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INCENTIVES AND ETHICS IN THE ECONOMICS OF BODY PARTS

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Incentives and Ethics in the Economics of Body Parts

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ABSTRACT

Research shows that properly devised economic incentives increase the supply of blood without hampering its safety; similar effects may be expected also for other body parts such as bone marrow and organs. These positive effects alone, however, do not necessarily justify the introduction of payments for supplying body parts; these activities concern contested commodities or repugnant transactions, i.e. societies may want to prevent certain ways to regulate a transaction even if they increased supply, because of ethical concerns. When transactions concern contested commodities, therefore, societies often face trade-offs between the efficiency-enhancing effects of trades mediated by a monetary price, and the moral opposition to the provision of these payments. In this essay, I first describe and discuss the current debate on the role of moral repugnance in controversial markets, with a focus on markets for organs, tissues, blood and plasma. I then report on recent studies focused on understanding the trade-offs that individuals face when forming their opinions about how a society should organize certain transactions.

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1. Introduction: an intellectual journey

I spent the last decade studying the “economics of body parts”, an in particular the motivations for donating blood, tissues and organs. There were two main reasons for my interest in this topic.

First, although the donation of blood and organs involves millions of people as well as organizations and governments, there is a systematic supply shortage. The American Association of Blood Banks estimates that, annually, about 7 million volunteers donate blood in the U.S., with about 13.6 million units of whole blood and red blood cells collected; Canadian Blood Services collects over 900,000 whole blood donations every year;¹ yet inventories often fall beyond safety levels to guarantee the adequate treatments of many conditions; supply is also seasonal whereas demand is stable, and blood cannot be stored for more than a few weeks (Lang 2014). In lower-income countries shortages, and their health consequence, are even more severe. In Canada, more than 4,500 people were waiting for an organ transplant in 2014, but only 2,356 organs were transplanted, and 278 people died waiting for a transplant.² In the U.S., about 17,000 kidney transplants occur every year, against an annual need of 35,000; a shortage that, over time, produced a waiting list of over 100,000 patients. The average wait time for a transplant is also increasing (over 4.5 years). Each kidney transplant would lead to about \$200,000 in direct savings; estimates indicate that the social benefits of a kidney transplant are \$1.1 million per recipient if we add the value of the increased, quality-adjusted life expectancy (Held et al. 2016).

The second reason of my interest lies in the peculiarity and complexity of the motivations that lead people to donate blood, consent to donate their organs when they die, and even donate certain organs (such a kidney or part of the liver) while alive. Of course, altruism is a powerful driver of the decision to perform these acts; these other-regarding preferences may be fully a concern for other’s well-being (relatives or strangers), while at the same time they might directly increase the well-being of the donors – a sort of warm glow (Andreoni 1990).³

Although a powerful motivator, the frequent shortages of blood and the large imbalance in the supply and demand of organs suggest that altruism alone may not be enough to satisfy

¹ See for example the information at <http://www.aabb.org/tm/Pages/bloodfaq.aspx#a1> and www.blood.ca.

² Information is available at <http://healthykanadians.gc.ca/diseases-conditions-maladies-affections/donation-contribution-eng.php#a21>.

³ In case of directed donations, i.e. to loved ones, also other motivations arguably move individuals; for example, donating a kidney to a spouse will increase the welfare of the donor through the happiness of having a loved one being healthier but also because the healed spouse would make it more likely to contribute to the household income.

societal needs. A natural question is therefore whether other types of incentives, such as those provided by economic or “material” rewards, might lead to an increase in supply. For a long time, however, the prevailing opinion was that the addition of these “extrinsic” incentives would not be effective and could actually be counterproductive. How is this possible? In a book that became very influential in academic and policy circles, Richard Titmuss provided the basic theoretical framework (Titmuss 1970). Discussing different systems of procurement of blood for transfusion, Titmuss claimed that a system based on payments would attract donors with less desirable characteristics, in particular poorer individuals in greater need of those rewards, but who, in turn, would be more likely to carry transmissible diseases such as hepatitis. This “adverse selection” effect would likely reduce the amount of blood actually available for transfusion and the overall quality of the blood supplied. Second, offering material rewards would crowd out people who are motivated to donate for altruistic reasons rather than enhancing these intrinsic incentives.

Several studies on blood donations provided evidence interpreted as supporting Titmuss’s claims. Surveys and laboratory experiments documented a negative impact of compensation on the willingness of individuals to donate. Studies also found that people who were more responsive to economic incentives were more likely than others to report behaviors or disease histories that would make them ineligible to be donors.⁴

It is in relation to these studies, largely based on relatively small samples and relying on “stated” behavior rather than actual responses to incentives, that my coauthors and I set out to collect evidence from various contexts about actual responses of blood donors. Our evidence, based both on observational data and on randomized field trials in multiple environments and in collaboration with several blood banks and donor organizations, showed that carefully designed rewards (from t-shirts to gift cards to time off work) do increase blood supply without negative consequences on the quality of donors and the safety of blood, and are generally cost-effective (Lacetera, Macis and Slonim 2013, Lacetera and Macis 2016). In an additional study, we showed that incentives such as leave from work and tax benefits to organ and bone marrow donors in

⁴ Lacetera, Macis and Slonim (2013) and Lacetera and Macis (2016) provide surveys and discussions of these findings.

certain U.S. states did not enhance organ donations, but they had a positive effect on the donation of bone marrow (Lacetera, Macis and Stith 2014).^{5,6}

The evidence thus suggests that economic incentives would provide a powerful and relatively simple tool to enhance blood donations and potentially also the donation of other body parts. Gary Becker and Julio Elías, for example, estimate that payments to organ donors between \$15,000 and \$30,000 would eliminate the waiting list for transplants within a few years (Becker and Elías 2007). But is the study of the behavioral effects of economic incentives for blood or organ donations all that we need to provide insights for policy and the law? Is this positive and cost effective response to incentives enough to recommend the use of economic rewards and even straight out payments to blood and organ donors?

The most recent steps in my intellectual journey increasingly convinced me that the answer to these questions is negative. Conversations and more formal correspondences following the publication of our work, in particular, suggested that, even in presence of a positive behavioral effect, providing economic rewards for the provision of body parts might conflict with deep moral beliefs. Societies, while relying on market and price-mediated mechanisms for the provisions of most goods and services, regulate and also ban many trades because they consider them morally unacceptable, especially if they include a payment system and, at last partially, regardless of the potentially benefits that the parties involved might derive from those trades. The opposition to these transactions rests in part on a desire to protect vulnerable people from exploitation or coercion (Hill 1994). However, the aversion goes beyond these aspects, and includes concerns that explicit rewards for certain activities might corrupt some of the moral values that hold a society together.

In this essay, I discuss the type and nature of the moral opposition to payments for the supply of body parts. I will, in particular, offer insights from economics about the potential balance between these moral concerns and the efficiency effects of providing incentives.

⁵ See also Chatterjee et al. (2015). For a case study showing positive effects on live undirected kidney donations, see Bilgel and Galle (2015).

⁶ Recent evidence also shows that economic incentives enhance other forms of prosocial activities, such as pro-environment behavior, as well as other activities driven by strong intrinsic and other-regarding motives, such as civil service, teaching, and health-related jobs. For a survey of these results, see Lacetera (2016).

2. The nature of moral repugnance toward payments

Although, obviously, the study of ethics goes back thousands of years, here I focus on a recent framework for understanding the moral views of certain economic exchanges, which Nobel Laureate economist Alvin Roth introduced, based on the concept of “repugnant transactions”. Roth defines repugnance toward a transaction as the aversion toward other individuals engaging in it, even if the parties directly involved benefit from that trade.⁷ Just like societies regulate or prohibit certain activities and trades because they produce more standard economic inefficiencies (e.g. negative externalities or informational asymmetries about the quality or safety of a good or service), limits and prohibitions apply even in absence of these frictions but when ethical concerns are present. These limits vary over time and places. For example, indentured servitude was once accepted in many countries, but is now universally seen as unacceptable, whereas life insurance contracts were considered repugnant in the past but are now widely allowed. Activities such as same-sex marriage, surrogacy, prostitution, the supply of cadavers for research or eating certain types of food (e.g., horse meat) are regulated differently in different countries—and sometimes even within the same country—largely because of moral considerations.

Most of the transactions that are viewed as morally repugnant involve the human body or parts of it as the “good” of the transaction (in the form of a sale or service provision): from a paid voluntary army to prostitution, from surrogacy to payments for human organs. Providing payments or other economic incentives to donors of blood and body parts is considered morally unacceptable also by many blood collecting organizations and health agencies. For instance, the World Health Organization, states that blood supply should not be remunerated in any way (World health Organization 2009). The WHO advances similar if not stronger arguments with reference to the transplantation of human cells, tissues and organs; the guiding principles, again, exclude payments to donors (World health Organization 2004).

The opposition to any form of compensation for certain activities is typically motivated with more than one single type of moral concerns.

A first set of issues regards the risk of exploitation or coercion of individuals – a violation of the basic moral principle that individuals should provide free and informed consent to undertake

⁷ Kidney exchange mechanisms that do not include monetary payments (paired donations and chains), which Roth and his coauthors contributed to design and implement, were elaborated also as a way to avoid repugnance constraints. Because I focus on transactions, especially related to body parts, that do raise ethical opposition, I will not discuss kidney exchange here. For details about this hugely important market design innovation, see for example Roth, Sonmez and Unver (2004), Roth (2007) and Roth (2015).

a transaction, and especially so when a medical procedure is part of the trade. The concern with providing compensation is that disadvantaged individuals may over supply, for example, their blood or body parts in a way that can be harmful to their own health and that they can regret in the future (Council of Europe 2015, Nuffield Council on Bioethics, Radin 1996, Satz 2010, United States Task Force on Organ Transplantation 1986).⁸

Second, payments may contrast with a principle of fairness in the allocation of blood and organs, because it would create disparity in access if this was based on the ability to pay of the recipients (Council of Europe 2015, Nuffield Council on Bioethics, Radin 1996, Satz 2010, United States Task Force on Organ Transplantation 1986).⁹

A third reason of moral opposition is that allowing compensation would deteriorate deeper moral principles. Compensating blood and organ donors (but also, for example, surrogate mothers) would violate human dignity and would corrupt sacred or protected values. Allowing these activities may then create a moral slippery slope where further, and even more questionable, trades are allowed; societies would therefore be better off “stopping” before running these risks (Council of Europe 2015, Delmonico et al. 2002, Sandel 2012).

Finally, a sense of unease or disgust toward certain activities could represent a form of instinctive wisdom and, as such, be sufficient motive to prohibit certain activities (even if the sources of disgust cannot be fully articulated). Leon Kass, who served as chairman of the President’s Council on Bioethics from 2001 to 2005 in the United States, advanced this argument, for example, to support his claim against human cloning (Kass 1997).

There are some fundamental differences between these moral concerns, and my reading of the relevant literature is that it has not fully spelled out these differences. Absent a clear understanding of the peculiarities of each source of ethical opposition, it is difficult to study how to address the various concerns and, in particular, which policy choices are appropriate.

On the one hand, issues related to coercion, exploitation and fairness could at least in part be addressed by proper legal and institutional design. For example, rewards may have a coercive and exploitative nature because an individual could use compensation to solve some pressing

⁸ Recent studies in economics investigated the potential undue influence effects of remunerations. See Ambuehl (2016) and Ambuehl, Niederle and Roth (2015).

⁹ Fairness considerations may also be more complex than just the concern that disadvantaged individuals may be coerced into supplying blood for compensation, or not be able to access blood because of its price. One might argue, for example, that (uncompensated) donors are the only participants to not to receive any economic benefits in the supply chain, because other parties, such as collection agencies and medical providers, received payments or reimbursements for services and costs.

needs, without thoroughly thinking about the longer-term consequences; this may be the case especially if the payment is in the form of cash, whereas in-kind items would be less likely to generate excess pressure on potential donors because they are less easy to monetize. In-kind rewards and delayed compensation, for example contribution to a pension, investment or college fund, are some of the proposals recently advanced to allay concerns about the excess temptation of direct cash and the ensuing problems of coercion and exploitation. Regarding concerns for fairness, a policy solution would be to regulate payments and have a third party, e.g. the government or insurance companies, pay for the rewards and allocate, blood or organs only based on medical need and other transparent criteria that do not give an undue advantage to the rich. Note that even the most vocal advocates of payments for blood or body parts do not propose a pure market system, but the type of regulated payments that I just described (Beard and Leitzel 2014, Satel and Hippen 2008).

To the extent that institutional arrangements can mitigate coercion, exploitation and unfairness, one could argue that these forms of moral opposition are also more amenable to “tradeoff thinking”, i.e. to be weighed against the potential efficiency gains that payments may cause (e.g. increases in supply); societies may be open, in other words, to accepting efficiency-enhancing procurement and allocation systems even if more ethically questionable. Thus where the nature of the moral opposition to payments resides in issues of coercion, exploitation and unfairness, arrangements to reduce these risks should allay moral aversion.

On the other hand, preoccupations for human dignity, the corruption of social values or even disgust resemble “sacred values”, i.e. principles that individuals and societies are not willing to compromise against any other form of potential gain. In his original analysis, Titmuss (1970) expressed concerns about payments for blood donors, in addition to his predictions about the negative effects of rewards on donor motivation and blood safety; compensation would be exploitative especially of individuals in lower socioeconomic groups, but it would also more broadly affect the prevailing values in a society, reducing people’s “sense of community”; thus a payment system for one altruistic activity could spread negative moral consequences on society overall and as such, there is room to limit the individual freedom to offer and receive economic rewards.¹⁰ The World Health Organization’s aversion to paying for blood, tissues or organs, mentioned before, is based on arguments that go beyond concerns for exploitation, and refer to

¹⁰ For an analysis of these arguments see also Archard (2002)

the risk of erosion of overall moral values in society (WHO 2004). In expressing their opposition to any form of payment for organ donors, Delmonico et al. (2002) are equally clear about the origins of their moral opposition; they state that payments are “ethically unacceptable [...] *despite the purported benefits of such a sale for both the buyer and the seller.* [...] Fundamental truths of our society, life and liberty, should not have monetary price” (italics added). The fundamental truths mentioned in this quote trumps any consideration, in the words of the authors, for the benefits that parties may receive from a price mediated organ transaction. And Michael Sandel, in describing the different forms of moral concerns for allowing certain transactions to be price-mediated, clarifies that in most cases, solving issues related to coercion and fairness would only partially address the opposition: “[...] the liberal consent theorists think that the commodification and privatization of public life can be addressed simply by adjusting the background conditions within which markets operate. According to [them], there is nothing wrong with commodification that fair terms of social cooperation cannot cure; if only society were arranged so that people’s choices to buy and sell things were truly voluntary, rather than tainted by unfair bargaining conditions, the objection to commodification would fall away. *What that argument misses are the dimensions of life that lie beyond consent, in the moral and civic goods that markets do not honor and money cannot buy*” (Sandel 2003; italics added).

Although the visceral disgust toward certain activities and transactions, considered by Kass (1997) as a form of wisdom, may figure as similar to concerns for human dignity and corruption of social values, these concerns appeal to principles that are shared in a population and not entirely subjective; in contrast an appeal to disgust makes it harder to distinguish a “deep wisdom” from, for example, fear and opposition to something that is new or different (e.g. interracial or same sex marriage). The inability to refer to specific and generally accepted or shared principles is the cause of extensive critiques to disgust-based arguments and of the general reluctance of scholars, practitioners and policymakers to have disgust-based aversions inform public policy (Nussbaum 2004).

These strong beliefs are unlikely to be amenable to compromises with any gains; they also may not change in face of new information showing, for example, the potential positive supply effects of providing payments. Another peculiarity of “sacred value” concerns is that, by their own nature, they are less well defined and, as such, more likely to vary between countries and over time. This might contribute to explaining heterogeneities between countries in what morally

controversial activities are allowed. For example, prostitution is illegal in the United States (with exceptions in Nevada) but not in Germany, whereas Germany (as many other European countries) bans commercial surrogacy and many U.S. states allow it. It is implausible that two societies like Germany and the U.S. have contrasting conceptions of what constitutes coercion, exploitation or fairness in a transaction. Yet, deeper cultural differences might determine what is considered a sacred value is and what is not. Another relevant example is the difference in legislation regarding the procurement of plasma in the U.S. and Canada. The U.S. allows payments for plasma donors and the establishment of for profit plasma centers, whereas payments are illegal in most provinces of Canada. Yet, Canada imports most of the plasma that it needs from the U.S. (Sher 2013). Even within the same jurisdiction, finally, seemingly similar actions in different trades concerning the human body receive different treatment; for example, still in Canada, forms of consensual body harm such as boxing (or hokey) are legal, whereas courts have ruled that practices such as BDSM between consenting adults be sanctioned (Luksic 2015). All this suggests, again, that some deeper and less clearly defined moral objections need to be considered.

A few studies show that certain beliefs can alter reactions to presented facts, even at the level of cognitive processing. Dan Kahn and his coauthors, for example, found evidence of “ideologically motivated cognition”; the ability of individuals to solve certain mathematical problems, for example, is affected by whether the situation depicted in the problem represents a politically divisive issue (such as the effects of gun control policies) – people are more likely to give answers that are more consistent with their political beliefs than with the data of the problem (Kahan 2012, Kahan et al. 2013). Brendan Nyhan and his team documented that the provision of information that refutes claims of a MMR/autism link *reduced* the intent to vaccinate their children for parents with the least favorable vaccine attitudes (Nyhan 2014). And Hanselmann and Tanner (2008) showed that thinking about “taboo” and “tragic” tradeoffs is more stressful than thinking about standard tradeoffs. Recent models in economics consider these forms of “motivated beliefs” (Bénabou 2015, Bénabou and Tirole 2016).

Other studies found that under certain circumstances, individuals may be open to considering counterfactuals and cost-benefit considerations in relation to sacred or protected values. Baron and Leshner (2000) found that people differ in their assessment of what constitutes a protected value; moreover, even when individuals classified an activity or transaction as a sacred value

(e.g. guaranteeing free speech, no matter the content), they could often come up with counterexamples (e.g., freedom of speech can be limited in certain case, for example for Nazi propaganda). Philip Tetlock and his coauthors contend that, although people are reluctant to make certain tradeoffs, they often end up making them. They may recast a sacred value as not sacred, or, conversely, they might modify the status of a given principle to being protected rather than negotiable (Fiske and Tetlock 1997, Tetlock 2003). In the case of the supply of body parts, for example, the level and safety of blood or organ supply may be the main criterion to assess the moral acceptability of a procurement and allocation system. If economic rewards increased the safe supply of blood and organs, thereby saving more lives and improving health outcomes for more people, then one might consider it ethical to adopt, rather than prohibit, compensation.

If, on the one hand, these studies suggest that there may be room to balance moral beliefs with other welfare relevant factors, such as economic efficiency, the heterogeneity among individuals and activities regarding the perception of protected value and how amenable they are to tradeoffs indicate that these compromises are complex, based on not fully defined concepts and, as such, likely to lead to different outcomes for different activities and contexts.

In the next section, I discuss some recent work that my coauthors and I are doing to address these questions in the case of payments for organ donations.

3. Just how strong is the moral opposition to payments?

In the last couple of years, Julio Elías, Mario Macis and I set out to elaborate a conceptual and empirical framework to assess whether the moral concerns that individuals have about providing compensation to organ donors are more similar to sacred values or, instead, people are open to considering payments if they enhanced the supply of organs. Our interest was not just in how individuals perceive the morality of a given transaction and its organization, which has been the main topic of much of the existing related research; rather, we focused on opinions about whether society (regardless of the ethical stances of single individuals) should allow and regulate certain transactions.

Knowledge of whether the members of a society consider also the efficiency effects of a morally controversial transaction or they are not willing to compromise their moral position with any other aspect of a trade, together with more precise evidence on the nature of moral concerns

as described above, can inform about what kind of policies a country may consider to alleviate the shortage of organs in ways that are acceptable by a population.

Addressing these questions is challenging, however. First, some of the policy options of interest, for example creating a market for kidneys, are not available; thus we have no direct information on whether different procurement and allocation systems for organs would enhance supply, and by how much. Second, moral beliefs are hard to quantify, let alone compare between individuals. These issues imply that research on the nature of ethical beliefs and tradeoffs between moral repugnance and efficiency of different organ procurement and allocation systems cannot rely on actual choices and objective metrics, but rather on hypothetical scenarios and subjective measures. If, on the one hand, this might affect our ability to provide clear policy implications, on the other hand we should realize that the alternative option is to not address these questions at all. Although economists are generally uneasy with relying on hypotheticals or “stated” preferences as opposed to actual behaviors and “revealed” preferences, there are many important areas of research where observing actual behavior is not possible and yet hypothetical studies based on subjective measures can provide useful information. Examples include the analysis of subjective well-being and the relationship between happiness and choice, of individual preferences for a more or less redistributive tax system, and of time and risk preferences (Benjamin et al. 2014, Callen et al. 2014, Kuziemko et al. 2014).

In a first set of studies, we asked whether individuals would change their support for payments to organ donors, if information was available to them about different procurement and allocation systems for organs, including payments for donors (Elías, Lacetera and Macis 2015a-b). We surveyed 3,417 participants recruited through Amazon Mechanical Turk, an Amazon Web Services platform that allows reaching a large number of individuals to perform tasks online and is increasingly used for surveys and experiments (Buhrmester Kwang and Gosling 2011, Mason and Suri 2012). A random subsample (the treatment group) received a short text that described the current state of the organ shortage in the U.S. and its social and economic consequences; the text then reported 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. In particular the text offered details about current estimates of the positive impact of compensation on supply. We then elicited the

opinions of the respondents about allowing regulated payments for organ donors or their families. To preserve the privacy and anonymity of the responses and to limit social desirability bias, we gauged these opinions using the Item Count Technique (Coffman, Coffman and Ericson 2016); instead of asking directly if an individual would favor regulated payments, within each treatment condition one subgroup received a list of four "neutral" statements (i.e., non-sensitive and not related to the research topic), and 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 we could not determine whether a person answered positively or negatively to a specific item; however, the difference in the average number of indicated statements between those with five and those with four sentences provided an estimate of the share of subjects supporting the activity of interest. The control group did not receive any text; we only asked about their support for payments for organs.

We found that giving information on studies that predict an increase in the supply of organs if payments were allowed led to an increase in the support for these payments from 50% to about 70% of the surveyed subjects. Further tests showed that individuals were responsive to information that was specific to organ donations; there was no effect on approval rates for payments to organ donors of providing information on the benefits of a market system for other morally controversial activities (such as prostitution) activities or in general terms, or of providing any information at all before asking opinions about payments for organ donors. Interestingly, we did not find evidence of heterogeneity in response to specific information according to, for example, gender, education or religious beliefs of the respondents.

In contrast, supplementary evidence on the support for two other morally repugnant activities (slavery and prostitution) showed that the role of information and cost-benefit considerations in changing attitudes was heterogeneous according to gender, religiosity, and political orientation. Information about the potential benefits of legalizing prostitution (the reduction of sexually transmitted diseases and violence against sex workers), in particular, *reduced* support for legalization among women; in addition, providing this information also resulted in women reducing their support for payments to organ donors, in contrast with an increase in support when women received direct information about the potential increase in organ supply from paying organ donors. Therefore there was a “spillover” effects of information on a morally controversial transaction to another, in a case where the two activities were somewhat related to the trade of

the human body or body parts, and where a focus especially on women, as in the case of prostitution, may generate strong, visceral opposition also for other body-related and transactions of they occur at a monetary price.

The findings from these studies imply that the provision of well-supported information can change attitudes toward the acceptance of morally charged market trades, but this information has to be context-specific and the effects are, in turn, specific to a particular transaction and not generalizable; thus we need a case-by-case approach to understand the acceptance of market-based solutions for morally controversial transactions.

Although these studies offer evidence, at least in the case of payments for organs, that information might change opinions about whether payments should be considered in a society, they were not designed to quantify the tradeoffs that people might make between increase in the supply of organs resulting from payments on the one hand, and their moral opposition to these payments. Moreover, we could not investigate heterogeneity in these tradeoffs in a more systematic way that would allow us to distinguish different “types” in a population – in particular, individuals with more consequentialist views, and therefore open to compromising between efficiency and morality, and deontological individuals who would give priority to moral beliefs over efficiency considerations.¹¹ Finally, the findings from these studies could not inform about what types of moral concerns, among those described above, were important to people.

These are indeed the questions that we are addressing in our ongoing research (Elías, Lacetera and Macis 2016). We are relying, again, on a survey instrument that we elaborated and submitted to 2,918 U.S.-based respondents on mTurk. This survey allows to test whether the moral aversion to providing payments to organ donors (we focus on live kidney donations) is a “sacred value”, or individuals balance moral preferences with the potential efficiency gains from allowing a price mediated trade of kidneys. Subjects in this experiment rated their moral views of three different kidney procurement and allocation systems: a system based on unpaid donors with priority based allocation (the current system); a system where donors would receive \$20,000 from a public agency, with allocation based on the same priority algorithm; and a system of

¹¹ As mentioned in the previous section, previous work indicates that people might also hold “utilitarian” preferences such that they may consider a system as less repugnant (or more morally acceptable) precisely because it enhances the supply of organs. In particular, if economic rewards increased the safe supply of kidneys, then these individuals might consider it ethical to adopt, rather than prohibit, incentives. In our study, however, we find that opinions about how moral an organ procurement and allocation system is do not depend on the hypothesized supply level that the system would produce.

individual, private transactions, where again donors would receive \$20,000 and the organ recipient would pay (out of pocket or through privately purchased insurance). The questions on the morality or, conversely, repugnance of each system were in the form of numerical ratings of how coercive, unfair, exploitative and against human dignity each system was according to the participant, and an overall assessment of how much a system was in contrast with the respondent's values. We then asked the subjects to assume that each system would produce a certain number of kidneys; these numbers were randomly determined from a distribution for each individual. Respondents, finally, selected the system that they thought was the most appropriate to adopt by a society.

In addition to letting us assess whether people would support a more efficient system (i.e. one for which the hypothesized supply of kidney was higher) even if considered less morally acceptable, this choice experiment also provides information on the heterogeneity in preferences and on the nature of the moral opposition to payments for kidneys.

Our current estimates indicate that the median respondent would favor payments to organ donors made by a public agency if it increased the annual supply of kidneys by about six percentage points, whereas a twenty percentage point increase would be required to accept a system based on private transactions. Thus, a majority of individuals would be willing to accept a more repugnant system provided that it produced a sufficiently large additional number of transplants. Note that the size of the estimated trade-off does not depend just on the presence of a monetary payment, but varies depending on whether the exchanges occurred through private transactions or whether a third party provided payment to donors and allocated organs to recipients. In particular, a system whereby a public agency pays donors and the allocation of organs follows priority rules required relatively small efficiency gains (a reduction of about 10% of the annual shortage) to receive the support of a majority, whereas individual transactions between organ donors and recipients required larger supply increases (a 56% reduction of the shortage). The analysis of the ratings for the various types of morality concerns showed that private transactions were considered highly unfair to the recipients, whereas a system with public agency payments and organ allocation reduced fairness concerns to a level similar to that of unpaid donations, arguably because this system was perceived to guarantee equal access to organs for all patients in need. Thus fairness to the recipients is an important factor affecting the moral repugnance toward a paid-donor system.

There was also heterogeneity, in our data, in the willingness to trade off morality and efficiency, ranging from consequentialist respondents to deontological ones who required very high (if at all) increases in efficiency to accept payment systems that they consider more morally repugnant. Interestingly, there was no strong relation between this heterogeneity and various socio-economic characteristics that we collected in the survey; conversely, the differences in estimated tradeoffs related to overall ethical stances of the participants, again gauged through some questions in the survey. Thus the dissenting positions on whether to allow and how to regulate a morally controversial transaction such as the procurement and allocations of kidneys for transplant appear to reside in deeply held beliefs that go beyond demographics, religion or political preferences, and thus need to be measured separately.

4. Concluding thoughts

Let me summarize the main insights from this essay, and in doing so, indicate directions for future research and implications for policy and regulation.

First, the existing evidence suggests that properly designed incentives for the supply of body parts such as blood and plasma increase supply without negative consequences on the quality of the collected material. These effects plausibly extend to the supply of bone marrow and organs, for example, as some initial evidence as well as theoretical analyses indicate.

Second, this behavioral effect alone does not necessarily justify advocating for the introduction of payments for supplying body parts; these activities concern contested commodity or repugnant transactions, i.e. societies may want to prevent certain ways to regulate a transaction even if they increased supply, based on ethical concerns such as exploitation, fairness, and the degrading of human values.

Third, and as a consequence of the previous two points, when trades concern contested commodities societies often face tradeoffs between the efficiency-enhancing effects of transactions mediated by a monetary price, and the moral opposition to the provision of these payments for certain trades. Both the efficiency effects and the ethical concerns are relevant for welfare, and as such, societies should pay attention to both.

Fourth, in order to fully consider efficiency effects as well as moral issues around the organization of a contested transaction, we need to know what the efficiency effects are, what moral beliefs a population holds, and whether and how people make tradeoffs between their

preferences for efficiency and for consistency with their ethical positions. Although for some activities such as blood and plasma donations we now have information on the supply effects of incentives, comparable evidence for other body parts such as bone marrow and organs is very limited, because of data constraints and more importantly because of legal prohibitions. Similarly, we know little about the nature of the moral concerns about establishing payments for these transactions; as a consequence, evidence of whether and how people trade off ethical beliefs and cost-benefit considerations in the context of repugnant transactions has been missing.

In recent studies focused on payments for organ donors (and live kidney donors in particular), we found that U.S. respondents increased their support for payments when provided specific information about the potential positive supply effects of monetary compensation; and that the majority of individuals would be willing to accept a more repugnant system provided that it produced a sufficiently large (but realistic) additional number of transplants. The opposition to payments, moreover, is much stronger if payments come from private transaction than when the payer is a third party, consistent with the importance of fairness concerns in determining ethical beliefs regarding compensation for the supply of organs.

Research like ours, and we hope more to come also from other researchers, can inform policymakers about what options are morally viable to address the shortage of organs and tissues for transplant. Moreover, trial studies assessing the effects of paid donations could significantly enhance the ability of a population to determine what the preferred organ procurement and allocation system should be. For example, the U.S. Ninth Circuit Court recently ruled that compensating individuals who donate bone marrow through a particular process known as apheresis is legal.¹² The effect of this provision in the areas of the United States affected by the ruling would enhance the ability of a population to decide whether to extend these types of compensation is acceptable. Similar considerations hold with regards to other transactions where ethical beliefs and efficiency considerations may collide; research strategies that allow to assess the nature and extent of morality-efficiency tradeoffs, together with the possibility to conduct

¹² *Flynn v. Holder* (U.S. Court of Appeals for the 9th Circuit, No. 10-55643, 1 December, 2011). The Department of Health and Human Services, however, issued in 2013 Notice of Proposed Rulemaking that would append “bone marrow” with “and other hematopoietic stem/progenitor cells without regard to the method of their collection.” (<https://www.federalregister.gov/documents/2013/10/02/2013-24094/change-to-the-definition-of-human-organ-under-section-301-of-the-national-organ-transplant-act-of>). This would essentially reverse the decision in *Flynn v. Holder*, which is based on the idea that, instead, the extraction of bone marrow by apheresis is very similar to the procedures to extract blood platelets or plasma, for which people can receive compensation.

studies about the effects of certain ways to organize a trade, should be explored also in other relevant areas. For example, this approach may help to understand whether the welfare benefits from legalizing indoor prostitution, such as the reduction of violence and incidence of STDs, compensate for the moral opposition to regulating markets for sex that people may have. Other transactions to analyze within our framework include commercial surrogacy and the donation of human eggs.

An implication for academic work in this area is that it is important to combine the theoretical approaches and methods of different disciplines, such as philosophy, bioethics, psychology, sociology, law and economics; each area of studies would offer material to understand a complex theme, thus providing more founded insights for policy.

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