How Does the Cost Vector Affect Payment Consequentiality in a Binary Choice Contingent Valuation Survey?

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Abstract: *Payment consequentiality should improve the validity of welfare estimates in stated preference surveys according to a growing body of research. In this paper, we study whether the type of amounts (precision, parity) that composes the cost vector affects payment consequentiality. Our experiment consists in a binary choice survey on renewable energy where the cost amounts range between 0.5 and 25 euros. For small amounts, we find that precision increases payment consequentiality. For larger amounts, even numbers perform better than odd numbers. Our results suggest that the type of cost amount (e.g., even/odd, general/precise) should be carefully considered by the analyst.*

Keywords: contingent valuation; consequentiality; cost credibility; renewable energy

JEL codes: D61, Q42, Q51

How does the cost vector affect payment consequentiality in a binary choice contingent valuation survey?

1. Introduction

Stated preference methods are widely used to inform cost-benefit analysis. The single bounded-dichotomous choice survey typically involves presenting a program to surveyed participants and asking them if they would be willing to pay a given amount to fund it. The cost amount is randomly selected from a vector of values that covers the distribution of willingness-to-pay. This cost vector must be determined carefully and on the basis of a series of preliminary evaluations, or pre-tests. Bids at the extreme ends of this cost vector should be chosen with care because they are particularly likely to influence the credibility of the survey (Groothuis et al. 2017).

A cost vector with unrealistic bid levels can lead to bias as participants have less incentive to respond truthfully. This is related to the concept of "payment consequentiality" which is a growing concern in the literature. Payment consequentiality exists when respondents believe that they will pay the stated bid amount if the program is implemented. It is different from the concept known as "policy consequentiality", which measures whether participants believe their answer can have an actual impact on program implementation (Carson and Groves, 2017). Few single-bounded dichotomous choice studies have examined the role played by the cost vector on payment consequentiality. In a single-bounded dichotomous choice study, Börger et al. (2021) find that a higher level of payment in the form of a tax increases payment consequentiality while Lloyd-Smith et al. (2019) (using only one question to capture both payment consequentiality and policy consequentiality) found no relationship between the level of tax payment and consequentiality.

In this paper, we contribute to the emerging literature on the links between bid levels and consequentiality by examining whether "precision" (e.g. integer or non-integer) and "parity" (odd or even) affect payment consequentiality, whereby payment consequentiality is a belief measured using follow-up questions. To our knowledge, this issue has not been studied in the literature. This is relevant because parity and precision have been found to influence decision-making in areas other than non-market valuation. For instance, making a precise (vs. round) offer can affect the outcome of a negotiation (Yan and Marin, 2017; Petrowsky et al., 2023). Recent evidence from judgement experiments has also suggested that the precision of numeric advice affects perceptions of information quality and willingness to take advice (Schulze and Loschelder, 2021).

As a case study, we consider a survey dealing with an underwater turbines program in France where the valuation question is framed as a single-bounded dichotomous choice including a tax for incentive compatibility purposes. For each participant in the survey, a random amount (bid) is drawn from a distribution ranging from €0.5 to €25. Participants are randomly assigned to one of the following treatment groups: randomly generated numbers may be either (i) rounded to an integer number or (ii) rounded to two decimal places. For very small amounts, we show that very precise amounts (e.g., €1.12) result in a higher payment consequentiality than integer values (€1 or €2). For larger amounts, the use of even numbers increases perceived payment consequentiality. Overall, our results suggest that the precision of the cost amount should therefore be considered with care in future studies.

The remainder of the paper is structured as follows. In section 2, we consider the measurement of cost precision, cost parity and payment consequentiality. In section 3, we examine cost vectors employed in the literature. In section 4, we describe our survey. In section 5, we present the results. Finally, we discuss the results and conclude in section 6.

2. Variable recoding

Table 1 presents the variables concerning precision and parity of cost amounts, as well as the variables on payment consequentiality that will be used in the remainder of this paper. Since there is no standard approach in the literature to measure the different concepts, we consider different approaches and we explain how we recode the different variables (examples are given in Appendix Table A1).

[Insert Table 1 here]

Variables related to the precision of the cost amount

We consider three different ways to measure the precision of the cost amount.

(i) A binary variable called *Prominent* (Albers, 1997) takes the value of one if the cost amount is a prominent amount (1, 2, 5, 10, 20, etc.) and zero otherwise. The prominent numbers belong to the sequence $N \times 10^x$, where N takes the value 1, 2 or 5 and x is an integer, 0, 1, 2, 3 and so on. According to this approach, prominent numbers are considered as more general than the other numbers. The idea is that prominent numbers may correspond to spontaneous numbers which may for instance occur when the subject's knowledge is sufficiently poor or when too little effort is invested in the task.

(ii) The other measure is the "Albers relative exactness ratio" which was also proposed by Albers (1997, 2001) and hereafter referred to as Albers ratio. The continuous variable *Albers ratio* takes a value between 0 and 1, where 1 corresponds to a "prominent number" as defined above. The Albers ratio can be calculated for any integer (e.g. 15 or 16) in two main steps, as shown in Appendix Table A1: (a) the integer is decomposed in terms of prominent numbers (20 - 5 for 15 and 20 - 5 + 1 for 16); (b) the ratio between the smallest prominent number in this equation and the original number is calculated (5/15 and 1/16 for 15 and 16, respectively). Therefore, the number 16 is considered more precise than 15, while in approach (i) the numbers 15 and 16 are similarly considered (*Prominent* = 0). Albers et al. (1998, p. 1) explain: “The corresponding mental decision process creating the response can be modeled as starting with a sufficiently large prominent number and thereafter deciding sequentially in descending order for every smaller prominent number whether to add it or subtract it to the respective obtained preliminary result. The process stops when the exactness of analysis of the responder does not permit a further refinement of the decision”. In our case, the government may only have a vague idea of the cost of the project. But when investing more work or effort in this task, the government may come up with a more precise estimate, for instance by going from a cost of €15 to €16.

(iii) The final measure is simply a binary variable *Integer* which takes the value 1 if the cost amount is an integer and 0 otherwise. Intuitively, integer values are rounded amounts and are therefore less precise than non-integer values. In our setting, the perceived cost of the project may be known with a high degree of precision when a non-integer cost value is employed.

Parity of the cost payment

We create two variables related to parity.

(i) Mathematically, an even number is an integer of the form $2x$, while an odd number is an integer of the form $2x + 1$, where x is an integer 0, 1, 2, 3 and so on. Therefore, we create a binary variable *Even* that takes the value one if the integer cost amount is an even number (2, 4, 6, etc.) and zero if it is an odd number (1, 3, 5, etc.).

(ii) However, a recent psychological study argues that some numbers may be perceived by people as more "even" than others (Heubner et al., 2018). The type of amount with the highest degree of "evenness" is power of two (i.e, 2^x where x is an integer, 1, 2, 3 and so on) due to its divisibility properties. Therefore, we create a binary variable *Power of two* that takes the value one if the integer cost amount is a power of two (2, 4, 8, 16, etc.) and zero otherwise.

Variables related to consequentiality

We consider two components of payment consequentiality.

(i) In our study, we refer to a "weak payment consequentiality" condition if the participant believes that the implementation of the program would result in an increase in the electricity bill. For instance, some people may believe that the program would be funded by donations. The Likert scale question used to capture the weak payment consequentiality is inspired by previous studies that examine payment consequentiality (e.g, Zawojska et al., 2019).

(ii) We refer to "strong payment consequentiality" if the participant believes in the stated amount. The strong payment consequentiality question is taken from Champ et al. (2002) who add the following question to the valuation task: "If a trust fund were actually set-up (referendum held), do you think the amount you would be asked to donate (one-time tax assessment) would be $X (offer amount)?" (p. 603). Less than half of the participants answered "yes". Flores and Strong (2007) ask a similar question after reporting the actual expected cost for a series of projects and observed similar results. Other studies (e.g., Rheinberger and Schläpfer, 2015) have stressed the importance of cost credibility. In the rest of the paper, weak payment will be treated as an ordinal variable and the strong payment as a binary variable.

3. Cost vector in the environmental literature

We investigate the use of general/precise and even/odd cost amounts in the environmental literature. To do so, we expand and enrich the database provided by Mahieu et al. (2017). The authors collected articles on stated preference that were published between 2004 and 2016 in environmental journals indexed in Web of Science. Their database includes 126 different environmental journals. The authors went through each of the articles and identified the type of method (choice experiment versus contingent valuation) as well as the elicitation question for contingent valuation (single-bounded dichotomous choice, double-bounded dichotomous choice, payment card, open-ended and other). However, they did not collect information on the cost vector and payment vehicle.

We proceeded as follows. First, we tried to expand the database by searching for articles published in 2017 or 2018 in the 126 environmental journals. Second, for the total period 2004-2018, we collected information concerning the bid amounts and payment vehicle used in the single-bounded dichotomous choice articles. Third, we excluded articles that (a) did not report all bid amounts, (b) employed Monte Carlo simulation, (c) displayed bid amounts as percentage (d) expressed bid amounts in a currency other than the one used in the survey (e.g., bid amounts converted into dollars in the paper) and (e) involve fewer than 3 bid amounts. Fourth, when two or more articles reported the same cost vector, we checked the empirical application. If the empirical application was identical across articles, we retained only the older reference to avoid double counting.

We have obtained a sample of 202 articles and among the 202 cost vectors, 173 different cost vectors are unique. In addition, the number of bid amounts varies between 3 and 32 and the average number of bids is 7. Overall, this suggests strong heterogeneity in practices. The rest of the section focuses on the 202 cost vectors.

The use of prominent amounts (1, 2, 5, 10, etc.) is very common. In 85.64% of the 202 cost vectors, at least one prominent amount is present (see Appendix Table A2) and in 48.51% of the 202 cost vectors, more than half of the bids are prominent amounts. In addition, we find that 89.60% of the 202 cost vectors are composed of only integer values.

Regarding the parity of the cost amount, we find that the use of even values is relatively popular. As an illustration, 44.06% of the cost vectors exclusively involve even numbers. In contrast, powers of two are not so common: they are present in only 15.35% of the studies.

The payment vehicle is not available in all studies, but the vast majority of the surveys rely on a mandatory payment such as an increase in a water or electricity bill (e.g., Guerrini et al., 2018) or income tax (e.g., Jin et al., 2018), which limits free riding when a public good is valued. Of the remaining studies, some use a voluntary payment exclusively (e.g., Saengsupavanich et al., 2008), while others employ a split-sample approach, with some participants randomly assigned to a voluntary payment treatment and others to a mandatory payment treatment (e.g., Champ et al., 2002).

4. Survey

The study concerns a renewable energy infrastructure expansion project in France. The European Union is committed to achieving climate neutrality by 2050. Therefore, a major effort to expand the use of renewable energy in France is necessary. France has significant potential for hydrokinetic energy production, particularly in the English Channel, where large tides cause strong currents. The main advantages of underwater turbines over wind turbines are their discretion and the predictability of energy production, which is not subject to seasonal variability. It is also estimated that the specific mass density of water is 1000 times that of the air (Muljadi and Yu, 2015).

Our survey was conducted online in February 2019 (n = 908) and again in May 2020 (n = 1,256). We used a professional polling company to reach a representative sample (in terms of age and gender) of French residents. The questionnaire was identical in both rounds (hereafter referred to as "wave"), but people who responded to the questionnaire in the first wave were not invited back in the second wave. The good to be valued consisted in the creation of a park of giant underwater turbines to produce electricity. The questionnaire itself was coded in Qualtrics and used a custom Java program to generate bid amounts from a triangular distribution (available from the authors upon request).

The questionnaire was structured as follows. In the first part, people were invited to participate in the survey, with little information provided at this stage about the purpose of the survey in order to mitigate self-participation bias. Once individuals agreed to participate, a message on the screen explained that the results of the survey would be shared with policymakers and that there was no right or wrong answers. Second, general information was provided concerning renewable energy in France, as well as some information about underwater turbines, including advantages and disadvantages. Third, the asset to be developed was described. This consisted of building giant underwater turbines in France and studying the impact of these turbines on electricity production but also on the environment (e.g., fauna and flora). Fourth, it was explained to participants that the cost of the program would be covered by a special mandatory monthly payment for one year that would be added to the electricity bill. Fifth, the question was phrased as follows: "Would you be willing to pay X EUR a month in 2020 [2021 in the second wave survey] on your electricity bill for the set-up of this program (building and testing underwater turbines)?" Sixth, in the debriefing phase, individuals were asked several questions, including questions designed to capture the weak and strong payment consequentiality.

Focus groups and a pretest were conducted to ensure that the questionnaire was clear, the scenario and payment vehicle were credible and the endpoints of the cost vector were correctly selected. The questionnaire was administered to a national sample, with participants targeted by age and gender. A specific procedure was used for the cost amount. For each participant, a single 7-digit random amount (e.g. 2.6482452) was drawn from a left-triangular distribution ranging from 0.5 to 25. A left triangular distribution was used because this finite distribution lies closer to the lognormal distribution, with a high point mass at the beginning of the distribution, which prevents it from generating very high (implausible) values.

The special Java program built into Qualtrics was used to draw the bid amounts from the above triangular distribution. Although one amount was drawn for each participant, a split sample procedure was employed for rounding. The amount was rounded to a whole number for a subset of participants (e.g. from 2.648[...] to 3) and to two decimal places for the other subset (e.g. from 2.648[...] to 2.65).

The results of a t-test for each of the variables considered (*Female, Age, Income, Donor, 2ndWave*) show that the two main subsamples (integer and non-integer cost amounts) are balanced (see Appendix Table A3). Similar conclusions are drawn using a Kolmogorov test, which is a commonly used nonparametric test for comparing continuous variables.

5. Results

We consider successively the results of the effect of precision and parity of cost amounts on the weak payment consequentiality, strong payment consequentiality and the valuation response, respectively. The results are summarized in Table 2 and are described in the remainder of this section.

[Insert Table 2 here]

Weak payment consequentiality

We consider the response ranging from 1 ("I fully disagree") to 5 ("I fully agree") to the statement, "The implementation of the underwater turbines program will increase the electricity bill".

Appendix Figure A1 shows that the distribution of responses is similar for all treatments (integer or non-integer, even or odd, etc.), suggesting that precision and parity of cost amounts do not influence the response to the Likert scale question. This result is confirmed by an ordered logit model with Likert score as the dependent variable. None of the independent variables of interest (*Prominent, Albers ratio, Integer, Even, Power of two*) are statistically significant at conventional statistical levels (the results are available upon request). Hence, at this stage, no specific effect of cost amounts is found on the payment consequentiality when the "weak" definition is retained.

Strong payment consequentiality

Now, we focus on the responses to the following question – defining the strong payment consequentiality – which was asked right after the weak payment consequential question: "If the electricity bill was increased in 2020 [or 2021 in the second wave survey] to finance the environmental program, do you think the monthly increase for each household would be X EUR?", where the response options are: "Yes, the same amount", "No, a lower amount" and "No, a higher amount".

First, we focus our analysis on integer amounts (n = 1,086). Figure 1 illustrates the share of participants who selected the answer "yes, the same amount" for cost that ranges between €1 and €20 (there are too few observations for costs superior to €20). Figure 1 shows strong heterogeneity across cost amounts. It also shows that the proportion of "yes, the same amount" tends to be higher for even amounts than for odd amounts. This is particularly true for powers of two amounts (especially, 4, 8, and 16). There is no clear trend for prominent values (1, 2, 5, 10, etc.).

[Insert Figure 1 here]

Comparison of proportions by T-test confirms these results (see Appendix Table A4). The null hypothesis of an equal proportion of "yes, the same amount" response in the odd and even groups is rejected at the 5% level, with the proportion being higher for the even group. This is also true for the power of two amounts where the null hypothesis is rejected at the 5% level. However, there is no statistical difference between the prominent and non-prominent groups. This result is also confirmed by the logit model (see Table 3). The binary variables *Even* and *Power of two* are positive at the 5% level while the binary variable *Prominent* is not statistically significant at conventional levels. The continuous variable *Albers ratio* is also not statistically significant at conventional levels.

[Insert Table 3 here]

Second, we focus on both integer and non-integer cost amounts (n = 2,154). The logit model (see Table 3, Model 3) shows that, on average, the treatment has no impact on payment consequentiality. However, when restricting our sample to small cost amounts (n = 349), the treatment has an impact. Indeed, Model 4 shows that including small cost amounts in the form of non-integer amounts increases payment consequentiality. Comparison of proportions by T-test leads to similar results (see Appendix Table A5). When distinguishing between low, medium and high amounts, the share of the response “yes, the same amount” in the non-integer group is 0.3072 in the interval €0.5 and €2.5 while it is 0.2118 for €1 and €2. The difference is statistically significant at the 5% level. Overall, these results suggest that a combination of small precise cost values and larger even cost values may be of interest to practioners.

Valuation question

In this section, we consider the binary “yes”/”no” response question “Would you be willing to pay X EUR a month in 2020 [2021 in the second wave survey] on your electricity bill for the set-up of this program (building and testing underwater turbines)?”

With respect to the precision of the cost amounts, Table 4 presents mixed results. The *Prominent* and *Integer* variables are not statistically different from zero at conventional statistical levels. However, when keeping only small amounts in the analysis (n = 349), *Integer* (cost<2.5) is statistically significant at the 5% level. The negative sign of the coefficient suggests that the inclusion of integer amounts in the cost vector decreases willingness-to-pay. On the other hand, the variable *Albers ratio* (Model 2) is only statistically significant at the 10% level. As for the parity, the variables *Even* and *Power of two* are not statistically different from zero.

[Insert Table 4 here]

6. Discussion and conclusion

The form of the price (e.g. even/odd, general/accurate) has been extensively studied in the judgment and decision making literature (as well as in marketing), but the form of the cost amount has been largely ignored in non-market valuation. Indeed, no article on non-market valuation has discussed or tested cost amount parity (even versus odd) in non-market valuation, while cost precision has only been examined in one recent study to our knowledge. Smith et al. (2019) vary the precision of one of the cost amounts (£30) and test whether this manipulation has an impact on yes/no responses. There is no measure of consequentiality in the article.

The originality of our study lies in the fact that the cost amount is varied systematically, thus allowing us to study both the precision and parity of the cost amounts. In a typical single-limit dichotomous choice study, a limited number of cost amounts are employed, and each participant is randomly assigned one of them. Then, the binary logit or probit model (or a more sophisticated version of it) is used and the influence of the level of the cost amount on the probability of saying “yes” or “no” to the evaluation task is studied. Other variables can be included in the model, such as socio-demographic variables.

The results for weak payment consequentiality are inconclusive because none of the variables of interest (and the other control variables) are statistically different from zero. One possible reason is that the Likert scale question is not the best approach for collecting information on consequentiality, as other studies have pointed out (e.g., Lloyd-Smith et al., 2019). Another reason is that low payment consequentiality may assess the perceived credibility of the payment vehicle and not the credibility of the cost amount. Further studies could vary the payment vehicle (e.g., donation versus mandatory payment) and test whether this manipulation influences the effect on weak payment consequentiality.

In contrast, the results for strong payment consequentiality are much more conclusive. First, for small cost amounts, we find that precision increases the strong payment consequentiality. Expressing small amounts in non-integer values can therefore be an attractive option, especially when a significant portion of the population has a low willingness-to-pay. Second, for larger amounts, even numbers perform better than odd numbers. Indeed, the strong consequentiality of payment increases when considering even cost amounts, regardless of how one measures "even". Using the mathematical measure (an even number is an integer of the form $2x$ where x is an integer 0, 1, 2, etc.), the proportion of respondents who perceive the survey as strong payment consequential goes from approximately 0.20 to 0.25. When considering the power of two criteria, the proportion goes from 0.21 to 0.29.

The use of even numbers is easy to implement and does not increase the length of the questionnaire. Furthermore, it can be applied regardless of whether the practitioner wishes to apply an increasingly or equally spaced cost amount vector. For example, a cost vector of €15, €25, €35 can be converted to a cost vector of €16, €26, €36 or €14, €24, €34. Whether a given even cost should increase or decrease by one unit could be based on an efficient rule (minimize d-error). Similarly, an increasingly spaced supply amount of €5, €10, €20, €30, and €50 can be translated into €4, €8, €16, €32, and €64 with limited effect on efficient design if the power of two criteria is to be maintained.

Overall, we find that the validity of the results obtained under a single-bounded dichotomous choice could increase when the cost vector is composed of a mix of small precise cost values and larger even cost values. Further research could test whether similar results are obtained in other countries to investigate the role of culture or the tax system.

Discrete choice experimentation is an area where the precision and parity of the cost attribute may be of interest. Several studies have shown that the cost levels presented in choice experiment can have a strong influence on the results and their plausibility (Glenk et al., 2019; Glenk et al., 2023). It might be interesting to test whether precision and parity also matter. Another area that may be worth further examination is willingness-to-accept measurement. Lloyd-Smith and Adamowicz (2018) showed that this willingness-to-accept measurement can be incentive compatible under certain conditions. However, one limitation of willingness-to-accept approaches is that people may not believe that money will actually be given to them, and the form of the cost amounts (precision and parity) may influence this belief.

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Table

Table 1 Variables related to the precision, parity and consequentiality of the cost amount.

Variable name	Type of variable	Description
Precision		
Prominent[A]	Binary variable	1 if the cost amount is a prominent value (€1, €2, €5, €10, etc.) and zero otherwise (€3, €4, €6, €7, etc.)
Albers ratio[A]	Continuous variable	Relative exactness ratio (from zero to one)
Integer	Binary variable	1 if the cost amount is an integer value (€1, €2, €3, €4, etc.) and zero otherwise (€0.56, €0.84, €1.23, €4.43, €9.23 etc.)
Integer (cost < 2.5)[B]	Binary variable	1 if a cost amount is an integer value (€1, €2) and zero otherwise (€0.56, €0.84, €1.23, €2.05, etc.)
Parity		
Even[A]	Binary variable	1 if the cost amount is an even number (€2, €4, €6, €8, etc.) and zero otherwise (€1, €3, €5, €7, etc.)
Power of two[A]	Binary variable	1 if the cost amount is a power of two amount (€2, €4, €8, €16, etc.) and zero otherwise (€1, €3, €5, €6, €7, etc.)
Consequentiality		
Weak payment consequentiality	Ordinal variable	From 1 ("fully disagree") to 5 ("fully agree") to the statement: "The implementation of the underwater turbines program will increase the electricity bill in 2020[B]"
Strong payment consequentiality	Binary variable	1 if the answer is "yes, it would be this amount" to the question: "If the electricity bill was increased in 2020[C] to finance the environmental program, do you think the monthly increase for each household would be X EUR?", and 0 if responding "No, it would be a lower amount" or "No, it would be a higher amount"

Notes:
[A] The corresponding variables only apply to integer cost values.
[B] The corresponding variable only applies to cost values below €2.5.
[C] The year 2020 was replaced by 2021 when the questionnaire was administrated in 2020 (second wave).

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Table 2 Summary of the main results: Impact of precision and parity on payment consequentiality and valuation question

Independent variable of interest	Dependent variables: Weak payment consequentiality	Strong payment consequentiality (Table 3)	Valuation question (Table 4)
Precision			
Prominent	No effect	No effect	No effect
Albers ratio	No effect	No effect	No effect[A]
Integer	No effect	No effect	No effect
Integer (cost < 2.5)	No effect	Yes, negative effect	Yes, negative effect
Parity			
Even	No effect	Yes, positive effect	No effect
Power of two	No effect	Yes, positive effect	No effect

Notes:
[A] The variable *Albers ratio* is only significant at the 10% level.

Table 3 Logit model: determinant of strong payment consequentiality ("yes the same amount" = 1)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	-1.613***	-1.647***	-1.311***	-1.683**	-1.862***	-1.899***
	(0.352)	(0.391)	(0.237)	(0.656)	(0.348)	(0.352)
Female	0.138	0.137	0.011	-0.032	0.132	0.146
	(0.146)	(0.146)	(0.102)	(0.254)	(0.146)	(0.147)
Age	0.001	0.001	-0.004	0.003	0.001	0.001
	(0.006)	(0.006)	(0.004)	(0.010)	(0.006)	(0.006)
Income	0.098**	0.098**	0.096***	0.128	0.095*	0.097**
	(0.049)	(0.049)	(0.035)	(0.085)	(0.049)	(0.049)
Donor	0.240	0.238	0.320**	0.158	0.250	0.238
	(0.219)	(0.219)	(0.152)	(0.386)	(0.220)	(0.220)
2ndWave	0.064	0.060	0.146	0.057	0.047	0.034
	(0.147)	(0.147)	(0.103)	(0.257)	(0.147)	(0.148)
Cost	-0.001	0.001	-0.002	0.250	0.002	0.0140
	(0.014)	(0.016)	(0.009)	(0.231)	(0.012)	(0.013)
Precision						
Prominent	-0.166					
	(0.181)					
Albers ratio		-0.0648				
		(0.259)				
Integer			-0.101			
			(0.101)			
Integer (cost < 2.5)				-0.532**		
				(0.254)		
Parity						
Even					0.287**	
					(0.146)	
Power of two						0.451***
						(0.167)
Observations	1,086[A]	1,086[A]	2,154[B]	349[C]	1,086[A]	1,086[A]
LL	-583.654	-584.043	-1180.413	-222.489	-582.129	-580.518
AIC	1183.308	1184.086	2376.825	460.978	1180.257	1177.035
BIC	1223.230	1224.008	2422.226	491.819	1220.179	1216.957

Notes:
Standard errors in parentheses * p<0.1, ** p<0.05, *** p<0.01
[A] means that the sample was restricted to integer cost values.
[B] means that the sample was unrestricted.
[C] means that the sample was restricted to cost values below 2.5.

Table 4 Logit model: determinants of "yes" answer to the single-bounded dichotomous choice question ("yes"=1)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	-0.228	-0.418	0.289	1.057	-0.149	-0.153
	(0.320)	(0.356)	(0.220)	(0.590)	(0.312)	(0.314)
Female	-0.132	-0.134	-0.213**	-0.351**	-0.133	-0.129
	(0.134)	(0.134)	(0.096)	(0.232)	(0.134)	(0.134)
Age	-0.011**	-0.011**	-0.015***	-0.008	-0.011**	-0.011**
	(0.005)	(0.005)	(0.004)	(0.009)	(0.005)	(0.005)
Income	0.196***	0.195***	0.204***	0.214**	0.195***	0.196***
	(0.046)	(0.046)	(0.034)	(0.082)	(0.046)	(0.046)
Donor	0.913***	0.911***	0.857***	0.850**	0.919***	0.914***
	(0.203)	(0.203)	(0.146)	(0.415)	(0.203)	(0.203)
2ndWave	-0.144	-0.140	-0.115	-0.603**	-0.145	-0.148
	(0.135)	(0.135)	(0.097)	(0.236)	(0.135)	(0.135)
Cost	-0.063***	-0.053***	-0.095***	-0.173	-0.073***	-0.069***
	(0.013)	(0.016)	(0.009)	(0.211)	(0.012)	(0.012)
Precision						
Prominent	0.247					
	(0.161)					
Albers ratio		0.419*				
		(0.231)				
Integer			-0.007			
			(0.095)			
Integer (cost < 2.5)				-0.549**		
				(0.229)		
Parity						
Even					0.133	
					(0.134)	
Power of two						0.148
						(0.155)
Observations	1,086[A]	1,086[A]	2,154[B]	349[C]	1,086[A]	1,086[A]
LL	-653.944	-653.473	-1283.401	-222.489	-654.625	-654.660
AIC	1323.888	1322.946	2582.802	460.978	1325.250	1325.320
BIC	1363.810	1362.868	2628.203	491.819	1365.172	1365.242

Notes:
Standard errors in parentheses * p<0.1, ** p<0.05, *** p<0.01
[A] means that the sample was restricted to integer cost values.
[B] means that the sample was unrestricted.
[C] means that the sample was restricted to cost values below 2.5.

Figure title

Figure 1 Proportion of participants who believe in the strong payment consequentiality in the integer cost amount treatment (*Integer* = 1)


50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Cost amounts ranging from €1 to €20