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Ambiguity, excuse-driven behavior, charitable giving, social preferences, experiment

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C91, D64, D81

Ambiguity and excuse-driven behavior in charitable giving

Thomas Garcia*, Sébastien Massoni[†] and Marie Claire Villeval[‡]

November 13, 2018

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1 Introduction

Donations are often subject to uncertainty, whether the latter consists of risk or ambiguity. The impact of donations on the beneficiaries may be uncertain as donations may not reach their recipients. As an example, four cancer charities were charged with \$187 million in fraud in the US in 2015. Donors were told that their money would help cancer patients while the majority of donations benefited only the perpetrators, their families

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and friends, and fundraisers.¹ The cost of donations may also be uncertain. Uncertainty is particularly salient for living organ donations. For example, living kidney donors may incur costs for transportation, lodging, medical and medication expenses, lost wages and other incidentals. These costs vary substantially between donors and health costs are not accurately predicted due to their complexity (Reese et al., 2015). As an illustration, Klarenbach et al. (2014) observe that, out of 100 donors, more than half of them incurred costs lower than \$1000 while, for a third of them, they exceeded \$5000.

Uncertainty is expected to have a direct impact on donations: when the costs of the donation increase or when its benefits decrease, individuals are expected to give less. Moreover, an indirect effect may lead to an even further decrease: individuals may use uncertainty as an excuse not to give. Indeed, giving decisions may be motivated by a genuine concern for others that leads individuals to maximize utility over payoff for self and payoff for others (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000; Charness and Rabin, 2002; Andreoni and Miller, 2002). However, they may also be motivated by the individuals' desire to be *perceived as* being concerned by others' well being (Ariely et al., 2009). Individuals are thus more likely to behave selfishly when their social image is preserved from the judgment of others and from their own judgment (Hoffman et al., 1996; Dana et al., 2006; Hamman et al., 2010). Situations decreasing the guilt of not giving open a “moral wiggle room” to individuals for behaving less altruistically (Dana et al., 2007; Grossman and Van Der Weele, 2017). When the direct link between an action (the donation) and its consequences (the cost or benefit of the donation) is blurred, individuals may use uncertainty strategically to make more selfish decisions.

A first type of uncertainty is based on known randomness: risk. Under risk, individuals know the probability distribution of outcomes. Krawczyk and Le Lec (2010) and Brock et al. (2013) find that donations are reduced under risk. However, it does not provide a definitive evidence of the existence of a moral wiggle room, as the direct, non-excuse driven, effect of risk on donations is not identified separately from the indirect, excuse-driven, effect. Exley (2015a) reveals the existence of a moral wiggle room under risk using a laboratory experiment where subjects have to evaluate risky lotteries for themselves and risky lotteries for a charity. To isolate the excuse-driven effect of risk on donations, she compares lottery valuations when subjects are given an opportunity to donate and when

¹<https://www.ftc.gov/news-events/press-releases/2015/05/ftc-all-50-states-dc-charge-four-cancer-charities-bilking-over>

they are not. Individuals are more sensitive to risk when they are given the opportunity to donate, which results in an additional decrease in donations.

A second type of uncertainty involves unknown randomness: ambiguity. Under ambiguity, individuals have only imprecise information on the probability distribution of the outcomes. In most instances in real life, donors are more likely to face situations that are better described by ambiguity than by risk. The risk of embezzlement is difficult to evaluate and the costs of organ donations are uneasy to anticipate due to their high volatility. The loss of information leads individuals to prefer facing risk than comparable ambiguity. This behavior is known as ambiguity aversion ([Ellsberg, 1961](#); [Gilboa and Schmeidler, 1989](#); see [Machina and Siniscalchi, 2014](#) for an extensive review). Ambiguity increases the complexity of the decision process. Risk preferences express tastes over the solution of a trade-off between outcomes and probabilities. Ambiguity preferences are based on a similar trade-off, but decisions require a subjective evaluation of unknown probabilities. In this article, we investigate whether individuals use this additional complexity strategically to behave more selfishly: is excuse-driven behavior reinforced under ambiguity compared to risk? We address the question both when ambiguity affects the lotteries faced by the individual for his own payoff and when it affects the payoffs of a charity because the evaluation of uncertainty for oneself or for others may differ ([Reynolds et al., 2009](#); [Eriksen and Kvaløy, 2010](#); [Chakravarty et al., 2011](#)).

To the best of our knowledge, only two studies have focused on giving behavior under ambiguity. The most closely related study is the one by [Haisley and Weber \(2010\)](#) about self-serving interpretations of ambiguity in other-regarding behavior. They analyze binary dictator decisions when a recipient's payoff is determined by the outcome of a lottery. The lottery can be either risky or ambiguous. They find that subjects are less generous under ambiguity compared to risk. However, this finding does not identify precisely excuse-driven behavior because individuals usually value less a lottery under ambiguity than an equivalent lottery under risk. The observed behavior can thus be caused either by a direct effect of ambiguity on donations — donations are perceived as less valuable, thus donors give less — or by an indirect excuse-driven behavior— individuals act as if they were more averse to ambiguity when asked to give. Asking each dictator to estimate the expected value received by the receiver, [Haisley and Weber \(2010\)](#) find that the difference between the actual value and the estimated value is larger under ambiguity compared to under risk. Both previous results vanish when subjects have previously made individual decisions

under risk and ambiguity without a trade-off between self-interest and fairness (*i.e.*, when a decision only impacts the individual’s payoff), or when recipients make decisions with hypothetical consequences.

The second closely related study focuses on ex-post and ex-ante fairness (Cettolin et al., 2017). It implements dictator games with a lottery involving risk either for the recipient or the sender. It shows that dictators have a similar behavior under ambiguity and under risk. Here, subjects have not previously made individual decisions under risk and ambiguity without a trade-off between self-interest and fairness. Thus, the studies of Haisley and Weber (2010) and of Cettolin et al. (2017) on the impact of ambiguity on donations when the recipients’ payoff is ambiguous do not deliver the same conclusions.

Our study extends the study of Exley (2015a) to ambiguity. First, we replicate Exley (2015a) to confirm the existence of moral wiggle room under risk. Then, we use the same methodology to identify the existence of moral wiggle room under ambiguity. Finally, we compare moral wiggle room under risk and under ambiguity to test for reinforced excuse-driven behavior under ambiguity. We contribute to the existing literature by being able to isolate a potential difference between excuse-driven behavior under risk and ambiguity from a difference between risk and ambiguity aversions when no other player’s payoff is affected by the individual’s decisions. We assess and compare excuse-driven behavior when evaluating “lotteries-for-self” (*i.e.*, uncertainty affects the cost of the donation) and “lotteries-for-charity” (*i.e.*, uncertainty affects the benefit of the donation) as the evaluation of uncertainty may differ in these two settings.

Under risk, we find evidence of excuse-driven behavior when subjects have to value lotteries-for-self. We also find some evidence of excuse driven behavior when subjects have to value lotteries-for-charity. These results hold under ambiguity. Our analysis indicates that self-serving behavior is more likely to emerge when individuals are evaluating uncertainty on their own payoffs than uncertainty on others’ payoffs. Donations differ under risk and under ambiguity: individuals give less in ambiguous than in risky settings. However, once we isolate the differences in non-strategic preferences from excuse-driven behavior, we find no evidence of an increased moral wiggle room under ambiguity compared to risk. These findings hold regardless of whether subjects face “full ambiguity” (probability completely unknown) or “partial ambiguity” (probability unknown within an interval). Overall, our findings suggest that some individuals exploit any type of uncertainty as an excuse not to give, and that the very nature of uncertainty does not matter in that respect.

The remainder of this paper is organized as follows: [Section 2](#) details our framework and introduces our hypotheses. [Section 3](#) presents our experimental design. The data analysis methodology and the results of our study are reported in [Section 4](#). [Section 5](#) concludes.

2 Framework and hypotheses

Consider a situation where an individual can donate to a charity, and where either the cost of the donation for the individual or the benefit of the donation for the charity is random. This randomness can be either risk or ambiguity. The evaluation of excuse-driven behavior for donations under risk or under ambiguity is based on the elicitation of the individuals' valuations of the donation in various scenarios.

We first define X as the monetary payoff such that the individual is indifferent between receiving €10 or donating € X to a charity. The objective is measuring altruistic preferences in the absence of risk and ambiguity. Formally:²

$$(10, 0) \sim (0, X) \quad (1)$$

Then, we introduce risk by means of two lotteries. “Lotteries-for-self” under risk, P_r^s , pay €10 to the subject with probability p and pay €0 to charity with certainty. “Lotteries-for-charity” under risk, P_r^c , pay € X to the charity with probability p and pay €0 to the subject with certainty. In other words, these two lotteries are obtained from the two allocations of $(10, 0)$ and $(0, X)$ by introducing a $(1 - p)$ probability of a €0 outcome for both agents.

$$\text{Under risk : } P_r^s = (p, (10, 0); 1 - p, (0, 0)) \text{ and } P_r^c = (p, (0, X); 1 - p, (0, 0)) \quad (2)$$

Under ambiguity, the probability of paying the non-null amount is not unique but

²In the pair (x, y) the first parameter corresponds to self-payoff and the second to charity-payoff. X exists and is unique under the assumption that individuals strictly prefer more payoffs than less both for themselves and for the charity. First, it implies that they have altruistic motives in the sense that they give a positive value to charity-payoff. Second, it implies that they are not inequality averse regarding charity-payoff. The fact that individuals give money to charities that is wealthier than them supports this assumption.

defined over the interval $[p - a, p + a]$, and it is denoted \tilde{p} .

Under ambiguity :

$$P_a^s = (\tilde{p}, (10, 0); 1 - \tilde{p}, (0, 0)) \text{ and } P_a^c = (\tilde{p}, (0, X); 1 - \tilde{p}, (0, 0)) \text{ with } \tilde{p} \in [p - a, p + a] \quad (3)$$

We measure how much individuals value these lotteries both in terms of self-valuation (*i.e.*, the payoff-for-self equivalent to the lottery) and charity-valuation (*i.e.*, the donation equivalent to the lottery). The self-valuation of a lottery is denoted $Y^s(P)$. It means that individuals are indifferent between the lottery P and receiving $\text{€}Y^s(P)$ and it gives the certainty equivalent of the lottery. The charity-valuation of a lottery is denoted $Y^c(P)$. It means that individuals are indifferent between the lottery P and donating $\text{€}Y^c(P)$ to the charity and it gives the certain donation equivalent to the lottery.

There are two types of lotteries (lottery-for-self and lottery-for-charity) and two types of valuations (self-valuation and charity-valuation). It results in four types of lottery valuations, as summarized in Table 1. For lotteries-for-self, the two types of lottery valuations are: self-valuations of lotteries-for-self (“Self/Self” valuations) and charity-valuations of lotteries-for-self (“Self/Charity” valuations). For lotteries-for-charity, the two types of lottery valuations are: self-valuations of lotteries-for-charity (“Charity/Self” valuations) and charity-valuation of lotteries-for-charity (“Charity/Charity” valuations).

To introduce a common denomination between the two types of lotteries, we refer to the decisions that involve only one agent as “decisions without self *vs.* charity trade-off”. These decisions are the self-valuations of lotteries-for-self (when there is no possibility to give) and the charity-valuation of lotteries-for-charity (when there is obligation to give). In contrast, the other decisions are “decisions with a self *vs.* charity trade-off” as the lottery and its certainty equivalent are not associated to the same agent. They are the charity-valuations of lotteries-for-self and the self-valuations of lotteries-for-charity.

		Lottery:	
		Self	Charity
Valuation:	Self	Self/Self: $Y^s(P_u^s)$	Self/Charity: $Y^s(P_u^c)$
	Charity	Charity/Self: $Y^c(P_u^s)$	Charity/Charity: $Y^c(P_u^c)$

with $u = r$ for lotteries under risk and $u = a$ for lotteries under ambiguity

Table 1: Types of lottery valuations under uncertainty

Our hypotheses are based on comparisons between self-valuations and charity-valuations.

To enable such comparisons, we scale valuations based on the donation $\in X$ equivalent to receiving $\in 10$. Self-valuations, $Y^s(P)$, are scaled as percentages of 10 being received by the subject. Charity valuations, $Y^c(P)$, are scaled as percentages of X being donated.³

[Hypothesis 1-R](#) and [Hypothesis 2-R](#) address the existence of moral wiggle room under risk (replication of [Exley, 2015a](#)). [Hypothesis 1-A](#) and [Hypothesis 2-A](#) address its existence under ambiguity (extension of [Exley, 2015a](#) to ambiguity). For an individual with standard preferences (*i.e.*, someone who does not violate the independence axiom), the self-valuations and the charity-valuations of the exact same lotteries should be similar. In contrast, for an individual whose behavior is excuse-driven self-valuations and charity-valuations differ. The nature of this difference depends on whether uncertainty is borne by the individual or by the charity.

When evaluating lotteries-for-self, an increased charity-valuation ($Y^c(P_u^s)$) reflects a less altruistic behavior. Indeed, a low charity-valuation means that the individual accepts to forego his own potential payoff from the lottery against a modest donation. In contrast, a high charity valuation means that the individual is willing to forego his own potential payoff only if the donation is large enough. A higher charity-valuation compared to self-valuation identifies the presence of excuse-driven preferences for risk-for-self (respectively, ambiguity-for-self). Indeed, the individual behaves less altruistically in the presence of risk (respectively, ambiguity). Such behavior, as formalized in [Hypothesis 1-R](#) and [Hypothesis 1-A](#), implies the existence of moral wiggle room either under risk or under ambiguity for lotteries-for-self:

H 1-R. *Individuals exhibit excuse-driven behavior under risk-for-self:*

$$Y^c(P_r^s) > Y^s(P_r^s)$$

H 1-A. *Individuals exhibit excuse-driven behavior under ambiguity-for-self:*

$$Y^c(P_a^s) > Y^s(P_a^s)$$

The same reasoning applies to the evaluation of lotteries-for-charity. When evaluating these lotteries, a decreased self-valuation ($Y^s(P_u^c)$) reflects a less altruistic behavior. Indeed, a high self-valuation means that the individual accepts to forego donating the

³This rescaling is based on an assumption of local linear utility in payoffs. This assumption is supported by [Exley \(2015a\)](#).

outcome of the lottery to the charity only against a large payoff-for-self. In contrast, a low self-valuation means that the subject is willing to forego donating the outcome of the lottery to the charity only in exchange for a modest payoff-for-self. A higher charity-valuation compared to the self-valuation identifies the presence of excuse-driven behavior for risk-for-charity (respectively ambiguity-for-charity). Indeed, the subject behaves less altruistically in the presence of risk-for-charity (respectively ambiguity-for-charity). Such behavior, as formalized in [Hypothesis 2-R](#) and [Hypothesis 2-A](#), implies the existence of moral wiggle room either under risk or under ambiguity for lotteries-for-charity.

H 2-R. *Individuals exhibit excuse-driven behavior under risk-for-charity:*

$$Y^c(P_r^c) > Y^s(P_r^c)$$

H 2-A. *Individuals exhibit excuse-driven behavior under ambiguity-for-charity:*

$$Y^c(P_a^c) > Y^s(P_a^c)$$

Next, we study whether ambiguity increases the size of the moral wiggle room ([Hypothesis 3](#) and [Hypothesis 4](#)). Assuming that moral wiggle room exists, we compare the intensity of excuse-driven behavior under risk and under ambiguity. The decision process is more complex under ambiguity than under risk, as randomness is unknown, and [Haisley and Weber \(2010\)](#) found a self-serving interpretation of ambiguity. We thus hypothesize that excuse-driven behavior is reinforced under ambiguity. Following the previous dichotomy, we distinguish excuse-driven behavior based on who is the beneficiary of the lottery.

For risk-for-self or ambiguity-for-self, the size of the moral wiggle room is given by the difference between self-valuations of lotteries-for-self ($Y^c(P_u^s)$) and charity-valuations of lotteries-for-self ($Y^s(P_u^s)$). A larger difference between the two valuations indicates a larger moral wiggle room as formalized in [Hypothesis 3](#):

Hypothesis 3. *Individuals exhibit reinforced excuse-driven behavior under ambiguity-for-self compared to risk-for-self:*

$$Y^c(P_a^s) - Y^s(P_a^s) > Y^c(P_r^s) - Y^s(P_r^s)$$

The situation is symmetric for risk-for-charity *vs.* ambiguity-for-charity. The size of

the moral wiggle room is given by the difference in valuations between charity-valuations of lotteries-for-charity ($Y^c(P_u^c)$) and self-valuations of lotteries-for-charity ($Y^s(P_u^c)$), as formalized in [Hypothesis 4](#):

Hypothesis 4. *Individuals exhibit reinforced excuse-driven behavior under ambiguity-for-charity compared to risk-for-charity:*

$$Y^c(P_a^c) - Y^s(P_a^c) > Y^c(P_r^c) - Y^s(P_r^c)$$

3 Experimental design

The experimental design consists in 13 price lists in which subjects have to make binary decisions to earn money for themselves and for a charity. The first price list serves as a calibration task used to estimate the charity-valuation equivalent of €10 for self-payoff. The remaining 12 price lists involve choices between a safe payoff and a lottery. These lotteries vary along two dimensions: the type of uncertainty (risk, partial ambiguity, and full ambiguity) and the beneficiary of each option (lotteries-for-self or lotteries-for-charity, safe payoffs for the subject or for the charity). All subjects face the 13 price lists. An example of price list is displayed in [Figure 1](#). The other price lists are presented in [Appendix A](#).

3.1 Calibration

The calibration task allows us to estimate the charity-valuation equivalent of €10 of self-payoff (X as defined in [Equation 1](#)) for each individual.⁴ We use this estimation to calibrate price lists and lotteries in the main task at the subject level. The price list is composed of 16 binary decisions between two options (labeled option A and option B).⁵ Option A always pays €10 to the subject, while option B pays an amount increasing from €0 to €30, by increments of €2, to the charity. When the value of the donation

⁴In the calibration task, individuals can donate to a charity. We acknowledge that this situation may incorporate some natural uncertainty about the benefit of the donation. However, we assume that it involves less uncertainty than the main task because here we do not add artificial uncertainty. Hence, in the text we refer to this decision as “riskless” so as to differentiate it from the other decisions.

⁵In the calibration price list as well as in following price lists, we did not constrain decisions by implementing enforced-single-switching, nor did we preselect any option. Instead, we follow [Andreoni and Sprenger \(2011\)](#) and [Exley \(2015a\)](#) by informing subjects that most people start by selecting option A, and then switch to option B at some point in the price list (see the paragraphs “Successive decisions” of the instructions in [Appendix Subsection A.1](#) for the actual phrasing).

associated with option B increases, subjects should switch from option A to option B at some point if they prefer to donate €30 than to receive €10. Following [Exley \(2015a\)](#), X takes the value of option B at the switching point from option A to option B.⁶ X is an integer.

3.2 Main task

The main task is composed of 12 price lists. Each price list is obtained by combining one type of uncertainty with one beneficiary combination, as detailed hereafter. The order of price lists is randomized at the individual level.

3.2.1 Beneficiaries

In all price lists, one option pays the outcome of a lottery while the other option pays a safe amount. The beneficiary of the lottery can be either the subject or the charity. Likewise, the beneficiary of the safe payoff may be either the subject or the charity. This 2×2 design gives four different configurations allowing us to estimate the certainty equivalents of lotteries-for-self and lotteries-for-charity, either in terms of self-payoff or in terms of charity-payoff, as presented in [Table 1](#). Each price list is composed of 21 decisions. Lotteries-for-self pay €10 with probability p and €0 with probability $(1 - p)$. Lotteries-for-charity are obtained by replacing the potential self-payoff of €10 with the equivalent donation € X (as estimated at the individual level in the calibration task). Likewise, the safe payoff option is calibrated based on X . For the self-safe payoff, the payoff increases from €0 to €10 by increments of €0.5. For the charity-safe payoff, the payoff increases from €0 to € X by increments of € $\frac{X}{20}$. It means that price lists differ across subjects depending on the individual valuations in the calibration task.

3.2.2 Lotteries

We implement three types of uncertainty: one involving risk and two involving ambiguity. Under risk, the probability p is known and equal to 0.5. Giving the same likelihood to positive and null payoffs minimizes potential problems of understanding ([Kahneman](#)

⁶The actual certainty equivalent is included between the value of option B at the switching point and its previous value in the list. For a given level of altruism, the value of $Y^s(P_u^c)$ is increasing in X while the value of $Y^c(P_u^s)$ is decreasing in X (with $u = r$ or $u = a$). We thus consider that X is the maximum value possible to provide conservative testing of our hypotheses 1-R, 1-A, 2-R and 2-A.

et al., 1982). Under ambiguity, the probability takes its value in an interval. The subject knows only the lower bound and the upper bound of this interval. For the two levels of ambiguity, the interval is centered in 0.5 to ensure comparability with the risky situation. Under “full ambiguity”, the probability is defined in the interval $[0, 1]$, *i.e.* the probability is entirely unknown. Under “partial ambiguity”, the probability is defined in the interval $[0.25, 0.75]$, reducing the interval size by half. Two levels of ambiguity are implemented because ambiguity aversion has been shown to increase with the size of the probability interval (Chew et al., 2017). This variation allows us to test whether this behavioral difference also exists for excuse-driven behavior.

To facilitate understanding, lotteries are associated with a visual aid. Lotteries under risk are presented as a circle divided into two equal portions to indicate that both outcomes are equally likely. “0” is displayed in the left portion of the circle and the positive payoff is displayed in the right portion. Both payoffs have the same font size. Under ambiguity, the size of each portion of the circle is moving continuously to describe the probability set. The relative font size of each payoff also varies dynamically to reflect the difference in likelihood between the two outcomes. Additional information about the visual aid is given in [Appendix Subsection A.3](#).

We use the procedure introduced by Stecher et al. (2011) to implement ambiguity. This procedure is based on successive draws in a distribution with no finite quantiles or moments, the Cauchy distribution. Using a divergent distribution guarantees that no probability can be associated with each event and thus provides ambiguity.

3.3 Charity choice

Before the calibration decision, subjects started by selecting a charity among three. The three charities were major, well-known, French charities covering various domains: “La Ligue Contre le Cancer” supports research on cancer, “Les Restos du Coeur” provides food to the homeless, and “Médecins sans Frontières” organizes medical interventions in foreign countries. Giving subjects a choice between several charities aims at increasing their involvement in the experiment and the chance that they care about the charity.

3.4 Experimental procedures

The experiment was conducted at Gate-lab (Ecully, France). In total, 200 individuals were invited using the Hroot software (Bock et al., 2014) and participated in one of nine sessions.

91 subjects were males (45.5%), 176 were students from the local business, engineering and medical schools (88%), and their average age was 22.7 years (s.d. = 3.64). The experiment was programmed using the Java language. A session lasted approximately an hour.

Subjects received no feedback on the outcome of their decisions before the display of the payment screen at the very end of the session. Two decisions were randomly selected among the 273 decisions in the thirteen price lists for payment. We imposed that these two decisions were drawn from different price lists. On average, the total payoff per subject was €25.8 (s.d. = 6.01) divided into €15.0 for personal earnings (including a €7 show-up fee) and €10.8 for donations. Subjects received their earnings privately in cash at the end of the session. Donations to charities were made immediately after using charities' respective online payment platforms.⁷ To guarantee to subjects that the donations were actually transferred, we offered to every subject the possibility to observe the bank transfers; this was made common knowledge at the beginning of the session. On average, 4.9 subjects per session volunteered to witness the transfers.

4 Results

First, we present the methodology used to analyze the experimental data and the results of the calibration task. Then, we explore excuse-driven behavior in the main task.

4.1 Data analysis and calibration


We start by explaining how certainty equivalents are computed based on the price lists and how these certainty equivalents are scaled up to build measures that are easier to interpret.

When decisions within a given price list exhibit a unique switching point from option A to option B, it means that the valuation is included between the value of option B at the switching point and its previous value in the list. We thus determine valuation as the mean of both values.⁸

Our treatment of multiple switching points is data-driven. In the calibration task, 22

⁷La Ligue Contre le Cancer: <https://don.ligue-cancer.net/b/mon-don>, Les Restos du Cœur: <https://dons.restosducoeur.org/b/mon-don>, Médecins sans Frontières: <https://soutenir.msf.fr/b/mon-don>.

⁸When a subject never switched to option B, the maximal value of option B was used (this case represents 316 observations out of 2600). When a subject never chose option A, the minimal value of option B was used (this case represents 89 observations out of 2600).



Preliminary part

Part 1

Part 2

Questionnaire


Table 6/12

For each row, click on the button corresponding to your favorite option. From top to bottom, most people start by choosing Option A and then switch to Option B from a given decision. One way to proceed is thus to determine the best row to switch from Option A to Option B and fill in the table accordingly.

Number of chances known:

- €20 with 50 chances out of 100.
- €0 with 50 chances out of 100.

Decision	Option A	Option B	Option choice
1	You: €0, LCC: outcome of the lottery	You: 0.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
2	You: €0, LCC: outcome of the lottery	You: 0.5 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
3	You: €0, LCC: outcome of the lottery	You: 1.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
4	You: €0, LCC: outcome of the lottery	You: 1.5 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
5	You: €0, LCC: outcome of the lottery	You: 2.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
6	You: €0, LCC: outcome of the lottery	You: 2.5 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
7	You: €0, LCC: outcome of the lottery	You: 3.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
8	You: €0, LCC: outcome of the lottery	You: 3.5 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
9	You: €0, LCC: outcome of the lottery	You: 4.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
10	You: €0, LCC: outcome of the lottery	You: 4.5 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
11	You: €0, LCC: outcome of the lottery	You: 5.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
12	You: €0, LCC: outcome of the lottery	You: 5.5 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
13	You: €0, LCC: outcome of the lottery	You: 6.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
14	You: €0, LCC: outcome of the lottery	You: 6.5 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
15	You: €0, LCC: outcome of the lottery	You: 7.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
16	You: €0, LCC: outcome of the lottery	You: 7.5 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
17	You: €0, LCC: outcome of the lottery	You: 8.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
18	You: €0, LCC: outcome of the lottery	You: 8.5 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
19	You: €0, LCC: outcome of the lottery	You: 9.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
20	You: €0, LCC: outcome of the lottery	You: 9.5 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>
21	You: €0, LCC: outcome of the lottery	You: 10.0 €, LCC: €0	Option A <input type="radio"/> Option B <input type="radio"/>



OK

Figure 1: Decision example - self-valuation of lottery-for-charity (Self/Charity) under risk, charity: “Ligue Contre le Cancer” (LCC), $X = €20$.

Notes: Subjects have to choose between Option A and Option B in each row of the price list. Option A pays €20 to the “Ligue Contre le Cancer” with $p = 0.5$ and €0 otherwise. Option B pays a safe payoff to the subject that varies between €0 and €10.

subjects switch multiple times (11% of all subjects). Their average number of switches is 6.95 (out of the 15 possible switches). In the main task, 6.08% of all price lists contain more than one switching point. Note that subjects with multiple switching points in the calibration task are responsible for almost half of the multiple switches in the main task. They switched more than once in 24.2% of the price lists while it happened to other subjects in 3.8% of the price lists. Moreover, conditional on switching multiple times, they switched on average 7.51 times compared to 5.6 times for the remaining sample. These subjects’ pronounced tendency for multiple switching is likely due to a misunderstanding of the task. Following the same rule than [Exley \(2015a\)](#), we exclude these 22 subjects from further analyses. For the remaining sample (178 subjects), we take the first switching point as the actual switching point (like, *e.g.*, [Meier and Sprenger, 2015](#); [Exley, 2015a](#)).⁹

Lottery valuations are scaled up as a percentage of the corresponding riskless lottery valuation. Self-certainty equivalents are thus divided by 10 since riskless lottery-for-self

⁹[Appendix D](#) shows that our conclusions are robust to the inclusion of decisions by multiple switchers.

would pay €10. Charity-certainty equivalents are divided by X since lottery-for-charity would pay € X . For example, if the self-certainty equivalent of a lottery is €8.25, the valuation is $\frac{8.25}{10} = 82.5\%$. If the charity-certainty equivalent of a lottery is €13.5 and X equals €20, the valuation is $\frac{13.5}{20} = 67.5\%$. Both scaled certainty equivalents are comparable since donating € X to the charity is equivalent to receiving €10. For the sake of conciseness, lottery valuations scaled as a percentage of the corresponding riskless lottery valuation are referred to as “lottery valuations” thereafter.

The calibration task estimates, at the subject level, the value X such that the subject is indifferent between receiving €10 or donating € X to the charity. The distribution of these valuations is displayed in [Figure 2](#). The average estimated charity-valuation of a self-payoff of €10, X , is 24.6 (*s.d.* = 7.2): to convince a subject to forego a payoff of €10, the charity has to receive at least €24.6. Five subjects exhibit pure pro-social motivation as they prefer to donate any positive amount to the charity than receiving €10. On the other hand, the estimated X is €30 for 94 subjects. Among these 94 subjects, 23 subjects forego the self-payoff of €10 if the charity receives €30 (12.9%) and 71 subjects never renounce to the €10 even if the charity receives the maximum transfer (39.9%, 71 subjects out of 178). For these 71 subjects, the estimation of X is censored since they exhibit choices consistent with pure selfish motivation. For these censored subjects, X is underestimated.¹⁰ We acknowledge that this is problematic when comparing self-valuations and charity-valuations, as under-estimating X inclines conclusions toward finding excuse-driven behavior (see footnote 6). An alternative could be to exclude censored subjects from further analysis. However, this introduces a selection bias in the data. Indeed, more altruistic subjects (who have a lower value of X) are less likely to exhibit a self-excusing behavior (see [Appendix C](#)). Excluding censored subjects thus corresponds to excluding those who are more prone to self-excusing behavior. Therefore, exclusion provides a very conservative test of the existence of excuse-driven behavior.

To address this issue, the analyses involving comparisons between self-payoffs and charity-payoffs are reported using both the very conservative approach (excluding the censored subjects) and the less conservative one (including them). The analysis excluding the censored subjects is reported in [Appendix](#) when it confirms the analysis that includes

¹⁰Increasing the maximal transfer in the calibration task above €30 could reduce the number of censored subjects. However, censored subjects may have purely selfish preferences; moreover, increasing the maximal transfer would increase both the expected cost of the experiment and the number of decisions. Note that the percentage of censored subjects with selfish preferences is comparable with that found in [Exley \(2015a, 42%\)](#) and [Engel \(2011\)’s meta-study \(36%\)](#).

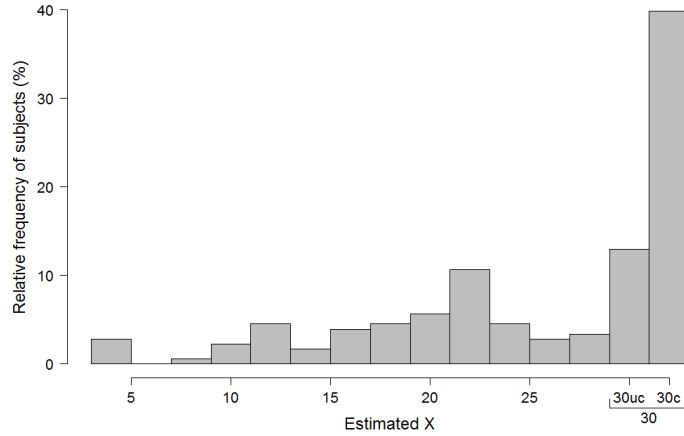


Figure 2: Distribution of estimated charity-valuation of €10 of self-payoff (X).

Notes: The histogram represents the percentage of the 178 subjects with a given X . “30uc” corresponds to subjects with an uncensored X equal to €30 and “30c” corresponds to subjects with a censored X equal to €30.

them. When it contradicts this analysis, it is reported and discussed in the main document.

4.2 Moral wiggle room under uncertainty

We first analyze separately behavior under risk and behavior under ambiguity to test the existence of moral wiggle room in each setting. Second, we compare behavior under risk and under ambiguity to assess whether the size of the moral wiggle room increases under ambiguity compared to risk. While in the first two subsections ambiguity encompasses both partial and full ambiguity, the third subsection distinguishes between the two levels of ambiguity. Finally, as in [Haisley and Weber \(2010\)](#), we test whether self-excusing behavior is less likely to emerge when subjects have faced risk or ambiguity earlier in the experiment in a situation without a self *vs.* charity trade-off. Descriptive statistics are summarized in [Table 2](#) and analyzed throughout the results section.

4.2.1 Excuse-driven behavior under risk and under ambiguity

To test for the existence of a moral wiggle room under risk and under ambiguity, we use linear regressions with errors clustered at the subject level since each subject makes 12 repeated decisions. The dependent variable is the lottery valuation (*i.e.*, how much the subject values the lottery, expressed as a percentage of the corresponding riskless lottery). The independent variables include three dummy variables. “*Charity*” is equal to 1 for lotteries-for-charity (symmetrically, “*Self*” is equal to 0 in this case). “*Ambiguity*” is

Decision type:	Self/Self	Charity/Charity	Charity/Self	Self/Charity	All
Including censored subjects (n=178):					
Risk	46.95 (20.28)	45.24 (22.70)	75.29 (28.44)	36.07 (26.81)	50.89 (28.76)
Ambiguity	43.02 (18.65)	39.66 (18.41)	72.84 (27.40)	32.82 (23.53)	47.09 (27.03)
<i>Partial ambiguity</i>	43.78 (22.42)	40.87 (21.24)	73.81 (29.44)	32.71 (23.87)	47.79 (28.94)
<i>Full ambiguity</i>	42.26 (21.96)	38.46 (20.75)	71.88 (31.01)	32.92 (25.73)	46.38 (29.32)
Excluding censored subjects (n=107):					
Risk	49.46 (19.27)	46.59 (20.54)	66.68 (28.56)	44 (26.30)	51.68 (25.49)
Ambiguity	43.06 (18.46)	41.87 (17.95)	63.74 (26.62)	40.68 (23.98)	47.34 (23.95)
<i>Partial ambiguity</i>	43.06 (21.40)	42.87 (20.72)	64.63 (28.89)	40.56 (24.33)	47.78 (25.89)
<i>Full ambiguity</i>	43.06 (21.43)	40.86 (20.30)	62.85 (30.62)	40.79 (26.90)	46.89 (26.73)

Table 2: Descriptive statistics - mean lottery valuations (expressed in terms of a percentage of the corresponding riskless lottery valuation) by decision type and by lottery type

Notes: Standard errors are in parentheses below corresponding means. Decision types are referred to following the norm Safe/Lottery, except for “All” that give values for all decision types pooled together. For ambiguity, values are given either for both ambiguity levels pooled (“ambiguity”) or by ambiguity level (“partial ambiguity” and “full ambiguity”). Censored subjects are included in the upper part of the table while they are excluded in the lower part.

equal to 1 for lotteries under ambiguity (symmetrically, “*Risk*” is equal to 0 in this case). “*Trade-off*” is equal to 1 if the safe payoff and the lottery outcome do not have the same beneficiary. The independent variables also include interaction terms.

Regressions are reported in [Table 3](#). In this table, the coefficients associated with the “*Trade-off*” variable give the effect on lottery valuation of a self *vs.* charity trade-off for: lotteries-for-self under risk (model 1), lotteries-for-self under ambiguity (model 2), lotteries-for-charity under risk (models 3 and 5) and lotteries-for-charity under ambiguity (model 4 and 6). Models (5) and (6) are similar to models (3) and (4), respectively, except that they exclude censored subjects. [Figure 3](#) displays a visual presentation of the effect of the self *vs.* charity trade-off under risk ([Figure 3-a](#)) and under ambiguity ([Figure 3-b](#)).

We introduce our first result:

Result 1-R. *Subjects exhibit excuse-driven preferences under risk-for-self.*

Support for Result 1-R: the coefficient associated with the “*Trade-off*” variable in model (1) measures the difference between charity-valuations and self-valuations of lotteries-

for-self under risk. We find that the charity-valuations of lotteries-for-self are significantly increased by 28.34 percentage points (p.p.) compared to the self-valuations ($p < 0.001$).¹¹ It means that subjects are less risk-averse when the safe amount is donated to the charity than to themselves. This behavior that results in increased expected self-payoffs to the detriment of donations reveals a self-excusing behavior. This supports [Hypothesis 1-R](#).¹²

Result 1-A. *Subjects exhibit excuse-driven preferences under ambiguity-for-self.*

Support for Result 1-A: the coefficient associated with the “Trade-off” variable in model (2) measures the difference between charity-valuations and self-valuations of lotteries-for-self under ambiguity. We find that charity-valuations of lotteries-for-self increase by 29.82 p.p. compared to self-valuations ($p < 0.001$). It means that subjects exhibit excuse-driven behavior also under ambiguity-for-self ([Hypothesis 1-A](#)).

Result 2-R. *There is some evidence that subjects exhibit excuse-driven preferences under risk-for-charity.*

Support for Result 2-R: the coefficients associated with the “Trade-off” variable in models (3) and (5) measure the difference, including and excluding censored subjects, between self-valuations and charity-valuations of lotteries-for-charity under risk. When including censored subjects, the self-valuations of lotteries-for-charity are significantly decreased by 9.17 p.p. compared to the charity-valuations of the same lotteries ($p < 0.001$). The analysis including censored subjects thus supports the existence of excuse-driven behavior under risk-for-charity. However, excluding censored subjects leads to a non-statistically significant decrease by 2.59 p.p. ($p = 0.379$). The increase in the p-value is not only due to the decrease in the sample size but it is also associated with an effect size more than three times smaller (for comparable standard errors) due to this selection. This very conservative approach does not support [Hypothesis 2-R](#).

Result 2-A. *There is some evidence that subjects exhibit excuse-driven preferences under ambiguity-for-charity.*

¹¹Throughout the paper, when discussing our regressions, we report the associated p-values. Otherwise, we report the p-values from two-sided t-tests when comparing one sample to a specific value and we report the p-values from two-sided paired t-tests when comparing two samples from repeated measures.

¹²As detailed in [Appendix B](#), [Result 1-R](#) and [Result 1-A](#) are robust to the exclusion of censored subjects.

Support for Result 2-A: the coefficients associated with the variable “*Trade-off*” in models (4) and (6) measure, including and excluding censored subjects, the difference between the self-valuations and the charity-valuations of lotteries-for-charity under ambiguity. When including censored subjects, the charity-valuations of lotteries-for-self decrease by 6.85 p.p. compared to the self-valuations of the same lotteries ($p < 0.001$). The analysis including censored subjects thus supports the existence of excuse-driven behavior under ambiguity-for-charity. However, excluding censored subjects leads to a non-statistically significant decrease by 1.19 p.p. ($p = 0.618$). The effect is divided by more than five when excluding the censored subjects (for comparable standard errors). As for risk, this very conservative approach does not support [Hypothesis 2-A](#).

To go further, we compare the strength of excuse-driven behavior for lotteries-for-self *vs.* lotteries-for-charity, either under risk or under ambiguity. We find that excuse-driven behavior is stronger when individuals value lotteries-for-self than when they value lotteries-for-charity ($p < 0.001$ under risk or under ambiguity — regardless of whether the censored subjects are included or not).

To conclude, the separate analysis of the trade-off between self-payoffs and donations under risk and under ambiguity supports the existence of a moral wiggle room both under risk and under ambiguity. We observe that attitudes toward risk and ambiguity differ when there is a trade-off between self and charity. This difference results in a reduction of altruistic behavior compared to the baseline riskless situation captured in the calibration task. While we find only some evidence supporting the existence of excuse-driven behavior for lotteries-for-charity, it is unequivocal that excuse-driven behavior is stronger when individuals value lotteries-for-self than when they value lotteries-for-charity.

4.2.2 Excuse-driven behavior under ambiguity compared to risk

We next compare the lottery valuations under risk and under ambiguity, first by decision type, then by lottery type. [Figure 4](#) provides a visual presentation of these comparisons.

For all types of decisions valuations under ambiguity are lower than valuations under risk ([Figure 4-a](#)). The mean self-valuation of the lotteries-for-self is €4.70 (47.0% of €10). Since risk neutral individuals would value this lottery €5 (since its outcome is €10 with one chance out of two), it indicates that subjects exhibit some risk aversion ($p = 0.046$). The valuation is even lower under ambiguity: €4.30 ($p = 0.009$), which reveals the presence of ambiguity aversion.

	<i>Dependent variable: Lottery valuation (%)</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
Trade-off	28.34*** (2.53)	29.82*** (2.32)	-9.17*** (2.41)	-6.85*** (1.90)	-2.59 (2.95)	-1.19 (2.39)
Ambiguity	-3.93*** (1.49)	-3.93*** (1.49)	-5.58*** (1.44)	-5.58*** (1.44)	-4.72*** (1.67)	-4.72*** (1.67)
Charity	-1.71 (1.77)	-3.36** (1.58)				
Self			1.71 (1.77)	3.36** (1.58)	2.87 (2.20)	1.19 (1.93)
Charity × Trade-off	-37.51*** (3.91)	-36.67*** (3.56)				
Self × Trade-off			37.51*** (3.91)	36.67*** (3.56)	19.81*** (5.00)	21.87*** (4.53)
Charity × Ambiguity	-1.64 (1.92)					
Self × Ambiguity			1.64 (1.92)		-1.68 (2.59)	
Charity × Risk		1.64 (1.92)				
Self × Risk				-1.64 (1.92)		1.68 (2.59)
Trade-off × Ambiguity	1.48 (2.13)		2.32 (2.12)		1.40 (2.74)	
Trade-off × Risk		-1.48 (2.13)		-2.32 (2.12)		-1.40 (2.74)
Charity × Trade-off × Ambiguity	0.84 (2.93)					
Charity × Trade-off × Risk		-0.84 (2.93)				
Self × Trade-off × Ambiguity			-0.84 (2.93)		2.06 (4.06)	
Self × Trade-off × Risk				0.84 (2.93)		-2.06 (4.06)
Intercept	46.95*** (1.52)	46.95*** (1.52)	45.24*** (1.70)	45.24*** (1.70)	46.59*** (1.99)	46.59*** (1.99)
Censored subjects	Yes	Yes	Yes	Yes	No	No
Num. obs.	2136	2136	2136	2136	1284	1284
Num. ind. obs.	178	178	178	178	107	107

Table 3: Lottery valuations.

*Notes: OLS regressions with errors clustered at the subject level. “Trade-off”: Trade-off between self-payoff and donations. “Charity”: Outcome of the lottery for the charity. “Self”: Outcome of the lottery for the subject. “Ambiguity”: Lottery under ambiguity. “Risk”: Lottery under risk. The symbol “×” is used for interaction variables. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.*

We observe a similar pattern for the charity-valuation of lotteries-for-charity. Subjects are averse to risk-for-charity and ambiguity-for-charity, as both valuations are significantly lower than 50% (respectively 45.2% and 39.7%, $p = 0.006$ and $p < 0.001$). Furthermore, the mean valuation decreases by 5.58 p.p. under ambiguity compared to risk ($p < 0.001$). The difference in valuation between ambiguity and risk is similar for lotteries-for-charity and for lotteries-for-self ($p = 0.391$). This reveals that there is no significant difference in

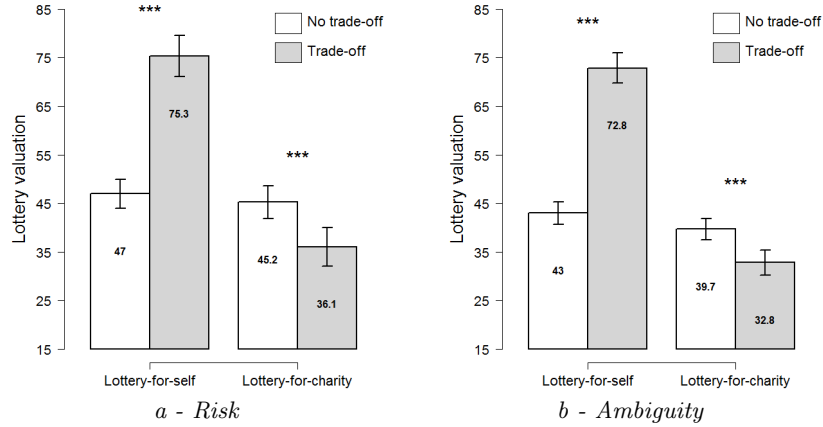


Figure 3: Comparison of lottery valuations (%) with and without a self *vs.* charity trade-off

*Notes: In trade-off situations both the lotteries-for-self and the lotteries-for-charity are valued differently highlighting excuse-driven behavior. Censored subjects are not excluded. Mean values are written within bars'. White bars provide valuations without a trade-off and grey bars provide valuations with a trade-off. The horizontal lines represent 95% confidence intervals. Stars represent the level of significance for paired *t*-tests at the subject level. *** $p < 0.01$.*

ambiguity aversion when evaluating ambiguity-for-self or ambiguity-for-charity.

The charity-valuation of lotteries-for-self is above 50% ($p < 0.001$). The mean valuation is €7.53 under risk and €7.28 under ambiguity. For this type of decision, a higher lottery valuation increases the number of decisions in which the subject receives the lottery and decreases the number of decisions in which the charity receives a safe payoff. A higher lottery valuation is thus associated with lower donations. However, valuation decreases under ambiguity compared to risk but this is only borderline significant ($p = 0.094$). Without controlling for risk and ambiguity preferences, there is a trend suggesting that ambiguity tends to reduce excuse-driven behavior instead of reinforcing it.

The last type of valuation involves self-valuations of lotteries-for-charity. For this type of decision, a lower lottery valuation decreases the number of decisions in which the charity receives the lottery and increases the number of decisions in which the subject receives a safe payoff. A lower lottery valuation is thus associated with less donations. The mean valuation is 36.07% under risk and 32.81% under ambiguity. Without controlling for risk and ambiguity preferences, ambiguity decreases valuations significantly ($p = 0.034$). It thus seems that for lotteries-for-charity ambiguity increases the moral wiggle room. However, without using as a baseline the charity-valuation of lotteries-for-charity, we cannot disentangle the effect of ambiguity aversion from the effect of excuse-driven behavior, as both effects tend to decrease lottery valuations. Thus, we now compare the difference in lottery

valuations with and without a self *vs.* charity trade-off under risk and under ambiguity to test [Hypothesis 3](#) and [Hypothesis 4](#). These differences are presented in [Figure 4-b](#). Their comparisons are given by the coefficients associated with the “*Trade-off* \times *Ambiguity*” variable in [Table 3](#) (model 1 for lotteries-for-self and in model 3 for lotteries-for-charity).

Result 3. *Excuse-driven behavior is not reinforced under ambiguity-for-self compared to risk-for-self.*

Support for Result 3: A larger difference between the self-valuations of lotteries-for-self (no self *vs.* charity trade-off) and the charity-valuations of lotteries-for-self (self *vs.* charity trade-off) corresponds to reinforced excuse-driven behavior. [Figure 4-b](#) shows that the difference between self-valuation and charity-valuation of lotteries-for-self is 28.34 p.p. under risk and 29.82 p.p. under ambiguity. Descriptively, an increased difference under ambiguity (1.48 p.p.) goes in the direction of reinforced excuse-driven behavior under ambiguity. However, this difference is not statistically significant ([Table 3](#), model (1) - effect associated with “*Trade-off* \times *Ambiguity*”: $p=0.486$). Therefore, [Hypothesis 3](#) is not supported. This result is robust to the exclusion of censored subjects (see [Appendix B](#)).

Result 4. *Excuse-driven behavior is not reinforced under ambiguity-for-charity compared to risk-for-charity.*

Support for Result 4: A larger difference between charity-valuations of lotteries-for-charity (no self *vs.* charity trade-off) and self-valuations of lotteries-for-charity (self *vs.* charity trade-off) corresponds to reduced excuse-driven behavior. [Figure 4-b](#) shows that this difference is -9.17 p.p. under risk and -6.85 p.p. under ambiguity. Descriptively, a decreased difference under risk goes in the direction of reinforced excuse-driven behavior under risk. ([Table 3](#), effect associated with “*Trade-off* \times *Ambiguity*”: $\beta = 2.32$, $p = 0.273$ in model 3 and $\beta = 1.40$, $p = 0.609$ in model 5). It rejects that ambiguity reinforces excuse-driven behavior (one-sided t-test, $p = 0.863$). We therefore conclude that [Hypothesis 4](#) is not supported.

Thus, controlling for the direct effect of ambiguity on lottery valuations reverses potential conclusions. In fact, disentangling between direct effects and indirect excuse-driven effects reveals no evidence of reinforced excuse-driven behavior under ambiguity compared to risk, both for lotteries-for-self and for lotteries-for-charity. We conclude that any type

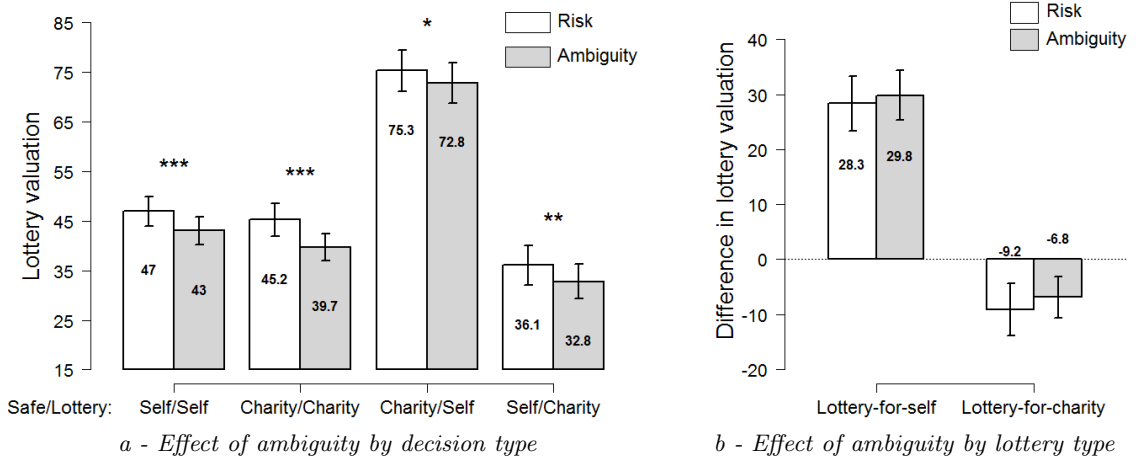


Figure 4: Comparison of lottery valuations (%) under risk and under ambiguity

Notes: (a) Mean lottery valuation for each decision. (b) Difference in mean lottery valuations between decisions with a self vs. charity and without this trade-off either for lotteries-for-self or lotteries-for-charity. While subjects behave differently under risk and ambiguity (a), excuse-driven behavior is not reinforced under ambiguity compared to risk (b). Censored subjects are not excluded. Mean values are written at bars' centers. White bars provide valuations under risk and grey bars provide valuations under ambiguity. The horizontal lines represent 95% confidence intervals. Stars represent the level of significance for paired *t*-tests. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

of uncertainty is used as an excuse not to give and thus the type of uncertainty is not prevalent.

4.3 Excuse-driven behavior under partial and full ambiguity

In this section, we distinguish between the two levels of ambiguity to assess if the previous results hold for both. We study decisions under partial ambiguity ($\tilde{p} \in [0.25, 0.75]$) and decisions under full ambiguity ($\tilde{p} \in [0, 1]$) separately before comparing them with decisions under risk.

Hypothesis 1-A regarding excuse-driven behavior under ambiguity-for-self is supported both for partial ambiguity and for full ambiguity ($p < 0.001$ in both cases). **Hypothesis 2-A** regarding ambiguity-for-charity is supported for partial ambiguity ($p < 0.001$) and full ambiguity ($p = 0.009$) when censored subjects are included. However, when excluding these subjects, **Hypothesis 2-A** is supported neither for partial ambiguity ($p = 0.383$), nor for full ambiguity ($p = 0.979$).

To compare behavior under risk vs. ambiguity by decision type, we regress “Partial ambiguity” (equal to 1 for lotteries under partial ambiguity) and “Full ambiguity” (equal to 1 for lotteries under full ambiguity) on the lottery valuation for each decision type. Errors are clustered at the subject level, as each subject makes three choices per decision

type. Table 4 reports the estimates. Full ambiguity decreases valuations for all decision types. Partial ambiguity has a negative effect on valuations for all decision types at the exception of the self-valuation of lotteries-for-charity ($p = 0.297$). Our conclusions by decision type are thus largely confirmed for each ambiguity level. When comparing valuations within ambiguity levels, we find no statistical difference between valuations under partial ambiguity and under full ambiguity even if, descriptively, most valuations under full ambiguity are lower than corresponding valuations under partial ambiguity (except for Self/Charity decisions).

Result 3 is supported for any level of ambiguity. Under partial ambiguity, charity-valuations of lotteries-for-self increase by 30.03 p.p. compared to self-valuations of the same lotteries. Under full ambiguity, they increase by 29.62 p.p. The difference with the increase under risk (28.34 p.p.) is not significantly different either from the increase under partial ambiguity (1.68 p.p., $p = 0.403$) or for the increase under full ambiguity (1.27 p.p., $p = 0.667$). Likewise, Result 4 is supported for any level of ambiguity. Under partial ambiguity, self-valuations of the lotteries-for-charity decrease by 8.16 p.p. compared to charity-valuations of the same lotteries. Under full ambiguity, they decrease by 5.54 p.p. The difference with the decrease under risk (9.17 p.p.) is not significantly different from the decrease under partial ambiguity (1.01 p.p., $p = 0.667$) or from the decrease under full ambiguity (3.64 p.p., $p = 0.109$). In conclusion, previous findings hold for both levels of ambiguity.

Type of decision (Safe/Lottery):	Dependent variable: Lottery valuation (%)			
	Self/Self (1)	Charity/Charity (2)	Charity/Self (3)	Self/Charity (4)
Partial ambiguity	-3.17** (1.60)	-4.37*** (1.60)	-1.49 (1.43)	-3.36** (1.62)
Full ambiguity	-4.69** (1.87)	-6.78*** (1.64)	-3.41* (2.02)	-3.15* (1.65)
Intercept	46.95*** (1.52)	45.24*** (1.70)	75.29*** (2.14)	36.07*** (2.01)
Num. obs.	534	534	534	534
Num. ind. obs.	178	178	178	178

Table 4: Effect of partial ambiguity and full ambiguity by decision type.

Notes: OLS regressions with errors clustered at the subject level. “Partial ambiguity”: Lottery under partial ambiguity. “Full ambiguity”: Lottery under full ambiguity. Lotteries under risk compose the reference category. Censored subjects are not excluded. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

4.4 Excuse-driven behavior and prior experience

Haisley and Weber (2010) differentiate between two types of subjects based on their previous experiences. They define “constrained” subjects as those that have made decisions under risk and ambiguity involving only themselves earlier in the experiment. In these decisions, there is no tension between self-interest and fairness. In contrast, the “unconstrained” subjects have not such experience. Based on this concept, Haisley and Weber (2010) conclude to a higher prevalence of self-excusing behavior under ambiguity compared to risk, but only for unconstrained subjects. In our experiment, some decisions were also made by unconstrained subjects while others were made by constrained subjects. We can thus test whether Result 3 and Result 4 could be explained by the proportion of decisions made by constrained subjects.

Applying the definition of Haisley and Weber (2010), we consider that a decision is made by a constrained subject if he has previously made a decision without a self *vs.* charity trade-off.¹³ It gives 2004 constrained decisions out of the 2136 decisions. 76 different subjects made unconstrained decisions.

To test whether ambiguity has a different impact on unconstrained decisions compared to constrained decisions, we focus on decisions that are potentially different when constrained: decisions with a self *vs.* charity trade-off. We regress on the lottery valuation: two dummy variables, “*Ambiguity*” (equal to 1 if decisions are made under ambiguity) and “*Unconstrained*” (equal to 1 if decisions are unconstrained), their interaction (“ $Ambiguity \times Unconstrained$ ”), and a continuous variable “*Trial*” (equal to the number of the decision). This last variable controls for a possible time effect since unconstrained decisions were made before constrained decisions. Finally, we distinguish charity-valuations of lotteries-for-self (model 1) from self-valuations of lotteries-for-charity (model 2) since reinforced excuse-driven behavior under ambiguity has opposite effects on lotteries-for-self and lotteries-for-charity.

As reported in Table 5, ambiguity does not have a significantly different impact on unconstrained decisions and on constrained decisions on any decision types (Charity/Self decisions: $p = 0.719$, Self/Charity decisions: $p = 0.658$). Moreover, the coefficient signs are opposed to the expected ones, as reinforced excuse-driven behavior under ambiguity

¹³Other definitions could be used. For example, differentiating constrained decisions for lotteries-for-charity and lotteries-for-self or differentiating constrained decisions under risk and under ambiguity. The definition implemented favors the potential effect of being constrained because decisions are more likely to be classified as constrained.

for unconstrained decisions was expected to be associated with a positive effect in model (1) and a negative effect in model (2).

In conclusion, the behavioral differences between constrained and unconstrained decisions do not explain why we find no support for [Hypothesis 3](#) and [Hypothesis 4](#).

Type of decision:	<i>Dependent variable: Lottery valuation (%)</i>	
	Charity/Self (1)	Self/Charity (2)
Ambiguity \times Unconstrained	-2.61 (7.26)	3.13 (7.25)
Ambiguity	-2.11 (1.63)	-3.56** (1.72)
Unconstrained	6.16 (6.26)	-9.80 (6.60)
Trial	-0.05 (0.46)	-0.59 (0.42)
Intercept	74.88*** (4.28)	41.15*** (3.76)
Num. obs.	534	534
Num. ind. obs.	178	178

Table 5: Effect of being unconstrained on lottery valuation under ambiguity in situations with a self *vs.* charity trade-off.

*Notes: OLS regressions with errors clustered at the subject level. “Ambiguity”: Lottery under ambiguity. “Unconstrained”: Decision made by an unconstrained subject. “Trial”: Number of the decision. The symbol “ \times ” is used for interaction terms. Decision types are referred following the norm Safe/Lottery. Censored subjects are not excluded. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.*

5 Discussion and conclusion

Our laboratory experiment aims at disentangling between a direct, non-excuse driven, effect of risk and ambiguity on charitable giving and excuse-driven behavior. Our findings indicate that the valuation of lotteries for self is affected by self-excusing behavior: individuals use the pretext of risk to decrease their donations. The valuation of lotteries for self is more strongly affected by such behavior than the valuation of lotteries for others. Overall, we find no evidence that excuse-driven behavior is reinforced under ambiguity compared to risk. It suggests that individuals use any type of uncertainty as an excuse not to give but do not care about the type of uncertainty.

Regarding risk as an excuse not to give, our results are in line with those of [Exley \(2015a\)](#). The only difference is that [Exley \(2015a\)](#) finds evidence of excuse-driven behavior

in the valuation of lotteries-for-charity both with and without censored subjects, while we only find evidence of such behavior when including censored subjects in the analysis. Also, in [Exley \(2015a\)](#), the effect size is about four times larger than ours.¹⁴ We reject that these differences are driven by a difference in statistical power, but a lower number of decisions in our within-subject design may reduce behavioral changes between decisions.¹⁵ Indeed, subjects may have a better recollection of previous decisions that could lead to some anchoring effect. Also [Exley \(2015b\)](#) provides converging evidence of the existence of excuse-driven response to charity performance indicators: the low-rating of a charity gives individuals an excuse not to give. A low rating affects the benefit of the donation and is thus related to risk-for-charity. Overall, these different studies point to the existence of excuse-driven behavior under risk-for-charity.

Our extension of [Exley \(2015a\)](#) to ambiguity reveals no difference in the use of moral wiggle room under risk or ambiguity. Our results differ partly from those of [Haisley and Weber \(2010\)](#) who conclude on the existence of reinforced self-serving behavior under ambiguity compared to risk for a group of subjects. The design of the two studies differs in several respects. Their study is based on comparisons of other-regarding behavior under risk and ambiguity, and on subjects’ estimations of the impact of their own past decisions. Our study compares other-regarding behavior with self-regarding behavior to strictly control for the difference between risk and ambiguity attitudes. Furthermore, it does not involve judgment of past decisions because these decisions may be recalled self-servingly ([Saucet and Villeval, 2018](#); [Zimmermann, 2018](#)). Differences in estimations between risk and ambiguity can reveal excuse-driven behavior when making the decision but also when remembering this decision since individuals give less under ambiguity. Finally, the conclusion of [Haisley and Weber \(2010\)](#) concerns only the unconstrained subjects’ decisions. While we find that these decisions are not singular, our experiment has not been specifically designed to test this hypothesis. It would therefore be interesting to study the impact of “unconstrained” excuse-driven behavior based directly on controlled decisions to have a more comprehensive understanding of the topic.

Our study highlights differences in excuse-driven behavior when individuals evaluate

¹⁴In [Exley \(2015a\)](#) the effect size for excuse-driven behavior under risk-for-charity without censored subjects is -9.74 (Table B.7) while our effect size is -2.59 ([Table 3](#), model 5).

¹⁵In [Exley \(2015a\)](#) subjects evaluate seven different lotteries that vary regarding their probability of paying the non-null amount, while our design includes a unique probability ($p = 0.5$). From a statistical point of view, we have collected more independent observations (180 subjects against 99 subjects) and the magnitude of excuse-driven behavior is globally stable for all probabilities in her study (except a decrease for probabilities smaller than 0.1).

uncertainty for themselves or for a charity. It extends the findings of previous studies that have compared risk evaluation in both settings. While Reynolds et al. (2009) and Eriksen and Kvaløy (2010) find increased risk aversion when deciding on behalf of others, Chakravarty et al. (2011) conclude that individuals are more risk seeking. We do not find difference in either risk attitudes or ambiguity aversion between lotteries for self and lotteries for charity. This suggests that individuals assume that the charity values uncertainty like themselves. However, the evaluation of lotteries for self is more prone to excuse-driven behavior than the evaluation of lotteries for charity, both under risk and under ambiguity.

Overall, although being careful in the extrapolation of our results, our findings can alert non-profit organizations on the importance of reducing uncertainty to increase donations. Reducing uncertainty would increase donations through a twofold process: it increases the donation value and it discourages excuse-driven behavior. Our results also inform on which type of uncertainty needs to be reduced primarily to increase donations. Ambiguity does not amplify excuse-driven behavior compared to risk. But if self-uncertainty and charity-uncertainty both discourage donations, self-uncertainty is a stronger source of excuse-driven behavior. The main focus should thus be placed on reducing self-uncertainty over charity-uncertainty. To conclude, as clarifying randomness usually comes at a cost, better understanding its benefit can help design more efficient interventions for the collection of charitable donations.

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A Experimental design

A.1 Instructions (original in French)

Instructions for Part 1 were distributed after the choice of the charity; instructions for Part 2 were distributed after the calibration task.

Instructions

Welcome to this experiment on decision making. Please turn off your phone and put it away. You are not allowed to communicate with other participants for the duration of the experiment, otherwise you will be excluded from the session without receiving your gains.

All the decisions you make during the session are anonymous: you will never be asked to enter your name into the computer.

During this session, you can make money for yourself and for a charity that you can choose among three. The amount you will earn depends on your decisions. Please read the instructions carefully.

This session consists of two parts in which you will make decisions grouped in tables. At the end of the session, two decisions will be randomly selected by the computer program in two different tables. The two selected tables may or may not belong to the same part. Your earnings and the earnings of the charity for these two parts will be the sum of the amounts respectively earned in these two decisions. Your total earnings consist of your payoff in these two parts, €5 for participating in this session and an additional amount for completing a questionnaire at the end of the session. The total earnings of the charity are equal to its payoff in these two decisions. To summarize:

Your earnings =

your payoff in Decision A (part 1 or 2) + your payoff in Decision B (part 1 or 2) + €5 +
payoff from the questionnaire

Charity earnings =
charity earnings in Decision A (part 1 or 2) + charity earnings in Decision B (part 1 or 2)

Your earnings will be paid in cash, in a separate room, privately and confidentially at the end of the session. The earnings of each charity will be paid to these charities by an experimentalist also at the end of the session. The earnings written on your receipt of payment will be equal to the sum of your earnings and the earnings of the charity. We remind you that our ethical rules are strict: all information that we communicate to you during the session is true and we commit to transfer the sums earned by the charities to these charities. We wish that at the end of the session at least one of you stays a few minutes to attend the transfer of the payment to the charities. We will make a call for volunteers at the end of the session.

We first present the instructions for the preliminary part. You will receive instructions for each new part at the end of the previous part.

Preliminary part

During this part, you will have to select which charity your decisions will affect. You will have to choose between three charities. The names of these charities and a brief description of their fields of action are listed below, in alphabetical order:

- Ligue Contre le Cancer: this charity aims to support medical research, information and public awareness as well as the fight for the respect of the sick person and his family.
- Médecins Sans Frontières: this charity provides medical assistance to populations whose lives or health are threatened in the event of armed conflicts, epidemics, natural disasters or exclusion of care.
- Restos du Coeur: this charity provides volunteer assistance to poor people by promoting their access to free meals, their social and economic integration, and by fighting against poverty.

When you have selected a charity, please press OK. When all participants have made their decision, the instructions for Part 1 will be distributed.

Please read these instructions again. During the whole session if you have any questions, please raise your hand or press the red button on the side of your desk. We will answer your questions in private.

Part 1

During this part, you will have to make 16 decisions presented in a single table. Each decision consists in choosing between two options that influence your payoff and the payoff of the chosen charity if this decision is drawn for payment at the end of the session.

The decisions are presented in a table displaying 4 columns:

- The first column indicates the number of the decision.
- The second column indicates your payoff and the charity payoff with Option A.
- The third column indicates your payoff and the charity payoff with Option B.
- In the fourth column you enter your choice between Option A and Option B.

You must choose between the two options in each row of the table:

- With Option A your payoff is €10 and the charity payoff is €0.
- With Option B your payoff is €0 and the charity payoff is a certain amount between €0 and €30.

Consider for example Decision n°10.

- With Option A your payoff is €10 and the charity payoff is €0.
- With Option B your payoff is €0 and the charity payoff is €18.

The corresponding table row is shown below:

<i>Decision</i>	<i>Option A</i>	<i>Option B</i>	<i>Option choice</i>
10	You €10 ; Charity €0	You €0 ; Charity €18	Option A <input type="radio"/> <input type="radio"/> Option B

If you choose Option A and this decision is selected for payment, you earn €10 for you and €0 for the charity. If you wish to choose this option, select the button to the right of “Option A” as shown below:

<i>Decision</i>	<i>Option A</i>	<i>Option B</i>	<i>Option choice</i>
10	You €10 ; Charity €0	You €0 ; Charity €18	Option A <input checked="" type="radio"/> <input type="radio"/> Option B

If you choose Option B and this decision is selected for payment, you earn €0 for you and €18 for the charity. If you wish to choose this option, select the button to the left of “Option B” as shown below:

<i>Decision</i>	<i>Option A</i>	<i>Option B</i>	<i>Option choice</i>
10	You €10 ; Charity €0	You €0 ; Charity €18	Option A <input type="radio"/> <input checked="" type="radio"/> Option B

Following decisions

In the table, the amount earned by the charity increases from one row to another. From top to bottom, most people start by choosing Option A and then switch to Option B from a given decision. One way to proceed is thus to determine the best row to switch from Option A to Option B and fill in the table accordingly.

Once you have made your decisions, please press OK. You can validate your choices only once you have made all your decisions. When all participants have completed Part 1, the instructions for Part 2 will be distributed.

Please read these instructions again.

Part 2

This part is composed of 12 tables which will appear successively. In each table, you must make 21 decisions.

As in Part 1, in each row of each table you have to choose between two options. But there are two differences from the table in Part 1:

- First, the beneficiary of Option A and the beneficiary of Option B vary from one table to another. There are 4 cases:
 - You are the beneficiary of both Option A and Option B.

- The charity is the beneficiary of both Option A and Option B.
- You are the beneficiary of Option A and the charity is the beneficiary of Option B.
- The charity is the beneficiary of Option A and you are the beneficiary of Option B.

You will be informed of the beneficiary of each option in each table.

- Second, the beneficiary of Option B payoff is still certain while the beneficiary of Option A payoff is not certain: it depends on the outcome of the lottery. The outcome of a lottery can take two values. Each value is associated with a number of chances that this value is drawn at random to be the outcome of the lottery. For example: €20 with 80 chances out of 100 and €0 with 20 chances out of 100.

You will always be informed of the two possible payoffs. However, the number of chances of each payoff is not always known. There are 2 possible cases:

- The number of chances is known. You will then be informed about the lottery itself. For example: €20 with 80 chances out of 100 and €0 with 20 chances out of 100.
- the number of chances is unknown. You will then be informed of only the minimum number and the maximum number of chances for each of the two values. For example: €20 with a number of chances between 50 and 100 and €0 with a number of chances between 50 and 0. In this example, this means that €20 can have 50, 51, 52, and so on up to 100 possible chances, while €0 can have 50, 49, 48, and so on, respectively, up to 0 possible chances.

Here is another example: €20 with a number of chances between 25 and 0 and €0 with a number of chances between 75 and 100. In this example, this means that €20 can have 25, 24, 23, and so on up to 0 possible chances, while €0 can have 75, 76, 77, and so on up to 100 possible chances.

Lotteries can change from one table to another. Before discovering each table, the characteristics of the lottery will be communicated to you using numbers, like in the examples above, and graphics. The outcome of the lottery is drawn at random by the program. When the number of chances is unknown, it is selected at random among the possible numbers of chances. In this case, it is not possible to determine the probability that each

number of chances will be selected.

Description of the task

In each table, for each of the 21 decisions you have to choose between:

- Option A that may pay the outcome of the lottery, either to you or to the charity;
- and Option B that pays for sure a certain amount either to you or to the charity.

As in Part 1, you have to select an option in each row of the table and validate your decisions at the end of each table.

Following decisions

As in Part 1, all the choices in each table are ordered. The amount associated with Option B increases from one row to another. From top to bottom, most people start by choosing Option A and then switch to Option B from a given decision. One way to proceed is thus to determine the best row to switch from Option A to Option B and fill in the table accordingly.

Once you have completed Part 2, you will have to complete a brief questionnaire. After the questionnaire, you will be informed of the decisions drawn by the program, of your earnings and those of your chosen charity. Then, you will be called to receive your earnings in a separate room. Please carry out your label and your pre-filled payment receipt, and leave the instructions on your desk.

Please read these instructions again.

A.2 Screenshot

We report below decisions as they appeared on the subjects' computer screens. The text has been translated from French into English.

GATE
Preliminary part
Part 1
Part 2
Questionnaire

For each row, click on the button corresponding to your favorite option. From top to bottom, most people start by choosing Option A and then switch to Option B from a given decision. One way to proceed is thus to determine the best row to switch from Option A to Option B and fill in the table accordingly.

Decision	Option A	Option B	Option choice
1	You: €10 ; LCC: €0	You: €0 ; LCC: €0.0	Option A <input type="radio"/> Option B <input type="radio"/>
2	You: €10 ; LCC: €0	You: €0 ; LCC: €2.0	Option A <input type="radio"/> Option B <input type="radio"/>
3	You: €10 ; LCC: €0	You: €0 ; LCC: €4.0	Option A <input type="radio"/> Option B <input type="radio"/>
4	You: €10 ; LCC: €0	You: €0 ; LCC: €6.0	Option A <input type="radio"/> Option B <input type="radio"/>
5	You: €10 ; LCC: €0	You: €0 ; LCC: €8.0	Option A <input type="radio"/> Option B <input type="radio"/>
6	You: €10 ; LCC: €0	You: €0 ; LCC: €10.0	Option A <input type="radio"/> Option B <input type="radio"/>
7	You: €10 ; LCC: €0	You: €0 ; LCC: €12.0	Option A <input type="radio"/> Option B <input type="radio"/>
8	You: €10 ; LCC: €0	You: €0 ; LCC: €14.0	Option A <input type="radio"/> Option B <input type="radio"/>
9	You: €10 ; LCC: €0	You: €0 ; LCC: €16.0	Option A <input type="radio"/> Option B <input type="radio"/>
10	You: €10 ; LCC: €0	You: €0 ; LCC: €18.0	Option A <input type="radio"/> Option B <input type="radio"/>
11	You: €10 ; LCC: €0	You: €0 ; LCC: €20.0	Option A <input type="radio"/> Option B <input type="radio"/>
12	You: €10 ; LCC: €0	You: €0 ; LCC: €22.0	Option A <input type="radio"/> Option B <input type="radio"/>
13	You: €10 ; LCC: €0	You: €0 ; LCC: €24.0	Option A <input type="radio"/> Option B <input type="radio"/>
14	You: €10 ; LCC: €0	You: €0 ; LCC: €26.0	Option A <input type="radio"/> Option B <input type="radio"/>
15	You: €10 ; LCC: €0	You: €0 ; LCC: €28.0	Option A <input type="radio"/> Option B <input type="radio"/>
16	You: €10 ; LCC: €0	You: €0 ; LCC: €30.0	Option A <input type="radio"/> Option B <input type="radio"/>

Figure 5: Calibration task, charity: “Ligue Contre le Cancer” (LCC).

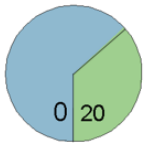
Notes: Subjects have to choose between Option A and Option B for each row of the price list. Option A pays €10 to the subject. Option B pays a payoff to the “Ligue Contre le Cancer” that varies between €0 and €30.

GATE
Preliminary part
Part 1
Part 2
Questionnaire

Table 11/12

For each row, click on the button corresponding to your favorite option. From top to bottom, most people start by choosing Option A and then switch to Option B from a given decision. One way to proceed is thus to determine the best row to switch from Option A to Option B and fill in the table accordingly.


Number of chances unknown:
- €20 with a number of chances between 0 and 100 out of 100.
- €0 with a number of chances between 100 and 0 out of 100.



Decision	Option A	Option B	Option choice
1	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €0.0	Option A <input type="radio"/> Option B <input type="radio"/>
2	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €1.0	Option A <input type="radio"/> Option B <input type="radio"/>
3	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €2.0	Option A <input type="radio"/> Option B <input type="radio"/>
4	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €3.0	Option A <input type="radio"/> Option B <input type="radio"/>
5	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €4.0	Option A <input type="radio"/> Option B <input type="radio"/>
6	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €5.0	Option A <input type="radio"/> Option B <input type="radio"/>
7	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €6.0	Option A <input type="radio"/> Option B <input type="radio"/>
8	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €7.0	Option A <input type="radio"/> Option B <input type="radio"/>
9	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €8.0	Option A <input type="radio"/> Option B <input type="radio"/>
10	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €9.0	Option A <input type="radio"/> Option B <input type="radio"/>
11	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €10.0	Option A <input type="radio"/> Option B <input type="radio"/>
12	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €11.0	Option A <input type="radio"/> Option B <input type="radio"/>
13	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €12.0	Option A <input type="radio"/> Option B <input type="radio"/>
14	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €13.0	Option A <input type="radio"/> Option B <input type="radio"/>
15	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €14.0	Option A <input type="radio"/> Option B <input type="radio"/>
16	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €15.0	Option A <input type="radio"/> Option B <input type="radio"/>
17	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €16.0	Option A <input type="radio"/> Option B <input type="radio"/>
18	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €17.0	Option A <input type="radio"/> Option B <input type="radio"/>
19	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €18.0	Option A <input type="radio"/> Option B <input type="radio"/>
20	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €19.0	Option A <input type="radio"/> Option B <input type="radio"/>
21	You: €0 ; LCC: outcome of the lottery	You: €0 ; LCC: €20.0	Option A <input type="radio"/> Option B <input type="radio"/>

Figure 6: Decision “charity-valuation of lottery-for-charity” (Charity/Charity) under full ambiguity, charity: “Ligue Contre le Cancer” (LCC), $X = €20$.

Notes: Subjects have to choose between Option A and Option B for each row of the price list. Option A pays €20 to the “Ligue Contre le Cancer” with $p \in [0, 1]$ and €0 otherwise. Option B pays a safe payoff to the “Ligue Contre le Cancer” that varies between €0 and €20.



Preliminary part

Part 1


Part 2

Questionnaire

Table 1/12

For each row, click on the button corresponding to your favorite option. From top to bottom, most people start by choosing Option A and then switch to Option B from a given decision. One way to proceed is thus to determine the best row to switch from Option A to Option B and fill in the table accordingly.

Number of chances unknown:
 - €10 with a number of chances between 25 and 75 out of 100.
 - €0 with a number of chances between 75 and 25 out of 100.



Decision	Option A	Option B	Option choice
1	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €0.0	Option A <input type="radio"/> Option B <input type="radio"/>
2	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €1.0	Option A <input type="radio"/> Option B <input type="radio"/>
3	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €2.0	Option A <input type="radio"/> Option B <input type="radio"/>
4	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €3.0	Option A <input type="radio"/> Option B <input type="radio"/>
5	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €4.0	Option A <input type="radio"/> Option B <input type="radio"/>
6	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €5.0	Option A <input type="radio"/> Option B <input type="radio"/>
7	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €6.0	Option A <input type="radio"/> Option B <input type="radio"/>
8	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €7.0	Option A <input type="radio"/> Option B <input type="radio"/>
9	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €8.0	Option A <input type="radio"/> Option B <input type="radio"/>
10	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €9.0	Option A <input type="radio"/> Option B <input type="radio"/>
11	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €10.0	Option A <input type="radio"/> Option B <input type="radio"/>
12	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €11.0	Option A <input type="radio"/> Option B <input type="radio"/>
13	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €12.0	Option A <input type="radio"/> Option B <input type="radio"/>
14	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €13.0	Option A <input type="radio"/> Option B <input type="radio"/>
15	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €14.0	Option A <input type="radio"/> Option B <input type="radio"/>
16	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €15.0	Option A <input type="radio"/> Option B <input type="radio"/>
17	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €16.0	Option A <input type="radio"/> Option B <input type="radio"/>
18	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €17.0	Option A <input type="radio"/> Option B <input type="radio"/>
19	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €18.0	Option A <input type="radio"/> Option B <input type="radio"/>
20	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €19.0	Option A <input type="radio"/> Option B <input type="radio"/>
21	You: outcome of the lottery ; LCC: €0	You: €0 ; LCC: €20.0	Option A <input type="radio"/> Option B <input type="radio"/>

OK

Figure 7: Decision “charity-valuation of lottery-for-self” (Charity/Self) under partial ambiguity, charity: “Ligue Contre le Cancer” (LCC), $X = €20$.

Notes: Subjects have to choose between Option A and Option B for each row of the price list. Option A pays €10 to the subject with $p \in [0.25, 0.75]$ and €0 otherwise. Option B pays a safe payoff to the “Ligue Contre le Cancer” that varies between €0 and €20.

A.3 Lottery visual aid

We describe the visual aid for the lotteries. We use as an example the lottery-for-charity of a subject with $X = 20$. Under risk the lottery is $(20, 0.5; 0, 0.5)$. Its presentation is stationary (Figure 8-a). Under partial ambiguity, the lottery is $(20, p; 0, p)$ with $p \in [0.25, 0.75]$. The limit between the two portions of the circle is moving back and forth between one extreme situation *i.e.* $(20, 0.75; 0, 0.25)$, and the other *i.e.* $(20, 0.25; 0, 0.75)$ (Figure 8-b). Under full ambiguity, the lottery is $(20, p; 0, p)$ with $p \in [0, 1]$. The limit between the two portions of the circle is thus moving back and forth between one extreme situation *i.e.* $(20, 1; 0, 0)$, and the other *i.e.* $(20, 0; 0, 1)$ (Figure 8-c). Under ambiguity, the font size of each payoff (“0” or “20”) increases with its likelihood. Finally, the time needed to describe all possible situations, *i.e.* return to the same initial situation, is controlled to be equal to 10 seconds.

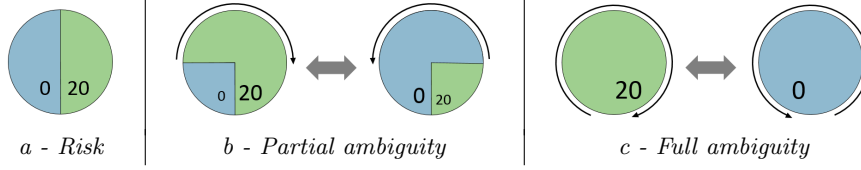


Figure 8: Schematic presentation of the lottery visual aid (potential gain of €20).

Notes: Thin black arrows represent movements of the limit between both parts of the circle. Thick grey arrows indicate the constant repetition of these movements.

B Robustness analysis with exclusion of censored subjects

X is defined as the monetary payoff such that a subject is indifferent between receiving €10 or donating € X to the charity. For 71 subjects out of 178 the estimation of X is censored because these subjects have always chosen the selfish option in the calibration task. For these subjects, we consider in the main analysis that X is equal to 30 because 30 is the maximal value of X that can be identified with our task.

Some analyses are based on comparisons between self-payoffs and charity-payoffs that use X to express both measures on the same scale. These results may thus be impacted by censorship as charity-valuations are then over-estimated when compared to self-valuations. In this section, we replicate these analyses after excluding the censored subjects to check whether censorship impacts our conclusions. First, we replicate the analysis that aggregates partial ambiguity and full ambiguity and second, the analysis that differentiates between these two levels of ambiguity.

B.1 Risk and ambiguity

Table A-1 reproduces model (1) and model (2) of Table 3 after excluding censored subjects. The coefficient associated to the “Trade-off” dummy (equal to 1 if the safe amount and the lottery outcome do not have the same beneficiary) gives the effect of the trade-off between lotteries-for-self and donations under risk (model 1) and under ambiguity (model 2). We find an increase of the lottery valuation by 17.22 p.p. under risk ($p < 0.001$) and 20.68 p.p. under ambiguity ($p < 0.001$). Result 1-R and Result 1-A are thus robust to the exclusion of censored subjects. These two increases are not significantly different from each other ($p = 0.243$, Table A-1 model (1): effect associated with “Trade-off \times Risk”). Result 4 is thus also robust to the exclusion of censored subjects.

B.2 Risk, partial ambiguity, and full ambiguity

When differentiating between ambiguity levels, [Result 2-A](#) regarding excuse-driven behavior under ambiguity-for-self is supported both for partial ambiguity and for full ambiguity ($p < 0.001$ in both cases). [Result 3](#) is also supported for any level of ambiguity. Under partial ambiguity, the charity-valuations of lotteries-for-self increases by 21.57 p.p. compared to self-valuations. Under full ambiguity, it increases by 19.79 p.p. The difference with the increase under risk (17.22 p.p.) is not significantly different either from the increase under partial ambiguity (4.34 p.p., $p = 0.102$) or the increase under full ambiguity (2.57 p.p., $p = 0.524$). Likewise, [Result 4](#) is supported for any level of ambiguity. Under partial ambiguity, the self-valuation of lottery-for-charity decreases by 2.31 p.p. compared to the charity-valuation of the same lottery. Under full ambiguity, it decreases by 0.07 p.p. The difference with the decrease under risk (2.59 p.p.) is not statistically significantly different from the decrease under partial ambiguity (0.28 p.p., $p = 0.928$) or the decrease under full ambiguity (2.52 p.p., $p = 0.384$). In conclusion, previous findings are supported for each level of ambiguity when excluding censored subjects.

	<i>Dependent variable: Lottery valuation (%)</i>	
	(1)	(2)
Trade-off	17.22*** (3.30)	20.68*** (3.01)
Charity	-2.87 (2.20)	-1.19 (1.93)
Ambiguity	-6.40*** (1.94)	-6.40*** (1.94)
Charity \times Trade-off	-19.81*** (5.00)	-21.87*** (4.53)
Charity \times Ambiguity	1.68 (2.59)	
Charity \times Risk		-1.68 (2.59)
Trade-off \times Ambiguity	3.46 (2.96)	
Trade-off \times Risk		-3.46 (2.96)
Charity \times Trade-off \times Ambiguity	-2.06 (4.06)	
Charity \times Trade-off \times Risk		2.06 (4.06)
Intercept	49.46*** (1.87)	49.46*** (1.87)
Censored subjects	No	No
Num. obs.	1284	1284
Num. ind. obs.	107	107

Table A-1: Lottery valuation excluding censored subjects

*Notes: OLS regressions with errors clustered at the subject level. “Trade-off”: Trade-off between self-payoff and donations. “Charity”: Outcome of the lottery for the charity. “Self”: Outcome of the lottery for the subject. “Ambiguity”: Lottery under ambiguity. “Risk”: Lottery under risk. The symbol “ \times ” is used for interaction variables. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.*

C Censorship and selection bias

In this section we study whether excluding censored subjects from the analysis introduces a selection bias that biases results against excuse-driven behavior. Indeed, recall that censored subjects are those who have more selfish preferences in the calibration task.

To test this assumption, we evaluate whether increased altruism is associated with reduced excuse-driven behavior. The level of altruism is given by X (the value of the donation equivalent to receiving €10). The size of excuse driven behavior is given by the difference in lottery valuation in situations with a self *vs.* charity trade-off and in situations without such trade-off. Excuse-driven behavior in the valuation of lotteries-for-self is identified by a positive difference while excuse-driven behavior in the valuation of lotteries-for-charity is identified by a negative difference.

We report the results of four linear regressions with errors clustered at the subject level. Models (1) and (3) include all subjects, whereas models (2) and (4) exclude the censored subjects. The dependent variable is the lottery valuation. The independent variables include three dummy variables. “*Charity*” is equal to 1 for lotteries-for-charity (symmetrically “*Self*” is equal to 0 in this case). “*Trade-off*” is equal to 1 if the safe payoff and the lottery outcome do not have the same beneficiary. “ $(X - \bar{X})$ ” is equal to the centered calibration value X . We also interact the previous variables to generate interaction terms. The coefficient associated with the variable “*Trade-off* \times $(X - \bar{X})$ ” gives the effect of an increase in X in trade-off situations on: lottery-for-self valuation in models (1) and (3), and on lottery-for-charity valuation in models (2) and (4). Regressions are reported in [Table A-2](#).

We find that excuse-driven behavior is reinforced for subjects with a high value of X for both types of lotteries. Conclusions are similar when considering all subjects or only uncensored subjects ($p < 0.001$ in the four models). We conclude that excluding censored subjects corresponds to excluding subjects that are more prone to behave in a self-excusing manner. It supports previous findings from [Exley \(2015a\)](#).

	Dependent variable: Lottery valuation (%)			
	(1)	(2)	(3)	(4)
Trade-off	29.33*** (1.76)	-7.62*** (1.62)	19.52*** (2.33)	-1.66 (1.96)
$(X - \bar{X})$	1.72*** (0.40)	-2.71*** (0.43)	1.72*** (0.48)	-2.21*** (0.59)
Charity	-2.81** (1.37)		-1.75 (1.61)	
Self		2.81** (1.37)		1.75 (1.61)
Charity \times Trade-off	-36.95*** (2.67)		-21.18*** (3.40)	
Self \times trade-off		36.95*** (2.67)		21.18*** (3.40)
Trade-off $\times (X - \bar{X})$	2.33*** (0.25)	-1.57*** (0.25)	2.09*** (0.30)	-1.52*** (0.32)
Charity $\times (X - \bar{X})$	-0.18 (0.17)		-0.11 (0.22)	
Self $\times (X - \bar{X})$		0.18 (0.17)		0.11 (0.22)
Charity \times Trade-off $\times (X - \bar{X})$	-3.90*** (0.37)		-3.61*** (0.42)	
Self \times Trade-off $\times (X - \bar{X})$		3.90*** (0.37)		3.61*** (0.42)
Intercept	44.33*** (1.26)	41.52*** (1.33)	45.19*** (1.57)	43.44*** (1.65)
Censored subjects	Yes	Yes	No	No
Num. obs.	2136	2136	1284	1284
Num. ind. obs.	178	178	107	107

Table A-2: Effect of the level of altruism (X) on excuse-driven behavior

Notes: OLS regressions with errors clustered at the subject level. “Trade-off”: Trade-off between self-payoff and donations. “Charity”: Outcome of the lottery for the charity. “Self”: Outcome of the lottery for the subject. “ $(X - \bar{X})$ ”: centered calibration value X . The symbol “ \times ” is used for interaction variables. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

D Robustness analysis with exclusion of multiple switchers

38 subjects out of 178 (21%) have switched multiple times in one of the twelve price lists of the main task. In total, these decisions represent 3.8% of all decisions. In the main analysis, we have included these decisions by considering the first switching point as being the true switching point. This section replicates this analysis after excluding the subjects who switched more than once to test whether our results are impacted by multiple switchers.¹⁶

Table A-3 replicates the regressions displayed in Table 3 excluding multiple switchers (models (1), (2), (5), and (6)), or excluding both multiple switchers and censored subjects (models (3), (4), (7), and (8)).

¹⁶Alternatively, we could have excluded only the price lists in which subjects switched more than once. However, since we used a within-subject design, excluding some decisions made by a subject but not others could bias our results.

Excuse-driven behavior under risk-for-self is confirmed, as the coefficients associated with “*Trade-off*” in models (1) and (3) are significant ($p < 0.001$). [Result 1-R](#) is thus robust to the exclusion of multiple switchers. Likewise, excuse-driven behavior under ambiguity-for-self is also confirmed, as the coefficients associated with “*Trade-off*” in models (2) and (4) are significant ($p < 0.001$). It confirms the robustness of [Result 1-A](#).

We find evidence of excuse-driven behavior under risk-for-charity only when including the censored subjects (coefficient associated with “*Trade-off*”: model (5) $p < 0.001$, model (7) $p = 0.585$). Likewise, excuse-driven behavior under ambiguity-for-charity is supported only when including censored subjects (coefficient associated with “*Trade-off*”: model (6) $p < 0.001$, model (8) $p = 0.961$). [Result 2-R](#) and [Result 2-A](#) are thus robust to the exclusion of multiple switchers.

The coefficients associated with “Trade-off \times Risk” in models (1) and (3) are not significant ($p = 0.630$ and $p = 0.149$, respectively). [Result 3](#) on the absence of reinforced excuse-driven behavior under ambiguity-for-self compared to risk-for-self is supported when excluding multiple switchers.

Finally, the coefficients associated with “Trade-off \times Risk” in models (5) and (7) are also not significant ($p = 0.163$ and $p = 0.458$, respectively). [Result 4](#) on the absence of reinforced excuse-driven behavior under ambiguity-for-charity compared to risk-for-charity is also supported when excluding multiple switchers.

	<i>Dependent variable: Lottery valuation</i>							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trade-off	30.80*** (2.59)	31.68*** (2.47)	19.53*** (3.37)	22.56*** (3.34)	-9.65*** (2.62)	-6.76*** (2.08)	-1.69 (3.09)	0.13 (2.57)
Ambiguity	-2.47* (1.37)	-2.47* (1.37)	-4.58*** (1.44)	-4.58*** (1.44)	-6.48*** (1.57)	-6.48*** (1.57)	-5.92*** (1.80)	-5.92*** (1.80)
Charity	0.66 (1.74)	-3.36** (1.53)	-0.09 (2.07)	-1.44 (1.75)				
Self					-0.66 (1.74)	3.36** (1.53)	0.09 (2.07)	1.44 (1.75)
Charity \times Trade-off	-40.45*** (4.24)	-38.45*** (3.92)	-21.22*** (5.55)	-22.44*** (5.17)				
Self \times Trade-off					40.45*** (4.24)	38.45*** (3.92)	21.22*** (5.55)	22.44*** (5.17)
Charity \times Ambiguity	-4.02** (1.74)		-1.34 (2.08)					
Self \times Ambiguity					4.02** (1.74)		1.34 (2.08)	
Charity \times Risk		4.02** (1.74)		1.34 (2.08)				
Self \times Risk						-4.02** (1.74)		-1.34 (2.08)
Trade-off \times Ambiguity	0.89 (1.84)		3.03 (2.10)		2.89 (2.07)		1.81 (2.44)	
Trade-off \times Risk		-0.89 (1.84)		-3.03 (2.10)		-2.89 (2.07)		-1.81 (2.44)
Charity \times Trade-off \times Ambiguity	2.01 (2.55)		-1.22 (3.04)					
Charity \times Trade-off \times Risk		-2.01 (2.55)		1.22 (3.04)				
Self \times Trade-off \times Ambiguity					-2.01 (2.55)		1.22 (3.04)	
Self \times Trade-off \times Risk						2.01 (2.55)		-1.22 (3.04)
Intercept	46.77*** (1.56)	46.77*** (1.56)	49.84*** (1.72)	49.84*** (1.72)	47.43*** (1.81)	47.43*** (1.81)	49.75*** (1.94)	49.75*** (1.94)
Num. obs.	1728	1728	960	960	1728	1728	960	960
Num. ind. obs.	144	144	80	80	144	144	80	80
Sub. Mult. Switch	No	No	No	No	No	No	No	No
Censored subjects	Yes	Yes	No	No	Yes	Yes	No	No

Table A-3: Lottery valuation without multiple switchers

Notes: OLS regressions with errors clustered at the subject level. “Trade-off”: Trade-off between self-payoff and donations. “Charity”: Outcome of the lottery for the charity. “Self”: Outcome of the lottery for the subject. “Ambiguity”: Lottery under ambiguity. “Risk”: Lottery under risk. The symbol “ \times ” is used for interaction variables. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.