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Feedback-conditional regret theory and testing regret-aversion in risky choice

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Abstract

Regret is an aversive emotion experienced upon the discovery that, had a different choice been made, a higher level of utility would have obtained than actually did. Because regret can be anticipated prior to choice it can lead to regret-minimising decisions. It has been shown that the experience of post-decisional regret is generally dependent on discovering the outcome of foregone acts as well as chosen acts. The most popular version of regret theory does not include an explicit account of the impact of foregone act resolution on anticipated regret-aversion as a decision motive. This restricts its domain of applicability. This paper modifies regret theory to accommodate the impact of outcome feedback on anticipated regret-aversion. The theoretical and empirical implications of this new version of regret theory are discussed.

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1. Introduction

Imagine that you play the National Lottery with the same six numbers every week. Having never won you are considering whether or not to play this week. If

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you decide not to play and your six usual numbers are drawn, the aversive emotion you experience as a result of foregoing a share of the jackpot (but keeping the £1 stake) is post-decisional regret. However, because you anticipate experiencing post-decisional regret prior to making your choice, you could act in order to minimise it by purchasing your usual ticket. This example demonstrates the intuitive plausibility of anticipated regret-aversion as a decision motive. Most people can relate to thoughts of enjoying superior outcomes had they chosen differently.

The potential importance of anticipated regret-aversion is evidenced in the early development of modern risky choice literature. Savage's (1951) *minimax regret principle* involves decision-makers choosing acts which involve the smallest of the maximum possible regrets. Loomes and Sugden (1982, 1987) extend the minimax regret principle in a generalised expected utility model which incorporates a disproportionately larger aversion to larger anticipated regrets. More recent research into regret-aversion as a decision motive has argued the importance of expected feedback on foregone acts to the observation of regret effects (e.g. Larrick, 1993). In terms of the above example, the experience of regret is conditional on the knowledge that the six numbers you usually choose yielded the jackpot. In order to experience post-decisional regret, and therefore to anticipate it and factor it in your evaluation of options prior to choice, you need to know that you will learn both the outcomes of the act you choose and the act you did not choose. If, by contrast, you normally purchased a 'lucky dip' ticket, with six numbers randomly selected for you by the lottery operator at the point of purchase, then in any week you would not know whether a foregone ticket would have yielded the jackpot or not. In this case, there is nothing – or certainly less – to regret.

Loomes and Sugden's (1982, 1987) version of regret theory (hence termed *original regret theory*) does not explicitly incorporate an account of the importance of foregone act resolution to the stimulation of anticipated regret-aversion as a decision motive. It cannot therefore explain evidence (e.g. see Zeelenberg (1999) and the discussion below) which shows regret effects to be highly sensitive to this manipulation of situational context. This is a potential hindrance to the progress of both basic and applied research in the area. First, researchers who are interested in discovering the impact of manipulating this facet of situational context on observed risky choices must, in the absence of an appropriate theoretical framework, rely solely on intuition to design appropriately controlled tests. Whilst this may be possible for simple decision problems, more involved contexts are often too complicated for intuition alone to generate precise predictions. Second, regret-aversion is enjoying somewhat of a renaissance in the behavioural finance literature. Kahneman and Riepe (1998), for example, discuss the role of regret-aversion in trading in financial assets. Zeelenberg (1999, p. 97) refers to stock market trading as an important real world context in which feedback on foregone as well as chosen acts is both readily available and used by decision-makers. In this context, where decisions are often highly complex, the present theoretical framework appears inappropriate to structure and investigate pertinent research questions.

This paper presents a modified version of Loomes and Sugden's (1987) general version of regret theory. The modified theory, called feedback-conditional regret the-