Self-rewards and personal motivation ☆

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ARTICLE INFO

ABSTRACT

Self-administered rewards are ubiquitous. They serve as incentives for personal accomplishments and are widely recommended to increase personal motivation. We show that in a model with time-inconsistent and reference-dependent preferences, self-rewards can be a credible and effective tool to overcome self-control problems. We also discuss the different types of self-rewards the individual can use, such as vice goods and virtue goods, and analyze which types of goods the individual prefers.

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"Self-gifts can act as self-contracts in which the reciprocity for the gift is also personal effort and achievement." (Mick and DeMoss, 1990, p. 326)

1. Introduction

The pleasure of the moment often seduces people to act against their own long run interests. Many individuals are tempted to shirk on unpleasant tasks – such as studying for an exam, writing a report, dieting, or saving money. If a person with such a present-bias anticipates the intrapersonal conflict, this gives scope for self-regulation (e.g., Laibson, 1997; O'Donoghue and Rabin, 1999). One form of self-regulation is the use of self-rewards or self-punishments. To help reach their goals, people frequently promise themselves a reward if they persist and accomplish a particular task. Consumer researchers have documented a wide-spread use of such "self-gifts" as incentives for personal accomplishments (e.g., Mick and DeMoss, 1990; Mick and Faure, 1998). Self-rewards are also recommended in self-help guides and figure prominently in the professional treatment of problem behaviors (e.g., Bandura, 1971; Febbraro and Clum, 1998; Faber and Vohs, 2004; Clum and Watkins, 2007). Even firms invest into "self-leadership" training programs, to teach their employees how to increase their motivation with self-rewards (e.g., Vancouver and Day, 2005).

☆ This paper combines and extends two previous, independent papers entitled "Commitment to Self-Rewards" (by Koch and Nafziger, 2009) and "Goal Setting as a Self-Regulation Mechanism" (by Suvorov and Van de Ven).

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But how do self-rewards work and what are their limits? It has to be credible that the person does not take the self-reward after failing to reach the goal, and that the person does not forgo to take it after reaching the goal. And why do people sometimes succeed with quite mundane self-rewards (such as a cup of coffee or a game of pinball) but on other occasions treat themselves to a luxury good they would normally consider too extravagant (such as an expensive pair of shoes or an exclusive bottle of wine)?

To address these questions we develop a model of self-regulation through goal setting and self-rewards. We show that a self-reward makes an individual pursue more challenging goals than she otherwise would. And we analyze how and when different kinds of rewards help the individual overcome a self-control problem. A crucial element of the model is that the promise of a self-reward shapes expectations. The promise of a self-reward conditional on meeting a goal means that buying the good after achieving the goal is something the individual expected to happen; whereas buying it after missing the goal goes against what she expected. Whether expectations are met or not matters. According to Kőszegi and Rabin (2006a), past expectations become reference points against which people evaluate outcomes, such as the benefit of a good and the price to be paid for it. In these evaluations, people often display loss-aversion in the sense of Kahneman and Tversky's (1979) Prospect Theory. What reference points an individual forms, however, is not arbitrary. For an individual who is rational and forward-looking, in equilibrium, it must indeed be optimal (not) to buy the good if she expected (not) to buy it.

To illustrate the consequences of these ideas for self-regulation, consider a self-reward strategy of the form "If I achieve [*a specific goal*], I'll buy [*a certain good*]; but if I do not stick to my goal, I will deny myself this good". Now if the price of the good is very low, the individual will always buy it – no matter what her past expectations were. Hence, the part of the self-promise "… if I do not stick to my goal, I will deny myself the good" is not credible. So the individual rationally expects that she will buy the good, irrespective of the task outcome and the self-reward strategy unravels. Conversely, if the price of the good is very high, she knows that she will never buy it – so the part of the self-promise "If I achieve my goal, I'll buy that good …" is not credible. So again the self-reward strategy unravels. For an intermediate price range, buying as well as not buying can be a self-sustaining self-reward strategy. If the individual expects to buy the good she will buy it; if she expects not to buy the good she will not buy it. Thus, the promise that she will reward herself upon meeting her goal, but would deny herself the reward if she failed the goal is credible.

To help overcome the self-control problem, the self-reward strategy must not only be credible but it must also provide appropriate incentives. Sticking to the goal and taking the reward must increase the continuation utility enough to offset the temptation to deviate from the goal and not to take the reward. The more severe the present bias is, or the higher the costs of effort, the stronger the incentives must be (i.e., the lower the price of the good must be). Otherwise, the reward is not attractive enough to overcome the self-control problem.

Our framework also helps to understand the nature of self-reward goods. Different goods have a different motivational strength because they vary in terms of prices and their value to the individual. Vice goods (goods that tempt a present-biased individual because they confer immediate benefits and costs are delayed) motivate the individual the most, followed by neutral goods (goods where benefits and costs arise at the same time) and virtue goods (goods with delayed benefits and immediate costs). However, with vice goods it is the most difficult to prevent oneself from buying the good in case the goal is not met. Indeed, we show that a vice good has to be costly from an ex ante perspective, so that not buying it is credible after a failure to live up to the goal. Intuitively, abstaining from buying the good is not credible if the reward is a (relatively cheap) chocolate cake – the individual will consume this cake even if she did not stick to her goal. It needs to be the expensive bottle of St. Emilion wine – a bottle that the individual normally considers as too extravagant.

The paper is organized as follows. After discussing the related literature we introduce the model in Section 2. Our main analysis and results are in Section 3. In Section 4, we analyze the different kinds of self-reward goods. Section 5 discusses robustness of our results to alternative assumptions such as partial naïveté or uncertainty. Section 6 concludes the paper.

Related literature: Our main contribution is to the literature that deals with the question of how present-biased individuals cope with self-control problems (for an overview see, e.g., Brocas et al., 2004). A large body of work focuses on the role of external commitment technologies. It explains why people incur costs – for example by investing in illiquid assets, signing binding contracts, or making binding promises to other parties – in order to overcome self-control problems in savings and consumption decisions (e.g., Laibson, 1997), or to overcome low effort provision and procrastination (e.g., DellaVigna and Malmendier, 2004; Carrillo and Dewatripont, 2008).

While most instances of self-control in everyday life seem to occur without any extrinsic commitment at all (cf. Rachlin, 1995), only a few papers deal with intrapersonal strategies – as we do here. Benhabib and Bisin (2005) model the use of neural control processes, Bisin and Hyndman (2009) consider deadlines, Suvorov and van de Ven (2008), Koch and Nafziger (2011) and Hsiaw (2013) model goal setting, and Koch and Nafziger (2012) consider multiple goals and mental accounting. Our paper builds upon these goal setting models and shows how an individual can further alleviate her self-control problem by specifying not only goals, but also self-rewards.

Bénabou and Tirole (2004) ask why personal rules can actually work. In their model, individuals have imperfect recall about past motives, and hence draw inference about these motives based on their past actions (like living up to a personal rule in a situation that puts their willpower to a test). Carrillo and Mariotti (2000) and Bénabou and Tirole (2002) model how the manipulation of self-confidence and self-esteem can serve as a self-regulation strategy. Unlike these papers, our analysis of self-rewards does not rely on reputation building. Asheim (1997) considers a different notion of self-reward. He notes that multiple subgame perfect equilibria may exist if a present-biased individual faces an infinite horizon decision problem, or if there are indifferences. He proposes a refinement and provides examples of decision rules that can be interpreted as incorporating self-reward or self-punishment.