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Mental accounting and decision making: Evidence under reverse conditions where money is spent for time saved

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Abstract

Evidence from the behavioural decision literature suggests that economic decisions may be made on less than rational grounds. In this respect the formation of 'mental accounts' by individuals has been used to explain apparent departures from rationality in certain scenarios. The purpose of this paper is to establish the general applicability of mental accounting by investigating multi-attribute decisions where the following conditions vary: (1) the denomination of the mental account (i.e. whether the saving is denominated in money, as is classically the case, or time) and (2) the absolute saving level. Using a novel decision scenario, we replicate the prior findings of mental accounting effects under the classical conditions where individuals trade-off time spent for money saved, though these effects are sensitive to the level of absolute saving. However, when the conditions of the decision scenario are reversed, such that individuals trade-off money spent for time saved, mental accounting effects are no longer observed. This result is robust irrespective of whether participants are required to state maximum willingness to spend time/money or face a choice (yes/no) task. These findings qualify the results

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reported in prior studies, suggesting that mental accounting effects maybe context specific and suffer from a lack of generality.

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1. Introduction

The behavioural decision literature provides a growing body of experimental evidence (e.g. Einhorn & Hogarth, 1986; Kahneman, Slovic, & Tversky, 1982; Poulton, 1994; Thaler, 1994) which suggests that the Savage (1954) axioms of rationality may be violated in a number of decision-making situations. One branch of the experimental literature aims to explore the use of 'mental accounts' in multi-attribute situations (see Thaler, 1999, for a summary of the literature) where individuals form distinct *topical* accounts to evaluate decisions. The 'jacket and calculator' problem in Tversky and Kahneman (1981) illustrates:

Problem 1(a). ($N = 93$) Imagine that you are about to purchase a jacket for \$125, and a calculator for \$15. The calculator salesman informs you that the calculator you wish to buy is on sale for \$10 at the other branch of the store, located 20 minutes drive away. Would you make the trip to the other store?
YES [68%]; NO [32%]

Problem 1(b). ($N = 88$) Imagine that you are about to purchase a jacket for \$15, and a calculator for \$125. The calculator salesman informs you that the calculator you wish to buy is on sale for \$120 at the other branch of the store, located 20 minutes drive away. Would you make the trip to the other store?
YES [29%]; NO [71%]

In both versions, the trade-off is between saving \$5 on a total expenditure of \$140, at the expense of 20 min. In both scenarios, the 'benefit' (absolute monetary saving) remains at \$5 and the 'cost' (time spent travelling) at 20 min. However, the results above appear to suggest that individuals may value two identical monetary 'benefits' differently because they are evaluated from two separate topical accounts (i.e. the calculator expenditure account and the jacket expenditure account). A \$5 saving on a \$15 calculator appears more attractive than a \$5 saving on a \$125 calculator, even when the 'cost' involved (20 min) is identical. In other words, the same absolute saving on an item appears to be more attractive the higher its value *relative* to the item's original price. This effect is known as the mental accounting effect.

The purpose of this paper is to address the general applicability of the use of topical mental accounts. Specifically the paper employs a novel decision scenario to