

Sacred Values? The Effect of Information on Attitudes toward Payments for Human Organs[†]

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The efficiency of markets in organizing exchanges is an accepted tenet in the Western world and increasingly elsewhere. Market prices aggregate information on the scarcity of resources, thus guiding decisions without the need for additional knowledge and achieving higher economic welfare than other systems (Hayek 1945; Smith 1776). Yet markets and money prices are viewed with skepticism and often rejected when applied to certain trades.¹ For example, paying organ donors is illegal in the United States, as are markets for sex (with the exception of certain parts of Nevada). The opposition to these transactions rests in part on a desire to protect vulnerable people from exploitation or coercion (Hill 1994). However, the aversion is often due to the idea that these trades would corrupt moral values (Sandel 2012). Roth (2007) describes many trades in which two parties may want to engage, but that third parties consider “repugnant” and wish to prevent.

Banning these transactions can be costly. Consider the case of human organs for transplantation; in the United States alone, over

120,000 people are on the waiting list for an organ transplant. Every year, only about 29,000 transplants are performed, and over 10,000 people die (or become too sick for a transplant) while on the wait list. The average wait time for a kidney transplant is about 4.7 years, up from 2.9 only a decade ago.² Becker and Elfas (2007) estimate that payments between \$15,000 and \$30,000 would close the gap between demand and supply. A higher organ supply would also produce financial benefits; for example a kidney transplant saves about \$250,000 in dialysis costs (Matas and Schnitzler 2003).

Because shared values contribute to tying societies together and even enhance economic outcomes (Guiso, Sapienza, and Zingales 2006), the efficiency losses from prohibiting certain trades may be justified. However, changes over time and differences across societies in what trades are deemed repugnant raise the question of how repugnance forms and evolves: Do these attitudes reflect values that cannot be sacrificed, or do they derive from preferences that partly depend on calculations about costs and benefits? Answering this question enhances our understanding of the nature of moral opposition to markets, and informs policymakers about which interventions are acceptable by society.

In this paper we study whether information based on scientific research about the effects of different ways to increase the supply of organs affects attitudes toward payments to organ donors. Attitudes may change when individuals consider specific applications rather than abstract expressions of values (Baron and Leshner 2000). However, views against payments for organs often contain strong terms invoking “inalienable values of life and liberty” and “fundamental truths” (Delmonico, Arnold,

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[†] Go to <http://dx.doi.org/10.1257/aer.p20151035> to visit the article page for additional materials and author disclosure statement(s).

¹ More standard (and widely accepted) reasons to doubt the efficiency of a pure market mechanism, such as externalities or other market failures, are not the subject of this paper.

² Own calculations based on UNOS (2014) data.

and Youngner 2002), suggesting that attitudes might not respond to additional information in this case.

These two possibilities are represented in Figure 1. Line AB is a hypothetical frontier describing a trade-off between the efficiency and the degree of moral controversy of different ways to arrange a transaction. We assume that there is agreement on the “ranking” of the level of moral controversy for different choices, and that efficiency enters the utility function as a good whereas ethical controversy is a bad.³

Suppose new information shows that the efficiency of more morally controversial options (e.g., payments for organs) increases further, so that the new frontier is ACD. Individuals with lower rates of substitution between efficiency and the level of ethical controversy (indifference curves *a* and *a'*) react to the new information by selecting a policy that is more ethically charged, whereas those with higher rates of substitution (curves *b* and *b'*) do not change their optimal choice.⁴ Our goal is to determine what preferences characterize individuals, and whether the opposition to organ payments is in part explained by a lack of information about the potential benefits.

I. Experimental Design

The study was conducted through an online survey experiment with 3,417 US residents recruited on Amazon Mechanical Turk. The treatment group received a short text (about 500 words) reporting the current state of organ shortage in the United States and its social and economic consequences; the text then described different strategies that have been proposed (and tried in some cases) to alleviate the shortage, including kidney exchanges, changing the default rule for cadaveric organ donation, and regulated payments to donors or their families, with references to academic studies that evaluated these proposals (see Elias, Lacetera, and Macis 2015a for details). The subjects were informed that a comprehension question would follow. Respondents then

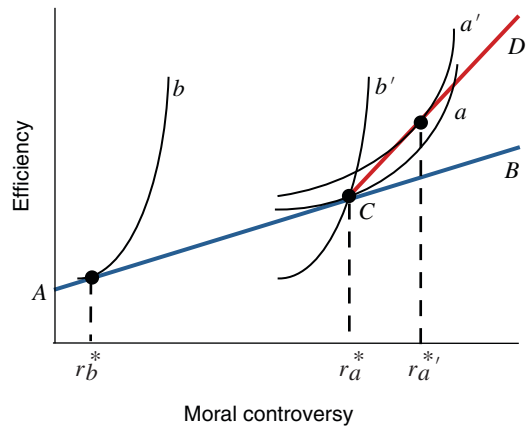


FIGURE 1. THE EFFICIENCY-MORALITY TRADE-OFF UNDER DIFFERENT POSSIBILITY FRONTIERS AND PREFERENCES

answered a question that elicited their opinions about allowing regulated payments for organ donors or their families. The question was framed according to the Item Count Technique (ICT) to preserve the privacy and anonymity of the responses and to limit social desirability bias (Coffman, Coffman, and Ericson 2013; Miller 1984). Within each treatment condition, one subgroup received a list of four “neutral” statements (i.e., non-sensitive and not related to the research topic); the other subgroup received the same four sentences plus a fifth one that expressed the favor toward payments for organs. The subjects reported the number of statements that applied to them. Thus whether a person answered positively or negatively to a specific item could not be determined; however, with a large enough sample the difference in the average number of indicated statements between those with five and those with four sentences provides an estimate of the share of subjects supporting the activity of interest. The control group received neither the text nor the comprehension question, and was only asked about their support for payments for organs. In a regression framework, treatment effects using the ICT can be estimated from the following model:

$$(1) \quad Y_i = \beta_{C4} + \beta_{C5}D_{iC5} + \beta_{O4}D_{iO4} + \beta_{O5}D_{iO5} + \gamma X_i + \varepsilon_i,$$

³If all solutions were all equally efficient, an individual would prefer the least morally controversial combination.

⁴People might not react to information if they do not consider it reliable. We address this possibility in the analysis below.

where Y_i is the count of statements with which subject i agrees, and the dummies D_{iC5} , D_{iO4} , and D_{iO5} take a value of 1 if subject i is in the control group with five statements, or in the organ text group with four or five statements, respectively $(\hat{\beta}_{O5} - \hat{\beta}_{O4}) - \hat{\beta}_{C5}$ estimates the difference in approval between the treatment group $(\hat{\beta}_{O5} - \hat{\beta}_{O4})$ and the control $(\hat{\beta}_{C5})$. X_i includes sociodemographic covariates derived from a survey administered to all subjects at the end of the experiment.⁵

II. Findings

The estimated approval rate for organ payments increased from a baseline of 51.8 percent to 71.3 percent when information was provided—a 19.5 percentage point increase ($p < 0.01$), or about 38 percent of the baseline (Figure 2).^{6,7}

We also tested for heterogeneous effects, because attitudes toward morally charged trades may depend on individual features and beliefs, but we found very limited differences.⁸ Prior beliefs, moreover, may affect the perceived credibility of information, thus potentially altering responses (Kahan, Jenkins-Smith, and Braman 2011). We asked the subjects in the treatment

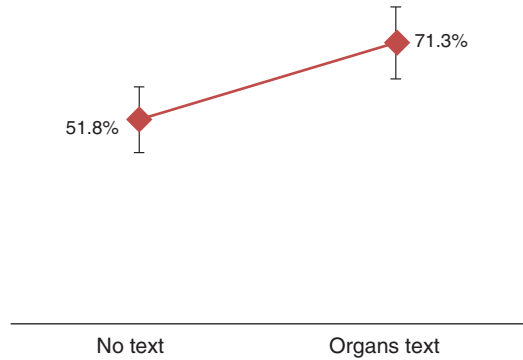


FIGURE 2. ESTIMATED SUPPORT RATES FOR LEGALIZING ORGAN PAYMENTS

Notes: Estimates are from regressions including the set of covariates described in footnote 6. $N = 1,844$ in the control group, and $N = 1,573$ in the treatment group.

group whether they found the text reliable, and 90 percent answered positively. Thus this mechanism is unlikely to have played a role in our context.

To provide further validation that the changes in support rates derived from receiving *specific* information and were not an automatic reaction to *any* information, we proceeded in two ways. First, a random subsample of 585 subjects was assigned a text unrelated to organ supply and void of repugnance aspects (a review of symptoms of and remedies for the flu), and then asked about their approval of organ payments. The approval rates in this “placebo” group were nearly identical to the control (the estimates in Figure 2 include this group in the control).

Second, we replicated the study (in September and October 2014) with 2,762 new subjects, using two other activities banned in the United States largely for ethical motives. The first activity was indoor prostitution; we gave the subjects a text with information on research showing that legalizing indoor prostitution in a US state reduced sexual violence and sexually transmitted diseases (Cunningham and Shah 2014). This topic is at least as morally controversial as organ payments. The second issue was a case for which we expected very low approval and minimal impact of information—slavery contracts; here the subjects read about historical evidence on the relative condition of slaves and freed men in the United States (Fogel and Engerman 1974), information on the current presence of

⁵The sample was well balanced across experimental conditions along the characteristics that we surveyed. About 56 percent of the respondents were men, and the average age was 31.6 years. The median subject was not married, had no children, had a monthly income between \$1,500 and \$2,500, had volunteered or donated money to a charity in the previous two years, and had some college education. About 53 percent of the subjects were employees, 13.5 percent were self-employed, and 15 percent were students; 52 percent reported being religious and 48.5 percent had liberal political views.

⁶The results are from the estimation of equation (1) with covariates that included indicators for gender, job status, educational attainment, relationship status, whether the respondent has children, monthly income, political views, religious beliefs, whether the subject donated to charity or volunteered in the past two years, US state of residence, age and age squared, and a September wave dummy. Because the sample was balanced across conditions, the estimates are very close to the raw descriptives. Also, the results were very similar in the two intervention waves (May and September 2014).

⁷The baseline approval rate was similar to that found in previous studies based on representative samples of the US population (Leider and Roth 2010).

⁸The full set of estimates, for this and the subsequent analyses discussed here, are in Elias, Lacetera, and Macis (2015a).

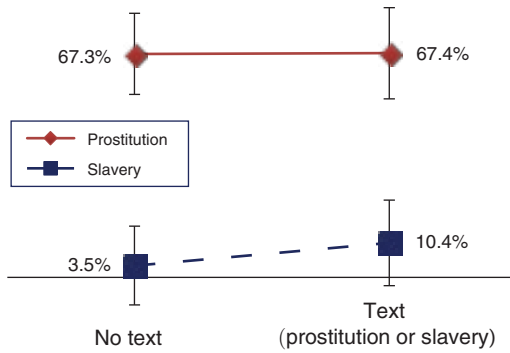


FIGURE 3. ESTIMATED SUPPORT RATES FOR LEGALIZING INDOOR PROSTITUTION AND SLAVERY CONTRACTS

Notes: Estimates are from regressions including covariates described in footnote 6. $N = 880$ (control) and 708 (treatment) for prostitution; $N = 881$ (control) and 721 (treatment) for slavery contracts.

millions of de facto slaves in developing countries, and considerations on whether allowing slavery contracts might improve conditions for de facto slaves (e.g., by providing standards and recourse in court).

The estimated support rates are in Figure 3.

The baseline support for legalizing indoor prostitution exceeded 65 percent, whereas it was only about 3.8 percent and statistically insignificant for the legalization of slavery. In neither case did reading the text significantly affect support for legalizing the activities.

The overall null effect of information masked considerable heterogeneity across different subgroups of subjects. The information produced increased support for legalizing prostitution among men (from 77.8 percent to 95.8 percent), but decreased support among women (from 56.1 percent to 41.0 percent); thus the gender difference was of 21.7 percentage points in the baseline ($p = 0.08$), and 54.8 percentage points in the text treatment ($p < 0.01$). Similarly, the information increased support for prostitution among subjects who stated to be atheist or agnostic (from 81.2 percent to 94.3 percent) but reduced the support of religious subjects (from 56.8 percent to 47.3 percent), with a difference in the baseline approval rate of 24.5 percentage points ($p = 0.05$) and of 47.1 percentage points in the treatment ($p < 0.01$). Substantial gender as well as education differences in support rates emerged also in the case of slavery when

information was provided: The differences in overall responses to information as well as the more marked heterogeneous effects as compared to the case of organ payments reinforce our interpretation that the responses found in the case of organ payments were not an automatic reflex of the subjects to any information presented to them; rather, they indicate that the respondents were indeed reflecting on and reacting to the specific information provided.

III. Discussion and Conclusion

Understanding the nature of moral beliefs about markets, and how they change, is important when ethical concerns restrict the possibility to implement life-saving solutions to such problems as the shortage of organs for transplantation. This study finds that support for a market-based solution to the organ shortage did increase in response to documented and verifiable information about its potential benefits. Because the findings for two other activities, indoor prostitution and slavery, were different with limited overall response to information but wider heterogeneity, we infer that individuals consider the specific information when expressing their support for a morally charged activity.⁹ An implication of these case-specific effects is that market-based approaches do not necessarily change or “corrupt” morals (Falk and Szech 2013); if this were the case, we would likely see similar responses for different activities.

Our study also contributes to the debate on whether ethical principles are evidence-based, suggesting that what is acceptable by members of a society is, at least in part, indeed affected by empirical evidence (Heath 2012).

Further research on the trade-offs that individuals face between rational or evidence-based arguments and deeply-held moral beliefs appears promising for both scholarly and policy advancements. These kinds of studies might lead

⁹An additional result in Elias, Lacetera, and Macis (2015b) provides further corroboration for our interpretation of the findings here. We tested the effect of a generic text describing the beneficial welfare properties of market exchanges. The text treatment had a statistically insignificant (directionally negative) effect on attitudes about organ payments and legalized prostitution, again suggesting that attitudes about payments to organ donors were due to the information provided about costs and benefits specific to this transaction.

to greater awareness and improved policy design based on the actual preferences of a population.

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