In this paper, we use an online experiment to study whether the distribution of risks that participants face influences their willingness to take risks. Participants can earn either a high or a low payoff by accepting a lottery, or a safe intermediary payoff by rejecting the lottery. We do not list possible lotteries in (increasing/decreasing) order of the probability of the high payoff (similar to a Holt and Laury task risk elicitation task) and ask participants for each lottery whether they prefer it over the safe payoff. Instead, we use a Becker–Degroot–Marschak mechanism and ask them for their minimum acceptable probability (MAP) of the lottery's high payoff for preferring the lottery over the safe payoff.

When making their decision, participants see a graphical representation of a distribution over lotteries with two possible outcomes (high and low), but varying probabilities for each outcome. After they report their MAP, a lottery is drawn at random from the distribution. This means in some treatments it is more likely that a lottery with a high chance of a high payoff is drawn. We use three distributions over lotteries. The distributions are ordered in terms of the expected payoff over the entire distribution, as their name suggests: the Good, the Bad, and the Uniform (the Good > the Uniform > the Bad).

We present lotteries via 32 wheels of fortune with 15 sectors each. Dark blue sectors symbolize the high payoff (£4), light blue sectors—the low payoff (£1). The sure payoff (the payoff participants receive if no wheel is spun) is £2. In each treatment, participants see the wheels sorted in ascending order by the probability of the favorable outcome, with the 32 wheels equally distributed over 4 rows. Figure 1 below shows the distribution of lotteries for the Good treatment. The number in each wheel is the number of sectors yielding a high payoff (ranging from 0 to 15).

The Uniform distribution has equal chances of occurrence for each of the possible wheels. The Bad distribution has an overall chance of a high payoff equal to 0.2895. The distribution in Good mirrors the one in Bad: its overall expected chance of a high payoff is one minus that in Bad (0.7105), it has the same variance and minus the skewness of the Bad distribution. Table 1 presents the distributions.

Participants are told that one of the wheels will be drawn at random, with all wheels having an equal chance to be drawn. They are asked to state a *minimum acceptable frequency*: the lowest number of dark blue sectors in the randomly drawn wheel such that they prefer to spin the wheel instead of receiving the sure payoff.[1] Specifically, they have to answer: "Which wheels would you like to spin for your bonus?" by inserting an integer between 0 and 15 in the blank space: "I

---

[1] We decided to use frequencies instead of probabilities because there is evidence that participants have an easier time expressing choice this way (**?**).

Table 1: The treatments: the distribution of chances of a high payoff

| # of high payoff sectors | # of wheels | | | Probability of high payoff |
	The Good	The Bad	The Uniform	
0	1	8	2	0
1	1	4	2	0.07
2	1	4	2	0.13
3	1	3	2	0.20
4	1	2	2	0.27
5	1	1	2	0.33
6	1	1	2	0.38
7	1	1	2	0.47
8	1	1	2	0.53
9	1	1	2	0.60
10	1	1	2	0.67
11	2	1	2	0.73
12	3	1	2	0.80
13	4	1	2	0.87
14	4	1	2	0.93
15	8	1	2	1
Total # of wheels	32	32	32	
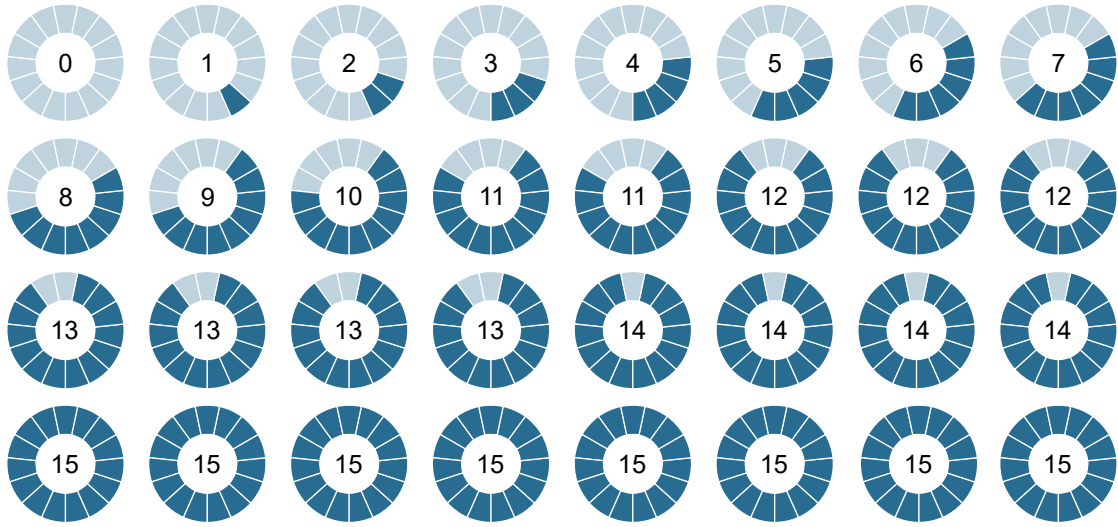
Figure 1: The Good distribution

prefer to spin wheels which have at least _____ dark blue sectors."[2]

References

Quercia, S. (2016). Eliciting and measuring betrayal aversion using the BDM mechanism. *Journal of the Economic Science Association*, 2(1):48–59.