

# ONLINE APPENDIX

More Money, More Problems? Can High Pay Be Coercive And Repugnant?

Sandro Ambuehl, Muriel Niederle, Alvin E. Roth

## Vignette

*Suppose that you are a member of an ethics committee, and you will have to decide whether or not to approve of the following study. Pay close attention. All the following questions will be based on this text.*

The E.M.C.A. Medical Research Institute has developed a new vaccine to prevent infection with the Ebola virus. In rats and chimps the vaccine successfully prevents infection with the virus and causes no measurable side effects. The institute now seeks to enlist 100 female participants to investigate whether the vaccine causes side effects in women. This is important to know, as it will determine whether the vaccine can be given to female healthcare workers in regions affected by the disease.

Each of the 100 participants will be injected with the vaccine and then monitored in weekly intervals for two months. The total time required to participate if no side effects occur is about 40 hours. Participants will not be exposed to the virus; the study only tests for side effects of the vaccine. Since no side effects occurred in the animal studies, the Institute's experts consider it unlikely that they will occur in humans. However, nobody knows for sure. This is why the experiment needs to be run. In case that unexpected side effects occur, they might range from very mild such as a day of nausea to very severe, such as persistent migraines. Side effects will be treated free of charge, if treating them is medically possible. An affected woman will not, however, receive treatment for any unrelated medical problems, and she will not receive any other compensation for suffering these side effects. The only compensation to any participant is the money paid to her when she agrees to take part in the study, before she is injected the vaccine.

Study participation invitations will be posted throughout the mid-western city in which the Institute is located. Invitations will be put up in both rich and poor neighborhoods. The Institute will compensate each woman who participates with [\$50 / \$1,000 / \$10,000] for the risk the participants take, and the total of 40 hours required to participate in the study.

[Only in "arguments" condition: Before posting the participation invitations, the researchers of the Institute discuss the conditions of the study in a meeting. Some researchers are concerned whether this way of inviting participants to the study is appropriate. While serious side effects seem unlikely, nobody knows this for certain. (Otherwise, there would be no need to run a study). They wonder: Does offering payment for the study inevitably draw people into the study who do not entirely understand what they are getting into? Is it at all possible to make participants adequately aware of the risks they take by participating? Can participants at all imagine what their lives would be like if an unanticipated side effect occurred, and how they would feel about that? Hence, the researchers wonder whether a woman's decision to participate is truly voluntary when a substantial payment is offered for participation; in particular when that person

has a very low income. Might the Institute be exploiting those people's economic disadvantages? Do they participate in the study against their own better judgment?]

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*Suppose you are a member of the ethics committee that has to approve the Institute's study with [payment1]. How would you decide?* [Answer choices: 7-point Likert scale with extremes labelled "definitely reject" and "definitely approve"]

*How much do you personally approve of the Institute's proposal to enlist and compensate study participants from both rich and poor neighborhoods in this way?* [Answer choices: 7-point Likert scale with extremes labelled "strongly disapprove" and "approve without reservation"]

[next page]

A.S. is a woman who lives in a poor part of the city. For the past 20 years she has worked in various minimum-wage jobs. She currently earns \$1,500 per month, which is barely enough for her to get by. A.S. encounters one of the study participation invitations that the Institute has posted on bulletin boards in her neighborhood. A.S. considers signing up for this study. She is on the fence about whether or not to do so. She is afraid of possible unexpected serious side effects of the vaccine. But then again, she would be paid [as much as she earns in her job in a day / almost as much as she earns in her usual job in an entire month / more than six times as much in her usual job in an entire month].

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*Suppose that 10 women similar to A.S. see the institute's study participation invitation. How many of the 10 would be better off if the institute had never posted the study participation invitation?* [Answer choices: 1 - 10] *How many of the 10, do you think, will eventually participate in the study in exchange for [payment1]?* [Answer choices: 1 - 10]

*If A.S. decides to participate in the study for [payment1], how would you describe her decision?* [Answer choices: 7-point Likert scale with extremes labelled "She was coerced" and "Her decision was entirely voluntary"]

*If A.S. decides to participate in the study, how likely is it that she will later regret her decision?* [Answer choices: 7-point Likert scale with extremes labelled "Extremely unlikely" and "Extremely likely"]

*If A.S. decides NOT to participate in the study, how likely will she later regret her decision?* [Answer choices: 7-point Likert scale with extremes labelled "Extremely unlikely" and "Extremely likely"]

[Repetition of the above questions, introduced with “Researchers at the institute discuss offering *payment* for participation instead.” Prospective subject described as “J.K. is a woman similar to A.S. She works in a minimum-wage job and encounters the study participation invitation.”]

For each of the following ways of compensating study participants, please indicate how ethically appropriate you think it is. Recall that the study test for side effects of a vaccine, although nobody expects such side effects to occur, if this were known, there would be no need to run a study. Recall that there is no special compensation if side effects occur.

[Only in “arguments” condition: Please consider professional ethicists’ argumentation: 1. By advertising to pay money to participants, the Institute might entice women to participate in the study who don’t fully understand what they are getting into. 2. By advertising to pay money to participants, the Institute might lead people to participate in the study who would not otherwise choose to do so]

- Do not pay money for participation
- Pay \$50 for participation
- Pay \$1,000 for participation
- Pay \$10,000 for participation
- Pay everyone the amount of money for participation that he would earn at his job in 40 hours. [Only in “arguments” condition: This means that an employee at McDonalds will be paid about \$300 for participation whereas an attorney will be paid about \$3,000.]

[Answer choices for each of the above compensation schemes: 7-point Likert scale with extremes labelled “completely unethical” and “completely ethical”]

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*For your preferred way of compensating participants, please briefly explain why you think it is the most ethical way to do it.*

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*Have you ever participated in a medical research study?*

*Have you every thought about participating in a medical research study as a means to earn money?*

*Would you participate in the experiment about the Ebola vaccine described in this study for a payment of \$50?*

*Would you participate in the experiment about the Ebola vaccine described in this study for a payment of \$1,000?*

*Would you participate in the experiment about the Ebola vaccine described in this study for a payment of \$10,000?*

[Answer choices: “Yes”, “No”, “I do not know”. In the first two of the above five question, the choice “prefer not to answer” was also available.]

## Data Analysis

**Survey** We fielded the survey in the first two weeks of December 2012 on weekdays on Amazon Mechanical Turk with 1570 respondents. Each respondent was paid \$1.50 lump sum, and additionally received an incentive payment of \$0.25 for answering at least 3 out of 5 attention check questions correctly. We retain the 1445 respondents who answered all five questions correctly for analysis (92%). The average time to completion for these subjects is just over 12 minutes (s.e. 5 minutes and 25 seconds).

**Stable types** From each respondent we have three measures of approval for each payment amount: (i) As a member of the IRB, to what extent would they approve of the study with the given payment amount, (ii) How much do they personally approve of the study with the given payment amount, and (iii) How ethical do they consider compensation with a given payment amount. While the first two of those questions were asked in immediate succession (but separated temporally for different payment amounts), the last was asked in the direct juxtaposition of the compensation schemes at the end of the survey. We define  $d_i^k$  as the difference in respondent  $i$ 's approval of the payment of \$10,000 vs. \$1,000 according to question  $k$ . The Cronbach alpha coefficient of  $(d^1, d^2, d^3)$  is 0.81 when including all respondents, and 0.77 and 0.84 on the subsamples of those who were not, and were given the arguments, respectively. These compare favorably to the standard benchmark of 0.8 (Kline (1999)) and thus indicate high interitem correlation. As an alternative measure, we regress  $d^3$  on the first principal component of  $d^1$  and  $d^2$ . Slope coefficients are 0.83 (0.03), 0.72 (0.04), and 0.86 (0.04) on the subsamples of all respondents, and those who have not, and have been presented with the arguments, respectively (s.e. in parentheses). The associated  $R^2$  coefficients are 0.37, 0.32, and 0.39, respectively.<sup>1</sup> Both of these analyses suggest that respondents who consider an incentive of \$10,000 less ethical than one of \$1,000 do so consistently.

**Classification** As explained in the main text, we use  $d^3$  to define a respondent's type. This is the most appropriate single variable for this purpose, since only for this variable were respondents asked to *directly* compare the ethical appropriateness of a payment of \$10,000 compared to a payment of \$1,000. In the full sample, there are 21% “ethicist” types, 34% neutral types and 44% “economist”

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<sup>1</sup>Factor analysis reveals a single factor with an eigenvalue that exceeds one. This suggests that the three variables measure the same underlying concept.

types. The corresponding numbers in the subsamples of those who were not, and were provided with the arguments, are 14%, 32%, 57%, and 27%, 39%, 34%, respectively.

**Determinants of types** Respondents' assessment of the ethical appropriateness of payment is determined by their own characteristics. We first consider the hypothesis suggested by our model, and include (logarithmic) income, and the one obvious confound, education. Columns 1 and 4 of table 1 show that both of these significantly increase the likelihood of being an "ethicist" type. We then test for the robustness of these factors by successively adding demographic characteristics, as well as measures of political orientation and religion. Age is the only demographic that is significantly predictive of type, with older respondents being more likely an "ethicist" type. Surprisingly, conservatives are significantly more likely "ethicist" types. Finally, the 56% of respondents who claim to have previously thought about participating in a medical study as a means to earn money are significantly more likely "ethicist" types. (These respondents' mean annual household income is also smaller by a highly significant \$6089.) The probit estimates exclude respondents that are classified as neutral types.

**Beliefs** For each type we estimate how responses to various survey questions change when the payment offered is increased from \$1,000 to \$10,000. We use only the first stage of the survey for these regressions. Hence, in each regression, each respondent appears as at most one observation. Table 2 displays the results. They correspond to the graph and discussion in the main text. Neutral types are intermediate on each question. The sole question that is not discussed in the main text is the assessed likelihood that a prospective participant who rejects to participate will regret this decision. All types believe that this likelihood is higher for the \$10,000 payment than for the \$1,000 payment. These results are not qualitatively different when we perform the regressions separately for those respondents who were and were not provided with the ethical arguments (see below).

We do find three differences, however, when we perform the estimations using the within-subjects data. First, "ethicist" types' responses to how likely a prospective participant would be better off if he had never encountered the opportunity to participate in the trial is not significantly different across payment amounts. Second, using within-subjects data we find that even "ethicist" types are less likely to think that a participant who enrolls in the trial will regret her decision when payment is \$10,000 rather than \$1,000, although to a much lesser extent than "economists". Third, even "economists" consider the decision to accept less voluntary when payment is \$10,000. Note that for each of these questions, the differences in the comparative statics between "economists" and "ethicists" remain unchanged.

**Effects of providing the arguments** Columns 1 - 3 of table 4 replicate the respective columns of table 1 for the subsample of respondents who were provided with the ethical arguments, and columns 4 - 6 do the same for the subsample of respondents who were not shown any arguments. For the former subsample, only income and education remain significant predictors of type. Additionally,

gender emerges as a weakly significant predictor of type, with males more likely to be “ethicist” types. In contrast, for the latter subsample, the effect of education intensifies, and the coefficients on (log) income drop to just over half their previous value, and lose statistical significance. The remaining predictors retain similar magnitudes and significance levels as in the full sample, with the exception that the race dummies now have a significant effect.

Finally, while providing the arguments changes the incidence of the three types, it does not substantially affect the beliefs of the types. Table 5 shows that all the signs in table 2 remain unchanged when they are estimated on the subsamples of respondents who have and have not been provided with the arguments, respectively, and the magnitudes remain largely comparable.

## Model and Proofs

**Setup** The model consists of a prospective seller  $s$  and an observer who judges the ethicality of the transaction. Agent  $i$ 's utility is defined over bundles  $(h, m)$  where  $h$  is a good such as health, and  $m$  is money. The utility function of agent  $i$  is

$$U_i(h, m) = \alpha_i u(h) + v(m)$$

with  $u \geq 0, u' > 0, v' > 0$ , and  $v'' < 0$ . Agent  $i$  has endowment  $(h, m_i)$ . The seller's preference parameter  $\alpha_s$  and monetary endowment  $m_s$  are jointly distributed according to probability measure  $P$ . The observer is richer than the seller,  $m_o \geq m_s$ .

The seller is offered to exchange amount  $\bar{h}$  of good  $h$  in exchange for  $\bar{m}$  units of money. He accepts the transaction iff  $U_s(h - \bar{h}, m_s + \bar{m}) \geq U_s(h, m_s)$ . We assume that the distribution of sellers that select into the transaction equals the population distribution conditional on being willing to accept.

The observer judges the ethicality of offering the transaction to prospective sellers. While he is perfectly able to predict sellers' decisions to accept or reject the transaction, he judges seller  $s$ 's welfare from accepting the transaction by partially taking the seller's perspective. Specifically, for parameters  $\rho \in [0, 1]$  and  $\gamma \in [0, 1]$ , we define  $m_\rho^s = \rho m_s + (1 - \rho)m_o$ , and  $\alpha_\gamma^s = \gamma \alpha_s + (1 - \gamma)\alpha_o$ . The observer judges seller  $s$ 's welfare from accepting the transaction as

$$w(\bar{h}, \bar{m}) = \alpha_\gamma^s u(h - \bar{h}) + v(m_\rho^s + \bar{m})$$

The observer's partial perspective taking is motivated by paternalistic concerns. For instance, he might believe that the seller suffers from projection bias (Loewenstein et al. (2003)), and account for that presumed bias when judging welfare.

The observer judges the ethicality of offering the transaction to the seller by

$$\mathcal{E}(\bar{h}, \bar{m}) = E[\Delta w(\bar{h}, \bar{m}) | U_s(h - \bar{h}, m_s + \bar{m}) \geq U_s(h, m_s)] \quad (1)$$

where  $\Delta w(\bar{h}, \bar{m}) = w(\bar{h}, \bar{m}) - w(0, 0)$  is the assessed change in welfare from accepting the transaction. The transaction is judged as unethical or repugnant if  $\mathcal{E}(\bar{h}, \bar{m}) < 0$ .

**Implications** We first study the comparative statics of incentivizing a given seller.

**Proposition 1.** (*Transactions*)

(i) *Transactions that require a larger amount of money to incentivize a given seller to participate are judged as less ethical if  $\alpha_o \geq \alpha_s$  or if  $\alpha_o < \alpha_s$  and  $\gamma$  is sufficiently close to 1:*

$$\left. \frac{d\mathcal{E}}{d\bar{m}} \right|_{U_s(h_s - \bar{h}, m_s + \bar{m}) = U_s(h_s, m_s)} < 0$$

(ii) *The richer the observer, the stronger this comparative static.*

(iii) *Paying more money for provision of the same amount of  $\bar{h}$  is judged as more ethical:  $\left. \frac{d\mathcal{E}}{d\bar{m}} \right|_{d\bar{h}=0} > 0$*

*Proof.* (i) We consider a given seller, so that  $\mathcal{E} = \Delta w(\bar{h}, \bar{m})$ . By the chain rule and implicit differentiation, we derive

$$\begin{aligned} \left. \frac{d\mathcal{E}}{d\bar{m}} \right|_{U_s(h_s - \bar{h}, m_s + \bar{m}) = U_s(h_s, m_s)} &= -\alpha_\gamma^s u'(h_\rho - \bar{h}) \frac{d\bar{h}}{d\bar{m}} + v'(m_\rho^s + \bar{m}) \\ &= \frac{v'(m_s + \bar{m})}{\alpha_s u'(h_s - \bar{h})} \end{aligned}$$

Hence, by  $h_s = h_o$ , we obtain

$$\left. \frac{d\mathcal{E}}{d\bar{m}} \right|_{U_s(h_s - \bar{h}, m_s + \bar{m}) = U_s(h_s, m_s)} = v'(m_\rho^s + \bar{m}) - \frac{\alpha_\gamma^s}{\alpha_s} v'(m_s + \bar{m})$$

Because  $v'' < 0$ , and  $m_o > m_s$  (and hence  $m_\rho^s > m_s$ ), the above expression is negative if  $\frac{\alpha_\gamma^s}{\alpha_s}$  is not much smaller than 1. This is the case if either  $\alpha_o \geq \alpha_s$  or if  $\alpha_o < \alpha_s$  and  $\gamma$  is sufficiently close to 1.

(ii) From (i) we derive

$$\begin{aligned} \left. \frac{d}{dm_o} \frac{d\mathcal{E}}{d\bar{m}} \right|_{U_s(h_s - \bar{h}, m_s + \bar{m}) = U_s(h_s, m_s)} &= \frac{d}{dm_o} v'(m_\rho^s + \bar{m}) - v'(m_s + \bar{m}) \\ &= v''(m_\rho^s + \bar{m})(1 - \rho) \end{aligned}$$

which is negative due to  $v'' < 0$ .

(iii) This follows trivially since  $\mathcal{E}$  is monotonic in the seller's ex post endowment  $m_s + \bar{m}$ . □

**Proposition 2.** (*Endowments and Preferences*)

(i) Richer observers are more likely to judge a transaction as unethical:  $\frac{d\mathcal{E}}{dm_o} < 0$ .

(ii) If  $v''/v'$  is non-increasing, then incentivizing a poorer seller to sell  $\bar{h}$  is judged as less ethical:

$$\frac{d\mathcal{E}}{dm_s} \Big|_{U_s(h_s - \bar{h}, m_s + \bar{m}) = U_s(h_s, m_s)} > 0.$$

(iii) If  $\gamma$  is sufficiently close to 1, then incentivizing a seller with higher  $\alpha_s$  to sell  $\bar{h}$  is judged as less

$$\text{ethical: } \frac{d\mathcal{E}}{d\alpha_s} \Big|_{U_s(h_s - \bar{h}, m_s + \bar{m}) = U_s(h_s, m_s)} > 0.$$

Intuitively, the comparative statics in part (iii) of the above proposition depends on  $\gamma$  for the following reason. In any case, the observer recognizes that a seller with higher  $\alpha_i$  requires a higher monetary compensation to make him indifferent between accepting and rejecting the transaction. If  $\gamma$  is sufficiently close to 1, he acknowledges this as welfare relevant. Thus, incentivizing a seller with a higher parameter  $\alpha_i$  to give up  $\bar{h}$  is judged akin to incentivizing a given seller to giving up a higher amount of good  $h$ , and hence is judged as less ethical. By contrast, if  $\gamma$  is close to 0, the observer does not acknowledge a higher  $\alpha_i$  as welfare relevant. Hence, such an observer only considers the fact that a seller with higher  $\alpha_i$  is given more money in exchange for  $\bar{h}$ , but does not account for the fact that this is to compensate for a larger loss in utility.

*Proof.* (i)

$$\frac{d\mathcal{E}}{dm_o} = E \left[ (1 - \rho) [v'(m_\rho^s + \bar{m}) - v'(m_\rho^s)] \Big| U_s(h - \bar{h}, m + \bar{m}) \geq U_s(h, m) \right]$$

By  $v'' < 0$ , this is negative.

(ii) We show that  $\frac{d\mathcal{E}}{dm_s} \Big|_{U_s(h_s - \bar{h}, m_s + \bar{m}) = U_s(h_s, m_s)} > 0$ .

$$\begin{aligned} \frac{d\mathcal{E}}{d\bar{m}} &= \rho(v'(m_\rho^s + \bar{m}) - v'(m_\rho^s)) \frac{dm_s}{d\bar{m}} + v'(m_\rho^s + \bar{m}) \\ \frac{dm_s}{d\bar{m}} \Big|_{U_s(h_s - \bar{h}, m_s + \bar{m}) = U_s(h_s, m_s)} &= -\frac{v'(m_s + \bar{m})}{v'(m_s + \bar{m}) - v'(m_s)} \end{aligned}$$

Consequently,

$$\frac{d\mathcal{E}}{d\bar{m}} \Big|_{U_s(h_s - \bar{h}, m_s + \bar{m}) = U_s(h_s, m_s)} = -\rho \frac{v'(m_\rho^s + \bar{m}) - v'(m_\rho^s)}{v'(m_s + \bar{m}) - v'(m_s)} v'(m_s + \bar{m}) + v'(m_\rho^s + \bar{m})$$

This is negative if and only if

$$\rho < \frac{1 - \frac{v'(m_\rho^s)}{v'(m_\rho^s + \bar{m})}}{1 - \frac{v'(m_s)}{v'(m_s + \bar{m})}}$$



The RHS of the above expression weakly exceeds 1 iff

$$\frac{v'(m_\rho^s)}{v'(m_\rho^s + \bar{m})} \leq \frac{v'(m_s)}{v'(m_s + \bar{m})}$$

Thus, because  $m_\rho^s > m_s$ , it is sufficient to show that  $\frac{v'(h)}{v'(h + \bar{m})}$  is weakly decreasing in  $h$ . We have

$$\frac{d}{dh} \left[ \frac{v'(h)}{v'(h + \bar{m})} \right] = \frac{v''(h)v'(h + \bar{m}) - v''(h + \bar{m})v'(h)}{v'(h + \bar{m})^2}$$

The RHS of this expression is weakly smaller than 0 iff  $\frac{v''(h)}{v'(h)} \geq \frac{v''(h + \bar{m})}{v'(h + \bar{m})}$ , i.e. iff the coefficient of absolute risk aversion  $-\frac{v''}{v'}$  is non-increasing.

(iii) By differentiating  $\mathcal{E}$ , we get

$$\frac{d\mathcal{E}}{d\alpha_s} = \gamma(u(h - \bar{h}) - u(h)) + v'(m_\rho^s + \bar{m}) \frac{d\bar{m}}{d\alpha_s}$$

By implicit differentiation of the indifference condition, we obtain

$$\frac{d\bar{m}}{d\alpha_s} = -\frac{u(h - \bar{h}) - u(h)}{v'(m_s + \bar{m})}$$

Inserting this into the first expression, we get

$$\frac{d\mathcal{E}}{d\alpha_s} = (u(h - \bar{h}) - u(h)) \cdot \left[ \gamma - \frac{v'(m_\rho^s + \bar{m})}{v'(m_s + \bar{m})} \right]$$

By  $u' > 0$ ,  $u(h - \bar{h}) - u(h) < 0$ . By  $m_\rho^s > m_s$  and  $v'' < 0$ ,  $\frac{v'(m_\rho^s + \bar{m})}{v'(m_s + \bar{m})} < 1$ . Consequently, if  $\gamma$  is sufficiently close to 1,  $\frac{d\mathcal{E}}{d\alpha_s} < 0$ , as was to be shown. □

So far we studied the comparative statics of  $\mathcal{E}$  regarding incentivizing a given seller. In the next proposition we explicitly consider selection of heterogenous sellers into the transaction.

**Proposition 3.** (*Selection*) *If sellers are heterogenous regarding both  $\alpha_s$  and  $m_s$ , and  $\gamma$  is sufficiently close to 1, then  $\mathcal{E}$  may be non-monotonic in payment.*

*Proof.* The proof is by example. Fix a loss of health from accepting the transaction of  $\bar{h} = 1$ , and suppose that  $u(h) = h$  and  $v(m) = \sqrt{m}$ . A seller's monetary endowment is either 0 or 1, all agents' endowment with good  $h$  is normalized to 0, and a seller's preference parameter  $\alpha_s$  is either 1 or 2. Payment amounts under consideration are 1, 3, and 4. The utilities from accepting the transaction

with given payment amounts are listed in the following table.

$$U_s(h - \bar{h}, m_s + \bar{m}) = -\alpha_s + \sqrt{m_s + \bar{m}}$$

Type	Money $m_s$	0	1	0	1
	Preference $\alpha_s$	1	1	2	2
Transaction	$\bar{h} = 1, \bar{m} = 1$	0	$-1 + \sqrt{2}$	-1	$-2 + \sqrt{2}$
	$\bar{h} = 1, \bar{m} = 3$	$-1 + \sqrt{3}$	1	$-2 + \sqrt{3}$	0
	$\bar{h} = 1, \bar{m} = 4$	1	$-1 + \sqrt{5}$	0	$-2 + \sqrt{5}$

A seller with monetary endowment 0 (1) will accept the transaction if the utility from accepting it weakly exceeds 0 (1). Consequently, for payment  $\bar{m} = 1$  only types  $(m_s, \alpha_s) = (0, 1)$  are weakly better off accepting the transaction. For  $\bar{m} = 3$ , types  $(m_s, \alpha_s) \in \{(0, 1), (1, 1)\}$  accept the transaction. Finally, for  $\bar{m} = 4$ , types  $(m_s, \alpha_s) \in \{(0, 1), (1, 1), (0, 2)\}$  accept the transaction.

By proposition 2, part (ii), making a richer seller indifferent between accepting and rejecting is judged as more ethical, all else equal; and by proposition 1, part (iii), paying more to a type who would have accepted the transaction anyway is judged as more ethical. Consequently, raising payment from  $\bar{m} = 1$  to  $\bar{m} = 3$  is judged as more ethical, irrespective of the population distribution. By proposition 2, part (iii), if  $\gamma$  is sufficiently large, then offering type (0, 2) the payment  $\bar{m} = 3$ , which makes him just indifferent between accepting and rejecting the transaction, is judged as less ethical than offering type (0, 1) the payment  $\bar{m} = 1$  that makes him indifferent. Because the ethicality of offering the transaction to a seller is the expected welfare (as judged by the observer) of those sellers who are weakly willing to accept, it is apparent that offering the transaction at  $\bar{m} = 4$  is judged as less ethical than offering the transaction at  $\bar{m} = 3$  if  $P((m_s, \alpha_s) = (0, 2))$  is sufficiently large.  $\square$

## References

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VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	$d^3$	$d^3$	$d^3$	$\text{sgn}(d^3)$	$\text{sgn}(d^3)$	$\text{sgn}(d^3)$
ln(Income)	-0.143** (0.0594)	-0.128** (0.0592)	-0.124** (0.0606)	-0.146** (0.0574)	-0.138** (0.0582)	-0.127** (0.0600)
Education	-0.136*** (0.0406)	-0.133*** (0.0407)	-0.126*** (0.0416)	-0.0875** (0.0390)	-0.0913** (0.0395)	-0.0984** (0.0407)
Male		0.103 (0.0940)	0.108 (0.0960)		0.121 (0.0888)	0.136 (0.0920)
Age		-0.0123*** (0.00414)	-0.0139*** (0.00430)		-0.00948** (0.00390)	-0.0105** (0.00409)
African American		-0.0640 (0.357)	-0.205 (0.363)		0.175 (0.348)	0.0256 (0.368)
Asian		-0.369 (0.371)	-0.512 (0.378)		-0.0483 (0.355)	-0.219 (0.374)
Caucasian		-0.511 (0.318)	-0.560* (0.324)		-0.327 (0.305)	-0.406 (0.326)
Hispanic		-0.568 (0.373)	-0.661* (0.381)		-0.262 (0.354)	-0.435 (0.375)
No Religion			-0.115 (0.104)			-0.0602 (0.0996)
Conservative			-0.296** (0.145)			-0.295** (0.138)
Liberal			-0.157 (0.114)			-0.149 (0.111)
Thought about participating			-0.217** (0.0961)			-0.203** (0.0922)
Constant	2.588*** (0.610)	3.049*** (0.684)	3.363*** (0.705)	2.456*** (0.588)	2.767*** (0.662)	3.076*** (0.696)
Method	OLS	OLS	OLS	Probit	Probit	Probit
Observations	1,415	1,415	1,375	915	915	882
$R^2$	0.016	0.030	0.038	-	-	-

Table 1: Income is measured in units of \$10,000. Excluded categories are *female*, *other race*, *has a religion*, *neither conservative nor liberal*. Respondents who did not know or preferred not to answer whether they had previously thought about participating in medical trials are coded as missing.

VARIABLE	“Ethicists”	Others	“Economists”
Voluntariness	-0.5744889 ** ( 0.2332091 )	-0.4865654 *** ( 0.1772251 )	0.3735843 ** ( 0.1517972 )
Better off without	1.335146 *** ( 0.4253126 )	0.0536728 ( 0.3549511 )	-0.6496786 ** ( 0.2961822 )
Regret accepting	0.7368421 *** ( 0.1679424 )	0.010728 ( 0.1440166 )	-0.3016748 ** ( 0.1244856 )
Regret rejecting	0.500435 ** ( 0.2279612 )	0.6359372 *** ( 0.163064 )	0.544427 *** ( 0.1550434 )
Likelihood of accepting	0.7070466 ** ( 0.3330673 )	0.3680325 ( 0.2512439 )	0.4403997 * ( 0.2306782 )
Personal approval	-0.6907351 *** ( 0.2178791 )	-0.298645 * ( 0.1706136 )	0.4647339 *** ( 0.140393 )
IRB Approval	-1.099174 *** ( 0.2220483 )	-0.1593124 ( 0.1822648 )	0.8052604 *** ( 0.1457809 )
Observations	301	512	632

Table 2: Effects of increasing payment from \$1,000 to \$10,000. Displayed are the coefficients of regressions of the indicated dependent variable on a dummy that equals 1 if the payment is \$10,000. The variables *Better off without* and *Likelihood of accepting* are measured on a scale of 0 to 10, the remaining variables are measured on a scale of 1 to 7. Data are across subjects. Data are pooled over respondents who have and have not been presented with the ethical arguments.

VARIABLE	“Ethicists”	Others	“Economists”
Voluntariness	-0.9568107 *** ( 0.0775053 )	-0.3027344 *** ( 0.0427468 )	-0.0917722 ** ( 0.0456397 )
Better off without	-0.1096345 ( 0.1268662 )	-0.2167969 ** ( 0.1058058 )	-1.123418 *** ( 0.1231329 )
Regret accepting	-0.1960133 *** ( 0.064993 )	-0.3203125 *** ( 0.0525853 )	-0.7041139 *** ( 0.0510592 )
Regret rejecting	0.9169436 *** ( 0.0861971 )	0.8828125 *** ( 0.0581592 )	1.037975 *** ( 0.0589765 )
Likelihood of accepting	1.774086 *** ( 0.1052676 )	1.615234 *** ( 0.0750388 )	2.025316 *** ( 0.0714451 )
Personal approval	-1.113726 *** ( 0.1083016 )	0.0169082 ( 0.061888 )	0.9370078 *** ( 0.0709356 )
IRB Approval	-1.531561 *** ( 0.1065387 )	-0.0644531 ( 0.070405 )	1.376582 *** ( 0.0666284 )
Would participate	0.2244898 *** ( 0.0307428 )	0.2407407 *** ( 0.0237886 )	0.4433497 *** ( 0.0246852 )
Observations	301	512	632

Table 3: Replication of table 2 with within-subjects instead of across-subjects data.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	$d^3$	$d^3$	$d^3$	$d^3$	$d^3$	$d^3$
Arguments provided	Yes	Yes	Yes	No	No	No
ln(Income)	-0.210** (0.0825)	-0.208** (0.0827)	-0.195** (0.0850)	-0.0827 (0.0821)	-0.0697 (0.0818)	-0.0683 (0.0832)
Education	-0.105* (0.0555)	-0.108* (0.0560)	-0.106* (0.0569)	-0.187*** (0.0572)	-0.184*** (0.0571)	-0.183*** (0.0585)
Male		0.222* (0.132)	0.242* (0.134)		0.0129 (0.129)	-0.0143 (0.133)
Age		-0.00614 (0.00580)	-0.00542 (0.00599)		-0.0168*** (0.00568)	-0.0204*** (0.00593)
African American		0.189 (0.471)	0.157 (0.474)		-0.657 (0.537)	-1.211** (0.559)
Asian		-0.247 (0.485)	-0.263 (0.488)		-0.662 (0.563)	-1.208** (0.587)
Caucasian		-0.371 (0.412)	-0.347 (0.415)		-0.948* (0.490)	-1.368*** (0.511)
Hispanic		-0.841 (0.512)	-0.844 (0.522)		-0.808 (0.545)	-1.323** (0.567)
No Religion			0.0661 (0.148)			-0.302** (0.139)
Conservative			-0.171 (0.211)			-0.435** (0.193)
Liberal			-0.0951 (0.163)			-0.133 (0.154)
Thought about participating			-0.189 (0.134)			-0.243* (0.132)
Constant	2.847*** (0.846)	3.175*** (0.936)	3.145*** (0.964)	2.566*** (0.845)	3.582*** (0.975)	4.484*** (1.009)
Observations	774	774	755	641	641	620
$R^2$	0.017	0.032	0.035	0.022	0.047	0.074

Table 4: Replication of columns 1 - 3 of table 1 on the subsample of respondents who were and were not provided with the ethical arguments.

VARIABLE	“Ethicists”	Others	“Economists”
Arguments provided			
Voluntariness	-0.4656982 *	-0.0454182	0.1687608
	( 0.264698 )	( 0.2330012 )	( 0.239059 )
Better off without	1.170904 **	-0.3567427	-0.8222468 *
	( 0.5270833 )	( 0.4848331 )	( 0.4183129 )
Regret accepting	0.6761501 ***	-0.1026411	-0.2562208
	( 0.1924534 )	( 0.1813971 )	( 0.1907579 )
Regret rejecting	0.2958031	0.7472989 ***	0.5362158 **
	( 0.2722383 )	( 0.2202284 )	( 0.2440293 )
Likelihood of accepting	0.3218321	0.5660264 *	-0.0103474
	( 0.4012775 )	( 0.3239899 )	( 0.3630007 )
Personal approval	-0.6444713 **	-0.2360944	0.6214585 ***
	( 0.261249 )	( 0.2312517 )	( 0.2156906 )
IRB Approval	-1.08979 ***	-0.0102041	1.02981 ***
	( 0.2528326 )	( 0.2447896 )	( 0.2106807 )
Observations	214	307	271
Arguments <i>not</i> provided			
Voluntariness	-0.8934817 *	-1.069683 ***	0.5213385 ***
	( 0.4994146 )	( 0.2678897 )	( 0.1966008 )
Better off without	1.497615 **	0.5764706	-0.5381348
	( 0.6414327 )	( 0.5189251 )	( 0.4118101 )
Regret accepting	0.9046105 **	0.1701358	-0.3299131 **
	( 0.3524177 )	( 0.2350692 )	( 0.1647037 )
Regret rejecting	1.019078 **	0.4968326 **	0.543886 ***
	( 0.4130296 )	( 0.2437357 )	( 0.2010984 )
Likelihood of accepting	1.81876 ***	0.0588235	0.7832822 ***
	( 0.5788488 )	( 0.3973525 )	( 0.2970511 )
Personal approval	-0.6073132	-0.3013575	0.3275603 *
	( 0.365104 )	( 0.2420997 )	( 0.1802602 )
IRB Approval	-0.9984102 **	-0.3067873	0.6370172 ***
	( 0.4638384 )	( 0.2698883 )	( 0.1998775 )
Observations	87	205	361

Table 5: Replication of table 2 on the subsamples of respondents who were and were not provided with the ethical arguments.