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ON THE ETHICS OF PAYING ORGAN DONORS: AN ECONOMICS PERSPECTIVE

T. Randolph Beard & David L. Kaserman

INTRODUCTION

A severe and chronic shortage of cadaveric human organs available for transplantation has persisted in the United States and other countries for more than three decades. During that time, more patients have been added to transplant waiting lists each year than have been removed as a result of a successful transplant or death.¹ As a consequence, the waiting lists continue to grow, expected waiting times increase, and the number of patient deaths on the lists rises. Today, there are approximately 90,000 patients on official transplant waiting lists, and more than 6,000 of them have died each year for at least the past four years as a direct consequence of the organ shortage.²

In the meantime, considerable debate has occurred about how best to resolve that shortage. That debate has spawned dozens of articles and books advocating a variety of modifications to our current organ procurement system—modifications that are intended to increase the number of organs collected.³ Several of the proposed policies have been implemented, both in the United States and abroad, with varying degrees of success.⁴ To our knowledge, however, none of these policies has succeeded in completely eradicating the organ shortage.

1. Much of the relevant data may be found at United Network for Organ Sharing, www.unos.org (last visited Jan. 13, 2006).

2. The number of deaths of patients on transplant waiting lists may either overestimate or underestimate the number of deaths attributable to the organ shortage. On the one hand, some of these patients would probably have died even if they had received a transplant. On the other hand, some patients are not put on the lists because of the shortage. Also, some patients are removed from the lists when their health deteriorates to the point that they cannot withstand the transplant surgery. Deaths of patients in either of these last two categories are not counted.

3. For a survey of the relevant literature, see DAVID L. KASERMAN & A.H. BARNETT, *THE U.S. ORGAN PROCUREMENT SYSTEM: A PRESCRIPTION FOR REFORM* (2002).

4. See, e.g., Alberto Abadie & Sebastian Gay, *The Impact of Presumed Consent Legislation on Cadaveric Organ Donation: A Cross Country Study* (Nat'l Bureau of Econ. Research, Working Paper No. 10604, 2004); Monique C. Gorsline & Rachelle L.K. Johnson, *The United States System of Organ Donation, the International Solution, and the Cadaveric Organ Donor Act: "And the Winner Is . . ."*, 20 J. CORP. L. 5 (1994); David E. Jefferies, *The Body as Commodity: The Use of Markets to Cure the Organ Deficit*, 5 IND. J. GLOBAL LEGAL STUD. 621 (1998); Melissa N. Kurnit, *Organ Donation in the United States: Can We Learn from Successes Abroad?*, 17 B.C.

One policy option that has not yet been tried is the use of financial incentives, or donor payments, to encourage an increased rate of consent among potential cadaveric organ donors. Ironically, that is the policy universally recommended by economists writing on this subject.⁵ Moreover, it must be recognized that a shortage is, by definition, an economic phenomenon. A shortage is defined as an excess of the quantity of a good demanded over the quantity supplied at a given price.⁶ Involving the distinctly economic concepts of supply and demand, shortages of anything clearly fall within the bailiwick of standard economic analysis. Those interested in resolving a shortage, then, should turn to economics for a solution.

One of the most fundamental propositions of microeconomics is that shortages are caused by prices held artificially below their equilibrium, or market-clearing levels.⁷ As a result, shortages can generally be resolved in a straightforward manner simply by allowing price to rise to its market-determined value. For at least the past two decades, economists, recognizing this fact, have proposed paying organ donors as a direct method to resolve the organ shortage. Indeed, every economist who has written on this subject has reached precisely the same conclusion—the organ shortage is caused by the legal ban on donor payments and can be resolved successfully by eliminating that ban.

That proposal, however, has met considerable resistance, primarily in the form of a set of alleged ethical objections.⁸ In the meantime, as the debate on this subject has proceeded, something on the order of 50,000 patients have lost their lives, arguably as a direct result of the

INT'L & COMP. L. REV. 405 (1994); L. Roels et al., *Three Years of Experience With a 'Presumed Consent' Legislation in Belgium: Its Impact on Multi-Organ Donation in Comparison With Other European Countries*, 23 *TRANSPLANTATION PROC.* 903 (1991).

5. See, e.g., Andy H. Barnett et al., *A Market for Organs*, *Soc'y*, Sept.–Oct. 1996, at 8, reprinted in *ENTREPRENEURIAL ECONOMICS: BRIGHT IDEAS FROM THE DISMAL SCIENCE* 89 (Alexander Tabarrok ed., 2002); L. Dwayne Barney, Jr. & R. Larry Reynolds, *An Economic Analysis of Transplant Organs*, *ATLANTIC ECON. J.*, Sept. 1989, at 12; Roger D. Blair & David L. Kaserman, *The Economics and Ethics of Alternative Cadaveric Organ Procurement Policies*, 8 *YALE J. ON REG.* 403 (1991); Marvin Brams, *Transplantable Human Organs: Should Their Sale Be Authorized by State Statutes?*, 3 *AM. J.L. & MED.* 183 (1977); Lloyd R. Cohen, *Increasing the Supply of Transplantable Organs: The Virtues of a Futures Market*, 58 *GEO. WASH. L. REV.* 1 (1989).

6. See ROBERT B. EKELUND, JR. & ROBERT D. TOLLISON, *MICROECONOMICS: PRIVATE MARKETS AND PUBLIC CHOICE* 67 (6th ed. 2000), or virtually any principles of economics text.

7. See *id.*

8. See, e.g., Arthur Caplan, *Ethical and Policy Issues in the Procurement of Cadaveric Organs for Transplantation*, 311 *NEW ENG. J. MED.* 981 (1984).

success those objections have had in preventing the adoption of the proposed donor payments.⁹

Given the likely ability of donor payments to resolve the shortage and the extreme cost in human lives of failing to resolve it, one would think that the arguments to date that have forestalled the use of payments would be grounded solidly upon a set of clear and convincing logical propositions supported by a substantial body of empirical evidence. One would be sadly mistaken.¹⁰ Instead, a review of the literature in this area reveals a series of statements, claims, and superficial “ethical” arguments that, upon any sort of close inspection, are unconvincing at best, and at worst just plain nonsense.¹¹ The arguments are either logically invalid or founded upon unstated, untested, and unrealistic assumptions regarding what are, at heart, empirical questions, such as the price elasticity of cadaveric organ supply.¹²

Here, we review and rebut some of the more common ethical arguments that have been employed—successfully so far—by opponents of donor payments. Following that critical review, we present a more straightforward approach to this issue using the traditional cost-benefit methodology of economics. We are certainly aware of and agree with the view that ethical or moral issues cannot be resolved on the basis of a cost-benefit analysis alone. At the same time, however, we do not believe that important public policy questions can be answered, or ethically evaluated, in the absence of this sort of information.¹³ Moreover, given the demonstrated illegitimacy of most, if not all, of

9. Waiting list deaths for kidney, liver, and heart patients are reported for the period 1988–1998 in KASERMAN & BARNETT, *supra* note 3, at 17, 24, 25.

10. In evaluating the ethical objections to paying organ donors, Radcliffe Richards wrote: “People do not resort to arguments as bad as these unless they think arguments are badly needed.” Janet Radcliffe Richards, *Nephrological Goings On: Kidney Sales and Moral Arguments*, 21 J. MED. & PHIL. 375, 406 (1996).

11. One commentator has gone so far as to state that donor payments would undermine “the nobility of the medical profession.” See Francis L. Delmonico, *Exchanging Kidneys—Advances in Living-Donor Transplantation*, 350 NEW ENG. J. MED. 1812, 1813 (2004). Somehow, that alleged effect does not seem to justify six thousand deaths per year. Moreover, why paying organ donors would have this effect while paying physicians does not is not explained.

12. In addition, some of these arguments reflect a fundamental ignorance or misunderstanding of established economic principles. See David Kaserman, *Markets for Organs: Myths and Misconceptions*, 18 J. CONTEMP. HEALTH L. & POL’Y 567 (2002).

13. The American Medical Association’s (AMA) Council on Ethical and Judicial Affairs appears to recognize the need to incorporate costs and benefits in the ethical evaluation of alternative policy proposals. See their June 2002 Statement approving trials of financial incentives, endorsed by the AMA House of Delegates. Also, Thomas Peter’s proposal to base policy choices on the number of lives saved is consistent with a cost-benefit criterion if lives are assigned a sufficiently large value. See Thomas G. Peters, *Life or Death: The Issue of Payment in Cadaveric Organ Donation*, 265 JAMA 1302 (1991).

the ethical objections to donor payments, the cost-benefit calculations assume heightened importance.

II. ETHICAL (AND OTHER) ARGUMENTS AGAINST DONOR PAYMENTS

Over the years, a number of arguments presented ostensibly have provided a basis for maintaining the traditional organ procurement policy of altruistic-only (i.e., zero price) donations, despite the policy's demonstrated inability to provide an adequate supply of transplantable organs.¹⁴ At one point or another, all of these arguments (with, perhaps, one exception)¹⁵ have been thoroughly and convincingly rebutted in the published literature on this subject.¹⁶ Nonetheless, like weeds in a garden, these arguments continue to sprout in the ongoing debate and indeed recently succeeded in forestalling federal legislative action that would have enabled limited trials designed to gauge empirically the impact of financial incentives on cadaveric organ supply.¹⁷ Specifically, two bills—one in the House and one in the Senate—were killed in committee by opponents of financial incentives. Consequently, it appears continuously necessary to point out the rather glaring weaknesses of these objections to donor payments.

Accordingly, in this section, we briefly rebut some of the most common arguments raised by opponents of financial incentives. Our treatment of these arguments will be neither thorough nor exhaustive. As noted above, a more complete and compelling criticism of each can be found in the prior literature.¹⁸ Our objective here is simply to survey the most common arguments and illustrate the extraordinarily poor quality of our opponents' objections.

A. *Accessibility of Transplants to the Poor*

One of the early arguments adopted by opponents of financial incentives is that if organs are purchased from donors at a positive price,

14. See KASERMAN & BARNETT, *supra* note 3, at 54–69.

15. See *infra* text accompanying notes 48–52 and Part IV.

16. See, e.g., Blair & Kaserman, *supra* note 5; Cohen, *supra* note 5; Gerald Dworkin, *Markets and Morals: The Case for Organ Sales*, 60 MOUNT SINAI J. MED. 66 (1993); Henry Hansmann, *The Economics and Ethics of Markets for Human Organs*, 14 J. HEALTH POL. POL'Y & L. 57 (1989); Radcliffe Richards, *supra* note 10; Janet Radcliffe-Richards et al., *The Case for Allowing Kidney Sales*, 351 LANCET 1950 (1998).

17. Francis L. Delmonico, *Financial Incentives for Organ Donation*, MEDSCAPE TRANSPLANTATION, Jan. 7, 2004, available at www.medscape.com/viewarticle/456739.

18. See *supra* note 16.

they in turn must be sold to recipients at a positive price.¹⁹ As a consequence of such resale (and implicitly assuming that the latter price would be high), only wealthy individuals would be able to afford transplants. Poorer people allegedly would be priced out of the transplant market by the added cost of donor payments.²⁰

The most obvious fallacy of this argument is that it fails to distinguish between the use of money to *acquire* organs from donors and the use of money to *allocate* organs to waiting recipients. Obviously, the price system can be used for both, but its use for one does not necessitate its use for the other. Consequently, financial incentives can be incorporated readily within the current system without any alteration in the manner through which transplantable organs are distributed to patients. The only difference would be that more organs would become available for distribution. Because many of the patients on the waiting lists are poor, they would benefit greatly from the use of financial incentives.

Also, it is worth pointing out that without third-party payment (primarily by the federal government), poor people could not afford transplants today. The average cost of a transplant runs from approximately \$100,000 for a kidney transplant to well over \$250,000 for a liver transplant.²¹ The additional cost of donor payments would not add a significant amount to these figures. Indeed, it is even possible that the increased efficiency of the overall organ procurement process would lower transplant costs.²² Moreover, kidney transplantation is a far less costly treatment modality for renal failure than dialysis. Thus, the federal government's End Stage Renal Disease (ESRD) program saves thousands of dollars annually for each successful kidney transplant performed.²³ As a result, the net cost of instituting donor pay-

19. Laura A. Siminoff & Matthew D. Leonard, *Financial Incentives: Alternatives to the Altruistic Model of Organ Donation*, 9 J. TRANSPLANT COORDINATION 250, 253 (1999).

20. *Id.*

21. KASERMAN & BARNETT, *supra* note 3.

22. That is, it may be more efficient (i.e., less costly) to pay cadaveric organ donors than it currently is to convince them to give away a valuable asset (an organ) for free. Evans reports median charges for organ acquisition costs of \$12,290 for a kidney, \$12,578 for a heart, and \$16,281 for a liver. Roger W. Evans, *Organ Procurement Expenditures and the Role of Financial Incentives*, 269 JAMA 3113, 3113 (1993). A portion of these charges covers the organ procurement organizations' public and professional educational programs and the costs of conducting direct negotiations with families of potential donors. *Id.*

23. That program, established in 1972, covers the costs of both dialysis and transplantation for all U.S. citizens suffering renal failure. Jeffrey M. Prottas, *The Structure and Effectiveness of the U.S. Organ Procurement System*, 22 INQUIRY 365 (1985). We incorporate these cost savings later in our empirical analysis.

ments is likely to be negative. There would be no need to impose any additional costs on transplant recipients.

B. *Economic Coercion of the Poor*

A second argument employed by opponents of financial incentives is that families of the recently deceased may be economically coerced into supplying their relatives' organs when their fundamental religious or moral beliefs would have otherwise prevented them from doing so.²⁴ This argument contains several rather blatant weaknesses. First, it is obviously paternalistic in nature. In preventing donor payments, the ethicist substitutes his or her own values for those of the individuals directly involved in the exchange. Market prices provide incentives that induce us to do many things we would not otherwise do. We usually view such payments as a reward for our efforts, not as something that coerces us to act. As with any other market exchange, the inducement provided by donor payments is the financial gain offered by the organ procurement agency in return for the voluntary agreement to supply organs. The purchasing agent uses no threats or negative sanctions to induce agreement. As a result, no coercion, in the normal sense of the term, is used.²⁵ Moreover, as previous authors have noted, applying this reasoning would lead to an ironic result.²⁶ Those advancing the economic coercion argument are ostensibly trying to help the economically disadvantaged by preventing them from being coerced. But prohibiting compensation for organ donation actually exacerbates their poverty by denying them payment for the organs they provide.²⁷

The sheer nonsense of this argument becomes even more apparent when we consider its policy implications. If one really believes that financial incentives are coercive to low income families and wants to prevent that coercion, a policy that allows donor payments only to families above a certain income level could be instituted. The poor could still donate organs but would not be allowed to receive any

24. See Radcliffe Richards, *supra* note 10, for a more complete rebuttal of this argument.

25. WEBSTER'S NEW COLLEGIATE DICTIONARY 217 (6th ed. 1977) provides the following definitions of "coerce": "1: to restrain or dominate by nullifying individual will 2: to compel to an act or choice . . . they could ~ the citizens by threats but not persuade their agreement . . . 3: to enforce or bring about by force or threat." A voluntary transaction between two willing parties clearly does not qualify as coercion under any of these definitions.

26. Radcliffe Richards, *supra* note 10, at 382.

27. This point was emphasized by Radcliffe Richards: "Our indignation on behalf of the exploited poor seems to take the curious form of wanting to make them worse off still." *Id.* at 377. Later, she wrote: "[P]revention of sales, in itself, only closes a miserable range of options still further. To the coercion of poverty is added the coercion of the supposed protector . . ." *Id.* at 382.

compensation, while higher income donors would be paid. But anyone advocating such a policy will unlikely be seen as a champion of the poor.

Finally, if we are going to base our selection of policy options on the sole criterion of the degree of coercion involved, then we must look at the use of financial incentives not in isolation, but in comparison with our current system. Donor payments would create a mechanism for voluntary exchanges at mutually agreeable prices. Under the current system, however, a physician, nurse, or organ procurement official must try to coax the family of the deceased into giving away an asset that could be worth several thousand dollars. Which system involves greater coercion? By favoring the current system over financial incentives, the proponent is merely choosing moral or emotional coercion over the alleged economic coercion that would accompany donor payments.²⁸

C. *Premature Termination of Care*

Another popular argument advanced by opponents of financial incentives is that the presence of such incentives might result in unwarranted removal of care for critically injured patients in order to collect donor payments.²⁹ This argument has at least two serious shortcomings. First, financial incentives are paid to the families of the deceased, not the attending physician. Thus, the donor's family is the only entity that stands to gain financially from the donor's death. The physician responsible for the patient's care has no more incentive to withhold or terminate treatment for a potential organ donor than for any other patient. The existence of donor payments, then, is very similar to a will. It yields benefits to someone from the patient's death, but no benefits accrue to the physician responsible for the patient's care. If society allows wills, it should not oppose financial incentives on these grounds.

Second, this argument implicitly assumes that the magnitude of donor payments will be sufficiently large to induce family members to pull the plug prematurely on their relatives. Economic reasoning and some limited empirical evidence, however, suggest that the size of the financial incentive required to eliminate the organ shortage is rather

28. The current system fosters an undesirable atmosphere of emotional coercion within potential recipients' families. Living related donors may agree to donate only under intense pressure from family members. As a result, the decreased reliance on living donors that would accompany the use of financial incentives would reduce the amount of coercion from this source.

29. See Delmonico, *supra* note 11.

modest—probably on the order of \$1,000 to \$5,000 per donor.³⁰ The price per organ, then, may well fall below \$1,000. This expectation of a relatively low market-clearing price is supported by the economic conditions that characterize the potential supply of cadaveric organs. For example, there is currently a large amount of “excess capacity”—only a small portion (one-third to one-half) of all potential cadaveric organs is collected.³¹ In addition, the opportunity cost of supplying those extra organs is quite small because the “next best alternative use” is burial. Together, these considerations suggest that the price elasticity of the supply of cadaveric organs is likely to be large and the equilibrium level of donor payments is therefore likely to be correspondingly low. If that is the case, the incentive to terminate care prematurely will also be low—certainly much less than that associated with most wills. Thus, the premature termination of care argument is a red herring.

D. *Black Market Sales*

In a truly ironic twist of logic, some opponents of financial incentives have claimed that the legalization of donor payments would somehow result in an increase in the black market trade in organs.³² Exactly how this alleged effect would occur has not been explained. This particular allegation reveals the general lack of understanding of market forces held by some of the parties that, unfortunately, are influencing public policy in this area.

As anyone with the most rudimentary knowledge of economics recognizes, black market activity is a direct consequence of shortages and the market-price constraints that typically cause them. It is only when legal trade at market-determined prices is prohibited that illegal trade arises. The restriction in the quantity of a good supplied that is necessarily caused by the suppression of price below its equilibrium level pushes upward the illegal price that some demanders are willing to pay, particularly for products, like organs, that exhibit a low price elasticity of demand. The result is the creation of artificially large

30. Adams, Barnett, and Kaserman provide some rough estimates of the level of compensation required to clear organ markets. Their results suggest market-clearing prices of \$135 to \$1,509 per donor. A. Frank Adams III et al., *Markets for Organs: The Question of Supply*, 17 CONTEMP. ECON. POL'Y 147, 154 (1999).

31. See generally Kaserman, *supra* note 12.

32. Siminoff and Mercer wrote: “Finally, [financial incentives] may lead to a black market for organs.” Laura A. Siminoff & Mary Beth Mercer, *Public Policy, Public Opinion, and Consent for Organ Donation*, 10 CAMBRIDGE Q. HEALTHCARE ETHICS 377 (2001).

profit opportunities for those suppliers willing to violate the legal price restraint.³³

From drugs to prostitution to alcohol prohibition, the cure for black market sales is the removal of the legal price constraint.³⁴ Where legal trade is permitted and the price is allowed to rise to its market-clearing level, shortages—and, concomitantly, the profitability of black market activity—disappear. Consequently, to argue that donor payments will contribute to black market trade in organs is a complete perversion of the well-established economic logic of how markets operate. Indeed, if one is opposed to black market sales, then, absent other sources of opposition, one should vigorously support the use of financial incentives.

E. The “Slippery Slope”

Yet another argument raised by opponents of financial incentives is that paying donors of cadaveric organs creates a so-called “slippery slope” that may ultimately lead to payments for living donors as well.³⁵ Opposition to the latter, then, is seen as a justification for opposition to the former. This line of reasoning exhibits several obvious shortcomings.

For one thing, it presupposes that paying living donors is ethically unacceptable. But that proposition has itself been subject to considerable debate.³⁶ One must ask: If it is ethical to use living donors at all, why is it unethical to compensate them financially for their inconvenience, pain, and risk of immediate and future complications? While the medical risks of donating a kidney may be low, they are certainly not zero.

Fortunately, however, we do not need to settle this issue to rebut the slippery slope argument. Let us suppose, for the sake of argument and contrary to what some ethicists have concluded, that it is unethical to pay living donors. Does it then follow that we should also oppose the use of financial incentives for cadaveric donors? At least three considerations suggest that we should not.

First, to the extent one is opposed to the use of living donors—either paid or unpaid—one should favor financial incentives for ca-

33. See KASERMAN & BARNETT, *supra* note 3, at 21–23.

34. This is not to say that all such sales should necessarily be legalized. The point is simply that legalization of trade removes the incentives for black market activities.

35. Delmonico wrote that “[t]hose who oppose financial incentives for deceased donation assert a slippery slope to the subsequent development of payment for live donor organs.” Delmonico, *supra* note 17.

36. See, e.g., Dworkin, *supra* note 16.

daveric donors. The reason for this is straightforward. Our current, heavy reliance on living donors is, to a large degree, a symptom of the severity of the shortage of cadaveric organs. As that shortage is reduced and ultimately eliminated by implementation of donor payments, the need for living donors will begin to subside.³⁷ Along with the reduction in the demand for living donors will come a reduced incentive to employ payments to induce an increase in the quantity of organs supplied from that source. Therefore, if anything, the employment of financial incentives for cadaveric organs will actually decrease the growing pressure to pay living donors. Thus, the slippery slope argument is a non sequitur.

Second, it must be recognized that living donors are, in many instances, already paid today. Both overtly in black market transactions and covertly in under-the-table payments, donor payments are, without question, currently used to encourage living donors to come forward.³⁸ Indeed, a recent innovation (that ironically receives the approval of perhaps the most ardent opponent of financial incentives) is living donor kidney exchanges.³⁹ In such exchanges, a member of one family, A, agrees to donate a kidney to a member of another family, B, on the condition that a member of family B simultaneously donates a kidney to family A.⁴⁰ Obviously, such an agreement constitutes a market exchange through barter, with kidneys used as the medium of exchange. Payment occurs, but without the use of money. Just why such nonmonetary payments are ethical, but money is not, is far from obvious.

Finally, the slippery slope argument ignores the obvious ability of public policy to legalize the use of financial incentives for cadaveric organs while maintaining the ban on living donor payments. The alleged domino effect from one to the other is not a necessary outcome and can easily be prevented if so desired. There is no reason to sacrifice over 6,000 lives each year in a misguided attempt to avoid some-

37. Due to significantly higher success rates with living donor kidneys—particularly in the longer term—it is unlikely that all living donations will be replaced with cadaver kidneys, even if the shortage is eliminated completely. Nonetheless, it is certain that a reduction in the shortage of cadaveric donors will lower the demand for living donors.

38. Alan R. Hull, *Can We Go Beyond Altruism . . . Without Destroying It?*, *TRANSPLANT NEWS & ISSUES*, Oct. 2002, at S7 (writing that “talking to many colleagues at the Transplant Congress, many had anecdotes about where payment appeared to have been made. When it was ‘in the family,’ maybe there was nothing we could do. Now, it has moved outside the immediate family to ‘distant relatives’ or totally unrelated living donors.”).

39. See Delmonico, *supra* note 17.

40. The motivation for this sort of exchange is an incompatibility between the potential donor and recipient within each family.

thing that can readily be proscribed and, in any event, is not likely to happen.

F. Organ Quality

A nonethical argument that has been raised to oppose the use of donor payments involves the potential effect of such payments on the quality of the cadaveric organs harvested.⁴¹ It has been argued that the alleged negative impact could occur through two separate ways. First, substituting payments for altruism may reduce the relative (though not necessarily the absolute) number of organs obtained from comparatively higher income individuals.⁴² To the extent that a positive correlation exists between health and income, adopting a system of financial incentives may lower the average quality of the organs obtained for transplantation. Second, the prospect of receiving payment for organ donation may induce surviving family members to misrepresent or conceal known facts about the deceased's medical history or condition.⁴³ Therefore, opponents of financial incentives have argued that it is necessary to maintain the current, altruistic procurement system in order to ensure the high quality of the organs obtained.

At least three considerations suggest that this argument is incorrect or greatly overstated. First, it is not at all certain that the presumed decline in quality will materialize. In fact, it appears more likely that quality would actually improve with donor payments. Under current, increasingly severe shortage conditions, transplant centers have been forced to make use of more marginal or even substandard organs.⁴⁴ The trend toward reliance upon older and, on occasion, diseased organs has accelerated in recent years as patients' desperation has grown.⁴⁵ The greater number of organs that would become available

41. See generally Delmonico, *supra* note 11. See also Susan Rose-Ackerman, *Inalienability and the Theory of Property Rights*, 85 COLUM. L. REV. 931 (1985) (raising quality control as a potential justification for modified inalienability, which allows donations but does not permit sales).

42. Rose-Ackerman, *supra* note 41.

43. *Id.*

44. Lisa E. Douglass, *Organ Donation, Procurement and Transplantation: The Process, the Problems, the Law*, 65 UMKC L. REV. 201, 202 (1996) (writing that "[w]hile in a majority of cases the donated organ truly is the 'gift of life,' many recipients have been transplanted with deadly organs resulting from pitfalls in the organ donation process. By 1993, 6,798 patients were documented as recipients of cancerous organs, and it is estimated that the cancer incidence in patients who undergo transplantation ranges from 4% to 18%."). According to Douglass, this problem is attributable to both the desperation caused by the shortage and the "good faith" indemnification from liability for organ procurement organizations provided by law. *Id.*

45. Paul Engstrom, *Damaged Goods*, WASH. POST, June 26, 2001, at 8.

with the implementation of financial incentives, however, would enable physicians to exercise more selectivity in screening acceptable organs for transplantation. Organ quantity and quality are not independent variables.⁴⁶

Second, transplant centers or organ procurement organizations—either public or private—are generally able to assess organ quality prior to transplantation, regardless of any representations made by surviving family members. Organs from cadavers can be tested and examined. As a result, comparisons to the blood market and the incidence of infection from purchased sources are not applicable. For cadaveric organs, the potential donor pool is the set of accident and stroke victims. Financial incentives to donate will not increase the number of potential donors or alter in any way the incidence of disease or drug use among this set of individuals. Consequently, even a potential decrement in the average quality of organs *collected* need not lead to a decrement in the average quality of organs *transplanted*. Transplant centers can establish quality control protocols and adjust donor payments to yield an adequate supply of organs that meet the established standards.

Finally, to the extent that one is truly concerned that financial incentives will induce surviving family members to misrepresent the health or medical history of potential organ donors, legal liability rules with substantial sanctions can be implemented to discourage such conduct. Indeed, it has been argued convincingly that it is the absence of such rules (in fact, an explicit exemption from legal liability) that caused the quality problems encountered with purchased blood.⁴⁷ Again, if a potential problem with donor payments exists, it is far more sensible and compassionate to address that problem directly rather than continue to sacrifice thousands of lives annually in an effort to avoid a feared effect that is unlikely to arise anyway.

G. “Commodification” of the Human Body

The final ethical argument against the use of financial incentives to increase the quantity of cadaveric organs supplied involves a concern that allowing money to influence the decision to donate will serve to

46. *Id.* (quoting Jimmy Light, Director of Transplant Services at Washington Hospital Center, as stating: “One way to shorten the wait is to trade off donor quality”).

47. See Clark C. Havighurst, *Legal Responses to the Problem of Poor-Quality Blood*, in BLOOD POLICY: ISSUES AND ALTERNATIVES 21 (1977); Reuben A. Kessel, *Transfused Blood, Serum Hepatitis, and the Coase Theorem*, 17 J.L. & ECON. 265 (1974). See also KASERMAN & BARNETT, *supra* note 3, at app. 4a (containing a review of the literature pertaining to blood sales and an evaluation of its relevance to organ markets).

“commodify” the human body and thus cheapen human dignity and the concept of self.⁴⁸ While the acceptance of payment for the agreement to donate is certainly voluntary for the parties directly involved, the exchange itself is thought to denigrate the sanctity or value of the human body for others who are not direct participants in the transaction. In economic terms, a negative externality is believed to be associated with donor payments, and (implicitly) these third-party effects are assumed to dominate the direct benefits attributable to the exchanges.⁴⁹

There are at least four counterarguments to the commodification concern. First, public opinion surveys suggest that, among the general population, the alleged negative attitude toward donor payments is greatly exaggerated.⁵⁰ Concern regarding this issue appears to be considerably more prevalent—though far from universal—among medical professionals.⁵¹ We suspect that exposure to this argument over the years has sensitized them to the issue. Nonetheless, the empirical evidence indicates that the alleged effect, while present among a small subset of the population, is far less important than opponents of financial incentives presume.⁵²

Second, if we are going to consider third-party effects stemming from donor payments, we should incorporate *all* such effects in the analysis. If, as is almost certainly the case, financial incentives succeed in increasing the number of cadaveric organs supplied, there will be tremendous third-party benefits realized by the families of the recipients whose lives are saved by the transplants that otherwise would not have occurred. The lives currently lost because of the organ shortage have an extremely large value to their relatives and others who are not directly involved in the transaction. This large positive externality

48. See MARGARET JANE RADIN, *CONTESTED COMMODITIES* 97 (1996).

49. EKELUND & TOLLISON, *supra* note 6, at 439 (providing the following definition of an externality: “Benefits or costs of an individual’s activity that the individual does not receive or bear”). Further, the two authors stated that “[e]xternalities arise when one person’s activities affect the well-being of others, either positively or negatively.” *Id.* at 440.

50. See, e.g., J.D. Jasper et al., *The Public’s Attitudes Toward Incentives for Organ Donation*, 31 *TRANSPLANTATION PROC.* 2181 (1999); Christian Williams, *Combating the Problems of Human Rights Abuses and Inadequate Organ Supply Through Presumed Donative Consent*, 26 *CASE W. RES. J. INT’L L.* 315 (1994).

51. See J.D. Jasper et al., *Altruism, Incentives, and Organ Donation: Attitudes of the Transplant Community*, 42 *MED. CARE* 378 (2004).

52. Adams et al., *supra* note 30, at 153 (reporting that only twelve percent of the people surveyed indicated that they would be offended by the implementation of financial incentives for cadaveric organ donors; less than a third of those respondents (less than four percent of the entire sample) indicated that they would be so offended that they would refuse to supply the organs at all).

seems likely to overwhelm any negative externality stemming from the so-called commodification effect.

Third, as is the case with most new public policies or practices, public attitudes toward donor payments are likely to evolve rapidly with experience. Indeed, once financial incentives become routine, families of accident or stroke victims will come to expect compensation from organ collection agencies. As this occurs, organ procurement personnel are likely to find their task easier, as the practice becomes the norm and is ingrained in the collection process. Moreover, such payments need not drive out altruism. Uncompensated donation can remain an option, and the personal satisfaction that the donation decision will greatly benefit recipients—even where payment is received—will remain valid.⁵³ Thus, socialization of donor payments over time will likely reduce or even eliminate any concerns associated with the commodification issue.

Finally, and importantly, from an economic perspective, if the alleged negative externality associated with commodification of the human body justifies continuing the ban on financial incentives, it is necessary that the value of these third-party effects dominates the direct social benefits realized from the use of such incentives. As a result, one cannot appeal to the commodification argument as a justification for that ban in isolation without knowing the magnitude of those direct benefits. This is simply to say that a truly ethical choice cannot ignore the consequences of that choice. Thus, some reckoning of the social value of the lives likely to be saved by donor payments—or, conversely, the lives lost as a result of the ban on such payments—needs to be made. We undertake that reckoning in the following section of this Article.

III. A COST-BENEFIT PERSPECTIVE

The current ban on compensation for cadaveric organ donation produces effects of several different sorts. First, and most obviously, it leads to early deaths of patients who cannot obtain transplants. In addition, those patients who do not die require continuous and costly treatment. Also, when living donation is possible, family members undergo costly and invasive medical procedures to provide suitable organs for loved ones. These examples of death and suffering must be included in the social costs of the current system.

53. Dworkin, *supra* note 16, at 69 (“It is clear, however, that the presence of markets does not generally drive out altruistic motives.”). He points out that evidence from the blood market is inconclusive on this issue. *Id.* at 68–69

While one may argue that cherished principles that prohibit commodification of the human body are simply beyond price, the achievement of these principles do have costs. These costs often involve the violation of other equally cherished principles. Be that as it may, it is necessary for any useful evaluation of our current organ procurement regime to account, if only in a speculative fashion, for the costs that regime imposes. This speculative accounting is the purpose of this section.

Our goal here is modest. We seek only to evaluate, to orders of magnitude, the probable costs of the current ban on donor compensation in the United States. We find that very conservative estimates of these costs indicate losses of billions of dollars each year. We find further that our estimates are not inconsistent with other analyses that focus more narrowly on direct cost savings from transplantation for government programs such as Medicare.

Because kidney grafts for ESRD patients represent by far the most severe case of organ rationing, our model will concentrate on this procedure. A cadaveric donor, however, is typically capable of providing multiple organs for transplantation, so the waiting lists for various types of transplants are closely related in the sense that an increase in cadaveric donation would reduce all such lists, though not necessarily in equal proportions. While our focus here will be on kidneys, we later extend our argument to several other organs. In every case, we utilize assumptions that tend to cause us to *understate* the benefits of a policy that allows donor payments.

We begin by specifying a simple dynamic model of the evolution of the waiting list for kidney grafts in the United States. Data from the Organ Procurement and Transplant Network (OPTN) for the years 1995–2002 was used to estimate statistically model parameters and calibrate our resulting simulations. We were then able to generate estimates of the numbers and types of donors, waiting list deaths, and transplants performed under both a baseline, “no change” policy scenario, and a donor-payment-based reform aimed at (the very modest and, we believe, easily achievable goal of) stabilizing the kidney graft waiting list. Cost savings attributable to changes in transplants performed and waiting list deaths were then applied to our results to obtain a partial and conservative economic assessment of such a procurement reform.

The following model underlies our approach. The change in the waiting list for kidneys (patients, not registrations) from years $t-1$ to t , ΔWL_t , is (Equation 1):

$$\Delta WL_t = (a + A \cdot t) - D_t - \lambda \cdot C_t - L_t + e_t, \text{ where:}$$

- $(a + A \cdot t)$ represents an exogenous, time-driven process that generates additional wait-listed ESRD patients;
- t is time;
- a and A are unknown parameters (the parameters a and A were estimated by least squares, correcting for (mild) autocorrelation in the series ΔWL_t);
- D_t is waiting list deaths in t ;
- λ is the ratio of usable kidney donations to cadavers (the proportion λ was taken to be 1.47, where this figure was based upon observed values of λ reported for the years 2000, 2001, and 2002, by OPTN (which are 1.45, 1.46, and 1.47, respectively));
- C_t is cadaveric donors in t ;
- L_t is live kidney donations in t ; and
- e_t is a random, zero-mean disturbance.

TABLE 1
OPTN DATA—1995–2002

Year	Wait List Patients	Wait List Deaths	Donors Cadavers	Donors Living
1995	29,050	1,533	5,003	3,382
1996	32,310	1,851	5,038	3,656
1997	35,585	2,061	5,083	3,922
1998	38,772	2,444	5,338	4,396
1999	41,292	3,271	5,386	4,664
2000	44,719	3,040	5,490	5,422
2001	47,830	3,209	5,528	6,001
2002	50,855	3,396	5,630	6,236

Given these estimates, we turn next to our simulations. The model given by Equation 1 allowed us to simulate the effects of hypothetical changes in the number of cadaveric donors on transplants, given some assumptions on the associated and probable responses in the rates of both live donation and death. Because we seek to make a one-year forecast only, we simplified our problem somewhat and adopted an approach consistent with the very limited data available.

TABLE 2
 KIDNEY WAIT LIST SIMULATION DEPENDENT VARIABLE:
 $\Delta WL_t + D_t + (1.47)C_t + L_t$

Variable	Name	Coefficient	t
a	constant	15,646	122.9
A	time trend	772	25

Note:

- $R^2 = 0.989$
- $DW = 1.895$
- Estimation corrected for first-order autocorrelation
- ΔWL = change in wait list patient census from t-1 to t
- D_t = wait list deaths
- C_t = cadavers
- L_t = live donations at t
- All calculations performed by SAS

First, we note that the number of living donors is nearly constant as a proportion of the waiting list across the sample period. Specifically, kidney donations from living donors vary from a low of 0.110 of the waiting list (in 1997) to a high of 0.125 of the number of wait-listed patients (in 2001). This result is quite intuitive—such donations are nearly always made by family members of ESRD patients and are, therefore, proportional to the size of the waiting list. Thus, for simulation purposes, we took the number of live donations in year t, L_t , to be $L_t = (0.12)WL_t$, where WL_t is the waiting list patient count for kidneys in year t.

By similar reasoning, we find near sample-period constancy of the number of transplanted kidneys per cadaveric donor. Each cadaver yields 1.47 kidneys, on average, and this rate exhibits relatively little variation—a sample maximum (in 1995) of 1.52 and a minimum of 1.45 (in 2000).⁵⁴ Thus, we took $\lambda = 1.47$ for our simulation.

Deaths of patients on the waiting list may also be taken to be proportional to the wait list count over short time periods. Although observed death rates have been rising historically as the backlog of patients has increased, the rate of change is slow, with a rise from about 5.3% per annum (in 1995) to about 6.7% in 2002. Thus, in what follows, $D_t = (0.067)WL_t$. All three of the above assumptions appear warranted by the short (one-year) forecast period adopted in the simulations below.

54. Some cadavers provide only one usable kidney and some kidneys are spoiled or cancerous, while several hundred are taken annually for research purposes. See Organ Procurement and Transplant Network, Donor Recovered in the U.S. by Donor Type, www.optn.org/page (last visited Jan. 12, 2006).

Cadaveric donations exhibit no simple relationship with waiting list size because accidents or strokes are the primary sources of suitable cadavers. Rather, those donations, as a percentage of waiting list count, have steadily and substantially declined over many years. While there were approximately seventeen percent as many cadaveric donors as wait-listed ESRD patients in 1995, by 2002 the percentage had fallen to eleven percent. As waiting lists continue to grow, historical evidence strongly suggests that this proportion will drop even further, casting great doubt on the future viability of current policies.

Thus, it is necessary to forecast cadaveric donations "one period ahead," although the monotonic behavior of this series presents no serious technical complications. For our purpose, it was sufficient to use the simple model (Equation 2):

$$C_t = b + B \cdot t + e_t$$

to estimate parameters b and B , where t is the time variable, and e_t is a disturbance. This simple model was used to generate forecasts for our baseline projection only, which assumes no change in the current procurement policy. Table 3 gives the relevant statistical results. Again, the overall fit is quite good.

TABLE 3
TIME TREND FORECAST OF CADAVERS DEPENDENT
VARIABLE: CADAVERS FOR TRANSPLANTATION

Variable	Name	Coefficient	t
b	constant	4,974	143.5
B	time trend	97	11.6

Note:

- $R^2 = 0.95$
- $DW = 1.80$
- Estimation by SAS
- Table 3 presents statistical results describing the "best" (in a statistical sense) forecasting formula for predicting the number of available cadavers. Given the relationship $C_t = b + B \cdot t + e_t$, we calculate that $b = 4,974$ and $B = 97$ are the "best" estimates of these values.

We may now summarize the method we will use to evaluate some of the costs of the current ban on cadaveric donor compensation. First, our calculations will be based on Equation 1, supplemented by Equation 2, utilizing the regular empirical proportions that several of the variables exhibit to WL_t . Specifically, we have (Equation 3):

$$\Delta WL + (.067)WL_t + (1.47)C_t + (.12)WL_t = 15,646 + (772) \cdot t,$$

where $C_t = 4974 + (97)t$ in the case of no change in procurement policy. C_t equals an alternative value, to be defined later, if donor compensation is introduced.

Given the above model, we are able to simulate two scenarios of interest. Before turning to those simulations, however, we must first emphasize that our data covers the 1995–2002 time period.⁵⁵ Importantly, we are *not* trying to forecast the future evolution of the transplant industry in the United States. Indeed, our “forecasts” will, in one sense, refer to the past (2003). We merely wish to simulate, using relatively recent values for transplant activity, the probable net effects of introducing a very modest innovation in organ procurement. The sole purpose of this exercise is to formulate reasonable, if somewhat speculative, expectations of the economic consequences of introducing cadaveric donor compensation in comparison to an alternative approach of maintaining the current regime. Nothing else is implied.

Toward that end, we begin by considering the hypothetical baseline case of no change in kidney procurement policy. We apply Equation 3 with a one-period-ahead ($t = 8$) forecast of the number of cadaveric kidney donors of $C_8 = 4974 + 8 \cdot 97 = 5,750$. Using this scenario, which corresponds fairly well to actual 2003 results, we find an increase in wait-listed kidney patients to 54,106 (a gain of 3,251). This forecast, in turn, yields 3,625 deaths, 8,452 cadaveric kidney grafts, and 6,492 living donations. These results imply that a total of 14,944 kidney grafts would be performed with no change in policy. These figures are closely in line with actual 2003 numbers.

We turn now to simulating the effect of introducing payments for cadaveric donation. The current prohibition has resulted in a kidney waiting list that exceeds 50,000 patients. It is not reasonable to expect any compensation mechanism to eliminate such an enormous backlog in a short period of time. Indeed, driving the waiting list to zero immediately is patently impossible because an insufficient number of deaths occur under medically suitable circumstances.⁵⁶ Thus, we evaluate a far more modest and realistic goal of simply eliminating further growth in the waiting list.

We assume (we believe conservatively) that the introduction of compensation for cadaveric donation is sufficient to cause no growth in the queue for kidney grafts. Setting $\Delta WL = 0$ in Equation 3, we find that such a policy would require total cadaveric donations of

55. Less detailed but more recent data are available. See Organ Procurement and Transplant Network, www.optn.org/data (last visited Jan. 8, 2006).

56. See David L. Kaserman, *On the Feasibility of Resolving the Organ Shortage*, INQUIRY (forthcoming Summer 2006).

8,375—an increase of 2,625 donations (about forty-six percent) over baseline levels. Since the waiting list does not grow, living donations would be expected to fall from 6,492 to 6,102, reflecting the fact that the levels of such donations are historically proportional to waiting list size. Thus, the analysis includes a negative feedback from cadaveric to living donation, although (conservatively) we assign no economic value to this reduction in the number of living donors.

The procurement reform scenario then yields 18,413 total kidney grafts and 3,407 deaths. Comparing this to the baseline model, we observe a net increase in transplants of 3,469 and a reduction in deaths of 218. We have not yet attempted to assign monetary “values” to these outcomes in order to examine the magnitude of the economic effects of the current ban on cadaveric donor compensation.

One may, of course, argue that the compensation ban serves some invaluable principle and that the costs it imposes are therefore irrelevant. Such claims are ultimately beyond all argument. Nonetheless, we disagree with them for reasons articulated previously. The saving or repairing of lives, however, would seem to be an important value that one must also consider. If it competes with these other values, one must at least acknowledge the dimensions of the problem. In that sense, one must bear the burden of claiming that hundreds of needless deaths are an acceptable price to pay for the alleged moral returns of the current regime.

Regardless of these philosophical issues, and perhaps despite them, economics uses the observed actions of agents to infer the values they implicitly place on their own lives and the lives of others. For example, whenever someone takes an action that involves a small risk of death, economists use the benefits the action conveys as a measure of the economic cost the elevated risk of death imposes. This approach, which is widely used in evaluating wages and occupational risks, produces estimates of the values of a “statistical” life. This technique is widely used in economics to evaluate alternative policies that exhibit different risks.⁵⁷

Several problems arise when applying this logic to dialysis and transplant patients. First, the risks associated with ESRD are vastly greater than those associated with differential occupational risks on which the analysis is typically based. Thus, while one can quite reasonably evaluate the economic cost of a relatively tiny increase in job risk, it is far less reasonable to ask someone to monetarily evaluate his

57. See, e.g., MICHAEL J. MOORE & W. KIP VISCUSI, *COMPENSATION MECHANISMS FOR JOB RISKS: WAGES, WORKERS' COMPENSATION, AND PRODUCT LIABILITY* (1990).

or her life. Second, as a consequence of this, the “value” of a statistical life obtained from such studies is quite low. This result, in turn, suggests that any calculations based on such numbers will tend to understate (perhaps by a considerable amount) the costs of the existing ban on donor compensation.

It is somewhat easier to evaluate direct money expenditures. Numerous studies of healthcare costs for dialysis and transplant patients have found substantial savings associated with transplants.⁵⁸ The American Diabetes Association remarked that “[t]he long-term cost savings of kidney transplantation over dialysis are well known.”⁵⁹ In 2002, Fujisawa Healthcare, Inc. stated that “[t]he financial break-even point for transplantation is reached only 2.7 years after a kidney graft. Thus, transplantation is not only more advantageous than dialysis for the patients’ health and quality of life, but it is also more cost-effective from a financial perspective.”⁶⁰ Similarly, Eugene Schweitzer said in 1998, “[A]fter 2.7 years, the medical system saves about \$27,000 per year for each patient who has a transplant instead of remaining on dialysis.”⁶¹ And finally, the National Kidney Foundation of the United Kingdom found that “[a]ll solid organ transplantation . . . is cost effective” and that “kidney transplantation is very cost effective”⁶²

Because donor compensation will increase the number of transplants performed, the additional costs of dialysis over transplantation are a direct cost of the current system. As a result, some reasonable estimates of these values are required for our calculations here.

In order to implement these calculations, we provisionally adopt the following values. For lives saved, we utilize Phillip Held’s “value of a statistical life” figures, which are both detailed and organ-specific.⁶³ Held found that a kidney transplant that prevented a death created a positive value of approximately \$686,430 (in 2003 dollars), taking ac-

58. See, e.g., Eugene J. Schweitzer et al., *The Shrinking Renal Replacement Therapy “Break-Even” Point*, 66 *TRANSPLANTATION* 1702 (1988).

59. Press Release, UK Transplant, Transplantation Cost Effectiveness (Dec. 7, 2003), available at www.kidney.org.uk/campaigns/Transplantation/ukt-press-dec03.htm.

60. In April 2005, Fujisawa Pharmaceutical Co., Ltd. and Yamanouchi Pharmaceutical Co., Ltd. merged to form Astellas Pharma, Inc. See Astellas Pharma, US, Inc., www.us.astellas.com (last visited Apr. 10, 2006).

61. Schweitzer et al., *supra* note 58. This paper was presented at the American Society of Transplant Surgeons Annual Meeting, Chicago, Ill. (May 1999).

62. Press Release, UK Transplant, *supra* note 59.

63. E-mail from Phillip Held, Professor, UC Berkeley, to T. Randolph Beard and David L. Kaserman (Aug. 16, 2003 15:14 PM CST) (providing a powerpoint presentation prepared by his class).

count of relevant life expectancies.⁶⁴ This figure seems quite low. Consequently, its use would tend to (perhaps severely) understate the true values of lives saved. Nonetheless, we adopt it here.

Next, for the direct savings arising from reduced dialysis and related costs, we use the 2003 figures provided by the National Kidney Foundation of the United Kingdom.⁶⁵ Converting British pounds to dollars at a rate of 1£ = \$1.80, we find a nine-year nominal savings from transplantation of about \$343,800 per patient.⁶⁶ This number appears reasonable.

We note that while these figures are very “soft,” the methodology adopted here facilitates calculations using *any* reasonable figures. Our goal is only to provide rough estimates of the magnitudes involved. We note also that we are ignoring several other relevant factors that, if considered, would tend to increase our estimates. First, we make no allowance for “indirect” dialysis costs associated with time spent in treatment, suffering, and so on. Second, we restrict our computation to those savings that, while accruing over several years, arise solely from actions occurring in a single year. Obviously, savings of this sort may be compounded in subsequent years by continuing donor compensation.

With the above caveats, we find savings arising from compensation in a single year (hypothetically 2003) to be the sum of avoided dialysis and related costs for 3,469 patients (\$1,192,642,000) plus the value of statistical lives saved for 218 avoided deaths (\$149,548,000), for a total value of \$1,342,190,000. Again, this figure undoubtedly understates the overall savings. Moreover, it is restricted to a very modest compensation program that is applied in a single year solely to benefit ESRD patients. Savings per additional kidney obtained, allowing for a decline in live donation, equal about \$387,000. And, given the kidney yield per cadaver, each additional cadaveric donation saves about \$576,000 for kidneys alone.

These results are generally consistent with previous findings, although our approach is new. J. Whiting’s team found cost savings from kidney grafts even for “Expanded Criterion Donors,” regardless of the poor matches and risk status of recipients.⁶⁷

Finally, we do not offer this exercise as a precise calculation of the overall social benefits likely to be realized from cadaveric donor pay-

64. *Id.*

65. See Press Release, UK Transplant, *supra* note 59.

66. Nine years is the current mean kidney graft survival time. See *id.*

67. J. Whiting et al., *Economic Cost of Expanded Criteria Donors in Cadaveric Renal Transplantation: Analysis of Medicare Payments*, 70 *TRANSPLANTATION* 755 (2000).

ments. Rather, these figures simply suggest that, even under very conservative assumptions, the costs—both direct and implied—of banning both direct and implied donor compensation are enormous. The case is further strengthened by noting that cadaveric organs are jointly supplied, so any increase in cadaveric donation of kidneys will automatically raise the availability of other organs. For example, the observed ninety-six percent yield rate for liver grafts from cadavers shows the policy discussed here could reduce the liver waiting list by more than twenty percent in a single year. The observed yield of cadaveric transplantable hearts (ninety-five percent) suggests the waiting list for hearts could be eliminated in a few years. Similar results are obtained for other organs.

IV. CONCLUSION

In this Article, we have examined the more popular “ethical” objections to the use of financial incentives for cadaveric organ donation. With a single possible exception, we have found the arguments supporting these objections to be thoroughly unconvincing.⁶⁸ They are either logically flawed or founded upon what are, at heart, unanswered empirical questions. In some instances, they simply reflect a fundamental misunderstanding of how market forces (supply and demand) operate. As a result, it is important that public policy pertaining to cadaveric organ procurement recognizes the illegitimacy of these arguments.

The sole ethical objection that appears to make any sense whatsoever is the so-called “commodification” argument. Importantly, this argument—that monetary transactions between cadaveric organ donors and organ procurement organizations may offend the sensibilities of third parties who are not participants in those transactions—is, in essence, one of externalities. Taking this argument seriously, then, we are able to apply the traditional cost-benefit methodology of economics to assess the conditions required for it to justify a continuation of the ban on cadaveric donor payments. Using that methodology, we demonstrate that the hypothesized negative externality would have to attain what are, as a practical matter, unrealistically large values in order for this argument to warrant such a ban. That is, it is simply beyond comprehension that the current proscription on donor payments could possibly be supported by a comprehensive cost-benefit

68. A similar conclusion has been reached by several ethicists who have written in this area. See, e.g., Dworkin, *supra* note 16; Radcliffe Richards, *supra* note 10; Radcliffe-Richards et al., *supra* note 16.

evaluation, even one that assigns a large negative value to the so-called commodification issue.

By continuing to forestall the adoption (or, indeed, even trials) of this most promising solution to the organ shortage, the opponents of financial incentives are effectively condemning thousands more patients to death each year. No matter how offended they are by the prospect that families of recently deceased accident or stroke victims might receive monetary compensation to encourage consent to remove their loved ones' organs, avoidance of their personal disutility cannot possibly outweigh the value of the lives being lost. Perhaps it is time for these self-anointed judges of what is ethical to check their own moral compasses.