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PARAMETRIC DISCOUNTING MODEL OF UTILITY

Abstract:

The author derives a new concept of the model of the subject discounting of utility function or consumption on a theoretical basis. He surveys the formation and evolution of models for calculating the subjective discount factor (β). This paper focuses on the exponential and hyperbolic discounting utility model, which is among the current mainstream for its simplicity. The author builds on these models, as well as alternative models generated by the critics of the two oldest models of discounting. The aim of this paper is to find a model that extends the generalized hyperbolic model parameters representing the effect of uncertainties of the environment in the intertemporal decision-making. The original generalised hyperbolic model was extended with the subjective probability of the negative environment with its negative effect on current consumption and the positive effect on future consumption of the agents or vice versa. The paper presents a link between the neoclassical and hedonic approach. The parameters introduced in the model are mainly of psychological nature (risk aversion, loss aversion, etc.). Using the final parametric model, we may, for instance, explain why the subjective discount factor (β) is increasing, i.e. leading to delaying (desired) consumption, although the subjective discount rate (ρ) (patience of consumption) is positive and also increasing.

Keywords:

Subjective Discount Rate, Subjective Discount Factor, Consumption

JEL Classification: E21, D91