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How luck and performance affect stealing☆

Christina Gravert*

Department of Economics and Business, Aarhus University, Fuglesangs Alle 4, 8210 Aarhus V, Denmark

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ABSTRACT

This paper investigates how the way of earning payoff affects the probability of stealing. The participants who earned their payoff according to performance were three times more likely to take the (undeserved) maximum payoff than participants with randomly allocated payoff. Conditional on stealing something, most subjects steal the full amount available.

1. Introduction

With a small risk of getting caught it can be tempting to gain money from over reporting business expenses, taking money from the coffee jar for buying a snack at the vending machine or bringing office supplies home for the kids' schoolwork. While such behavior might be no problem on the small scale, it becomes problematic when millions of employees and taxpayers take a little extra. The US Chamber of Commerce estimates that employee theft costs businesses 40 billion dollars each year, 10 times the annual value of street crimes in the US. Increasing the number of in-store detectives and fines for shoplifting might deter external criminals, but for organizations such a tight supervision and hard punishment of their employees is neither desired nor feasible. For organizations to decrease employee fraud, they need to understand the mechanisms that drive this behavior.

According to standard economic theory the decision to steal depends on an income effect and the probability of getting caught and punished (Becker, 1968). Recently this theory is being questioned and the concept of non-pecuniary moral costs associated with lying and stealing was added to the decision model (Gneezy, 2005; Levitt and List, 2007; Fischbacher and Heusi, 2008; Mazar et al., 2008; Lundquist et al., 2009).[1] Usually the moral costs outweigh the increase in income and thus make an individual refrain from stealing, but they might decrease in certain situations, making stealing optimal. Based on my motivation of investigating employee theft I want to test whether stealing can be influenced by the way in which payoff is earned.

I show in a simple experiment that a situation in which individuals have to exert effort (doing a search task) leads to a higher level of stealing compared to one in which an individual's payoff is determined by chance (rolling a die). This

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* Tel.: +45 87165279.
E-mail address: gravert@econ.au.dk

[1] Recent studies have become even more detailed and in depth in observing stealing (Belot and Schroeder, 2013; Pascual-Ezama et al., 2013; Reuben and Stephenson, 2013) and lying (Cappelen et al., 2013; Gneezy et al., 2013).

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contradicts the standard model as it predicts no difference between the treatments when monetary incentives and the probability of getting caught are kept constant. I also provide evidence that stealing is independent of the initially earned payoff. Furthermore, in contrast to previous research my experiment does not rely on comparisons of averages or distributional tests and is thus more precise in quantifying stealing.

2. Experimental design

The experiment was conducted in 2012 at Aarhus University in front of two separate canteens which mostly cater to Business and Social Science students. 118 students participated. Students received a survey on canteen service and were told they could earn money as compensation for their participation by solving a matrix task/rolling a die.[2] The survey included 15 questions on the canteen and on basic demographics of the students such as gender, type of study, department and nationality. After filling out the survey the actual experiment started. Treatment varied by the time subjects arrived. All students arriving at a given time participated in the same treatment. The only difference between the two treatments was in the way that participants earned their payoff.

2.1. The random income treatment (RIT)

To create a random payoff I used an eight-sided die. After filling out the survey, a participant entered one of two private booths. Under the supervision of the experimenter he rolled the die and noted the number on top of his instruction sheet, which was attached to the survey. This meant it was not possible to cheat when recording the actual outcome. It is important to separate the possible act of cheating on the score from the act of stealing; otherwise stealing coins cannot be distinguished from cheating on the score.

Subjects earned one 5 Danish Kroner (DKK) coin for every eye on the die. After rolling the die and writing down the number the participant received one envelope filled with eight 5 DKK coins, the maximum payoff of 40 DKK (around 8 US Dollars). The payment scheme was clearly stated on the instruction sheet on the same page where the subjects noted the number they rolled. After handing out the envelope, the experimenter left the booth and made it clear that she was not going to come back, by referring to the instructions. She asked the participant to take out the coins he had earned and to return the rest of the money in the second envelope stapled to the back of the survey.[3] After sealing this envelope the participant dropped the survey with the envelope into a large survey box on his way out. All envelopes were returned.

Fake coins (metal disks as in Koch and Normann, 2008) were provided in the booths to fill up the second envelope to eight coins total. The disks were provided in large bowls, making it impossible to tell how many had been taken out. This way the participants had the possibility to steal all real coins without having to drop off an empty envelope.[4] The participants could see from the provided instructions that the experimenter is able to tell from the number on the front of the survey and the remaining coins in the envelope stapled to the back of the survey whether any coins were stolen.

2.2. The performance income treatment (PIT)

In the PIT the participants solved a matrix task (Mazar et al., 2008) after filling out the survey. The test sheet, handed out by the experimenter once a participant entered a booth, consisted of eight sets of 12 three-digit numbers, such as 3.85. The participant had 3 min to find two numbers per matrix that add up to 10. This is a simple search task where the solutions are unambiguous once found, to make the right answers very transparent to the participant. After 3 min the experimenter went back into the booth and checked the results. The participant then noted the number of solved matrices on top of the instruction sheet and the payment proceeded just as in the RIT, with 5 DKK per correct matrix.

3. Results

Out of the 118 participating students in the two main treatments, 105 had the opportunity to cheat – the others rightfully earned the complete payoff of 40 DKK. For the analysis I drop these 13 participants.

44% of the subjects in the PIT decided to take (some of) the undeserved left-over money in the envelope, while in the RIT only 9% took more money than they earned. The difference is significant (Fischer exact $p < 0.01$).

While there are significant treatment effects even if one considers both genders separately, I find no significant gender effects.[5] Both genders are more likely to steal in the PIT. Women tend to steal slightly less frequently than men in the RIT (4% compared to 13%), while in the PIT half of the women steal (50% compared to 43% of the men). However, there are fewer women in the PIT than in the RIT (see Table 1).

[2] Instructions were half a page long.

[3] If somebody rolled an eight, he could keep the first envelope with money and was asked only to drop off the survey.

[4] 90% of the subjects who cheated used the fake coins. Three dropped off empty envelopes.

[5] From the survey I can match basic characteristics to the stealing behavior of the students. Because of the homogeneity of the group, there are no significant results when regressing nationality, field of study or type of degree on stealing.