

Description of Decision Inconsistency in Intertemporal Choices and Representation of Impatience as a Reflection of Irrationality: Consequences in the Field of Personalized Behavioral Finance

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Abstract : Empirical evidence has, over time, confirmed that the behavior of individuals is inconsistent with the descriptions provided by the Discounted Utility Model, an essential reference for calculating the utility of intertemporal prospects. The model assumes that individuals calculate the utility of intertemporal prospectuses by adding up the values of all outcomes obtained by multiplying the cardinal utility of the outcome by the discount function estimated at the time the outcome is received. The trend of the discount function is crucial for the preferences of the decision maker because it represents the perception of the future, and its trend causes temporally consistent or temporally inconsistent preferences. In particular, because different formulations of the discount function lead to various conclusions in predicting choice, the descriptive ability of models with a hyperbolic trend is greater than linear or exponential models. Suboptimal choices from any time point of view are the consequence of this mechanism, the psychological factors of which are encapsulated in the discount rate trend. In addition, analyzing the decision-making process from a psychological perspective, there is an equivalence between the selection of dominated prospects and a degree of impatience that decreases over time. The first part of the paper describes and investigates the anomalies of the discounted utility model by relating the cognitive distortions of the decision-maker to the emotional factors that are generated during the evaluation and selection of alternatives. Specifically, by studying the degree to which impatience decreases, it's possible to quantify how the psychological and emotional mechanisms of the decision-maker result in a lack of decision persistence. In addition, this description presents inconsistency as the consequence of an inconsistent attitude towards time-delayed choices. The second part of the paper presents an experimental phase in which we show the relationship between inconsistency and impatience in different contexts. Analysis of the degree to which impatience decreases confirms the influence of the decision maker's emotional impulses for each anomaly in the utility model discussed in the first part of the paper. This work provides an application in the field of personalized behavioral finance. Indeed, the numerous behavioral diversities, evident even in the degrees of decrease in impatience in the experimental phase, support the idea that optimal strategies may not satisfy individuals in the same way. With the aim of homogenizing the categories of investors and to provide a personalized approach to advice, the results proven in the experimental phase are used in a complementary way with the information in the field of behavioral finance to implement the Analytical Hierarchy Process model in intertemporal choices, useful for strategic personalization. In the construction of the Analytic Hierarchy Process, the degree of decrease in impatience is understood as reflecting irrationality in decision-making and is therefore used for the construction of weights between anomalies and behavioral traits.

Keywords : analytic hierarchy process, behavioral finance, financial anomalies, impatience, time inconsistency

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