



Sunk costs and sunk benefits: A re-examination of re-investment decisions

Darren Duxbury*

Leeds University Business School, The University of Leeds, Leeds LS2 9JT, UK

ARTICLE INFO

Article history:

Received 20 October 2010

Received in revised form 2 November 2011

Accepted 16 November 2011

JEL classification:

C91

Keywords:

Escalation of commitment

Prospect theory

Sunk benefit

Sunk cost

ABSTRACT

Prior experimental studies supporting the prospect theory explanation of the sunk-cost effect manipulate the framing of the initial investment, describing it either in neutral terms or as a prior loss. This paper subjects the prospect theory explanation to further examination, but takes an alternative experimental approach based on the differential risk taking behaviour predicted by prospect theory's S-shaped value function. The experiments manipulate whether an initial investment produces a sunk cost (prior loss) or a sunk benefit (prior gain) and investigate the impact of this on the likelihood of authorising an incremental investment held constant across treatment conditions. To ensure the results are robust to the type of incremental investment, two experiments are conducted across which the outcomes of the incremental investment are manipulated to produce poor or good investment opportunities. In all cases the results fail to support a higher likelihood of authorising the incremental investment following a sunk cost than a sunk benefit. In isolation, therefore, prospect theory is unable to explain fully the sunk-cost effect.

© 2012 Elsevier Ltd. All rights reserved.

1. Introduction

The conventional wisdom in management accounting follows the principles of economic rationality, which dictate that individuals should evaluate financial decisions based solely on an incremental analysis and so consider only future costs and benefits. Behavioural research in accounting, however, provides convincing evidence that individuals' decisions are influenced by prior outcomes. Numerous studies, for example, document escalation of commitment; the tendency to commit additional funds to a failing project in an attempt to recoup prior sunk costs (e.g. Arkes & Blumer, 1985; Cheng, Schulz, Luckett, & Booth, 2003; Chow, Harrison, Lindquist, & Wu, 1997; Denison, 2009; Garland, 1990; Ghosh, 1997; Kanodia, Bushman, & Dickhaut, 1989; Staw, 1976; Thaler, 1980).¹ While various explanations of the sunk-cost effect have been proposed (see Wilson & Zhang, 1997, for a review), many authors (e.g. Arkes & Blumer, 1985; Garland, 1990; Whyte, 1993) draw on Kahneman and Tversky's (1979) prospect theory in which prior outcomes impact on subsequent decisions, with increased risk seeking behaviour in the presence of prior losses (i.e. sunk costs) and risk aversion in the presence of prior gains (what might be referred to as sunk benefits).

* Tel.: +44 113 343 4508; fax: +44 113 343 4459.

E-mail address: dd@lubs.leeds.ac.uk.

¹ It is necessary at this stage make clear the distinction between "escalation of commitment" and the "sunk-cost effect". Following Navarro and Fantino (2008), escalation commonly refers to the persistence in a course of action, usually in the face of failure. Studies of escalation have identified several determinants of this persistence, including self-justification, but have not manipulated sunk costs. In contrast the sunk-cost effect relates to the specific impact of sunk costs on decision making, and necessitates the manipulation of sunk cost as an independent variable to determine its role in investment decision making. Thus escalation is seen as a broader phenomenon than the sunk-cost effect. This paper manipulates sunk cost and so belongs to the latter camp, though the two terms are used interchangeably where no confusion will ensue.

Given that escalation of commitment is routinely related to a failing course of action, the escalation and sunk-cost effect literatures have tended to focus on the prospect theory explanation of behaviour in the presence of prior losses, ignoring its prediction relating to behaviour in the presence of prior gains. Whyte (1986, p. 319), however, an early proponent of the prospect theory explanation of the escalation of commitment or sunk-cost effect, recognises the testable implication stemming from prospect theory's prediction in the presence of prior gains; notably that "escalating commitment in the context of success will occur, but the level of commitment evidenced in the future will tend to be less than is warranted by an objective analysis of the situation." More specifically, if prospect theory is at the root of the sunk-cost effect, then changes in risk taking behaviour following prior outcomes should make re-investment more likely following sunk costs (prior losses) than would be observed following sunk benefits (prior gains).

This paper examines this testable implication, thus subjecting the prospect theory explanation of the sunk-cost effect to further experimental examination. In the experiments reported here participants are presented with either a sunk cost or a sunk benefit investment scenario and then asked to make an identical, incremental investment decision, the outcome of which feeds directly into the monetary incentive mechanism used to determine payment for participation in the experiment. Holding the incremental investment constant, economic theory would predict no difference in the tendency to authorise the incremental investment across the sunk cost/benefit treatment, while if prospect theory is at the root of the sunk-cost effect there should be an increased tendency for those participants experiencing the sunk-cost condition to accept the incremental investment than those experiencing the sunk benefit condition.

To ensure the results are robust to the nature of the incremental investment two versions of the experiment are run. In Experiment One the incremental investment represents a poor investment (i.e. it has a negative expected value), while in Experiment Two it represents a good investment (i.e. positive expected value). Contrary to the predictions of both economic theory and prospect theory, the results from Experiment One indicate that individuals are less likely to authorise incremental investments in the presence of a sunk cost than a sunk benefit when the incremental investment represents a poor investment opportunity. In Experiment Two, when the incremental investment represents a good investment, contrary to prospect theory there is no effect of the sunk cost/benefit treatment on the tendency to authorise the incremental investment, which is in line with economic theory. In isolation, therefore, prospect theory is unable to explain fully the sunk-cost effect, thus supporting Wilson and Zhang (1997) who conclude that, while many of the explanations of escalation have explanatory power, none alone can explain fully the phenomenon.

The structure of the paper is as follows. The next section provides a brief review of related literature, explains in more detail the prospect theory explanation of the sunk-cost effect and states in general terms the hypotheses to be examined. Section 3 discusses the experimental method employed, along with the background of the participants and a manipulation check. Section 4 highlights unique features of the design and presents the results from Experiment One, while Section 5 does the same for Experiment Two. Section 6 presents additional analyses intended to provide further insight concerning the factors that influence participants' decisions to authorise the incremental investment. The final section draws conclusions.

2. Related literature and the prospect theory explanation

The principles of economic rationality dictate that individuals should evaluate decisions based solely on an incremental analysis and so consider only future costs and benefits. Thus prior outcomes should not impact upon their decisions. However, prior studies document that individuals' decisions, whether consumption or investment related, are influenced by prior outcomes (e.g. Thaler & Johnson, 1990). One area that has received widespread investigation is the sunk-cost effect; the tendency to commit additional funds to a project in an attempt to recoup prior sunk costs. Numerous academic studies, with their roots in the early work by Staw (1976) on the escalation of commitment, have documented empirically the effect of sunk costs on individuals' decisions to commit incremental investments (e.g. Garland, 1990; Thaler, 1980). Routinely cited examples of the sunk-cost effect at large in practice range from the prolonging of the Vietnam War, the collapse of Barings bank due to the investment behaviour of Nick Leeson, continued financial commitment to the supersonic airliner Concorde and NASA's space shuttle program. The sunk-cost effect is believed to have played an integral part in the irrational decision to continue investing (whether in terms of time, money or life) in projects that should have been abandoned on a rational economic basis (i.e. projects that represented poor investment opportunities).

Various explanations of the sunk-cost effect have been proposed in the literature, including the desire to avoid waste (e.g. Arkes & Blumer, 1985), personal responsibility and the need for self-justification (e.g. Schulz & Cheng, 2002; Staw, 1976), reputation and information asymmetries (e.g. Kanodia et al., 1989) and mental accounting effects (e.g. Soman & Cheema, 2001; Thaler, 1980). Another popular approach in the literature is to draw on the implications of Kahneman and Tversky's (1979) prospect theory to explain the sunk-cost effect (e.g. Arkes & Blumer, 1985; Garland, 1990; Northcraft & Neale, 1986; Whyte, 1993). In recognition of the high cost implications of falling foul of the sunk-cost effect, recent studies have begun to investigate ways in which the effect can be mitigated (e.g. Cheng et al., 2003; Ghosh, 1997; McCain, 1986; Tan & Yates, 1995, 2002). Such endeavours would be more productive, however, if a clear understanding of why individuals succumb to the sunk-cost effect was available in the first place. The wide range of possible explanations cited above, indicates that a general consensus does not exist. This paper contributes to our understanding of the sunk-cost effect by taking one explanation, prospect theory, and subjecting it to further experimental scrutiny.

Whyte (1986) provides a comprehensive discussion of the prospect theory explanation of the sunk-cost effect, thus the following discussion is purposefully brief. The S-shaped value function of prospect theory is concave in the domain of gains

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات