set of priors being contained within the range of individual beliefs. However, when the *ex post* individual welfare is favored, the same Pareto-type condition is shown to be equivalent to social utility taking the form of a MaxMinMin social welfare function, as well as to the social set of priors containing only weighted averages of individual beliefs.

MSC:

[91B14](#) Social choice
[91B08](#) Individual preferences

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