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Editorial

On the psychology of time preference and human decisions: introduction to the special issue

In 1993, the biannual conference on *Subjective Probability, Utility and Human Decision Making* (SPUDM) was held in Aix en Provence. In this conference, only two or three papers that dealt with the psychology of time preference were presented. In seven years, since that conference the psychology of time preference has grown to an increasingly popular field in the study of human judgment and decision making. The effect of this popularity was clearly noticeable in the most recent SPUDM conference in Mannheim 1999. A variety of papers dealt with the issue of how present and future benefits and costs are or should be evaluated. It appears that in less than 10 years time, the topic of ‘choice over time’ has become an established research area in the field of judgment and decision making.

Early 2000, the *Journal of Behavioural Decision Making* (Read & Loewenstein, 2000) released a special issue on time preference. Since then, developments in the field have been such that the time seems ready for another special issue on time preference and human decisions. This special issue can be traced back to a workshop on intertemporal choice which took place in Amsterdam in December 1999. The majority of the papers in this issue was first presented at this workshop sponsored by the European Science Foundation whose support for this enterprise is gratefully acknowledged. The papers in this special issue address the possible mechanisms that might explain *why* individuals discount future events, test a number predictions of discounted utility theory, and propose to explicitly incorporate time in other theoretical frameworks in order to improve our understanding of human judgment and decision-making.

One of the first and best documented phenomena in the area is *positive time preference*: Individuals – man or animal alike – portray a systematic tendency to downgrade delayed rewards or delayed gratifications, and a systematic and often irrational preference for immediate consumption over delayed consumption. Since the first publication of Böhm-Bawerk (1889) economists, biologists, psychiatrists, economics and psychologists have tried to find an explanation for this phenomenon, and although many explanations have been given, after a century of research on positive time preference there is no consensus between the experts in the field. The paper of Mariëtte Berndsen and Joop van der Pligt deals with this issue. The root of

their argument lies in the notion that time is uncertainty. Uncertainty is an intrinsic component in any choice that deals with time, and this notion has important implications for the subjective experience of the temporal component in choice options. A substantive amount of research indicates that choice behaviour is dramatically changed by introducing uncertainty in the choice representation. Following the results of that research tradition, Berndsen and Van der Pligt claim that the reason why decision makers prefer immediate gains is because they are optimistic, in the sense that they believe that these gains might well be followed by additional gains in the future. In contrast, decision makers prefer to delay losses because they tend to believe that losses will eventually be avoidable in the future.

Another aspect that is related to evaluating the temporal component in intertemporal choices is the length of the temporal delay. Most delays that have been studied did not extend the life cycle of an individual. Many important intertemporal decisions, like environmental decisions, concern time preferences for the very long term, that is: across generations. The paper of Gretchen Chapman concerns time preferences for the very long term. Economists have often argued that intergenerational discount rates should be lower (per unit of time) than intra-generational rates. However, the three experiments in Chapman's paper suggest that they are similar.

All choices over time are evaluated on at least two dimensions: time and outcome. In intertemporal choice, there is always an evaluation of the temporal component (e.g., aspects related to uncertainty or to time perception) as well as an evaluation of the outcome (e.g., the attractiveness of the benefits). The third paper addresses the outcome evaluation when consequences of the decisions are extended over a period of time. If a positive consequence (e.g., health cure after a medical treatment) is extended over a relatively longer period of time, (e.g., the rest of your life) the outcome should receive a relatively higher value. In many situations, however, people appear to be insensitive to the duration of benefits. This phenomenon is labelled *age embedding*. Daniel and Lily Read's paper addresses different components that determine the age embedding effect and compare age embedding with embedding effects in other domains.

The study of intertemporal choice is currently undergoing a change in emphasis in accordance with a more general change in research on decision making under risk and uncertainty. Rather than searching for a single utility function, researchers now take the more pragmatic view that preferences are constructed and also determined by contextual factors such as problem presentation, response mode, and motivational constraints. The resulting choice models may not be as elegant as a single mathematical function, but they account for more behavior. The study of intertemporal choice is thus, moving from a focus on finding the 'correct' discounting function to an emphasis on the cognitive *processes* underlying intertemporal choice. The paper of Jane Ebert illustrates this change in emphasis. Ebert claims that the processes underlying the valuation of imminent events may be different from those underlying future events. She argues that the evaluation of imminent future involves less systematic processing while the evaluation of the remote future requires more elaborate and systematic processing. In a series of three experiments she tests the impact of cognitive resources on the valuation of both near and remote future events.

The conflict between present and future benefits and costs underlies many decision problems. Unfortunately, in many areas of decision research the temporal component is still neglected. One consequence of the growing importance of time preference research is an increased awareness of the need to incorporate a temporal component to existing decision models. The paper of Laurie Hendrickx, Wouter Poortinga, and Renate van der Kooij is an example of this type of research. Hendrickx et al. incorporated a temporal component in the standard model of resource dilemmas and provide an extended model to help explain people's preferences in resource dilemmas. A resource dilemma occurs if a group of people jointly have to manage a pool of limited resources, e.g., a clean river or a fish population. The temporal component of this dilemma has not yet received attention, although the conflict between present and future consumption lies at the heart of most resource dilemmas since these typically contain a social (self versus other) as well as a temporal (present versus future) aspect.

Finally, the paper of Dan Ariely and Dan Zakay reviews the issues and trends in intertemporal choice from a more general cognitive perspective on human decision making. The paper addresses various issues such as the relation between time preference and research on static and dynamic decision making, as well as issues such as the impact of time limits on decision making processes and performance.

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References

- Böhm-Bawerk, E. v. (1889). *Capital and interest*. South Holland IL: Libertarian Press, 1970.
 Read, D., & Loewenstein, G. (2000). Time and decision: Special Issue *Journal of Behavioral Decision Making*, 13, 141–276.

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