

DESIGNING A COMPENSATED-KIDNEY DONATION SYSTEM

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I

INTRODUCTION

One of the barriers to ending the prohibition on compensated organ donations is that people do not have a good idea what a legal, compensated system would look like. The ban on compensation is nearly global, and has existed, de facto or de jure, almost since the development of immunosuppressive drugs made donations from unrelated individuals feasible. The resulting dearth of first-hand knowledge of a working system that involves compensated donations helps to sustain the prohibition on “valuable consideration,”¹ despite the huge morbidity and mortality costs associated with the persistent and growing organ shortage.² Resistance to compensation is further bolstered by (understandable) revulsion at what an unregulated, highly commercialized market in human organs would likely involve.³ Media reports of the existing “unregulated” organ market—that is, of the largely illegal black

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1. 42 U.S.C. § 274e(a) (2006 & Supp. IV 2011) (“It shall be unlawful for any person to knowingly acquire, receive, or otherwise transfer any human organ for valuable consideration for use in human transplantation if the transfer affects interstate commerce.”).

2. Data on the U.S. kidney waiting list are available from the Organ Procurement and Transplantation Network. *Data*, U.S. DEP’T HEALTH & HUMAN SERVS., <http://optn.transplant.hrsa.gov/data/> (last visited Feb. 6, 2014).

3. The resistance to paid donors should not be overstated. A February 2012 poll of 3000 U.S. adults found that more than sixty percent supported health-care credits to compensate organ donors, and more than forty percent favored monetary compensation. See THOMSON REUTERS-NPR, *Executive Summary* to ORGAN DONATION COMPENSATION (2012). Stephen Leider and Alvin E. Roth also find majority approval for kidney sales. S. Leider & A.E. Roth, *Kidneys for Sale: Who Disapproves, and Why?*, 10 AM. J. TRANSPLANTATION 1221, 1221 (2010). In a 2008 survey of transplant surgeons, James R. Rodrigue and coauthors reported that a majority were opposed to cash payments for kidneys, though some forms of compensation received majority support. J.R. Rodrigue et al., *Stimulus for Organ Donation: A Survey of the American Society of Transplant Surgeons Membership*, 9 AM. J. TRANSPLANTATION 2172, 2172 (2009).

market for transplants—help to stoke that revulsion.⁴ At the same time, the vast majority of people on the waiting list for organs in the United States are waiting for kidneys. The queue for kidneys lengthens continually, with horrific results. Every year, thousands of people in the United States lose their lives for want of a working kidney. The situation for older patients is especially dire. As the title of a journal article from 2009 puts it, *Half of Kidney Transplant Candidates Who Are Older than 60 Years Now Placed on the Waiting List Will Die before Receiving a Deceased-Donor Transplant*.⁵

Reform advocates have developed various blueprints detailing methods for incorporating compensation into legal, regulated organ exchanges—exchanges that would bear little relationship to a laissez-faire bazaar, or to current black markets.⁶ Nevertheless, no single compensation proposal seems to have become focal, nor has the perception of a rather freewheeling market been dislodged from the public conception of a compensated regime.

In this article, we seek to outline a feasible compensated kidney-acquisition system for the United States. We start in part II by delineating a set of guidelines or principles that help to indicate desirable directions for reforms, whether involving compensation or otherwise. Notions of what constitutes an “appropriate donor” and an “appropriate environment” for kidney acquisition are fundamental to these principles, and we adopt, at least loosely, a law-and-economics efficiency-type standard. Following the identification of guidelines for reform, we indicate a set of potential pitfalls that practical reform efforts should aim to avoid, in part because they jeopardize the efficiency-enhancing feature of increased transplants. In part III we narrow our focus to the decision to donate a kidney, keeping in mind the possibility for less than fully rational behavior on the part of potential donors—and the possibility that the introduction of compensation will take advantage of shortsightedness or otherwise compromise donor rationality. Furthermore, to sidestep notional complications associated with the imprecise characterization of the current system as “altruistic,” the paradigm we adopt is that of “donor as hero,” and we argue from analogous activities such as military service that donor heroism is not imperiled by either monetary or nonmonetary recompense. These preliminaries offer instruction for designing a reform in ways that are likely to increase the number of transplants in an efficiency-enhancing manner. For instance, substitution possibilities among categories of donors make it fitting to

4. See, e.g., Larry Rohter, *Tracking the Sale of a Kidney On a Path of Poverty and Hope*, N. Y. TIMES, May 23, 2004, at A1; Denis Campbell & Nicola Davison, *Illegal Kidney Trade Booms as New Organ Is ‘Sold Every Hour,’* THE GUARDIAN, May 27, 2012, at 1.

5. Jesse Schold et al., *Half of Kidney Transplant Candidates Who Are Older than 60 Years Now Placed on the Waiting List Will Die before Receiving a Deceased-Donor Transplant*, 4 CLINICAL J. AM. SOC. NEPHROLOGY 1239 (2009).

6. See generally, e.g., David C. Cronin II & Julio J. Elías, *Operational Organization of a System for Compensated Living Organ Providers*, in WHEN ALTRUISM ISN'T ENOUGH: THE CASE FOR COMPENSATING KIDNEY DONORS 34 (Sally Satel ed., 2008); Arthur J. Matas, *Design of a Regulated System of Compensation for Living Kidney Donors*, 22 CLINICAL TRANSPLANTATION 378 (2008).

introduce compensation for living donors simultaneously with compensation for deceased donors. Further, present bias and the value of an ongoing medical relationship both suggest a back-loaded component to some elements of the recompense provided to donors.

Our resulting proposal, presented in part IV, involves a public, nationwide, monopsonistic kidney-procurement system. The system we recommend is based on the current organ procurement–organization architecture, but introduces the possibility for both deceased- and living-donor compensation. The main evidence for the success of a reform would come in a significant increase in transplants from suitable donors in a legal, medically sound, and respectful environment.

II

PRINCIPLES AND PITFALLS

A. Efficiency and Related Considerations

Possessing a working kidney is extremely valuable; indeed, in the absence of dialysis, it is a matter of life and death. Even with the possibility of sustenance on dialysis, a transplant offers large improvements in the duration and quality of life.⁷ At the same time, most people have excess capacity in kidney functioning, such that the removal of one of their kidneys would not pose a major risk for them. In the usual law-and-economics, Kaldor–Hicks sense, social welfare is much improved when a kidney successfully travels (at low cost, at least) from someone with two working kidneys to someone with no working kidneys. Indeed, the overall social optimum probably involves every person who has no functioning kidneys, and who is medically fit enough for a transplant, receiving a transplant, from either an appropriate deceased or living donor.⁸

From this perspective, the chief problem with the current system is the shortage of suitable kidneys for transplant. The goal of a policy reform, therefore, is to lessen the shortage of suitable kidneys. A compensated system can be a means to this end, but such a system surely is not an end in itself.

The existing kidney shortage involves both a stock and a flow component. One measure of the stock component is the number of people on the waiting list for a kidney. Changes in that number from year to year reflect the flow component: An increase in the waiting list during the course of a year, for

7. A brief outline of the benefits of transplants as opposed to dialysis is available from the National Kidney Registry. See *Living Donors: Overview*, NAT'L KIDNEY REGISTRY, www.kidneyregistry.org/living_donors.php (last visited Feb. 21, 2014) [hereinafter *Living Donors: Overview*].

8. Potential exceptions to this claim might involve poor, uninsured patients whose low ability to pay precludes them from having a high willingness to pay for a kidney. Transplants for these patients would presumably still satisfy the Hicks criterion—if they had a transplant, the “losers” (presumably the donors or the unpaid medical team) from the operations would not be willing to offer the recipients enough money to induce the recipients to renounce their new kidney.

instance, indicates that there were fewer transplants and other list removals (via medical deterioration or death, for instance) over the course of the year than there were new patients in need of a kidney. If the flow shortage can be eliminated, the waiting list will stabilize or fall. Ending the flow shortage is ultimately a necessary but not sufficient condition for ending the stock shortage. However, we will focus our investigation on the flow component.⁹

As noted, the shortage can be addressed not only by procuring more kidneys, but also by other means of decreasing net additions to the waiting list. Some of the methods of shortening the waiting list are far from socially desirable. One method that does seem socially desirable, and that reforms might want to promote, is to diminish medical conditions that tend to lead to end-stage renal disease—conditions such as obesity and diabetes.¹⁰ The recorded shortage also could be reduced if transplant centers were to show more reluctance to place patients on the waiting list.

The suitability of a kidney for transplant is largely a medical issue, one that depends on the health condition and tissue characteristics of both the recipient and the donor. Of course, there might be trade-offs along the “quantity” and “quality” dimensions: For example, a reform that increased the number of kidney transplants might be desirable, even if the quality of the average transplant were to decrease (by, say, a worsening of tissue matches, or longer cold ischemic times, or the use of less fitting, “expanded criteria” donors). The current pressing shortage encourages excessive economizing on quality to promote quantity, by transplanting lower quality organs than would be acceptable if kidneys were in ready supply.¹¹ Likewise, the use of cadaveric kidneys encourages transplanting those kidneys into near-at-hand recipients, even if they are not the most medically appropriate patients, due to the degrading of kidney function as time from explantation to transplantation rises.

The prospect for increased transplants to enhance overall efficiency requires more than that the organs themselves be suitable. The donor must be appropriate, along with the environment under which the donation and transplant takes place. An appropriate (living) donor should be both physically and psychologically fit, informed, uncoerced, and rational. The environment must be designed to respect patients and their families, deliver high medical quality, and offer protections for dealing with (unavoidable) bad outcomes, mistakes, and so on. These conditions are necessary to make it likely that

9. Within the waiting list there are two subcategories, active and inactive. Patients who are deemed to be inactive—perhaps because an acute condition has made them temporarily unfit for transplants—are not eligible to receive deceased-donor kidneys when they become available. By 2011, more than thirty percent of waiting-list candidates were inactive. M.E. Grams et al., *Trends in the Inactive Kidney Transplant Waitlist and Implications for Candidate Survival*, 13 AM. J. TRANSPLANTATION 1012, 1012 (2013).

10. Again, the claim that this change would be efficiency enhancing can only be sustained if the methods employed to achieve improved health are not themselves too costly.

11. T. RANDOLPH BEARD, DAVID L. KASERMAN & RIGMAR OSTERKAMP, *THE GLOBAL ORGAN SHORTAGE: ECONOMIC CAUSES, HUMAN CONSEQUENCES, POLICY RESPONSES* 53–54 (2013).

additional transplants really do increase efficiency, in both the Pareto and Kaldor–Hicks senses. By contrast, the current black market generally fails to insure that donors are appropriate and fails to deliver a healthy environment, even when it succeeds in decreasing the kidney shortage. With these considerations about “appropriateness” or “suitability” in mind, the first principle for reform is that it should result in a reduction in the kidney shortage by appropriate means, with appropriate donors, and with the transplants taking place in an appropriate environment.

A second principle that helps to direct reforms in an efficiency-enhancing direction is to make use of the strong features of the current system as much as possible. One normative element of the current system worth preserving is encouragement of the charitable impulse of donors, and the reciprocal recognition of their generosity; donor sacrifice, whether compensated or otherwise, should receive notice and approbation. The more functional principle reflects the fact that implementation of a reform will typically be easier the less it disrupts the current transplant regime. The status quo system, despite ongoing kidney shortages, has garnered a good deal of acceptance: For instance, the professionals working in the system, by and large, do not view the system itself as hopelessly unethical.¹² Further, the current system succeeds in keeping the medical risks low for donors and for those patients who secure a transplant.

A third principle, related to and perhaps even derivable from the first two, is that the current default understanding—that a person is not a donor—should continue to be respected. This principle helps to ensure that those who do choose to become donors are suitable (in accordance with the first principle) and is in keeping with the current system in the United States (in accordance with the second principle). This principle is inconsistent with implied- or presumed-consent systems, whereby people are considered to be on the register for deceased donation in the absence of taking some proactive step to remove themselves from the donor list. A system of presumed consent will sometimes result in a transplant that conflicts with deeply held beliefs of the (deceased) donor—though physicians generally will not harvest organs in the face of family objection.¹³ Such transplants do not represent Pareto improvements, and perhaps do not even enhance efficiency in a Kaldor–Hicks sense. It is possible, of course, that even given these ill-advised transplants, a presumed-consent system could stimulate so many additional transplants overall that it would be

12. See, e.g., Evangelos M. Mazaris et al., *Attitudes Toward Live Donor Kidney Transplantation and Its Commercialization*, 25 CLINICAL TRANSPLANTATION E312 (2011); Evangelos M. Mazaris, Anthony N. Warrens & Vassilios E. Papalois, *Ethical Issues in Live Donor Kidney Transplant: Views of Medical and Nursing Staff*, 7 EXPERIMENTAL & CLINICAL TRANSPLANTATION 1 (2009).

13. Alberto Abadie and Sebastien Gay find that presumed consent does tend to increase cadaveric donations by some twenty-five to thirty percent on average for the twenty-two countries in their sample. Alberto Abadie & Sebastien Gay, *The Impact of Presumed Consent Legislation on Cadaveric Organ Donation: A Cross Country Study* 15 (Nat'l Bureau Econ. Research, Working Paper No. 10604, 2004).

beneficial relative to the status quo. Relative to a system that can generate those additional transplants without risking such serious mistakes, however, presumed consent is less appealing. Further, even the potential benefit of presumed consent in comparison with the status quo might be compromised by widespread revulsion against transplanting a kidney from an unwilling deceased donor.

B. Pitfalls

In designing reforms intended to accord with the above principles, there are some foreseeable hazards that can be avoided. The first is the potential for the benefit from a reform that increases one category of donations to be offset by declines in the other categories. Potential donors can be divided into three groups: cadaveric, living-directed, and living-undirected. It is possible, for instance, that an increase in the availability of deceased-donor kidneys might undermine the incentives for living donors to step forward. This “crowding out” is not merely hypothetical. T. Randolph Beard, John D. Jackson, David Kaserman, and Hyeongwoo Kim find that in the United States, where most transplanted kidneys are sourced from deceased donors, about forty percent of the increased supply associated with a small increase (one percent) in cadaveric donations is offset, in the long run, by decreased living donations, and about half of this offset takes place in the short run.¹⁴ The crowding out is substantial, but far from complete. However, the significance of this offset is magnified by the medical inferiority of transplants using cadaveric kidneys relative to transplants involving living donors.

Beard, Jackson, Kaserman, and Kim, in an earlier version of the work cited above, also investigate the opposite effect, whereby an increase in living donations leads to fewer cadaveric donations.¹⁵ Though there are hints of some incomplete crowding out, the statistical significance of this effect (using U.S. data from 1992 through 2006) is marginal. Live donations do not pose the same threat to cadaveric donations as cadaveric donations pose for live ones, at least in the United States.

The evidence from the one nation that permits kidney vending, Iran, is also suggestive, but not dispositive, with respect to live donors crowding out cadaveric donations. Starting from a situation in the 1990s when there were no transplants in Iran involving cadaveric kidneys, the number has climbed steadily, to 914 in 2012.¹⁶ Cadaveric sources in 2012 accounted for more than

14. T. Randolph Beard et al., *A Time-Series Analysis of the U.S. Kidney Transplantation and Waiting List: Donor Substitution Effects*, 42 *EMPIRICAL ECON.* 261, 273–75 (2012).

15. T. Randolph Beard et al., *A Time-Series Analysis of U.S. Kidney Transplantation and Waiting List: Donor Substitution Effects and “Dirty Altruism,”* 15 (Auburn Univ. Dep’t of Econ., Working Paper No. 2010-01, 2010). For example, one possible mechanism here is that family members of a brain-dead person might be less likely to agree to organ harvesting, the more strongly they suspect that access is available to live donations.

16. *Database: Iran*, INT’L REGISTRY ORGAN DONATION & TRANSPLANTATION, <http://www.irodat.org/?p=database&c=IR#data> (last visited Feb. 1, 2014).

thirty-seven percent of Iranian kidney transplants. The monotonic growth in cadaveric kidneys from 2000 to 2012 in Iran was accompanied by live donations that were much steadier, moving between 1389 in the year 2000, to 1740 (the maximum so far) in 2009, and to 1506 in 2012.¹⁷ Iran offers no *prima facie* evidence, at least, that live donations crowd out cadaveric ones.

Within the category of live donors, an increase in compensated donations might reduce the number of freely gifted kidneys. Nonetheless, many uncompensated suppliers direct their donations to patients with whom they are intimate: close relatives or friends. Some of these donations (those between siblings, for instance) reduce the need for immunosuppressive drugs and thereby improve health outcomes lead to better health outcomes through reduced need for immunosuppressive drugs. This combination of inherently strong motivations and improved medical outcomes could render the number of unpaid directed donations rather stable in the face of increases in alternative supplies through a compensated program. It is also possible that the donations that would be crowded out by compensation are those where the full commitment of the donors is most questionable.¹⁸ Nor is it necessary that the introduction of compensation be restricted to undirected donors.

Increased kidney supplies might also prompt longer-term and differently manifested crowding out: A reduced shortage of organs might spur behavioral changes that lead fewer people to avoid the need for a kidney transplant. This risk compensation could take the form of leading less healthy lifestyles, inducing heightened risks for requiring a kidney in the future.¹⁹ Under these circumstances, incentives to avoid behaviors that increase the probability of needing a transplant surely are diminished. These same health-compromising behaviors, incidentally, also are likely to make people less able to serve as kidney donors, even if they themselves do not require a transplant. Reforms to improve incentives to avoid health conditions necessitating transplants (and simultaneously to maintain the suitability to become donors) might be desirable independently of the precise mechanism for kidney procurement.

Another potential complication concerns evaluation of the effects of a reform. Given that the current level of transplants is vastly suboptimal, one meaningful success indicator would be an increase in the number of transplants—perhaps even if the average medical outcome were to decline slightly. What is less important as a measure of the desirability of a reform is the effect on the waiting list for kidneys.²⁰ Decisions to join the waiting list, and to be removed, will be influenced by factors that reforms will alter, such as the probability of receiving a transplant in a timely fashion. A reform that boosts

17. *Id.*

18. See Sally Satel, *Concerns about Human Dignity and Commodification*, in *WHEN ALTRUISM ISN'T ENOUGH: THE CASE FOR COMPENSATING KIDNEY DONORS*, *supra* note 6, at 63, 73–74.

19. Imagine the extreme case, where transplants are so easy and available that people view end-stage renal disease as a minor condition.

20. The waiting list might still be a good indicator of whether further reforms should be pursued.

transplants and achieves good medical outcomes, therefore, could still engender a lengthier waiting list.²¹

A third potential pitfall, one that opponents of donor compensation often highlight, is the possibility that a reform will stoke coerced or abusive (essentially black market) trades.²² The desirability or undesirability of an increased shadow market itself depends upon the appropriateness of the donors, the quality of the donated organs, and the environment in which the transplant takes place, and these features are highly questionable, judging from exposés about the currently existing black markets.²³ In Iran, where compensated donations are legal and common, there are reports of advertisements offering kidneys for sale in the vicinity of transplant centers—though in the Iranian system, a kidney vendor is supposed to be matched to someone on the waiting list through impersonal, regulated means, not through direct connections.²⁴ To the extent that transplants are arranged through these informal means, however, the overall outcomes will be much affected by the extent to which, once arranged, the transplants themselves take place within the usual official structure. A more or less standard operation could ensue, for instance, if the parties are able to convincingly masquerade as friends or relatives hoping to arrange a gifted transplant, or if the official sector is co-opted or corrupted to go along with obviously arranged sales. In this manner, the medical outcomes might not be severely endangered, despite the illicit means used to establish and fortify the donor–recipient connection.

For the black market to be spurred by a reform, presumably donors or recipients or both would have to find the black market more advantageous (than in the prereform setting) relative to the official system. Reforms involving compensation that succeed in increasing the number of transplants from suitable donors in a suitable environment would seem to leave little room, then,

21. William Harmon and Francis Delmonico make a similar point, though in the opposite direction, arguing that the elimination of the waiting list through kidney vending in Iran “has as much to do with limitations on listing candidates as it does with providing donors.” William Harmon & Francis Delmonico, *Payment for Kidneys: A Government-Regulated System Is Not Ethically Achievable*, 1 CLINICAL J. AM. SOC. NEPHROLOGY 1146, 1146 (2006). The validity of such an effect presumably requires that there be some mechanism whereby the introduction of vending increases limitations on listings.

22. See, e.g., Gabriel M. Danovitch & Alan B. Leichtman, *Kidney Vending: The “Trojan Horse” of Organ Transplantation*, 1 CLINICAL J. AM. SOC’Y NEPHROLOGY 1133 (2006); Ajay K. Isrания et al., *Incentive Models to Increase Living Kidney Donation: Encouraging Without Coercing*, 5 AM. J. TRANSPLANTATION 15 (2005).

23. See, e.g., Denis Campbell & Nicola Davison, *Illegal Kidney Trade Booms as New Organ Is ‘Sold Every Hour,’* GUARDIAN, May 27, 2012, at 1; Paul Lewis, *The Doctor at the Heart of Kosovo’s Organ Scandal*, GUARDIAN, Dec. 17, 2010, at 30.

24. See Saeed Kamali Dehghan, *Kidneys for Sale: Poor Iranians Compete to Sell Their Organs*, GUARDIAN, May 27, 2012, at 20. The blog Mostly Economics is what its name suggests, and is maintained by an economist in Bangalore. *My Profile*, MOSTLY ECONOMICS, <http://mostlyeconomics.wordpress.com/about/> (last visited Apr. 1, 2014). In 2008 this blog featured a post on Iranian kidney compensation, and, unusually, it attracted more than ten comments—including eight offers to sell kidneys. *Regulated Market for Kidneys in Iran*, MOSTLY ECONOMICS (Jul. 8, 2010, 4:20 PM), <http://mostlyeconomics.wordpress.com/2010/07/08/regulated-market-for-kidneys-in-iran/>.

for growing the black market; if anything, both sides of the market should find the regulated system more, not less, attractive than prior to reform. Arguments suggesting that compensation will induce an expanded black market, therefore, invoke supplementary considerations, perhaps involving some countries deciding, in the face of reforms elsewhere, to tolerate a de facto unregulated market.²⁵ Such a market might then be attractive to clearly unsuitable donors (who would be prevented from donating within a regulated system), and lower prices might lead some patients on the waiting list to find the black market to be a better option than it was prior to reform—but these are highly speculative conjectures. Surely the standard effect of replacing a prohibition with a legal, regulated alternative is commensurate with what happened following the repeal of national alcohol prohibition in the United States: The black market contracts significantly, though this result requires some continuing enforcement against illicit trades.²⁶

A fourth potential pitfall of a compensated system is that payment might magnify the rationality deficiencies of donors, with a consequent increase in both inappropriate kidneys and inappropriate donors. The next part will look more deeply at this problem, while examining some behavioral aspects of organ donation.

III

RATIONALITY AND INFLUENCE IN THE DECISION TO DONATE

One of the major roles played by both property and contract law is to smooth the path for assets to move, via voluntary exchanges, from low-valuing owners to high-valuing owners. But in the case of human organs, the ban on valuable consideration places a serious impediment to arranging these mutually beneficial deals. The Kaldor–Hicks optimum cannot be achieved in practice, because the payment prohibition means that the theoretical possibility of sufficient compensation (that underlies the Kaldor–Hicks standard) cannot be implemented. Without compensation, it is hard to make both donors and recipients better off, even if deals would be quite beneficial overall. Though recipients would realize large gains from transplants, and donors would suffer (typically) only relatively small costs, the restricted forms of compensation prove insufficient, in thousands of cases per year, to consummate these valuable exchanges.

25. See, e.g., Vivekanand Jha & Kirpal S Chugh, *The Case Against a Regulated System of Living Kidney Sales*, NATURE CLINICAL PRAC. NEPHROLOGY 466, 467 (2006) (“The acceptance of even a limited domestic organ market in the advanced nations will act as the proverbial thin end of the wedge and encourage adoption of commercial donation in the developing world.”).

26. Some states, counties, and localities remained “dry” following the end of national alcohol prohibition in December 1933; further, the newly legal trade was subject to a host of regulations and taxes. One surprising result was that the percentage of convicts entering prisons for liquor law violations was more than twice as high in 1940 as in 1933. See U.S. DEP’T OF JUSTICE, BUREAU OF JUSTICE STATISTICS, HISTORICAL CORRECTIONS STATISTICS IN THE UNITED STATES, 1850–1984 45 (1986).

A main contribution of the behavioral turn in law and economics is that trades that are voluntarily arranged among competent adults are no longer presumed to be (ex ante) mutually advantageous simply because the trades have been agreed to. Rather, people are considered to be imperfect stewards of their own best interests, suffering from shortfalls in cognitive abilities, rationality, and willpower.²⁷ Applied to kidney transplants, a behavioral perspective would interrogate the rationality of an individual's decision to donate (or, for that matter, to sell).²⁸ The donation decision (including the decision to register as a deceased donor) is particularly susceptible to departures from full rationality because it is not one that an individual makes on a recurring basis, with timely feedback received concerning the consequences of previous decisions.²⁹ The claims that kidney transplants (again, with or without compensation) reflect Kaldor–Hicks improvements are only sustainable if the revealed willingness-to-donate is a fairly accurate gauge of an individual's true, underlying preferences.³⁰

Behavioral economics illustrates that decisions—even quite important ones—can be affected by framing and defaults and other details of the “choice architecture.”³¹ Decisions, then, for good or ill, can be (or perhaps must be) influenced by those who establish the architecture. Although such influence is sometimes used for what have been deemed to be worthy purposes, as when people must “opt out” rather than “opt in” to retirement plans that are highly beneficial to them, the manipulation might not always be so benign (or so conscious). In the case of kidney transplants, the system involves opportunities for manipulation of potential donors, and those opportunities exist whether or not “valuable consideration” is an element of the system. With or without monetary awards, the exploitation of behavioral patterns that are less than fully rational undermines the efficiency-based (let alone the ethical) case for donation, and, to the extent possible, should be avoided. Having the default condition be that no one is a donor unless a proactive step is taken (which we endorse in part II) is one way to lessen the possibility that the default setting

27. See Matthew Rabin, *A Perspective on Psychology and Economics*, 46 EUR. ECON. REV. 657, 658 (2002) (discussing meaningful and systematic departures from full rationality); Richard H. Thaler & Sendhil Mullainathan, *Behavioral Economics*, in THE CONCISE ENCYCLOPEDIA OF ECONOMICS (David R. Henderson ed. 2008) (explaining how behavioral economics differs from traditional economics by acknowledging the limits of the human characteristics assumed by traditional economics, including “unbounded rationality, unbounded willpower, and unbounded selfishness”).

28. The wide applicability of behavioral-economics reasoning extends to the decisions of every actor connected with kidney transplants: donors and recipients, their family members, organ-procurement specialists, physicians and other medical personnel, insurers, and even people who one day might become kidney donors or recipients. Nonetheless, we will restrict our attention to donors.

29. On the importance of feedback in improving decision making, see Richard H. Thaler, Cass R. Sunstein & John P. Balz, *Choice Architecture*, in THE BEHAVIORAL FOUNDATIONS OF PUBLIC POLICY 428 (Eldar Shafir ed., 2013).

30. Of course, behavioral-economics insights concerning the endowment effect and framing, for instance, call into question the existence of some sort of underlying “true” willingness to donate or preferences more generally.

31. See Thaler et al., *supra* note 29.

might result in undesired donations.

A. Deceased Donors

The ongoing shortages in transplantable kidneys have sparked intense interest in encouraging more individuals to agree to make their organs available for posthumous transplant. Presumptive eligibility for deceased donation of organs typically is extended to individuals who are on the donor registry. How and whether an individual ends up on the donor registry, therefore, become matters of paramount importance with respect to the number of cadaveric organs that will be available for transplant. Registry default rules, in particular, have come under scrutiny, especially given the behavioral-economics finding of the surprising hardness of default settings, even when defaults can be altered with little effort.³²

Most countries, including the United States, set up an opt-in system, one in which the default is that a person is not a donor. One might suspect that given the inertia accompanying default settings, an opt-in system leads many people who would like to be on the registry to, nevertheless, fail to sign up.³³ Successful, inexpensive inducements to join the registry, then, as long as they are not so bedazzling as to tempt committed nondonors to register, will contribute to enhanced efficiency. A first step is to ease the process of joining.³⁴ In the United States, one common mechanism is that people can register as donors at the same time that they receive or renew their driver's licenses. Driver's license sign up and, more recently, social media efforts to facilitate registering as an organ donor have been important in increasing the number of designated donors in recent years.³⁵

Some jurisdictions have selected a different donor-default setting. In “opt-out” or presumed-consent countries, people are presumed to be willing to serve as organ donors in the event of their death—but they can choose to remove themselves from the registry. That is, in opt-out jurisdictions, the default condition is that you are an organ donor, whereas in opt-in jurisdictions like the United States, you only join the registry if you explicitly choose to do so. Nations such as Spain and Austria that have switched from opt-in to opt-out approaches have seen large increases in the number of registered donors.³⁶

32. See RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* 159–82 (2008).

33. See PETER JOHN ET AL., *NUDGE, NUDGE, THINK, THINK: EXPERIMENTING WITH WAYS TO CHANGE CIVIC BEHAVIOR* 97, 100 (2011) (suggesting that preferences to be a donor as revealed by mandated choices without defaults are more common than is registration itself in the United States).

34. The U.S. Department of Health and Human Services maintains a website with information on joining the donor registry. *Becoming a Donor*, [ORGANDONOR.GOV](http://www.organdonor.gov/becomingdonor/index.html), <http://www.organdonor.gov/becomingdonor/index.html> (last visited Feb. 6, 2014).

35. A. M. Cameron et al., *Social Media and Organ Donor Registration: The Facebook Effect*, 13 *AM. J. TRANSPLANTATION* 2059, 2060–61 (2013).

36. Amber Rithalia, et al., *Impact of Presumed Consent for Organ Donation on Donation Rates: A Systematic Review*, 338 *BMJ* 1, 7 (2009) (indicating that before and after studies show significant increases in donor registrations when moving from an opt-in to an opt-out default, though default rules

However, the durability of default options suggests that some people who have no interest in donating, or who even have an aversion to donating, nevertheless remain on the donor list under a presumed-consent system. In Austria, less than one percent of the population opts out of the donor registry.³⁷

A middle ground between opt in and opt out crafts the default as the necessity to make an explicit choice—perhaps as a requirement (or near requirement) for receiving a driver’s license.³⁸ Under this system, license applicants are asked if they want to register as an organ donor: yes or no.³⁹ The answer that they give will then determine their status. In this way, no one is added to the organ-donor list simply from a failure to make an explicit choice. This “forced choice” alternative would seem to do a pretty good job of keeping off the registry those who have fairly strong reservations concerning donation—though some individuals might not appreciate being regularly asked to consider the fate of their organs following their demise.

Marketing can be used to increase organ-donor registrations independently of the default setting, though it plays a more central role in opt-in jurisdictions. Given the exclusive reliance on benevolence (under current U.S. circumstances) as the motivating device for registering as an organ donor, there is an effort to highlight to others the value of the charitable act. “Donate the gift of life” is the exhortation employed by the U.S. Department of Health and Human Services in its information for potential organ donors.⁴⁰ The significant influence of peer groups also has been applied to the cause of promoting organ donation. Facebook makes it easy for its users to share their organ-donor status with others, and also provides links to the appropriate websites for those who decide they want to register.⁴¹ Some states saw an immediate jump in registered donors following Facebook’s implementation of its donor facility.⁴²

More tangible inducements also can be used to encourage registration as an organ donor. One possibility that has been adopted in Israel and elsewhere is to provide registered donors (of three years or more standing) with priority for

themselves cannot explain the variation between countries with respect to donation rates.)

37. Eric J. Johnson & Daniel G. Goldstein, *Decisions by Default*, in THE BEHAVIORAL FOUNDATIONS OF PUBLIC POLICY, *supra* note 29, at 417, 418 fig.24.2.

38. See THALER & SUNSTEIN, *supra* note 32, at 180.

39. In large parts of the United Kingdom, the license-application question is not of the yes-or-no variety. Instead, applicants asked if they would like to join the organ-donor registry can indicate that they are already registered, or can choose either “yes” or “not yet”; that is, there is no explicit choice of “no” available. See Peter Walker, *Driving Licence Applicants Asked to Join Organ Donor Register*, GUARDIAN, Jul. 31, 2011, at 13.

40. ORGANDONOR.GOV, <http://www.organdonor.gov/becomingdonor/index.html> (last visited Feb. 6, 2014).

41. *Share Your Organ Donor Status*, FACEBOOK, <http://www.facebook.com/help/416967021677693/> (last visited Feb. 2, 2014). On peer effects in behavioral economics, see, for example, John Beshears et al., *The Effect of Providing Peer Information on Retirement Savings Decisions* (Nat’l Bureau Econ. Research, Working Paper No. 17345, 2011).

42. Russell Goldman, *States See Instant Spike in Organ Donors Following Facebook Push*, ABC NEWS (May 2, 2012), <http://abcnews.go.com/Health/states-instant-spike-organ-donors-facebook-push/story?id=16255979>.

receipt of an organ should they find themselves in need. Singapore combines a similar priority program with an opt-out system: People in Singapore who choose to opt out of the organ-donor registry will receive lower priority should they need a transplant.⁴³

B. Living Donors

All else equal, the receipt of a kidney from a living donor offers better medical outcomes than receipt from a deceased donor. The brief time window during which to transplant a viable kidney from a deceased donor complicates the process of ensuring match quality; further, the kidney shortage incentivizes an expansive approach to what cadaveric kidneys qualify for transplant. Nonetheless, about two-thirds of kidney transplants in the United States involve deceased donors.⁴⁴

Any system that permits living kidney donation, whether compensated or not, must be predicated on a view of human decision making such that, in at least some plausible cases, adults may be left unmolested in their choices, even when those choices are irreversible and have meaningful consequences. In the case of living kidney donation, significant evidence suggests quite low medical risks to the donor.⁴⁵ Nonetheless, these low risks are surely not negligible—a nephrectomy that carried literally no medical risk would attract more volunteers than do the low-risk procedures currently available. It is likely that much of the concern about kidney donation, however, is not directly tied to medical risks. Sources of unease include the potential for regret (because the decision cannot be taken back, and perhaps a son or daughter later will need a kidney), loss of economic opportunities (for example, the inability to play certain sports, enlist in some military units, or obtain insurance), and social risks arising from the unique relationship created between a donor and his or her recipient.⁴⁶

A system that does a good job of facilitating efficient kidney transplants must also make sufficient numbers of living donors willing to step forward, despite the medical and other risks, in order to ensure overall welfare improvement.⁴⁷ The obvious methods to encourage living donation are to

43. On the organ-procurement system in Singapore, see Al Roth, *Organ Donation and Compensation in Singapore: New Legislation*, MARKET DESIGN (Mar. 29, 2009, 5:34 AM), <http://marketdesigner.blogspot.com/2009/03/organ-donation-and-compensation-in.html>.

44. According to the Organ Procurement and Transplantation Network, deceased donors accounted for 66.1% of US kidney transplants in 2013. Transplants by Donor Type, HEALTH RESOURCES & SERVS. ADMIN., <http://optn.transplant.hrsa.gov/latestData/step2.asp?> (select “Transplant” and “Kidney” then “Transplants by Donor Type”) (last visited July 25, 2014).

45. See generally Arthur J. Matas, *Risks of Kidney Transplantation to a Living Donor*, in WHEN ALTRUISM ISN’T ENOUGH: THE CASE FOR COMPENSATING KIDNEY DONORS, *supra* note 6, at 10, 12–18 (examining the short-term and long-term medical risks to a living kidney donor).

46. See, e.g., Allison Tong et al., *Public Attitudes and Beliefs About Living Kidney Donation: Focus Group Study*, 97 TRANSPLANTATION 977, 979–81 (2014) (indicating categories of concerns expressed by the general public in Australia about living kidney donation.)

47. Of course, the numbers that will prove sufficient depend on the demand and on the availability

reduce risks and to compensate for the hazards that remain. Risk mitigation can be served by careful donor screening, selection, and ongoing case management; indeed, systems for doing this already are well established.

Do potential live donors respond “rationally” to the medical risks? Behavioral economics suggests that people often struggle to make sound decisions in choice situations connected to low probability events. Some risks tend to be ignored entirely, although others—particularly if they involve a vivid and readily available image of disaster, such as harms from acts of terrorism—can greatly be exaggerated. Knowledge of a friend who happened to suffer a relatively low-probability harm, for instance, can do much to enhance perceptions of that specific risk. Physicians are duty bound, of course, to make the risks of a nephrectomy well understood (though not to exaggerate them or to intensify their salience). Nonetheless, the medical harms that must be considered are literally and figuratively visceral, making it not unlikely that these harms will tend to figure disproportionately in a potential donor’s decision calculus.⁴⁸

Even when probabilities are well understood, people generally exhibit loss aversion: They are quite concerned about a negative change from the status quo (or perhaps some other salient reference point). Surely the possibility of negative outcomes, whether minor inconvenience or, at the extreme, donor death (which happens in about three in ten thousand nephrectomies),⁴⁹ looms large in donor decision making—and this specter can hardly be adjudged to represent irrationality or a mistake, even if it is exaggerated in the minds of some potential donors.⁵⁰ The endowment effect, which refers to our tendency to raise our subjective value of assets that we already own, also might be particularly applicable to body parts.⁵¹

One other factor that might influence the rationality of donor decision making is the common propensity towards excessive concern with the present relative to the future. Given that many of the medical (and other) “costs” of kidney donation are immediate while most of the benefits (say, in terms of satisfaction) occur in the future, donation is a decision that present-biased

of cadaveric organs.

48. The iconic behavioral-economics model for choice under uncertainty, prospect theory, typically involves a probability-weighting function that excessively weights low-probability risks. See Nicholas C. Barberis, *Thirty Years of Prospect Theory in Economics: A Review and Assessment*, J. ECON. PERSP., Winter 2013, at 173, 177.

49. Dorry L. Segev et al., *Perioperative Mortality and Long-Term Survival Following Live Kidney Donation*, 303 J. AM. MED. ASS’N 959, 959 (2010).

50. The subjective-wellbeing literature might suggest that people will adapt to (nonfatal) medical conditions that result from donation, so that those problems, in the long run, will not compromise donor happiness. At the same time, people who have serious medical conditions (that presumably they have adapted to) are often willing to pay very significant amounts to overcome their conditions. See George Loewenstein & Peter A. Ubel, *Hedonic Adaptation and the Role of Decision and Experience Utility in Public Policy*, 92 J. PUB. ECON. 1795, 1799 (2008) (“[P]eople with disabilities have a strong desire to be healthy, even if they experience normal levels of happiness.”).

51. See, e.g., DANIEL KAHNEMAN, THINKING, FAST AND SLOW 278–99 (2011) (discussing loss aversion and the endowment effect).

people are likely to postpone.⁵²

All told, just considering the medical risks, one standard set of behavioral-economics departures from rationality—risk misperceptions, loss aversion, the endowment effect, and present bias—is likely to, on average, lend a “no donation” bias to individual decision making. If transplants involving inappropriate donors are especially to be avoided, however—as we have argued—then this bias is acceptable.

Medical risks to the donor are not the only “cost” facing living donors. One outcome that might be much more relevant for a living as opposed to a cadaveric donor is that the transplant might fail for the recipient. Particularly if the recipient is a relative or close friend, it would be understandable if a transplant involving recipient death or graft rejection were to be a source of significant unhappiness and regret on the part of the donor. Fortunately, recent studies have not found increased regret or emotional harm to donors connected to unsuccessful transplants; perhaps this result speaks to a realistic pretransplant understanding of the risks of failure.⁵³

Consider also the social risk connected to the special relationship that a live kidney transplant creates between the donor and the recipient. Might a donor later approach a recipient asking for money or other support? Might a recipient form an unhealthy attachment to the donor or donor’s family? The emotional ties created by donation—especially (but not exclusively) living donation—are fertile ground for the emergence of entanglements inconsistent with the welfare and dignity of the participants.⁵⁴ One way to mitigate this social risk is to prefer those donors who already are embedded in social networks with the recipients.⁵⁵

For undirected donations, the obvious and usual recommendation to avoid untoward donor–recipient encounters is anonymity.⁵⁶ If donors and recipients do not know one another, and do not meet, the chances for adverse contacts are very low. Maintaining anonymity can be challenging with living donation, where the donor and recipient might be in the same hospital, even on the same floor, with family wandering about. Nonetheless, anonymity, if desired, can generally

52. See Ted O’Donoghue & Matthew Rabin, *Doing It Now or Later*, 89 AM. ECON. REV. 103, 104 (1999).

53. See, e.g., Márcia Fátima Faraldo Martinez Garcia et al., *Living Kidney Donors—A Prospective Study of Quality of Life Before and After Kidney Donation*, 27 CLINICAL TRANSPLANTATION 9, 11–12 (2013); Marta B. Padrão & Yvoty A. S. Sens, *Quality of Life of Living Kidney Donors in Brazil: An Evaluation by the Short Term Form-36 and the WHOQOL-bref Questionnaires*, 23 CLINICAL TRANSPLANTATION 621, 621 (2009). But see Eric M. Johnson et al., *Long-Term Follow-Up of Living Kidney Donors: Quality of Life After Donation*, 67 TRANSPLANTATION 717, 717 (1999) (finding that those donors whose recipients died were less likely to indicate that given the opportunity, they would donate again).

54. Of course, the special donor–recipient relationship can be a source of great joy and contentment, too.

55. But see the discussion of family members of directed donors in part IV.

56. But see C. Bradley Wallis et al., *Kidney Paired Donation*, 26 NEPHROLOGY DIALYSIS TRANSPLANTATION 2091, 2097 (2011) (reporting that of twenty-five pairs offered the choice of anonymity in a paired-donation setting, twenty-four pairs chose to meet, and evaluated the meetings as a positive experience).

survive these logistical challenges.

Some of the costs facing live donors can be compensated for under current U.S. law. Medical costs, including preoperative screening and post-op recovery, are eligible for recompense, typically by the recipient's public or private health insurance. Other donor expenses, such as travel, hotel costs, and subsistence, can also legally be paid for the donor, though health insurers generally do not cover these expenses. The National Living Donor Assistance Center (NLDAC) offers compensation for such expenses when coverage is not otherwise available (including from the kidney recipient's own resources).⁵⁷ NLDAC reimbursement, which is available both to a directed donor and to one or two support persons, can be as much as \$6000. Lost wages also are legally eligible for recompense, though these are not typically compensated through insurance or by the NLDAC.⁵⁸

As the founding of the NLDAC suggests, compensation is widely understood to be meaningful; some otherwise-willing donors cannot afford to bear the costs associated with donation. The U.S. federal government and some states have passed laws that guarantee paid leave for their employees who donate kidneys—thereby ensuring that lost wages are accounted for, while also making available the time required for a nephrectomy and recovery. A handful of states have legislated unpaid-leave policies that apply to the organ donations of employees of private businesses, although others provide tax deductions or tax credits to donors.⁵⁹

In addition to solutions that address compensating the direct costs of donation, strategies are available whereby the loss of future economic opportunities can be mitigated from the outset. First, the problem might be avoided by disclosure: A precise list of the opportunities foregone by donation can be presented to individuals considering donation. Those donors who are most subject to economic losses can choose not to donate (if those losses are not eligible for compensation). Further, narrowing broad donor criteria can reduce such problems. For example, by restricting donors to a minimum age of twenty-five or thirty, loss of the opportunity to enlist in the military would

57. NAT'L LIVING DONOR ASSISTANCE CENTER, <http://www.livingdonorassistance.org> (last visited Feb. 6, 2014).

58. 42 U.S.C. § 274e(c)(2) (2006 & Supp. IV 2011) permits reasonable recompense for "the expenses of travel, housing, and lost wages incurred by the donor of a human organ in connection with the donation of the organ." Lost wages typically are not paid by insurers or recipients, though federal employees who donate organs are eligible for thirty days of paid leave (5 U.S.C. § 6327 1999). S. Klarenbach et al., *Economic Consequences Incurred by Living Kidney Donors: A Canadian Multi-Center Prospective Study*, 14 AM. J. TRANSPLANTATION 916, 918 (2014) find that a sample of Canadian kidney donors had an average economic detriment associated with their donation of \$3268.

59. NATIONAL KIDNEY FOUNDATION, DONOR LEAVE LAWS AND TAX DEDUCTIONS/CREDITS FOR LIVING DONORS (2013), available at http://www.kidney.org/transplantation/livingdonors/pdf/LDTaxDed_Leave.pdf. The early evidence is that the existing tax policies (which generally involve relatively low amounts of compensation) do not do much to spur donation. A.S. Venkataramani et al., *The Impact of Tax Policies on Living Organ Donations in the United States*, 12 AM. J. TRANSPLANTATION 2133, 2133 (2012).

rarely matter, because few people choose to enlist at these (or higher) ages.

Bans on monetary compensation (beyond the limited coverage of costs) place a premium on nonmonetary methods of recruiting live organ donors, paralleling the encouragement of registering as a deceased donor. Most live donations come from close friends or relatives, whose primary motivations are humane. Mechanisms are put in place to try to detect and eliminate coerced donations, although intrafamily pressure, whether subtle or overt, can be strong and persistent.⁶⁰ The present system seems to recognize that even donations motivated chiefly by magnanimity are more likely to occur when financial burdens on donors are eased.

One in-kind form of compensation that is permitted is for donors to be given priority on the waiting list for an organ, should the medical need later arise: Live donors in the United States are awarded “points” that improve their standing for a future claim on a kidney.⁶¹ Efforts by physicians and hospitals to reduce the burden of a nephrectomy, such as by operating laparoscopically, could also be considered as inducements, though perhaps not of the “valuable consideration” variety.⁶²

Attempts to highlight the charitable nature of a live donation also are employed to induce more such gifts—much as they are used to spur joining deceased–organ donor lists. The National Kidney Foundation’s online store offers a “Living Donor Split Pin.”⁶³ The idea is that the pin comes in two halves, one half (“I gave the gift of life”) to be worn by a donor, the other (“I received the gift of life”) by a recipient. Local news outlets often report quite approvingly on the personal tales of donors as well as organ recipients.⁶⁴

The chains, and conceivably quite long chains, of transplants that mark kidney paired–donation schemes also hold the potential to enhance the benevolent element in donation. A single undirected kidney donation (a

60. One mechanism is a type of signal jamming, where a reluctant relative will be ruled out as a donor, but whether the ruling is for medical reasons or other reasons will not be revealed to the recipient. One concern with kidney paired–donation schemes is that the opportunity that not being a medical match offers to someone gracefully to bow out of an undesired donation becomes less viable.

61. *Living Donors: Overview*, *supra* note 7.

62. Laparoscopic nephrectomies utilize much smaller incisions and are associated with shorter recovery times.

63. *Gifts*, NKF STORE, <http://nkf.worksmartsuite.com/UserContentStart.aspx?category=47> (last visited Feb. 2, 2014) (follow “Living Donor Split Pin” hyperlink).

64. See, e.g., Melanie Scott Dorsey, *Michigan Man Honored for Donating Kidney to 10-Year-Old Stranger*, BATTLE CREEK ENQUIRER (Feb. 21, 2013, 12:51 PM), <http://www.battlecreekenquirer.com/article/20130221/NEWS/302210017/Michigan-man-honored-donating-kidney-10-year-old-stranger>. Another news report two days later illustrates some of the complexities of the ban on valuable consideration. The Michigan donor developed medical complications in the wake of his nephrectomy; he is a business owner, and his business was suffering. Fundraisers, both live and online, were held to ease his financial worries. Many of those contributing to the fundraisers were motivated by his kidney donation. Joshua Rosener, *Community Support Helps Brian Martindale, Kidney Donor for 10-Year-Old Jessica Schwerin, Move Beyond Financial Woes*, MLIVE (Feb. 23, 2013, 1:00 PM), http://www.mlive.com/news/bay-city/index.ssf/2013/02/community_support_helps_brian.html.

donation to the waiting list) might catalyze dozens of subsequent transplants, surely enhancing warm-glow payoffs. But paired-donation schemes, at least in some incarnations, also involve donors not knowing (in advance) their recipients—a feature that, if required, could undermine philanthropic donations.

Local journalistic outlets not only report on successful transplants but also carry stories of people desperately seeking kidneys: The plight of those in need of a transplant is a newsworthy item. Family members or the patients themselves sometimes publicize their situations, including on the internet and occasionally on billboards. Indeed, moving stories of patients seeking kidneys abound on social-networking sites. Find a Kidney Central was started on Facebook following a successful Facebook effort on behalf of a single identified patient: He received a kidney from a stranger, despite having a blood type that is hard to match.⁶⁵ Find a Kidney Central now lists more than 350 people seeking a kidney.⁶⁶

The Living Kidney Donors Network provides information to patients in need of a kidney on how to recruit donors. According to its homepage, “The Living Kidney Donors Network is a not-for-profit organization whose primary [m]ission is to educate people who need a kidney transplant about the living donation process and to prepare them to effectively communicate their need to family members and friends.”⁶⁷ The network recommends that patients set up websites and Facebook pages publicizing their need for kidneys, as well as taking other steps to spread the word.

More institutionalized marketing of live organ donation also takes place. For instance, the World Transplant Games Federation sponsors athletic events involving transplant recipients, in part to encourage donation.⁶⁸ In the United States, Valentine’s Day is National Donor Day, and April is National Donate Life Month.⁶⁹ April 19 is Blue and Green Day, which encourages people to dress in the colors of blue and green to signal their support for organ, eye, and tissue donation.⁷⁰ As with the World Transplant Games, these events are aimed at encouraging both living donation and registration for deceased donation.

The altruistic focus of marketing efforts on behalf of living kidney donation, as well as adulatory press coverage of donors, holds the potential for a perverse

65. Shakthi Jothianandan, *Leah Hostalet Helps Find Kidney Transplant Matches on Facebook*, PEOPLE (Feb. 14, 2013, 3:15 PM), <http://www.people.com/people/article/0,,20673541,00.html>.

66. *Find a Kidney Central*, FACEBOOK, <https://www.facebook.com/FindAKidneyCentral> and <https://www.facebook.com/notes/find-a-kidney-central/a-list-of-those-in-need-of-a-kidney-on-this-page/166662046784598> (last visited Jun. 20, 2014).

67. LIVING KIDNEY DONORS NETWORK, <http://www.lkdn.org/> (last visited Feb. 6, 2014).

68. WORLD TRANSPLANT GAMES FED’N, <http://www.wtgf.org/default.asp> (last visited Feb. 2, 2014).

69. *National Events*, ORGANDONOR.GOV, <http://www.organdonor.gov/materialsresources/materialsntlevents.html> (last visited Feb. 6, 2014).

70. *National Blue & Green Day 2013*, DONATE LIFE, <http://donatelife.net/bluegreen2013/> (last visited Feb. 6, 2014).

effect: Kidney donation might be viewed as much more of a sacrifice than it really is.⁷¹ This is perhaps especially likely as the risks of donation fall with experience and medical advances. Perhaps treating kidney donation more like other forms of charitable behavior, or treating kidney donors like familiarly heroic firefighters, police, and military personnel—and not in a special class of otherworldly self-sacrifice—would yield a more objective understanding of the risks and encourage more donation.

The methods of persuasion aimed at prospective donors in the current system do not produce nearly enough donors. These same methods, however, have the virtue that they are unlikely to produce many inappropriate donors. The main exception to that conclusion is a (presumably small) subset of directed donations by intimates of the recipient, who might be subjected to family pressure that is hard to resist, and hard for outsiders to detect.

C. Monetary Compensation and the Decision to Donate

What if the ban on “valuable consideration” were to be lifted? How would the new opportunity to pay donors influence the number of donors and the rationality of decisions to donate?

It might be argued that any type of compensation would automatically render the donors inappropriate, perhaps through coercion, or by encouraging misrepresentations of medical conditions on the part of desperate would-be kidney sellers, or of the medical risks by unscrupulous would-be recipients or health professionals.⁷² Note that most arguments against compensation do not start and stop by claiming that compensation is unethical. Rather, the ethical concerns are complemented by arguments concerning consequences, such as the possibility of donors feeling coerced.⁷³ Our efficiency perspective is, as usual, consequences-based; hence, we will continue under the assumption that compensation per se is not ruled out by ethics (and of course, despite the ban, some forms of compensation, including lost wages and priority on the organ waiting list and tax deductions, exist in the current system). For those who do object to compensation (or simply to monetary compensation) on ethical, not consequential, grounds, our approach can be viewed as examining what sort of kidney-procurement system would be appropriate if their ethical view did not prevail in the legislative arena.

Decisions to donate an organ are complex. Every decision, whether as simple as selecting lunch or as complex as considering kidney explantation, is the net or end product of numerous motivations, only one of which is the pure commercial motivation associated with an economic worldview. In mundane transactions, frequently the monetary motive is primary, so other motives (for

71. Alexander Berger, Op-Ed., *Why Selling Kidneys Should Be Legal*, N.Y. TIMES, Dec. 6, 2011.

72. Alternatively, these concerns might be directed exclusively at *monetary* payments to live donors, and not at other types of compensation.

73. See A.L. Caplan et al., *Financial Compensation for Cadaver Organ Donation: Good Idea or Anathema*, 25 TRANSPLANTATION PROCEEDINGS 2740, 2740–41 (1993).

example, “Do I think the seller is a good person?” or “Is this purchase ethical?”) are largely or completely ignored. In transactions in which broader motivations are implicated, standard economic intuitions might be overturned; for example, the introduction of monetary compensation to what had previously been a nonmonetary setting could reduce overall incentives to engage in the rewarded behavior.⁷⁴

For many or most people, kidney donation, even when compensated, will involve substantial nonmonetary motives. The (often rightful) neglect of nonmonetary motives in mundane transactions will not be appropriate for compensated kidney donations. Any reasonable compensated system, including (we hope) our proposal, will therefore not entail a standard market involving the straightforward buying and selling of kidneys.

Note that any additional consideration provided to kidney donors, beyond the currently compensable costs, need not take the form of explicit monetary payments. Incremental inducements might be especially attractive if they remain within the health-care arena. In the mental accounting of donors and others, health-related benefits can be coded as a species of reciprocity, and hence widely perceived as fair, rather than as payment for transfer of asset ownership.⁷⁵ For instance, the provision of subsidized or free health insurance or enhanced health coverage, either for a specified time or for a lifetime, could be a substantial inducement to donation.

In-kind transfers can be quite valuable, perhaps valuable enough to induce sufficient donations to end kidney shortages by themselves.⁷⁶ What happens if these transfers are supplemented by meaningful monetary compensation? It is possible (even likely) that cash benefits might be subject to a higher degree of present bias than noncash benefits; indeed, many of the benefits of improved access to health insurance, for instance, occur in the distant future. If the prospect of quick cash leads people into imprudent or desperate decisions, then our confidence in the efficiency-enhancing properties of increased transplants will be undermined. One way to combat this present bias would be to back-load much of the monetary recompense. To some extent, a time delay is built in by the necessity for medical and psychological screening. Typically, many weeks would pass between the moment that a potential donor presents to an organ-procurement agency and the time the transplant takes place.⁷⁷ The delay could

74. Uri Gneezy & Aldo Rustichini, *A Fine Is a Price*, 29 J. LEGAL STUD. 1, 15–16 (2000).

75. See generally Ernst Fehr & Simon Gächter, *Fairness and Retaliation: The Economics of Reciprocity*, J. ECON. PERSP., Summer 2000, at 159.

76. See Sebastian Kube, Michel André Maréchal & Clemens Puppe, *The Currency of Reciprocity* 20 (Univ. of Zurich Inst. Empirical Research in Econ., Working Paper No. 377, 2010) (finding that an unexpected in-kind bonus is more successful at spurring worker productivity than an equally valuable unexpected monetary bonus).

77. In the UK, for instance, donor assessment takes at least three months. Living Kidney Donation-Questions & Answers, NATIONAL HEALTH SERVICE, http://www.organdonation.nhs.uk/how_to_become_a_donor/living_kidney_donation/questions_and_answers.asp (last visited Jun. 24, 2014).

purposely be enhanced to help screen out those desperate for cash; furthermore, a large fraction of the recompense could be given in installments over future years. This approach also has the benefit of helping to keep donors in contact with the transplant system, and hence available for follow-up care and evaluation.

The concern that donors and recipients could be placed in an uncomfortable relationship might be heightened when monetary compensation enters the picture. Among other problems, the entire scheme might be called into question in the wake of a publicized inappropriate interaction: Perhaps a demand by the donor or her family for additional funds or an unlikely demand by the recipient for a share in the monetary proceeds. Current guidelines concerning communication between recipients and deceased-donor families or living, undirected donors are quite complex, though mutually agreed upon face-to-face and written communication is feasible.⁷⁸ These guidelines, recently evolved to include undirected living donors, might need reexamination following the introduction of compensation.

Donor families are sometimes viewed as obstructionist by transplant surgeons and others closely tied to the transplant system. In the case of deceased donors, physicians are extremely reluctant to honor premortem statements of intent to donate if a family member objects. Because families have many members, someone often objects. The result in the United States is a yield rate of around fifty percent of potential standard-criteria donors.⁷⁹ Compensation can provide family members with an additional reason *not* to object. Honoring a cadaveric donation with recognition and funeral assistance are obvious and humane methods to provide such a reason.

Finally, the inclusion of a financial dimension to the donation decision is, for many people, repugnant.⁸⁰ Such repugnance, attached to the “sale” of body parts, sometimes is sufficiently strong as to constitute a constraint on market exchange. Repugnance can evolve or dissolve over time, however, and the erosion of repugnance already has taken place for market trade in many body parts, including hair, sperm, eggs, plasma, and breast milk.⁸¹ Further, there is already substantial public support for some forms of compensation for organ donors.

Although repugnance need not foreclose a compensated system for kidney donation, it does suggest that the design of such a system avoid offending sensibilities. The sorts of protections that help to ensure that donor choices are informed and rational, however, generally are those that, by moving donation

78. *National Communication Guidelines*, NAT'L KIDNEY FOUND. (2004), <http://www.kidney.org/transplantation/donorFamilies/infoPolicyGuidelines.cfm>.

79. A. Andrés et al., *Lower Rate of Family Refusal for Organ Donation in Non-Heart-Beating Versus Brain-Dead Donors*, 41 *TRANSPLANTATION PROCEEDINGS* 2304, 2305 (2009).

80. See Alvin E. Roth, *Repugnance as a Constraint on Markets*, *J. ECON. PERSP.*, Summer 2007, at 37.

81. See, e.g., STUART BANNER, *AMERICAN PROPERTY: A HISTORY OF HOW, WHY, AND WHAT WE OWN* 238–56 (2011) (Owning Life).

far away from a “typical” market, also tend to lower the “disgust” factor. Elements of our proposed system (laid out in part IV), such as a marketing-free, monopsonistic procurement agency, back-loaded monetary compensation, and the continued recognition that donors are engaged in a praiseworthy act—the “donor as hero” paradigm—are examples of reforms that simultaneously help to ensure that those transplants that do take place are welfare enhancing, and help to minimize the market elements that might be most likely to stoke repugnance.⁸² Regulations that will steer donation decisions in a direction that minimizes the potential for rationality shortfalls, and hence offer support for the usual presumption that informed adults are best placed to make choices that serve their interests, will lessen the sway of repugnance.

D. Heroes and Compensation

Donor-compensation packages should be constructed in a manner consistent with social recognition of praiseworthy behavior. The act of providing a kidney to another person, and thereby saving that person from profound disability or death, is heroic.

Our use of the term “heroic” to describe donors is purposeful, not haphazard; our intention is to offer a reorientation from the common (but imprecise) description of kidney donation as “altruistic.”⁸³ Altruism involves taking an action for the benefit of another without regard for reward.⁸⁴ Heroism, alternatively, supplements altruism with an additional feature: the presence of a “risk of potential harm.”⁸⁵ An anonymous contribution to charity may well be altruistic, but generally it would not be considered to be heroic. A civilian who rushes into a burning building to save a stranger is acting not just altruistically, but also heroically.⁸⁶

Live kidney donors surely behave in a manner that helps others, while also facing risks of serious harms. In the United States, for every 100,000 kidney explantations, approximately thirty-one donors would be expected to perish,

82. Indeed, it might be the suspicion that money leads to diminished rationality that lies beneath some of the aversion to compensated organ donations.

83. Even critics of the current system often refer to it as one based on altruism. See, e.g., Sally Satel, *Introduction* to WHEN ALTRUISM ISN'T ENOUGH: THE CASE FOR COMPENSATING KIDNEY DONORS, *supra* note 6, at 1, 3–4 (Sally Satel ed., 2008); Cody Corley, *Money as a Motivator: The Cure to Our Nation's Organ Shortage*, 11 HOUS. J. HEALTH L. & POL'Y 93 (2011).

84. See OXFORD ENGLISH DICTIONARY ONLINE, available at <http://www.oed.com/view/Entry/5857?redirectedFrom=altruism#eid> (3d ed. 2012) (defining “altruism” first as “disinterested or selfless concern for the well-being of others, esp. as a principle of action.”).

85. Douglas M. Stenstrom & Mathew Curtis, *Heroism and Risk of Harm*, 3 *Psychology* 1085, 1085 (2012). See also Selwyn W. Becker & Alice H. Eagly, *The Heroism of Women and Men*, 59 *AM. PSYCHOLOGIST* 163, 164 (2004) (distinguishing heroism from altruistic behavior by noting that some element of risk is involved in heroic acts); Eranda Jayawickreme & Paul Di Stefano, *How Can We Study Heroism? Integrating Persons, Situations and Communities*, 33 *POL. PSYCHOL.* 165, 167 (2012) (including personal risk as one of the defining characteristics of heroism).

86. The citizen fire rescuer is the paradigmatic example of a civil hero. Zeno E. Franco, Kathy Blau & Philip G. Zimbardo, *Heroism: A Conceptual Analysis and Differentiation Between Heroic Action and Altruism*, 15 *REV. GEN. PSYCHOL.* 99, 105 (2011).

and medical and social complications are even more likely.⁸⁷ Donor behavior, therefore, is more aptly characterized as “heroic” than as “altruistic.”⁸⁸

The prevailing use of the term “altruistic” to describe kidney donors is not only imprecise, but it also sets up a sort of casuistic barrier to considerations of compensated donations. If altruism is the exclusive motivation for donating a kidney in a system that does not provide donor compensation, then existing would-be donors could easily be dissuaded by the introduction of even the option of compensation. Although compensation would recruit some new donors, the fact that they were unwilling to donate “altruistically” propounds that the newcomers’ sole motivation is monetary. That is, the description of current donations as altruistic suggests that compensation leads to substantial or complete crowding out of existing donors, as well as to the recruitment of new, money-motivated sellers.

But current donors are not “mere” altruists; they are taking on risks, they are heroes. Altruism is one element of a donor’s behavior, but the donation transcends altruism. The sacrifice of donors is similar to that of police officers, firefighters, and soldiers: all of these people engage in risky, heroic actions that involve an altruistic element.

The social standing of police officers, firefighters, and soldiers indicates that many acts recognized as heroic by society do not lose their luster simply because monetary compensation is involved.⁸⁹ We generally consider it to be proper to honor such heroes with both thanks and tangible rewards, including material compensation. Further, no one maintains we would have more firefighters saving imperiled children if we resolved to withhold either approbation or financial compensation.

The fact that heroism and monetary reward are not only compatible, but frequently coupled, reflects the basic reality of the transactions at issue: Saving a person in distress at some personal risk is not primarily a financial decision. This does not mean, however, that financial aspects have no influence on such choices. Rather, the financial consequences are weighed, along with other considerations, and the acts are not devalued because compensation is involved. Monetary rewards to kidney donors need not transform donations into standard financial dealings, even in the circumstances of cadaveric donation, which are somewhat less complicated than those of live donation.

Given the centrality of the risk of personal harm in social recognition of heroic acts, it might be thought that the smaller the risk, the less heroic the behavior. Perhaps kidney donation is, or will become, safe enough that it could be construed as a mundane financial transaction. First, however, note that the risk inherent in a heroic act need not be of a physical nature. The potential for regret over a serious elective operation, and for complicated social interactions

87. Dorry L. Segev et al., *Perioperative Mortality and Long-Term Survival Following Live Kidney Donation*, *supra* note 49, at 959.

88. See Franco et al., *supra* note 86.

89. See BEARD, KASERMAN & OSTERKAMP, *supra* note 11, at 182–83.

with recipients and others, would still remain even if the direct medical risks of explantation were eliminated. Second, the mortality risks faced by heroic public servants such as firefighters, for example, are perhaps more comparable to those currently faced by living donors than might be imagined. Annual fatalities per 100,000 full time–equivalent employees in the United States in 2011 were: 2.5 for firefighters, 18.6 for police patrol officers, 25.3 for farming, fishing, and forestry workers, 15.7 for construction laborers, and 19.7 for taxi drivers.⁹⁰ Although driving a cab is evidently far riskier than being a firefighter, and even somewhat riskier than being a police officer, the public does not ordinarily see cab drivers as heroes. This difference in perception reflects the altruistic component inherent in police and firefighter work. Further, the statistics are consistent with the experimental findings of Douglas M. Stenstrom and Mathew Curtis, who note that although some risk of harm is necessary to generate wide agreement that an act is heroic, that degree of harm does not have to be particularly severe; apparently, “even a low possibility of jeopardy can confer the status of ‘hero.’”⁹¹

The firefighter (or police, or military) analogy is useful for considering more generally the social response to foreseeable dangers.⁹² We know that there is some chance (even a near certainty, alas) that some of our citizens will face the horrific circumstance of a burning house, and sometimes, even a burning house with loved ones inside. We could insist that they handle the situation themselves, and surely many or most parents, for instance, would brave the flames to attempt to save an imperiled child. But recognizing this risk, we have instead set up a system where we use trained (and, typically, paid) professionals, who are on call to do their best in such grave circumstances. In general, it is extremely beneficial that this aid is available, that the trained and compensated professionals can replace those desperate actions of family members that would otherwise be forthcoming. We do not think of establishing this rescue system as immoral, as setting up a market in human lives, nor do we think of the compensated firefighters as engaged in some immoral or irrational act. We *do*, however, think of them as heroes.

Some of our citizens face the danger of kidney failure. The system that we have set up now relies to a significant extent on self-help: on mobilizing friends and family members to donate kidneys, even when this mobilization can go so far as to cross the line into coercion of directed donors.⁹³ We could reduce this reliance by establishing a mechanism, in advance, that would allow willing kidney donors to be compensated for being a part of the lifesaving transplant system. We should not think of instituting this rescue system as immoral, or as

90. U.S. DEPT. OF LABOR, BUREAU OF LABOR STATISTICS, CENSUS OF FATAL OCCUPATIONAL INJURIES (2011), available at http://www.bls.gov/iif/oshwc/cfoi/cfoi_rates_2011hb.pdf.

91. Stenstrom & Curtis, *Heroism and Risk of Harm*, *supra* note 85, at 1087 (2012).

92. Sally Satel, *Concerns about Human Dignity and Commodification*, in WHEN ALTRUISM ISN'T ENOUGH: THE CASE FOR COMPENSATING KIDNEY DONORS, *supra* note 6, at 63, 70 (refuting the suggestion that “financial and humanitarian motives reside in discrete realms”).

93. *Id.* at 72–74.

setting up a market in human lives, nor should we think of the compensated donors as engaged in some unethical or irrational act. We *should*, however, think of them as heroes.

IV

A MODEL INCLUDING MONETARY COMPENSATION

Although the idea of providing some form of material compensation to kidney donors actually predates the kidney shortage, specific and detailed proposals for compensation systems are more recent.⁹⁴ In many cases, these plans share key elements, such as establishing payments to living undirected donors, often with some reliance upon in-kind elements of compensation. Our proposal also shares such features, and, in some crucial respects, mimics influential and detailed discussions by authors such as Matas, Becker and Elías, and Cronin and Elías, as well as recent work by one of the present authors.⁹⁵

The principles outlined in part II inform the design and envisioned operation of the compensated donor-procurement system we propose for the United States. First, we seek to (greatly) expand the supply of kidneys that are of appropriate quality and obtained from appropriate donors in an appropriate environment. Each part of this requirement is critical: Only when the kidneys procured are of sufficiently high quality, obtained from donors who make informed decisions, within a system in which donor welfare is strictly protected, can the system be likely to promote social welfare and to secure broad support.

The “pitfalls” discussed in part II also inform our procurement system’s architecture. Of importance in this regard is the evidence indicating the directions and dimensions of substitution behavior between different classes of donors. As noted in part II, Beard, Jackson, Kaserman, and Kim demonstrate that increases in cadaveric donors in the United States reduce living donation, with a long-run offset of approximately forty percent.⁹⁶ In other words, expansion of deceased donation suppresses living donation. The converse, however, does not appear to hold: Cadaveric donations do not fall when live donations increase.

Donor substitution could escalate under systems involving compensation. In particular, if compensation were introduced exclusively for deceased donors, as is done now in Spain, the negative effect on living donation might be even greater than that found by Beard, Jackson, Kaserman, and Kim for increases in

94. See Jesse Dukeminier, Jr., *Supplying Organs for Transplantation*, 68 MICH. L. REV 811, 812 (1970).

95. See generally BEARD, KASERMAN & OSTERKAMP, *supra* note 11; Gary S. Becker & Julio Jorge Elías, *Introducing Incentives in the Market for Live and Cadaveric Organ Donations*, J. ECON. PERSP., Summer 2007, at 3; Cronin & Elías, *supra* note 6; Arthur J. Matas, *A Gift of Life Deserves Compensation: How to Increase Living Kidney Donation with Realistic Incentives*, POLICY ANALYSIS NO. 604, Nov. 7, 2007. Our approach parallels that of Matas rather closely in attempting to maintain as much of the current system as possible and by regarding donors as heroes.

96. Beard et al., *supra* note 14, at 273–75.

uncompensated deceased donations.⁹⁷

Broadly speaking, there are three classes of kidney donors: deceased donors (and their families), living directed donors, and living undirected donors. Interactions and substitutions among these three groups, which appear likely, should be accommodated in the design of any system utilizing compensation. There are advantages and disadvantages connected with all three groups. Deceased donation lessens most ethical concerns, and enables multiple-kidney (as well as other-organ) harvesting from a single donor, but does so with diminished medical effectiveness and the necessity of having in place a costly system that can respond expeditiously to stochastic organ availability over broad geographic regions. Living directed donors can be strongly motivated, but the very strength of that motivation can perhaps involve a coercive element. Although efforts are made to identify coerced donors, it is hard to separate intrinsic, perhaps even normal, family pressure from invisible but effective coercion. For this reason (and others), the extent of living directed donation is sometimes taken as a measure of failure in the procurement system: Healthy people feel compelled to provide parts of their bodies to sick relatives because they see no alternatives.⁹⁸ Living undirected donors undergo similar medical risks as living directed donors, but the lack of a personal connection means that those risks must be recompensed by some combination of warm-glow rewards, cost reimbursement, and other types of compensation, which also hold the potential to undermine the rationality of decisions to donate. It is hard to know the proportions among donor types that would involve the highest social net benefits, and how those ideal proportions might change as medical techniques and populations of potential donors and recipients undergo change.

Without a good gauge of social optimality, in the short term it probably makes sense to achieve a meaningful net increase in donated organs without inducing the elimination (or substantial diminution) of any donor group. The significant opposition to compensation (and hence heavy reliance upon other-directed motives) suggests that particular concerns would attach to the possibility of living directed donors being suppressed through increased cadaveric and compensated living undirected donation.

With these preliminaries in the background, the primary characteristics of our proposal may be summarized as follows:

A. A publicly funded and controlled monopsony will procure all organs, and will be the sole agent legally allowed to compensate donors and to distribute organs for transplant.⁹⁹ This organization will not be permitted to solicit kidneys, beyond the provision of the sort of factual information that transplant centers now make available

97. *Id.*

98. For a discussion, see BEARD, KASERMAN & OSTERKAMP, *supra* note 11, at 47.

99. In the United States, most dialysis treatment is paid for with public funds, as are most kidney transplant costs; transplants for most patients save money relative to ongoing dialysis within a few years. Even \$90,000 payments for kidneys typically would result in cost savings relative to dialysis. See Arthur J. Matas & Mark Schnitzler, *Payment for Living Donor (Vendor) Kidneys: A Cost-Effective Analysis*, 4 AM. J. TRANSPLANTATION 216, 216 (2003).

for potential living donors.

B. Organs obtained will be distributed according to existing algorithms.

C. The default position of all persons is that of being a nondonor: Multiple affirmative steps must be taken to facilitate moving to living donor status, and opt in (or forced choice) will remain in place for the deceased-donor system.

D. Cadaveric donors (or their families), living directed donors, and living undirected donors will all receive compensation packages, although they will differ substantially, in part for reasons of donor substitution. The underlying attitude governing the system will be that “donors are heroes,” and the compensation will reflect this status.

E. Compensation to donors will consist of a package of benefits and recognition, of which financial payments, some of them delayed, are but a part.

F. Criteria that must be met for qualification as a donor will be public, and undirected living donors, in particular, will continue to undergo a rigorous vetting process to ensure medical and psychological suitability.

Part of the appeal of a monopsony structure is that the existing system, with the Organ Procurement and Transplantation Network and the United Network for Organ Sharing, is essentially a monopsony. The primary benefits of a public-monopsony format are (1) transparency and the promotion of public understanding, (2) ease in ensuring national uniformity in donor-selection and distribution rules, and, (3) no incentives to compete in ways that would undermine the quality of matches or suggest commercialization.

Aside from the inexorable deaths of end-stage renal disease patients, the depravity associated with the black market in organ transplants is perhaps the most disturbing aspect of the current system. A number of economists and others studying the organ shortage—Osterkamp, for example—have suggested that a major consequence of the black market is to undermine the uncompensated-donor system itself.¹⁰⁰ If, one may reason, many donors are getting paid, why should I donate my own or a relative’s organs for nothing? From this perspective, the reliance on nonmonetary motives within the official system leads to a shortage, which creates a black market, which in turn undermines those nonmonetary impulses, exacerbating the shortage further, and so on. In contrast, with a publicly funded and operated monopsony, with oversight boards composed of advocates for patients, physicians, ethicists, and community leaders, potential donors are far more likely to accept the presented levels of compensation as accurate indicators of what other donors receive. The monopsony can, and should, operate with the highest level of transparency, where the criteria for donor qualification, levels of compensation, and the algorithms used to distribute organs are all widely accessible.

If, instead, organ-procurement organizations are allowed to compete, it seems likely that they will react to their circumstances strategically—for example, by altering their criteria or levels of compensation to obtain an advantage in donor recruitment, or to receive favorable treatment from transplant centers. An interest in favoring their own patients could also lead to

100. Rigmar Osterkamp, Presentation at the Western Economic Association Annual Conference: Why a Shortage of Kidneys Under an Inconsequently Altruistic System May Feed Itself (2006).

medically inferior matches, although this species of favoritism is possible in the current system as well. Although rivalry among firms would ordinarily benefit society (and be welcomed by economists), sometimes the trappings and effects of commercial rivalry, including advertising and even low prices, do not serve the social good. There are many “markets” that are tolerated and legal, even though excessively commercialized versions are not permitted: Dutch coffee shops and British casinos are two cases in point from the world of vice policy. If the full genius of modern marketing were to be brought to bear on such markets, their continued legality would be placed in doubt.¹⁰¹

Compensated organ exchanges would be, at least at first, in a similar situation. The existence of an official procurement system able to offer material compensation to donors is by no means assured. Further, there is an independent public good, which one might describe as trust, that would be undermined by the existence of variations in compensation (or other conditions of donation) or by unrestrained donor recruiting tactics. This negative externality arises precisely because of the mixed motives involved in organ donation, where some of the motives might be placed at risk of being undermined by overt competition—including price competition—among organ-procurement organizations.

We propose different packages for deceased donors (or, specifically, their families), living directed donors, and living undirected donors. The existing system in Spain can provide some guidance for deceased donations. Compensation in Spain consists of several thousand euros, offered at the time of death as funeral assistance.¹⁰² The procurement officers have great discretion in the use of this incentive, but in any event, the compensation is not presented as “buying an organ.” Rather, survivors are informed that the program, which is government supported, has funds available to assist families with funeral expenses in recognition of their loved one’s gift. The potential donors also are presented with ethical arguments in support of donation.¹⁰³

It is hard to identify substantial, concrete risks associated with gently incorporating such compensation into discussions with family members concerning a deceased relative’s organs. There might be an abstract uneasiness associated with “commodification of the human person,” perhaps tied to slippery-slope reasoning that full-scale markets in body parts will soon ensue. These highly speculative apprehensions—which seem even less of a threat for deceased than for living donors—must be weighed against the high likelihood that financial incentives will be effective in procuring additional deceased-donor organs.¹⁰⁴

101. See JIM LEITZEL, *REGULATING VICE: MISGUIDED PROHIBITIONS AND REALISTIC CONTROLS* 264–65 (2008).

102. David Rodríguez-Arias, Linda Wright & David Paredes, *Success Factors and Ethical Challenges of the Spanish Model of Organ Donation*, 376 *LANCET* 1109, 1110–11 (2010).

103. For a description and analysis of the Spanish approach, see generally *id.*

104. Cf. BEARD, KASERMAN & OSTERKAMP, *supra* note 89, at 181–82 (attributing the U.S. surplus of cadavers to the “funeral assistance” payments made to families).

Living directed donors can be expected to persist in significant numbers under any procurement system that produces recurrent shortages. The motivation of such donors—saving a family member or close associate—is extremely durable. However, as the substitution results of Beard, Jackson, Kaserman, and Kim show, these decisions are not immutable: Evidently many people are reluctant to undergo directed donation unless they feel it is quite necessary.¹⁰⁵ That feeling of compulsion now varies with the level of deceased donation. Thus, the potential exists for compensation-induced increases in cadaveric donation to undermine living directed donation. Increases in living undirected donation can be expected to reduce directed donation for similar reasons.

Living directed donors engage in a selfless, praiseworthy act—although their strong personal interest in the organ recipient adds a self-regarding element to their behavior.¹⁰⁶ To encourage such acts, and to counter the potential substitution effect arising from increased deceased donations, living directed donors should receive a compensation package that includes financial recognition, along with health-related reciprocal benefits, such as follow-up care and subsidized insurance.

Living undirected donors present the most exacting challenge to the design of a compensation package. They represent the category of donor for whom any undesirable effects of financial compensation are of the greatest concern.

Already, a small but rising group of people donate to unrelated patients, even without financial compensation. Utilizing U.S. data up to 2008, Julie Lin and coauthors find that “[u]nrelated (non-spousal) living kidney donation increased from 1% in 1987 to >20% in the years since 2003.”¹⁰⁷ It seems improbable that these generous persons would refrain from donating in the event that financial assistance became available.¹⁰⁸ It is possible, however, that small payments would put off more live donors than they encourage: The extent to which donation would serve as a public signal of self-sacrifice would be undermined by small payments.¹⁰⁹ Even if the public signal is unaffected, the personal image of undertaking a good deed might suffer from compensation, despite the potential for donors to redirect payments to charity. The lesson here is to offer more than token financial recognition to ensure that compensation bolsters supply.

Substantial payments avoid the problem of reducing live donations, but compensation that is “too high” presumably leads to problems of another type,

105. See Beard et al., *supra* note 14, at 263–64.

106. But see the discussion of the potential for intrafamily coercion. *Supra* text accompanying notes 60–69.

107. Julie Lin et al., *Longitudinal Trends and Influence of BMI Mismatch in Living Kidney Donors and Their Recipients*, 43 INT’L UROLOGY & NEPHROLOGY 891, 893 (2011).

108. We assume all money payments can be redirected to a charity of the donor’s choosing.

109. See Uri Gneezy & Aldo Rustichini, *Pay Enough or Don’t Pay at All*, 115 Q.J. ECON. 791, 791–92 (2000); Carl Mellström & Magnus Johannesson, *Crowding Out in Blood Donation: Was Titmuss Right?*, 6 J. EUR. ECON. ASS’N 845, 845–47 (2008).

that of encouraging purely money-motivated donors. Critics of compensation often suggest that a main concern with monetary compensation is that the poor will end up being parts suppliers to the rich; that, being poor, they will be placed in a coercive situation, and that sellers will attempt to pose as more healthy than they are to qualify for donation.¹¹⁰ The extent and timing of monetary payments, and their position within the larger ambit of donor benefits, can be designed to allay some of these fears.

The compensation provided to donors of any type will be composed of a package of benefits and corresponding recognition. In the case of living undirected donors, benefits such as follow-up medical care, health-insurance subsidies, incentives to participate in ongoing research on the consequences of donation, and life insurance, will comprise an important and perhaps majority part of the overall package. Acknowledgement, private or public, of the praiseworthy act of donation will also continue to be a feature of the transplant system.¹¹¹

A number of authors and commentators have speculated on the likely magnitude of financial compensation necessary to substantially increase living undirected donation.¹¹² Current black-market prices are not a reliable guide, of course, because these exchanges take place without access to contract and tort law, and in environments that are not protective of donor interests. One approach involves economic calculations based on pricing risks of donor death, reduced quality of life, and lost employment time. Utilizing such an approach, Becker and Elías suggest that the United States could produce an effectively inexhaustible supply of living donors for about \$15,000 each.¹¹³ An alternative approach involves the assumption that large numbers of new donors only would become available if compensation would be of sufficient magnitude to make a qualitative difference in a person's life chances. A number of German transplant officials have conjectured that, for healthy young people in Germany, perhaps as much as €80,000–100,000 would be necessary to induce sufficient donations, because such a sum would allow for starting a business, buying an apartment, and so on.¹¹⁴ This notional figure might well be accurate for Germany, but it seems more would be required to end the flow shortages (at least for the near future) in the United States.

110. See generally Francis L. Delmonico & Nancy Scheper-Hughes, *Why We Should Not Pay for Human Organs*, 38 ZYGON 689 (2003); David J. Rothman, *Ethical and Social Consequences of Selling a Kidney*, 288 JAMA 1640, 1640–41 (2002).

111. In Iran, which allows compensated kidney donations, recipients as well as compensated and uncompensated donors are invited to an annual celebration held in recognition of the transplant participants. SIGRID FRY-REVERE, *THE KIDNEY SELLERS: A JOURNEY OF DISCOVERY IN IRAN* 89 (2014). Poor kidney recipients have some of the recompense to the donors covered by charitable organizations. Mitra Mahdavi-Mazdeh, *The Iranian Model of Living Renal Transplantation*, 82 KIDNEY INT'L 627, 632 (2012).

112. See, e.g., BEARD, KASERMAN & OSTERKAMP, *supra* note 11, at ch. 8.

113. Becker & Elías, *supra* note 95, at 11.

114. This view was widely expressed at the workshop on the organ shortage at CESifo Group, Munich, Germany, June 2007, in private conversations with the first author.

Recognizing its highly speculative character, we suggest a total payment of around \$50,000 for living undirected donation; this monetary component would be combined with other benefits (including life and health insurance) which would be worth tens of thousands of dollars. Further, we propose that the \$50,000 be back-loaded: perhaps \$25,000 at the time of the transplant, and then \$5000 per year for the subsequent five years. The delay can discourage people who only consider donating because of pressing monetary problems. Further, the ongoing annual payment can help ensure that donors remain in contact for medical and psychological follow-ups. The value of such follow-ups, already meaningful, will be enhanced when compensation is introduced, because there currently is little directly relevant information on medical and psychological outcomes under compensated living donation.

Living directed donors would presumably receive much lower monetary compensation, perhaps \$10,000 total, combined with the medical and insurance benefits. Again, this monetary acknowledgement can be back-loaded. Cadaveric donors (or, more specifically, their families) would probably respond strongly to additional compensation in the \$5000 range for multiple organs, based on Spanish experience and the U.S. system for whole-body cadaveric donation. All of these figures, if remotely accurate, imply that expanded transplantation will save many billions of dollars each year in foregone dialysis costs. The gains in the length and quality of life for those who receive the incremental transplants, of course, would be even more significant.¹¹⁵

Regret over donation, which is an infrequently reported condition, might be more of a worry with compensated undirected donors.¹¹⁶ Information provision and donor screening can help to remedy this problem, but a “cooling off” period—between the time the decision is made to pursue donation and the donation itself—may also be helpful. Prospective donors must be given many opportunities to opt out in an honorable fashion. The necessary medical tests automatically provide some of this time buffer, but there is a case to be made for purposely augmenting the delay to ensure the commitment of donors.

Fortunately, this issue is not arising *ex nihilo*. The current system for dealing with uncompensated, living undirected donors has had to ensure that “[t]he person who gives consent to be a donor should be competent, willing to donate, free of coercion, medically and psychosocially suitable, fully informed of the risks and benefits as a donor, and fully informed of risks, benefits, and alternative treatment available to recipient.”¹¹⁷ The guidelines that have been

115. Richard A. Epstein, *Altruism and Valuable Consideration in Organ Transplantation*, in WHEN ALTRUISM ISN'T ENOUGH: THE CASE FOR COMPENSATING KIDNEY DONORS, *supra* note 6, at 79, 91 (providing some rough calculations indicating a social gain of more than \$2 million per patient from replacing dialysis with a transplant).

116. Márcia Fátima Faraldo Martinez Garcia, Luis Gustavo M. Andrade, and Maria Fernanda C. Carvalho examined fifty consecutive directed donors in a Brazilian hospital. All fifty of the donors rated their experience as positive, and would choose to donate again. Garcia et al., *supra* note 53, at 9 (2013).

117. F.L. Delmonico & M.A. Dew, *Living Donor Kidney Transplantation in a Global Environment*,

developed and implemented for uncompensated, living undirected donors seem to be directly relevant for compensated donors, too.

Consider, for instance, the experiences of a Swedish transplant center, and the subsequent recommendations, as reported in Annette Lennerling, Ingela Fehrman-Ekholm, and Gunnela Nordén.¹¹⁸ The center undertakes no active recruiting of undirected donors.¹¹⁹ A person who contacts the center is given a telephone interview, with the procedure and the risks explained therein. If the prospective donor is not yet ruled out, materials are mailed. The person must then make a second proactive decision to contact the center. Medical tests and interviews ensue, followed by another appointment, more tests, and interviews. If the prospective donor's case is accepted at a board meeting, the individual is given three months to reconsider. After the three-month cooling-off period, the would-be donor must again be proactive in contacting the center; if the person does not make contact, the case is dropped without further communication. If a transplant does ensue, anonymity is maintained between the donor and the recipient, with an eye to reducing the potential psychological strain on the recipient.¹²⁰

At the time of the Lennerling, Fehrman-Ekholm, and Nordén report, of forty-three initial contacts, only four were accepted by the center, and one of these candidate donors did not get back in touch after the three-month waiting period.¹²¹ The remaining three candidates provided donations. The ongoing evaluation of the procedure, undertaken by the team at the transplant center, developed the suggestion only to accept donors at least thirty years old, and to apply two elements of their scheme for assessing undirected donors—the psychiatric appraisal and deep social evaluation—to directed donors, too.¹²²

It is hard to see how this rigorous procedure to identify suitable donors would need to be altered if donor compensation were added to the mix. In the United States, transplant centers already include an “Independent Living Donor Advocate,” whose mission is to protect the interests of living donors.¹²³ Advocates oversee the donation process in concert with the psychologists and others tasked with evaluating the donor's mental health and motives. Those donors who persist through the multistage process would be very unlikely to experience regret as usually conceived. Further, potential donors could be required to attend workshops with previous living donors who could frankly

71 KIDNEY INT'L 608, 609 (2007).

118. Annette Lennerling et al., *Nondirected Living Kidney Donation: Experiences in a Swedish Transplant Centre*, 22 CLINICAL TRANSPLANTATION 304 (2008).

119. *Id.* at 304–05.

120. *Id.* at 306.

121. *Id.* at 305. The Philippines, which has a national system for undirected donors, also screens out the vast majority of potential donors. See M.N. Manauis et al., *A National Program for Nondirected Kidney Donation from Living Unrealized Donors: The Philippine Experience*, 40 TRANSPLANTATION PROCEEDINGS 2100, 2101–02 (2008).

122. *Id.* at 307.

123. See J. Steel et al., *A National Survey of Independent Living Donor Advocates: The Need for Practice Guidelines*, 12 AM. J. TRANSPLANTATION 2141, 2141 (2012).

discuss their experiences.¹²⁴ As mentioned before, the “default option” is that everyone is a nondonor unless and until they act affirmatively.

Nothing in the proposals given here would require any fundamental change in the organ-allocation algorithms. In fact, a greatly expanded supply of organs would increase the average quality of matches, reduce second transplants, and partially relieve physicians of the weighty responsibilities associated with rationing life itself. The current algorithm gives some points to a nonmedical (in fact, contra-indicated) characteristic, time on the waiting list, in deference to fairness. This too could continue. With more transplants, the agonizing problem of identifying the best rationing algorithm will diminish.

Although we believe that financial compensation, used correctly and in the proper spirit, can save thousands of lives and billions of dollars, care must be taken in any transition. For example, if we introduce compensation to all three classes of donors simultaneously (as we recommend), the time period between the announcement and actual implementation will tempt some living directed donors to wait to donate until the benefits package becomes available. Thus, some number of transplants will be postponed, and this is medically inadvisable, even if feasible given continuing dialysis for the potential recipient.¹²⁵ Similarly, it will be necessary to decide what role donor-consent rules would or could play in a system with deceased-donor compensation. These are not trivial issues, but are probably not serious enough to delay implementation of an otherwise desirable compensatory system.

Michele Goodwin has suggested that compensation be studied through trials using the various U.S. states as laboratories.¹²⁶ This suggestion is fully consonant with long-term practice in the Medicaid program, where states often are given some flexibility to experiment with new delivery mechanisms, wellness programs, and the like.¹²⁷ It is reasonable to consider such a decentralized course for compensated-donor trials; however, we have some reservations about this idea, despite its obvious merits. In particular, if states differ in their compensation packages, with some offering more than others, and many offering nothing, one can envision a “migration” of potential donors in response to the “arbitrage opportunity” presented by “price dispersion.” The use of these economic terms-of-art is intentional: Such variation leads to explicitly economic

124. The National Kidney Foundation recommends that would-be donors contact (through their transplant center) previous donors (and recipients) prior to donating. *See* Helpful Tips for Living Donors and Caretakers, NATIONAL KIDNEY FOUNDATION <http://www.kidney.org/transplantation/livingdonors/infotips.cfm> (last visited Jun. 24, 2014).

125. This sort of strategic reaction is impossible in the case of the family of deceased donors because the donation window is too short.

126. Michele Goodwin, *Rethinking Federal Organ Transplantation Policy: Incentives Best Implemented by State Governments*, in WHEN ALTRUISM ISN'T ENOUGH: THE CASE FOR COMPENSATING KIDNEY DONORS, *supra* note 6, at 111, 112. *See also* Sally Satel, Joshua C. Morrison, & Rick K. Jones, *State Organ-Donation Incentives Under the National Organ Transplant Act*, 77 LAW & CONTEMP. PROBS., no. 3, 2014, at 217.

127. *See generally* KIMBERLY J. MORGAN & ANDREA LOUISE CAMPBELL, THE DELEGATED WELFARE STATE: MEDICARE, MARKETS, AND THE GOVERNANCE OF SOCIAL POLICY (2011).

calculations that may well undermine support for the enterprise. In much the same way that T. Randolph Beard, David L. Kaserman, and Rigmar Osterkamp argue that each country should limit donors to its own citizens, we suggest that if separate state systems are employed, the compensation packages should be standardized across them all.¹²⁸

Finally, in implementing a reform that includes valuable consideration for organ donors, it might make sense to simultaneously pursue or experiment with some measures that aim at reducing the long-term demand for kidneys. Conditions such as hypertension and obesity that lead to diabetes are particularly implicated in the demand for kidneys. Increased attention to these prequels can pay off down the road. As Beard, Kaserman, and Osterkamp note, “Although not all dialysis patients are reasonable candidates for transplantation, it is not too misleading to say that every potential [end-stage renal disease] patient who is eliminated by preventive measures is as socially valuable as a living kidney donor.”¹²⁹

V

CONCLUSION

“[A]n uncertain hypothesis cannot justify a certain evil unless an equal evil is equally certain on the opposite hypothesis.” —Bertrand Russell¹³⁰

The introduction of monetary compensation, as a tool for use by organ-procurement officers in concert with many others, is at once both a major reform and a small step. It is a major reform because, until now, although we do cover some expenses and even offer some forms of valuable consideration, we have not allowed monetary payments for those who generously donate organs. Any payments that are introduced will form an important element of the overall package of benefits, recognition, and thanks offered to donors. Much of the total compensation, however, will be in the form of health services, life insurance, and similar benefits that reflect reciprocity, as well as respect for the donor and his or her welfare.

The use of compensation is at the same time a very small step. In current practice, people donate organs from many motives: to help a loved one, to show gratitude to physicians one respects, to make an example of helping to others in one's circle, and so on. The life experiences of the potential donor and his family, their treatment by the medical establishment, and their financial circumstances can all inform this choice. The monetary supplement will be a further inducement to those individuals for whom the idea of donating an organ is inherently attractive. Payments will not generally be so high, or so immediate, as to attract persons (and have them process through the multiple screens) who are financially desperate, or who otherwise find the transaction repugnant.

128. BEARD, KASERMAN & OSTERKAMP, *supra* note 11, at 204.

129. *Id.* at 115.

130. BERTRAND RUSSELL, *Philosophy for Laymen*, in UNPOPULAR ESSAYS 21, 29 (1950).

As part of the recognition of a heroic act, monetary compensation allows society to validate the donor's decision in a meaningful way. We attempt to provide such validation under the current system, but we are strictly limited in our available means. As a result, we induce far below the "socially optimal" number of kidney transplants—a number that is well approximated by the length of the waiting list. To move us closer to the social optimum, we need to offer further inducements to donors. This article makes some specific proposals about how to do that, and monetary compensation is included among the inducements. Perhaps this proposal, or similar ones, or maybe any proposal that involves monetary compensation, has serious shortcomings—but we will not know for sure unless we try them.¹³¹ The claims of large ethical or other costs associated with any (increase in) monetary compensation to donors are based on "an uncertain hypothesis." Unfortunately, we do know the "certain evil" that the status quo will bring: thousands of people in the United States dying every year because they did not procure a kidney that, on average, would have given them many additional years of a quality life.

131. And when those trials reveal errors, they can be corrected, or the trials can be reversed.