Chapter 2

Inter–Temporal Choice and Its Relevance in Consumer’s Credit Behavior

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ABSTRACT

Inter-temporal choices have been an important aspect of Behavioral Economics, as they deal with time-dependent decision-making of people in various situations. This chapter discusses hyperbolic time-discounting, which has gained significant recognition and has become an important part of public-policy and economic studies in last few years. It also highlights the importance of this concept from a real-life perspective, by showing its relevance in credit-behavior of individuals. This is shown by highlighting the unstable preferences of individuals using credit-cards, which exploit time-inconsistent behavior. Despite the paucity of current research, understanding impulsive-behavior has gained popularity recently because of the relevance of wellbeing and happiness in the global scenario. As is evident, credit debt does hamper people’s quality of life, and so it becomes important for researchers and policymakers to reduce impulsivity and self-control issues, by making consumers use costly commitment-devices and other behavioral options to help them make rational and justified choices.

INTRODUCTION

Historically, it was assumed that people were rational decision-makers, having an ability to calculate the trade-offs between benefits and costs, even in the face of uncertainty and still make choices that would maximize their present and future utilities. However, over time, research in Economics has realized that people’s real behavioral patterns deviate from the rational models, as they sometimes tend to make irrational choices despite having all the necessary knowledge required to make optimal decisions. Thus, to understand such anomalies, a new branch in Economics called Behavioral Economics has developed that integrates theories from Economics, Psychology and Neuroscience to evaluate the facets of human judgment and decision-making. Research in this area comprises of three important stages – firstly, the
study builds on experimental evidence where a latent variable ignored in standard economic analysis is considered to be relevant. Secondly, it welcomes the observed violations of traditional economic models by incorporating the observed biases into the behavior of a person. This in turn leads to the third stage where an analysis of the psychological sources of such observed biases becomes essential (Pesendorfer, 2006). Thus observed real behavior in behavioral experiments represents the decision-making skills of an individual, showing how a person thinks and decides a choice, in a particular situation. There have been various contributions by Behavioral economists to help improve standard economic theories to make them more realistic, the most relevant being the Prospect Theory, the Endowment Effect, Inter-temporal choice and Social Preferences.

The objective of the present chapter is to focus on people inter-temporal decisions and time-dependent preferences because most human decisions revolve around the dimension of time for evaluating the subjective value of a given choice. Here, consumer-credit in general and credit card in particular has been studied from this perspective, concerning self-control issues to evaluate peoples’ borrowing and repayment behaviour realistically. Credit-cards have become popular because they make use of the strategy of ‘buy now and pay later’ which allows consumers to make impulsive purchase—decisions. Infact by 2001, 76.2% of American households had atleast one all-purpose credit card and also such payment cards accounted for almost 20% of all American personal consumption expenditures. This is because consumer’s propensity to consume on current consumption increases as the liquidity of the available funds increases (Shefrin & Thaler, 1988). When consumers are given such financing tools such as credit cards, their spending gets enhanced, as such cards remove any liquidity constraint (Ausubel, 1991; Liabson, 1997). Therefore, this is a relevant field of research for various stake-holders such as policy-makers, social analysts, and researchers, as debt from credit-accumulation has become a major cause of concern as it impacts peoples’ happiness and wellbeing negatively.

The chapter is structured into six sections—it starts with a background section, which talks about the origin and evolution of the theory of inter-temporal choices— the Discounted Utility Model (DU). In the second section, it highlights the drawbacks of the DU model and discusses the emergence of the Hyperbolic Discounting model (HDM), whose details are given the next section. The fourth section discusses the applicability of inter-temporal choices in consumer-credit behavior, stressing on its impact on credit-card users. The fifth section provides some suggestions and future recommendations via. Nudge techniques and the chapter ends with a conclusion in the sixth section.

**Background and Evolution of Discounted Utility**

Inter-temporal choices involve trade-off between costs and rewards happening at distinct times. (Frederick, Loewenstein & O’Donoghue, 2002; Urminsky & Zauberman, 2015). Such choices are extremely important for decision-making as they directly impact people’s health, wealth and overall wellbeing. Infact, Adam Smith argued that these inter-temporal choices have the ability to influence the economic prosperity of various economies. The historical evolution of the theory of inter-temporal choices was mostly governed by John Rae, Eugen von Bohm-Baverk, Irving Fisher and Paul Samuelson, who formulated the theory mostly through introspection and personal observation. It got widely accepted in Normative Economics because of its simplicity and its familiarity to the basic compound interest formula, and not because of any empirical validity. Such choices became an established and relevant topic in traditional economic theory in 1834, when the Scottish economist John Rae published, “The Sociological Theory of Capital”, which focused on the sociological and psychological determinants of such choices. He be-