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Abstract:

Based on a dice rolling task where participants can cheat on the outcome, this paper asks if default answers change dishonesty? The paper finds that various default answers have asymmetric effects. Compared to not having a default answer at all, providing a low default answer, or adding the expected mean as the default answer when participants report the outcome of the task do not affect behavior. Adding a high default answer, however, significantly increases the reported outcome.

Keywords: Dice task, Cheating, Default bias

JEL codes: C91, D03

1. Introduction

A well-documented finding is that many people are willing to engage in small scale cheating (Ariely, 2012). But whereas small scale dishonesty is a robust finding, the tradeoff between cheating to get more and maintaining a positive image is dynamic (See for instance Ariely, 2012; Shu and Gino, 2012). The tradeoff can for instance be affected by the frequency of interaction (Azar et al. Forthcoming), by moral reminders (Mazar et al. 2008), or when other people benefit from the cheating actions (Erat and Gneezy, 2012), or by watching one's peers engage in unethical conduct (Fosgaard et al., Forthcoming; Pascual-Ezama et al., Forthcoming).

In real life, small scale dishonesty occurs for instance when people exaggerate corporate travel expenses, losses on insurance claims, or when they falsify tax returns. In such situations, it is in principle possible to include a default figure (a preprinted answer on, e.g. an insurance claim form) and to manipulate this figure, by preprinting a low figure, in order to maximize peoples' honesty. Potentially this is a fruitful way to increase honesty since, default manipulation is a very effective behavioral instrument in contexts, such as organ donations (Johnson and Goldstein, 2003), pensions choices (Madrian and Shea, 2001), and car purchases (Levav et al., 2010). However, in the area of dishonesty, the possible effects of default manipulations remain, to the best of my knowledge, unknown. Therefore, the aim of the present study is to explore in a laboratory experiment if default manipulations can indeed affect dishonesty. The main finding is that the default manipulations only affected dishonesty when the default answer was a high number, hence entailing increased dishonesty.

2. Experimental design

The experimental task was a dice task similar to that of Fischbacker and Heusi Föllmi (forthcoming). Subjects were each handed two 6-sided die, and asked to roll them and report the outcome on a computer screen[1]. The report screen had an input box where the possible outcome (2 to 12) could be entered. The task was repeated 10 times. Before the task began, subjects were informed on an initial instruction screen that they would earn (in DDK) the number they reported in the input box from two ex-post randomly selected repetitions of the task. The maximum possible earnings were therefore 24 DKK (≈4 USD) while the minimum was 4 DKK (≈0.7 USD).

The nature of the task made it possible for subjects to misreport the outcome of the die, with the financial outcome of cheating ranging from 1 to 20 DDK (≈3.3 USD). The experimenter had no way of detecting whether

[1] The instructions and screenshots are available upon request

subjects reported the true outcome of the die rolls, only if distribution of outcomes was statistically unlikely. During the task, the experimenter sat in a location where it was not possible to see inside the participant's booth and the experimenter only approached the participants if they had a question which they indicated by raising their hand.

During each session of the experiment, subjects randomly completed the entire task under one of four treatment variations. The treatments varied with regards to the input box on the reporting computer screen. In the control treatment (*Empty*), the input box was empty in all 10 repetitions of the task. In the three other treatments, however, the input box contained a default answer of 3 (*Low*), 7 (*Mean*), or 11 (*High*) which was present at the start of each repetition of the task. If the subjects did not get the default answer when rolling the die, they had to delete the default figure and type another number. No instructions regarding the defaults were provided, and the subjects did not ask any questions about them. The subjects also answered background questions and completed the cognitive reflection test (Frederick, 2005).

The experiment was conducted at the Laboratory for Experimental Economics at the University of Copenhagen in May and June 2012. The subjects were ordinary Danish citizens who were invited to participate in collaboration with the central statistical office in Denmark. The final sample of participants was 420[2].

3. Results

Even though the economic gain from cheating in the dice task was marginal, many of the subjects did in fact cheat. After evaluating the reported outcomes by means of the Kolmogorov-Smirnov test, it became apparent that the observed distribution significantly deviated from the exact cumulative distribution of rolling two 6-sided die (p=0.000). Furthermore, the reported mean outcome of 7.58 clearly deviates from the expected mean of 7.00 (t-test: t= 14.20, p=0.000).

3.1 The effect of defaults

The decision to misreport the outcome of the die rolls was affected by the default options, albeit in an asymmetric way. Having made pair-wise non-parametric Mann-Whitey comparisons of the reported outcomes

[2] Distribution across treatments: Empty: n=118, Low: n=117, Mean: n=96, High: n=89.

in each of the treatments, it became clear that only the behavior in the *High* default was different from the other treatments[3].

The asymmetric default effect is recovered at the individual level also. The individual distribution of the reported outcomes is compared with the exact cumulative distribution of rolling two 6-sided die in a Kolmogorov-Smirnov test[4]. Obviously, this is not a definitive measure of cheating. Importantly though, there are no reasons to suspect that the assessment of dishonesty is different across the randomly assigned treatments.

The results of this comparison are presented in Table 1 below. Overall, 30 percent of the subjects have a distribution which, on a 5 % level, significantly deviates from the expected distribution. Thus, evaluated in a statistical sense, these subjects exhibit some degree of dishonesty.

Table 1 – degree of cheating across defaults

Defaults	**Percentage of cheaters***
Empty	29.8%
Low	25.6%
Mean	29.2%
High	38.2%
All	*30.0%*

** Tested with a Kolmogorov-Smirnov test. Cheating is said to occur when there is a significant deviation (at 5 percent level) between an individual's die outcomes and the exact distribution of two die.*

[3] The Mann-Whitney test scores: High vs. Empty (z=-1,819, p=0.069), High vs. Low (z=-3,168, p=0,002), High vs. Mean (z=-2,482, p=0,013), Low vs. Empty (z=1,527, p=0,127), Low vs. Mean (z=-0,626, p=0,532), Mean vs. Empty (z=0,797, p=0.425).
[4] The corrected p-value of the Kolmogorov-Smirnov distribution test is used as the sample size is below 50.

Interestingly, the degree of cheaters is affect by the defaults in an asymmetric way. When using a non-parametric Pearson's chi square test to compare the extent of cheaters in the *Mean* treatment with all the other treatments, no statistical difference is found (chi2(1)=0.0412, p=0.839). Reminding people of the expected outcome apparently did not influence the cheating behavior. Similarly, introducing the *Low* default did not significantly affect the extent of cheaters (chi2(1)=1.4674 , p=0.226), compared to the other treatments. The *High* default did, however, change the size of the cheating group (chi2(1)=3.6179, p=0.057). For this treatment, the number of cheaters increased by almost 10 percentage points to around 40 percent. It therefore seems that the *High* default serves as an excuse for cheating and the subjects are inclined to accept the default answer of 11. The opposite is true for the defaults of 7 and 3 in that accepting these defaults would earn the subjects less income and so they delete the default answer and type in another outcome. This finding is also reflected in the number of times the reported outcome equals the provided default. The *Low* default answer is used 4.6% less than theoretically expected, while the *Mean* default is used 8.7% less than expected. In contrast, the *High* default is accepted 51.7% *more* times than expected.

3.2 Repetition, Gender, Age, and Cognitive Reflection

In Table 2 the impact of the defaults on the reported dice outcome is described in Tobit regressions which are censored at the upper and lower bounds of the possible dice outcome. The regressions control for task repetition and the subjects' background characteristics. The main finding is that the positive effect of the *High* default remains after controlling for these variables.

Repetition does not affect the reported outcome. Interestingly, age and gender are significant. Older subjects report less, females report more and the negative age effect is stronger among females, which suggests that young females are particularly prone to cheating, which adds further evidence to the existing knowledge regarding the effect of gender on cheating (Bucciol et al., Forthcoming; Dreber and Johannesson, 2008).

The cognitive abilities of the participants are also assessed. The better subjects are at resisting the immediate, but incorrect answers in the cognitive reflection test, the higher numbers they report in the dice task, although this effect is only trend significant. The finding is a confirmation of a similar effect described by Fosgaard et al. (Forthcoming).

Table 2 – Tobit regressions explaining reported outcome of the dice task

Dependent variable: Dice outcome	(1)	(2)	(3)	(4)	(5)
High Default	0.297**	0.297**	0.302**	0.312**	0.320**
	(0.131)	(0.131)	(0.130)	(0.130)	(0.130)
Mean Default	-0.138	-0.138	-0.143	-0.151	-0.141
	(0.128)	(0.128)	(0.127)	(0.127)	(0.127)
Low Default	-0.180	-0.180	-0.220*	-0.212*	-0.196
	(0.122)	(0.122)	(0.121)	(0.121)	(0.121)
Period		0.0103	0.0104	0.0104	0.0104
		(0.0158)	(0.0157)	(0.0157)	(0.0157)
Age			-0.0210***	-0.0102***	-0.00947**
			(0.00286)	(0.00395)	(0.00397)
Female			0.421***	1.426***	1.403***
			(0.0913)	(0.272)	(0.272)
Age x Female				-0.0224***	-0.0230***
				(0.00573)	(0.00573)
Cognitive Reflection					0.0823*
					(0.0451)
Constant	7.688***	7.527***	8.280***	7.812***	7.714***
	(0.0859)	(0.260)	(0.290)	(0.313)	(0.317)
Sigma	2.926***	2.926***	2.904***	2.900***	2.899***
	(0.0352)	(0.0352)	(0.0349)	(0.0349)	(0.0348)
Observations	4,200	4,200	4,200	4,200	4,200

*Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1*

Finally, notice that a trend significant negative effect of the *Low* default emerges when controlling for gender and age, but also that this effect disappears again when also controlling cognitive reflection. The *Low* default may reduce cheating, but in the present data the effect is at least not strong enough to be truly significant.

4. Discussion

The recent scandal regarding the US restaurant Chipotle[5] which rounded up its customers' bills to gain a few more cents, illustrates how companies are tempted to cheat for very small amounts. The present study finds that the same holds for individuals. People are willing to cheat for petty cash, further attesting the

[5] http://www.dailymail.co.uk/news/article-2195515/Chipotle-cheating-customers-caught-STEALING-deceptive-receipt-rounding-scandal.html

phenomenon of small scale dishonesty among ordinary people. Importantly, the paper finds that such dishonesty is subject to asymmetric default biases. The experiment documents how adding a low figure or the expected mean as default answers in a dice task has no effect on dishonesty. However, a high default answer increases the reported outcome, or in other words, increases dishonesty.

The present findings are bad news regarding the use of defaults to impose more honest behavior. Tax authorities who want to reduce tax evasion, insurance companies who want to combat clients who over-claim, and companies who want to tackle employees who over-report expenses should probably look for other instruments to influence behavior. However, an interesting route for future research would be to check the asymmetric default biases when more significant amounts are at stake.

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5. References

Ariely, D., 2012. The (Honest) Truth about Dishonesty, London: HarperCollins

Azar, O. H., Yosef, S., Bar-Eli, M., Forthcoming. Do customers return excessive change in a restaurant? A field experiment on dishonesty. Journal of Economic Behavior and Organization.

Bucciol, A., Landini, F., Piovesan, M., Forthcoming. Unethical Behavior in the field: Demographic Characteristics and Beliefs of the Cheater. Journal of Economic Behavior and Organization.

Erat, S., Gneezy, U., 2012. White Lies. Management Science 58, 723-733.

Dreber, A., Johannesson, M., 2008. Gender differences in deception. Economics Letters 99, 197-199.

Fischbacher, U., Föllmi-Heusi, F., Forthcoming. Lies in Disguise – An experimental study on cheating. Journal of the European Economic Association.

Fosgaard, T, Hansen, L.G., Piovesan, M., Forthcoming. Separating Will from Grace: conformity and awareness effects on cheating. Journal of Economic Behavior and Organization.

Frederick, S., 2005. Cognitive Reflection and Decision Making. Journal of Economic Perspective 19, 25-42.

Johnson, E. J., Goldstein, D., 2003. Do Defaults Save Lives?. Science 302, 1338-1339.

Levav, J., Heitmann, M., Herrmann, A., Lyengar, S.S., 2010. Order in product customization decisions: evidence from field experiments. Journal Political Economy 118, 274–299.

Madrian, B.C., Shea, D.F., 2001. The power of suggestion: inertia in 401(k) participation and savings behavior. Quarterly Journal of Economics 116, 1149–1187.

Mazar, N., Amir, O., Ariely, D., 2008. The Dishonesty of Honest People: A Theory of Self-Concept Maintenance. Journal of marketing research 45, 633-644.

Pascual-Ezama, D., Drazen, P., Dunfield, D., Forthcoming. Motivation, Money, prestige and cheats. Journal of Economic Behavior.

Shu, L., Gino, F., 2012. Sweeping dishonesty under the rug: How unethical actions lead to forgetting of moral rules. Journal of Personality and Social Psychology 102, 1164-1177.