

SUBJECTIVE ERROR MEASURE

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Abstract

The decision-maker who complies with Savage's axioms can be regarded as evaluating each act by solving a statistical inference problem, in which the estimation error is measured by the squared-error loss function. However, it is more desirable to derive a loss function, as well as the utility index and the subjective probability, from the decision-maker's own preference. We weaken Savage's axioms to characterize the preference which is based on the loss-minimization in the sense that the decision-maker evaluates each act by solving a statistical inference problem, in which the estimation error is measured by *some* loss function which may be different from the squared-error loss function. Our results build on the representation theorem proved by Grant, Kajii and Polak (2000) which characterizes the preferences which satisfy the betweenness property. Also, we provide two examples of preferences which are based on the loss-minimization with the loss function more general than the squared-error loss functions and we discuss conditional preferences for a class of preferences considered in this paper.

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