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Playing 'hard to get': An economic rationale for crowding out of intrinsically motivated behavior

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ABSTRACT

Anecdotal, empirical, and experimental evidence suggests that offering extrinsic rewards for certain activities can reduce people's willingness to engage in those activities voluntarily. We propose a simple rationale for this 'crowding out' phenomenon using standard economic arguments. The central idea is that the potential to earn rewards in return for an activity may create incentives to play 'hard to get' in an effort to increase those rewards. We discuss two specific contexts in which such incentives arise. In the first, refraining from the activity causes others to attach higher value to it because it becomes scarce. In the second, restraint serves to conceal the actor's intrinsic motivation. In both cases, not engaging in the activity causes others to offer larger rewards. Our theory yields the testable prediction that such effects are likely to occur when a motivated actor enjoys a sufficient degree of 'market power.'

1. Introduction

Consider a boy who enjoys mowing his parents' lawn and does so voluntarily. Now suppose the boy's father offers money in return for this activity. How will the boy respond to these incentives? Deci (1971) uses this anecdote in his seminal article on motivational crowding out. The term refers to the possibility that the son may become less willing to voluntarily mow the lawn after having been rewarded. Interest in (and concern about) such perverse effects of rewards has fueled both an academic and a public debate as to the underlying reasons, as well as the contexts in which they are likely to occur. A widely held view is that it may be dangerous to move activities usually engaged in 'for their own sake' into the realm of economic transactions.[1]

Crowding out effects have been demonstrated in a number of controlled experiments, starting with the seminal work of Deci (1971) and Lepper et al. (1973). As a recent example, consider an experiment conducted by Warneken and Tomasello (2008). In this experiment, young children are placed in a position where they can help an adult by picking up a fallen object. Previous studies have shown that most children are *intrinsically* motivated to engage in such helping behavior, meaning that they will do so spontaneously and in the absence of any promise of being rewarded (Warneken and Tomasello, 2006). Warneken and Tomasello (2008) randomly assign some children to a treatment condition in which they are explicitly offered a material reward in return for helping. In a subsequent phase where no such rewards are offered, these children are

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[1] This view is, for example, advocated by Alfie Kohn in his bestsellers 'Punished by Rewards' (Kohn, 1999) and 'Unconditional Parenting' (Kohn, 2005).

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found to be less likely to help than those in a no-reward control group. Fabes et al. (1989) conduct a study in which children could help by sorting pieces of paper according to color. In one condition, the experimenter explicitly offered a reward in exchange. In a subsequent phase, the experimenter left the room, announcing that he will return later, and the children were secretly observed. Compared to children who had not seen rewards being offered, these children were less likely to sort papers in the absence of the adult.

Effects similar to those documented in these studies have been found in a number of psychological and economic experiments. See Deci et al. (1999) for a meta study on psychological experiments, Bowles and Polania-Reyes (2012) for a survey on economic experiments, and Gächter et al. (2011) for a recent example of an economic experiment on the dynamic effects of incentives on voluntary cooperation.[2]

A somewhat ad hoc explanation for such effects would be that economic incentives cause a change in preferences. Under normal conditions, children experience an internal (intrinsic) reward when they engage in pro-social activities such as picking up dropped objects or sorting papers. However, if another person explicitly offers a reward in return for such action, this reduces or eliminates the internal reward. Indeed, Frey (1994) argues that crowding out would be 'difficult or impossible to account for in a reasonable way' without assuming such a change in fundamental preferences.[3] A disadvantage of this ad hoc theory is that it is silent as to the ultimate *reasons* for such changes, and sheds no light on the conditions under which they are likely to occur.

A number of authors have proposed explanations for crowding out that do not involve a change in fundamental preferences. One prominent explanation is that individuals use activities as signals in order to create or maintain a positive (self) image. If paid for, these activities may lose their signaling value (Seabright, 2004, 2009; Bénabou and Tirole, 2006, 2011). This may, for example, explain why someone might be less willing to donate blood when offered money in return. However, it does not seem to apply to the experiments mentioned above. If the child helps in order to signal that it is 'good,' then its ability to do so is compromised only when a reward is offered. Once rewards are removed, the activity can be used as a signal again and the child should engage in it. In the experiment, however, children are less likely to engage in the activity after rewards are removed.

Several explanations are based on the idea that payment may constitute a signal from a better informed party (e.g. parent, teacher or employer) that affects the beliefs of the actor (e.g. child, pupil, worker) concerning the nature of the task. For example, payments may indicate that the activity is dangerous or otherwise costly (Bénabou and Tirole, 2003).[4] However, this information based explanation for crowding out seems unlikely to apply to experiments such as those we have mentioned. While it is possible that payment reveals to the child that picking up objects or sorting papers is difficult, onerous or dangerous, this appears rather implausible. After all, the activity is extremely simple, and the child has probably experienced it before. Indeed, Bowles and Polania-Reyes (2012) find that theories of information revelation are only consistent with about a third of the economic experiments which they review in their survey article.[5]

According to Bowles and Polania-Reyes (2012), much of the experimental evidence on motivational crowding out seems to be driven by what they call 'framing': economic incentives establish a 'market frame' and induce a 'market mentality.' Even though the fundamental nature of the activity is unaffected, the frame 'activates own payoff-maximizing modes of thought.' This view differs from the idea that payments modify fundamental preferences in that the individual is seen as having a 'repertoire of preferences.' Rather than literally altering these preferences, incentives affect their 'salience' within a specific situation. Just like its more ad hoc cousin, however, this theory begs the question: Why should a mere 'market frame' undermine (or render less salient) an individual's pro-social motivations?

The present paper proposes a simple and intuitive economic rationale for why a reward-induced 'market frame' may lead to crowding out effects. This rationale does not appeal to changes in the (actual or perceived) attractiveness of the activity *per se*. Instead, our theory is based on the idea that the 'market frame' triggers certain beliefs about the rules governing an interaction. In particular, we assume that the 'frame' determines whether or not individuals consider it possible or appropriate, in principle, that the activity in question might be paid for.[6]

The essence of our argument is the following. Consider an individual who attaches *intrinsic value* to the performance of certain activities, such as helping an adult. In the absence of other (ulterior) considerations, the individual is motivated to engage in the activity *per se*, and would do so voluntarily. If this activity becomes the object of economic transactions, however, the individual will, in addition to its *intrinsic value*, consider its *exchange value* (its 'price'), and he will normally wish to increase this exchange value if he can. Under certain conditions, this goal will be served by 'cutting back' on the

[2] A closely related literature documents possibly deleterious effects of monitoring and control (Falk and Kosfeld, 2006; Schnedler and Vadovic, 2011; Ploner et al., 2011). von Siemens (2013) attributes such effects to negative reciprocity.

[3] Sliwka (2007) proposes a model in which 'conformists' infer from incentives that others are not intrinsically motivated. By assumption, this causes them to become unmotivated.

[4] In Herold (2010), payment indicates that the informed party expects the agent to fail. In Friebel and Schnedler (2011), it suggests that colleagues are not 'team players.' In Schnedler and Vadovic (2011), it indicates that the informed party does not expect the agent to engage in it. van der Weele (2012) argues that payment may suggest that the activity is not a prevailing norm.

[5] A further explanation for crowding out posits that greater wealth renders an activity less attractive (Schnedler, 2011). As the child accumulates no wealth, this explanation can also be ruled out.

[6] Bowles and Polania-Reyes (2012) suggest that frames provide "cues for appropriate behavior." In our theory the "cue" does not relate to the activity directly but to the question of whether others may, in principle, offer rewards in exchange. The resulting effects on behavior are rational, strategic responses to the perceived rule change.