

# ESTABLISHING A FREE MARKET IN HUMAN ORGANS: ECONOMIC REASONING AND THE PERFECTLY COMPETITIVE MODEL

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## INTRODUCTION

The natural effort of every individual to better his own condition . . . is so powerful, that it is alone, and without any assistance, not only capable of carrying on the society to wealth and prosperity, but of surmounting a hundred impertinent obstructions with which the folly of human laws too often encumbers its operations.<sup>1</sup>

Since transplantations have been made possible, there has always been a shortage of organs because the law places restrictions on the procurement process. In 2005, over 2.4 million deaths occurred in the United States,<sup>2</sup> yet there were only 7593 cadaveric donors.<sup>3</sup> The low number of cadaveric donors in the United States is attributed in part to the government's bar on an individual's ability to sell his or her organs.

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\* Author is currently studying at University of La Verne College of Law and is expecting to graduate in May 2010. This paper expresses the author's economic understanding of this issue. This paper does not reflect the author's moral or ethical beliefs.

1. ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS Book IV Chapter V Section IV (Edwin Cannan ed., Methuen & Co., Ltd. 1904) (1776).

2. HSIANG-CHING KUNG ET AL., NATIONAL VITAL STATISTICS REPORTS, DEATHS: FINAL DATA FOR 2005, VOL. 56, NUMBER 10, Apr. 24, 2008, tbl.1, *available at* [http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56\\_10.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_10.pdf).

3. Health Resources and Services Administration, Organ Procurement and Transplantation Network: Donors Recovered in the U.S. by Donor Type, <http://optn.transplant.hrsa.gov/latestData/step2.asp?> [hereinafter Health Resources I] (choose category "Donor"; choose organ "All"; and select "All Donors by Donor Type") (last visited July 10, 2009).

Under the current system, the only available organs are ones that are donated, because it is illegal to sell one's organs in the United States.<sup>4</sup> Establishing free markets, where people can contract with each other for the procurement of organs, has been described as “[a]n obvious and straightforward approach to solving the organ . . . shortage.”<sup>5</sup>

There are two types of free markets that can be established: a living donor market, and a cadaveric donor market.<sup>6</sup> The current laws that prohibit a free market from being established work as a barrier to entry and as a price ceiling that is set at zero, having the economic effect of decreasing the supply of organs. A free market needs to be established to bring the supply and demand of human organs to equilibrium and to help decrease the number of deaths that occur while patients wait for organs to be donated.

## I. THE CURRENT NEED FOR ORGANS IN THE UNITED STATES

### A. History of Transplantations

Although surgery has been used for thousands of years to save people's lives, the history of successful organ transplantations only traces back approximately fifty-five years.<sup>7</sup> The first attempted human kidney allograft transplantation, which was unsuccessful, took place in the Ukraine during 1933.<sup>8</sup> Slightly over two decades later, human organ transplantation became a life saving procedure.<sup>9</sup> In 1954, the first successful transplant occurred when Dr. Joseph Murray successfully transplanted a kidney from one identical twin to his brother.<sup>10</sup> Over the following decade, the range of transplantation surgeries grew.<sup>11</sup>

Due to the technological advances in the medical field, there are currently twenty-five human body organs and tissues that can be

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4. See National Organ Transplantation Act of 1984, 42 U.S.C §§ 273–74 (2006); Uniform Anatomical Gift Act of 1987 § 10(a).

5. David Kaserman, *Markets for Organs: Myths and Misconceptions*, 18 J. CONTEMP. HEALTH L. & POL'Y 567, 568 (2002).

6. See Richard D.M. Allen et al., *The Living Organ Donor*, in ORGAN AND TISSUE DONATION FOR TRANSPLANTATION 162 (Jeremy R. Chapman et al. eds., Hodder Arnold Publishing 1997).

7. S. Gregory Boyd, Comment, *Considering a Market in Human Organs*, 4 N.C. J. L. & TECH. 417, 420–21 (2003).

8. DAVID P.T. PRICE, LEGAL AND ETHICAL ASPECTS OF ORGAN TRANSPLANTATION 3 (Cambridge Univ. Press 2000).

9. Boyd, *supra* note 7, at 421.

10. *Id.*

11. *Id.* (“The first kidney was transplanted in 1951, the first lung in 1963, the first intestine in 1964, the first liver in 1965, the first pancreas in 1966, and the first heart in 1967.”).

successfully transplanted, including hearts, kidneys, lungs and livers.<sup>12</sup> Under the National Organ Transplantation Act,<sup>13</sup> the term “organ” “means the human kidney, liver, heart, lung, pancreas, and any other human organ (other than corneas and eyes) specified by the Secretary of the Department of Health and Human Services by regulation.”<sup>14</sup> Over the past few decades, the success rate in some organ transplant surgeries has reached up to 95%.<sup>15</sup> In addition, with many diseases, “a transplant is the standard method of treatment.”<sup>16</sup>

### *B. Supply and Demand of Organs in the United States*

By the end of 1997, there were 55,501 people on the national waiting list and only 9539 donations.<sup>17</sup> In 2002, there were 81,834 people on the list and 12,820 donations.<sup>18</sup> In 2006, there were 98,263 people on the list and 14,756 donations.<sup>19</sup> As of October 31, 2008, there were 100,363 candidates on the waiting list.<sup>20</sup> This was the first time in the nation’s history that the 100,000 threshold had been surpassed.<sup>21</sup> Since January 2004, the waiting list for kidneys has increased by 42%, while the waiting list for livers has decreased by only 4%.<sup>22</sup> Of the 100,363 candidates on the waiting list for an organ, 77,746 of them are waiting for a kidney to become available.<sup>23</sup>

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12. Walter Block et al., *Human Organ Transplantation: Economic & Legal Issues*, 3 QUINNIPIAC HEALTH L.J. 87, 96 (1999-2000).

13. 42 U.S.C. § 274 (2006).

14. 42 U.S.C. § 274b(d)(2) (2006).

15. See e.g. CHARLES C. HINKLEY, MORAL CONFLICTS OF ORGAN RETRIEVAL 74 (Rodopi 2005) (stating that “[t]he one-year transplant survival rate of a living donor kidney is 94.5%”).

16. RUSSELL SCOTT, THE BODY AS PROPERTY 112 (Allen Lane ed., Penguin Books 1981).

17. Health Resources and Services Administration, 2007 OPTN/SRTR ANN. REP., tbl.1.3, available at <http://optn.transplant.hrsa.gov/data/annualReport.asp>. [hereinafter 2007 ANN. REP.]; Health Resources I, *supra* note 3.

18. *Id.*

19. *Id.*

20. Health Resources and Services Administration, Organ Procurement and Transplantation Network: Organ by Status, <http://optn.transplant.hrsa.gov/latestData/step2.asp?> [hereinafter Health Resources II] (choose category “Waiting List”; and count “candidates”; and select “Organ by Status”) (last visited July 10, 2009).

21. Health Resources and Services Administration, Organ Procurement and Transplantation Network, *U.S. Transplant Waiting List Passes 100,000*, OPTN NEWS, Oct. 8, 2008, <http://optn.transplant.hrsa.gov/news/newsDetail.asp?id=1165> [hereinafter Health Resources III] (last visited July 10, 2009).

22. *Id.*

23. Health Resources II, *supra* note 20.

There has constantly been a shortage in the supply of transplantable organs.<sup>24</sup> A shortage exists when the quantity of a product demanded exceeds the quantity supplied at the existing price.<sup>25</sup> The increase in shortage of transplantable organs “is measured by the increase in the number of people on the organ waiting list from one year to the next.”<sup>26</sup> In 2005, there were 93,114 people on the national waiting list.<sup>27</sup> By 2006, the number jumped to 98,263, demonstrating an increased shortage of 5149 between these two years.<sup>28</sup> Although there seems to be an upward trend in donations of organs, it has not kept up with the demand.<sup>29</sup> By comparing the total number of people on the waiting list for an organ with the total number of donors from 1997 and 2006, the data shows that there has been an increase of 42,762 people on the waiting list, while donations have only increased by 5217.<sup>30</sup>

### *C. Deaths that Occur Due to the Unavailability of Organs*

In 1997, the national death rate for candidates waiting for an organ was 4740.<sup>31</sup> In the following years, this number has increased; in 2000, 6502 candidates on the waiting list died, and in 2006, 7191 candidates died.<sup>32</sup> Of the 7191 people that died while on the waiting list in 2006, 1935 were waiting for a liver, 430 were waiting for a heart, and 284 were waiting for a lung.<sup>33</sup> A majority of the patients who died (4456) while waiting for an organ in 2006 were on the waiting list for a kidney, an organ that can currently be donated during life.<sup>34</sup>

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24. DAVID L. KASERMAN & A.H. BARNETT, *THE U.S. ORGAN PROCUREMENT SYSTEM: A PRESCRIPTION FOR REFORM 2* (Marvin H. Koters ed., AEI Press, c/o Publishing Resources Inc. 2002) (stating that the number of organs demanded for transplants each year is far above the number of organs supplied).

25. ROBERT B. EKELUND, JR. & ROBERT D. TOLLISON, *MICROECONOMICS: PRIVATE MARKETS AND PUBLIC CHOICE 67* (Addison-Wesley, 6th ed. 2000).

26. Margaret R. Sobota, Note, *The Price of Life: \$50,000 for an Egg, Why Not \$1,500 for a Kidney? An Argument to Establish a Market for Organ Procurement Similar to the Current Market for Human Egg Procurement*, 82 WASH. U. L.Q. 1225, 1226 (2004).

27. 2007 ANN. REP., *supra* note 17, tbl.1.3.

28. *Id.*

29. Health Resources I, *supra* note 3; Health Resources II, *supra* note 20. Although there has been a gradual increase in the number of donated transferable organs between 1988 and 2006, this has not been keeping up with the increase in the demand for transferable organs, which is now over 100,000. Health Resources III, *supra* note 21.

30. 2007 ANN. REP., *supra* note 17, tbl.1.3.

31. *Id.* at tbl.1.6.

32. *Id.*

33. *Id.*

34. *Id.* Unlike many of the other organs that can only be procured after the death of an individual, a kidney may be procured while the individual is living. If a free market was

## II. CURRENT LAWS BANNING THE SALE OF HUMAN ORGANS FOR TRANSPLANTATION

### A. Federal Regulations and Acts Prohibiting the Sale of Human Organs

#### 1. National Organ Transplantation Act

In 1983, Surgeon General C. Everett Koop conducted a workshop regarding organ procurement.<sup>35</sup> Committees from both houses of the 98th Congress conducted hearings and in October of 1984, the House and Senate Conferees met and wrote the National Organ Transplantation Act (NOTA).<sup>36</sup> The NOTA was codified under 42 U.S.C. §§ 273-74.<sup>37</sup> This congressional action, in effect, implemented an altruistic system because the Act made it “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.”<sup>38</sup> The Act also created the Organ Procurement and Transplantation Network (OPTN).<sup>39</sup> To this day, the only federal law that regulates the procurement, distribution, and transplantation of organs is the NOTA.<sup>40</sup>

#### 2. Uniform Anatomical Gift Act of 1968, 1987 & 2006

In 1968, the Uniform Anatomical Gift Act (UAGA) was adopted by the National Conference of Commissioners on Uniform State Laws in order to “facilitate the transplantation of hearts and kidneys.”<sup>41</sup> The 1968 version of the UAGA proved to be insufficient due to certain

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established, then an individual may contract for the selling of the individual’s organ in living donor market or under a cadaveric donor market. *Id.*

35. Fred H. Cate, *Human Organ Transplantation: The Role of Law*, 20 J. CORP. L. 69, 76 (1995).

36. *Id.*

37. 42 U.S.C. §§ 273–74 (2006).

38. § 274(e) (2006); *see also* DAVID L. KASERMAN & A.H. BARNETT, *THE U.S. ORGAN PROCUREMENT SYSTEM: A PRESCRIPTION FOR REFORM 8* (Marvin H. Koters ed., AEI Press, c/o Publishing Resources Inc. 2002) (stating that the NOTA was passed in response to a physician’s attempt to broker human organs in Virginia).

39. § 274(a) (2006) (stating “[t]he Secretary shall by contract provide for the establishment and operation of an Organ Procurement and Transplantation Network which meets the requirements of subsection (b) of this section.”).

40. Boyd, *supra* note 7, at 457.

41. Charles M. Jordan, Jr. & Casey J. Price, *First Moore, Then Hecht: Isn’t it Time We Recognize a Property Interest in Tissues, Cells, and Gametes?*, 37 REAL PROP. PROB. & TR. J. 151, 158 (2002).

flaws, and in 1987, the UAGA was revised to address these flaws.<sup>42</sup> Under the 1987 version of the UAGA, an individual who is at least eighteen years old may choose to make, or not to make, an anatomical gift of a part of his or her body.<sup>43</sup> An “anatomical gift” is a donation of all or part of a human body to take effect upon or after death.<sup>44</sup> The UAGA defines a “part” as “an organ, tissue, eye, bone, artery, blood, fluid, or other portion of a human body.”<sup>45</sup> The donation of one’s body parts may be made during life or after death if devised in the decedent’s will.<sup>46</sup>

Under the UAGA, a person may make an anatomical gift, but “may not knowingly, for valuable consideration, purchase or sell a part for transplantation or therapy, if removal of the part is intended to occur after the death of the decedent.”<sup>47</sup> The federal rules provide that if a person violates this section, he or she is “guilty of a felony and upon conviction is subject to a fine not exceeding \$50,000 or imprisonment not exceeding five years, or both.”<sup>48</sup> Although the UAGA works as a barrier to entry in the marketplace, it is less restrictive than the NOTA because it only prohibits the sale of body parts after death.<sup>49</sup>

In 2006, the UAGA was revised again.<sup>50</sup> The 2006 version of the UAGA retains the basic policy of the 1968 and 1987 acts.<sup>51</sup> Some important changes in the 2006 UAGA include:

- (1) Section seven, which allows an individual to sign a refusal that would bar “all other persons from making

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42. PRICE, *supra* note 8, at 99–100.

43. Uniform Anatomical Gift Act of 1987 § 2(a).

44. § 1(1).

45. § 1(7).

46. § 2(a).

47. § 10(a).

48. § 10(c).

49. Uniform Anatomical Gift Act of 1987 § 10(a); 42 U.S.C. § 274e. The NOTA in § 273(e) prohibits the sale of organs during life and after death, whereas the UAGA just prevents the selling of body parts “if removal of the part is intended to occur after the death of the decedent.”

50. Uniform Anatomical Gift Act of 2006 § 1.

51. Uniform Anatomical Gift Act of 2006 Refs. & Annos. (“This revision retains the basic policy of the 1968 and 1987 anatomical gift acts by retaining and strengthening the ‘opt-in’ system that honors the free choice of an individual to donate the individual’s organ (a process known in the organ transplant community as “first person consent” or “donor designation”). This revision also preserves the right of other persons to make an anatomical gift of a decedent’s organs if the decedent had not made a gift during life.”).

an anatomical gift of the individual's body or parts[;]"<sup>52</sup>

(2) Section eight, which strengthens the language barring others from overriding or delaying a donor's decision to make an anatomical gift,<sup>53</sup>

(3) Section four, which expands the list of people who may make an anatomical gift to another individual during that individual's lifetime and empowers a minor eligible under other law who applies for a driver's license to "make an anatomical gift whether on a driver's license or other document of gift[;]"<sup>54</sup> and

(4) Section nine, which promotes donations from a deceased individual who did not make during his or her lifetime a choice on whether or not to donate body parts by adding to the list of persons who can make a gift of the deceased individual's body or parts.<sup>55</sup>

### 3. State Adoption of the UAGA

When analyzing the supply and demand of human organs, it is critical to note that the 1987 version of the UAGA has been adopted wholly or partially by all fifty states and the District of Columbia.<sup>56</sup>

52. Uniform Anatomical Gift Act of 2006 § 7(d).

53. § 8.

While the 1987 Act provided that a donor's anatomical gift was irrevocable (except by the donor), until quite recently it had been a common practice for procurement organizations to seek affirmation of the gift from the donor's family. This could result in unnecessary delays in the recovery of organs as well as a reversal of a donor's donation decision.

Uniform Anatomical Gift Act 2006 Refs. & Annos.

54. § 4.

55. § 9. The list now includes, for example, the decedent's adult grandchildren and adults who exhibited special care and concern for the decedent. *Id.*

56. ALA. CODE §§ 22-19-40 to 60 (1975 & Supp. 2000); ALASKA STAT. §§ 13.50.010-.090 (Michie 2000); ARIZ. REV. STAT. ANN. §§ 36-841 to -852 (1993 & Supp. 2000); ARK. CODE ANN. §§ 20-17-601 to -618 (Michie 2000 & Supp. 2001); CAL. HEALTH & SAFETY CODE §§ 7150-7156.5 (Deering Supp. 2001); COLO. REV. STAT. §§ 12-34- 101 to -110 (2000); CONN. GEN. STAT. ANN. §§ 19a-270 to -288 (West 1997 & Supp. 2001); DEL. CODE ANN. tit. 16, §§ 2710-2719 (1995 & Supp. 2000); D.C. CODE ANN. §§ 2-1501 to -1511 (2000); FLA. STAT. ANN. §§ 732.910-.922 (West 1995 & Supp. 2001); GA. CODE ANN. §§ 44-5-140 to -151 (1991 & Supp. 2001); HAW. COMP. STAT. §§ 327-1 to -14 (2000); IDAHO CODE §§ 39-3401 to - 3417 (Michie 1998 & Supp. 2001); ILL. COMP. STAT. 50/1 to 50/11

Although a majority of the states still use the 1987 version of the UAGA, a few states have repealed their UAGA laws and have chosen to replace them with the revised 2006 version.<sup>57</sup>

States impose a range of civil and criminal penalties for the violation of the UAGA and the NOTA provisions.<sup>58</sup> In California, if a person sells a human organ for transplantation, or removes or transplants the organ with knowledge of sale, that person can be fined up to \$50,000 and/or be imprisoned in a state prison for three, four, or

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(1993 & Supp. 2001); IND. CODE §§ 29-2-16-1 to -16 (2000); IOWA CODE §§ 142c.1-8 (1997 & Supp. 2001); KAN. STAT. ANN. §§ 65-3209 to -3218 (1992 & Supp. 2000); KY. REV. STAT. ANN. §§ 311.165-.247 (Michie 1995 & Supp. 2000); LA. REV. STAT. ANN. §§ 17:2351-.2359 (West 2001); ME. REV. STAT. ANN. tit. 22, §§ 2901-2910 (West 1992 & Supp. 2000); MD. CODE ANN. EST. & TRUSTS §§ 4-501-512 (2001); MASS. GEN. LAWS ch. 113, §§ 7-14 (1996 & Supp. 2001); MICH. COMP. LAWS ANN. §§ 333.10101-.10109 (West 1992 & Supp. 2001); MINN. STAT. §§ 525.921-.95 (1992 & Supp. 2001); MISS. CODE ANN. §§ 41-39-31 to -53 (2001); MO. REV. STAT. §§ 194.210-.307 (1996 & Supp. 2001); MONT. CODE ANN. §§ 72-17-101 to -312 (2000); NEB. REV. STAT. §§ 71-4801 to -4818 (1996); NEV. REV. STAT. §§ 451.500-.590 (2000); N.H. REV. STAT. ANN. §§ 291-A:1 to -A:16 (1999); N.J. STAT. ANN. §§ 26:6-57 to -65 (West 1996 & Supp. 2001); N.M. STAT. ANN. §§ 24-6A-1 to -5 (Michie 2000); N.Y. PUB. HEALTH LAW §§ 4300-4309 (McKinney 1985 & Supp. 2001); N.C. GEN. STAT. §§ 130a-402 to -412.2 (1999); N.D. CENT. CODE §§ 23-06.2-01 to -12 (1991 & Supp. 2001); OHIO REV. CODE ANN. §§ 2108.01-.2 (West 1987); OKLA. STAT. tit. 63, §§ 2201-2218 (1991 & Supp. 1994); OR. REV. STAT. §§ 97.250-.290 (1990); PA. STAT. ANN. tit. 20, §§ 8601-8607 (1975 & Supp. 1994); R.I. GEN. LAWS §§ 23-18.6-1 to -15 (1989); S.C. CODE ANN. §§ 44-43-310 to -400 (Law. Co-op. 1985); S.D. CODIFIED LAWS §§ 34-26-20 to -47 (Michie 1994 & Supp. 2001); TENN. CODE ANN. §§ 68-30-101 to -113 (1996 & Supp. 2000); TEX. HEALTH & SAFETY CODE ANN. §§ 692.001-.016 (West 1992 & Supp. 2001); UTAH CODE ANN. §§ 26-28-1 to -12 (1998 & Supp. 2001); VT. STAT. ANN. tit. 18, §§ 5238-5247 (2000); VA. CODE ANN. §§ 32.1-289 to -297.1 (Michie 2001); WASH. REV. CODE §§ 68.50.520-.630 & §§ 68.50.901-.903 (1997 & Supp. 2001); W. VA. CODE §§ 16-19-1 to -14 (1998 & Supp. 2001); WIS. STAT. ANN. § 157.06 (1997 & Supp. 2000); WYO. STAT. ANN. §§ 35-5-101 to -118 (Michie 2001).

57. Arizona, Arkansas, California, Colorado, Idaho, Indiana, Iowa, Kansas, Minnesota, Montana, Nevada, New Mexico, North Carolina, North Dakota, Oregon, Rhode Island, South Dakota, Tennessee, Utah, and Virginia adopted the 2006 revised version of the UAGA in 2007. ARIZ. REV. STAT. ANN. §§ 36-841 to 36-863 (2007); ARK. CODE ANN. §§ 20-17-1201 to 20-17-1227 (West 2007); CAL. HEALTH & SAFETY CODE §§ 7150 to 7151.40 (West 2007); COLO. REV. STAT. ANN. §§ 12-34-101 to 12-34-125 (West 2007); IDAHO CODE ANN. §§ 39-3401 to 39-3425 (2007); IND. CODE ANN. §§ 29-2-16.1-1 to 29-2-16.1-21 (West 2007); IOWA CODE ANN. §§ 142C.1 to 142C.18 (West 2007); KAN. STAT. ANN. §§ 65-3220 to 65-3244 (2007); MINN. STAT. ANN. §§ 525A.01 to 525A.25 (West 2007); MONT. CODE ANN. §§ 72-17-101 to 72-17-312 (2007); NEV. REV. STAT. ANN. §§ 451.500 to 451.598 (West 2007); N.M. STAT. ANN. §§ 24-6B-1 to 24-6B-25 (West 2007); N.C. GEN. STAT. ANN. §§ 130A-412.3 to 130A-412.33 (2007); N.D. CENT. CODE §§ 23-06.6-01 to 23-06.6-23 (2007); OR. REV. STAT. ANN. §§ 97.951 to 97.982 (West 2007); R.I. GEN. LAWS §§ 23-18.6.1-1 to 23-18.6.1-25 (2007); S.D. CODIFIED LAWS §§ 34-26-48 to 34-26-72 (2007); TENN. CODE ANN. §§ 68-30-101 to 68-30-120 (2007); UTAH CODE ANN. §§ 26-28-101 to 26-28-125 (2007); VA. CODE ANN. §§ 32.1-291.1 to 32.1-291.25 (2007).

58. See, e.g., CAL. PENAL CODE § 367 (West 1999); GA. CODE ANN. § 16-12-160(c) (West 2008); NEV. REV. STAT. ANN. § 201.460(1), §201.460(3) (West 2007).

five years.<sup>59</sup> In Georgia, if a person tries to buy or sell a human body or body part, that person may be convicted of a felony and may be fined up to \$5,000 and/or be imprisoned for no less than one year, and up to five years.<sup>60</sup> However, although it is illegal to “knowingly sell, acquire, receive or otherwise transfer for valuable consideration any human organ for use in human transplantation” in Nevada, if a person violates this provision, he or she will only be guilty of a misdemeanor.<sup>61</sup> Since each state has adopted some version of the UAGA, both the federal government and the states’ prohibitions on the sale of human organs have had an adverse effect on the supply of organs.

### III. ORGAN PROCUREMENT AND DISTRIBUTION

#### A. Procurement Procedures Under Current Law

##### 1. The Donation System Under the UAGA

Under the NOTA and the UAGA, organs can only be donated.<sup>62</sup> They must not be sold for consideration.<sup>63</sup> A donor may make an anatomical gift “by authorizing a statement or symbol indicating that the donor has made an anatomical gift to be imprinted on the donor’s driver’s license or identification card.”<sup>64</sup> A donor can also make an anatomical gift in a will or “during a terminal illness or injury of the donor, by any form of communication addressed to at least two adults, at least one of whom is a disinterested witness.”<sup>65</sup>

Over the ten-year period between 1998 and 2007, there was a 38% increase in living donors, and a 39% increase in deceased donors.<sup>66</sup> Between the years of 1988 and 2006, there was a steady increase in the total number of organ donors, however in 2007, for the first time in almost two decades, the donor number decreased.<sup>67</sup> In 2006, there were 14,756 donors, and in 2007, there were 14,403 donors.<sup>68</sup> Even though there has been an upward trend in donating organs, the supply has never come close to meeting the demand.<sup>69</sup> For example, as of October 31,

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59. CAL. PENAL CODE § 367f(a), 367f(g).

60. GA. CODE ANN. § 16-12-160(c).

61. NEV. REV. STAT. ANN. § 201.460(1), 201.460(3).

62. 42 U.S.C. § 274e (2006); Uniform Anatomical Gift Act of 1987 § 10(a).

63. Uniform Anatomical Gift Act of 1987 § 10(a).

64. Uniform Anatomical Gift Act of 2006 § 5.

65. § 5.

66. 2007 ANN. REP., *supra* note 17, tbl.1.1.1.

67. Health Resources I, *supra* note 3.

68. *Id.*

69. Sobota, *supra* note 26, at 1226.

2008, there were 100,363 people on the waiting list,<sup>70</sup> yet there were only 9491 organ donations made.<sup>71</sup>

## 2. Background Information on the NOTA: OPTN and Organ Procurement Organizations (OPOs)

The NOTA delegated power to the Secretary of the Department of Health and Human Services to provide for the establishment and operation of the OPTN.<sup>72</sup> Some of the OPTN's duties include: maintaining a national list of individuals who need organs;<sup>73</sup> maintaining a national system to match the people on the waiting list with available organs;<sup>74</sup> establishing a nationwide procurement and allocation system;<sup>75</sup> working actively on ways to increase the supply of organs;<sup>76</sup> and coordinating for the transportation of organs from organ procurement organizations (OPOs) to transplant centers.<sup>77</sup>

The NOTA allows the Secretary to make grants for the planning of qualified OPOs.<sup>78</sup> The duties of the OPOs include identifying potential donors, arranging for the acquisition and preservation of donated organs, and providing quality standards for the acquisition of organs.<sup>79</sup> OPOs also provide or arrange for the transportation of donated organs to transplant centers and participate in the OPTN.<sup>80</sup>

Under the current system for sharing organs, the nation is divided into sixty-three areas composed of eleven regions, with huge disparities in waiting times from region to region.<sup>81</sup> The number of people who die each year while on the waiting list for organs shows the gravity of the harm done by limiting the procurement of organs to those donated, and not establishing a free market. In 2006 alone, 7191 candidates died

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70. Health Resources II, *supra* note 20.

71. Health Resources I, *supra* note 3.

72. 42 U.S.C. § 274(a) (2006).

73. § 274(b)(2)(A)(i).

74. § 274(b)(2)(A)(ii). The OPTN maintains a nationwide system through the use of computers to match individuals with the organs they need. *Id.*

75. § 274(b) (laying out the general functions that the OPTN partakes in to procure organs). This section also establishes methods to help allocate organs to people on the waiting list, such as by requiring the OPTN to "maintain a twenty-four-hour telephone service to facilitate matching organs with individuals included in the list." § 274(b)(C).

76. § 274(b)(2)(K).

77. § 274(b)(2)(G).

78. 42 U.S.C. § 273(a)(1) (2006).

79. § 273(b)(3).

80. § 273(b)(3).

81. Sheryl G. Stolberg, *Fight over Organs Shifts from States to Washington*, N.Y. TIMES, Mar. 11, 1999, at C1, available at <http://www.nytimes.com/1999/03/11/us/fight-over-organs-shifts-to-states-from-washington.html>.

while waiting for an organ.<sup>82</sup> This means that close to twenty people on the national waiting list die each day while waiting for an organ. This number does not take into account all the people who have died without being placed on the waiting list. The lack of supply of organs is also evidenced by the median waiting period a person must wait on the waiting list before the transplantation procedure occurs. According to the latest information available, in 2006, the median waiting period for a liver was 306 days, and in 2003, the median waiting period for a kidney was a staggering 1152 days.<sup>83</sup>

### *B. Distribution Procedures Under Current Law*

#### *1. The OPTN and the “Final” Act: Distribution Based on Need*

The United Network for Organ Sharing (UNOS) has held the federal contract for operating the OPTN since its establishment in 1986.<sup>84</sup> UNOS had four successive contract renewals with the Health Resources and Services Administration of the U.S. Department of Health and Human Services (HHS) and it manages organ procurement and allocation for the entire United States.<sup>85</sup>

In 1998, the HHS released what it called the “Final Rule.”<sup>86</sup> The 1998 Final Rule establishes that “human organs donated for transplantation are a public trust.”<sup>87</sup> The Final Rule’s stated purpose is “encouraging organ donation; developing an organ allocation system that functions as much as technologically feasible on a nationwide basis; providing the bases for effective Federal oversight of the OPTN . . . and, providing better information about transplantation to patients, families and health care providers.”<sup>88</sup>

There was debate about whether organs should be used to help the sickest first or those most likely to survive the greatest number of years, and whether the organs should be shared regionally or nationally.<sup>89</sup> When a public hearing was held, many of the people present agreed that

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82. 2007 ANN. REP., *supra* note 17, tbl.1.6.

83. *Id.* at tbl.1.5.

84. United Network for Organ Sharing, *Who We Are*, <http://www.unos.org/WhoWeAre/theOPTN.asp>.

85. *Id.*

86. Organ Procurement and Transplantation Network, 42 C.F.R. § 121.8(a)(3)(i) (1998).

87. Organ Procurement and Transplantation Network, 63 Fed. Reg. 16,296, 16,298 (Apr. 2, 1998) (to be codified at 42 C.F.R. pt. 121).

88. *Id.* at 16,296.

89. *Id.* at 16,304.

the “sickest first” policy was the only rational policy from the perspective of an individual at risk of imminent death.<sup>90</sup> “The available evidence shows that, for most patients, higher medical urgency does not reduce the likelihood of post-transplant survival.”<sup>91</sup> Therefore, people who have less of a medical urgency should not receive a higher priority.<sup>92</sup> To keep the allocation and distribution of organs fair and equitable, the Final Rule sets forth three main performance goals. These performance goals direct the OPTN to develop (1) standardized “objective and measurable medical criteria to be used by all transplant centers” to ensure that patients within similar states of illness are listed at the same time;<sup>93</sup> (2) standardized “medical status” categories to group transplant candidates by medical urgency;<sup>94</sup> and (3) allocation policies that ensure equitable “organ distribution to those with the greatest medical urgency, in accordance with sound medical judgment,” without regard to their geographic location.<sup>95</sup>

The current allocation method does not take into consideration other relevant factors, such as age, and it does not directly address the issue of how other factors that are not related to the transplantation can affect the likelihood of survival. According to the current system, a person who has a high medical urgency for a kidney has a higher priority for receiving it, although he has AIDS and is expected to live for only another two years, than a person who has a lesser medical urgency but is completely healthy.

## 2. *Favoritism to Celebrities in Organ Distribution?*

The Final Rule provides that organs will be distributed to the individuals on the waiting list with the greatest medical urgency, based on sound medical judgment.<sup>96</sup> Under this policy, organs will be allocated “among transplant candidates in order of decreasing medical urgency status, with the waiting time status used to break ties within medical status groups.”<sup>97</sup>

Misconceptions about the organ distribution process result from highly publicized situations involving celebrities or high-profile people

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90. *Id.*

91. *Id.*

92. *Id.*

93. Organ Procurement and Transplantation Network, 63 Fed. Reg. at 16,296.

94. *Id.*

95. *Id.* at 16,296–97.

96. *Id.* at 16,296.

97. Organ Procurement and Transplantation Network, 42 C.F.R. § 121.8(a)(3)(i) (1998).

receiving organs quickly. Mickey Mantle was matched with a kidney within two days from when he suffered from a failing liver due to cirrhosis, hepatitis and cancer, while the average waiting time for a liver was 130 days.<sup>98</sup> After an audit was conducted by the nation's transplant coordinating agency, they found no evidence of favoritism.<sup>99</sup> Another occurrence that incited public concern arose when Pennsylvania Governor Robert Casey received his heart-liver transplant within hours after being placed on the transplant list.<sup>100</sup> The Pittsburgh surgeons faced allegations that they somehow moved the Governor up on the list, but after a UNOS investigation, they were exonerated of any misbehavior.<sup>101</sup> The Governor was very fortunate because his desperate medical state moved him up the list based on the Final Rule "medical urgency" requirement, and because a suitable donor was found within hours.<sup>102</sup> Public reports of physicians abusing their powers by making false entries on an individual's condition report to place the individual higher on the national waiting list also adds to the negative hype that organs are being allocated based on socioeconomic factors rather than medical urgency.<sup>103</sup>

#### IV. ALTERNATIVE MEASURES TO PROCURE ORGANS THAT HAVE BEEN TRIED

People in the medical field have been trying to develop ways to cope with the shortage of organs since transplantations became a reality.<sup>104</sup> The use of presumed consent, xenotransplantation, artificial body parts and tissue engineering have been the main proposals to deal with the shortage.<sup>105</sup> These proposed methods have had little success and presumed consent has not been adopted.<sup>106</sup> "Human organ donation

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98. Phyllis Coleman, "Brother, Can You Spare a Liver?" *Five Ways to Increase Organ Donation*, 31 VAL. U. L. REV. 1, 1 (1996); Peter Gorner & Peter Baniak, *Mantle's New Liver: A Question of Ethics: Experts Find No Favoritism After Speedy Transplant*, CHI. TRIB., June 9, 1995, 1995 WLNR 4540751.

99. Gorner & Baniak, *supra* note 97, at 3N.

100. *Id.*

101. *Id.*

102. *Id.*

103. Press Release, N.Y. State Dep't of Health, State Health Dep't Fines Albany Med. Ctr. (May 28, 2004).

104. Boyd, *supra* note 7, at 420–21 (citing Laura A. Siminoff & Matthew Leonard, *Financial Incentives: Alternatives to the Altruistic Model of Organ Donation*, 9 J. TRANSPLANT COORDINATION 250, 252 (1999)).

105. *Id.* at 420 (citing Siminoff & Leonard, *supra* note 100, at 252).

106. Paul S. Malchesky, *Artificial Organs and Vanishing Boundaries*, 25 ARTIFICIAL ORGANS 75, 75–79 (2001).

and transplantation remain the most successful and viable methods for the majority of people needing organs.”<sup>107</sup>

#### A. Presumed Consent “Opt-Out System”

The current donor system in the United States is an “opt-in” system that allows a person to opt into donating his or her organs.<sup>108</sup> The opt-in system’s success depends on “a patchwork of organ donor cards, driver’s licenses, advanced directives, and durable power of attorney for healthcare statements as vehicles for citizens to state their wishes.”<sup>109</sup> Upon a person’s death, the OPO tries to determine the “patient’s wishes from documentation and discussions with family.”<sup>110</sup>

One of the proposals for increasing the supply of organs is adopting a presumed consent system.<sup>111</sup> “This system begins with an initial presumption that organs will be procured unless individuals have specifically stated their intent to the contrary.”<sup>112</sup> The opt-out system is the polar opposite of the opt-in system because it would require affirmative action by a person who chooses not to donate his or her organs.<sup>113</sup> A person who chooses not to donate his or her organs must show his or her intent through a will, a non-donor card, or a designation on one’s driver’s license as a non-organ donor.<sup>114</sup> By implementing a presumed consent system, it is likely that there would be an increase in the supply of transplantable organs since people would have to take affirmative action to opt out of being a donor.<sup>115</sup> A number of European countries have implemented a presumed consent system, and some have seen an increase in the supply of organs available for transplantation.<sup>116</sup>

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107. Boyd, *supra* note 7, at 420.

108. Erika L. Rager, *The Donation of Human Organs and the Evolving Capacity for Transplantation: Exciting Developments and Future Prospects*, 65 N.C. MED. J. 18, 22 (2004).

109. *Id.*

110. *Id.*

111. Kelly Ann Keller, Comment, *The Bed of Life: A Discussion of Organ Donation, Its Legal and Scientific History, and a Recommended “Opt-out” Solution to Organ Scarcity*, 32 STETSON L. REV. 855, 861 (2003). The presumed consent system is also known as an opt-out system. *Id.*

112. Sobota, *supra* note 26, at 1233.

113. Keller, *supra* note 111, at 861.

114. *Id.*

115. See Paul Michielsen, *Informed or Presumed Consent Legislative Models*, in ORGAN AND TISSUE DONATION FOR TRANSPLANTATION 344, 358 (Jeremy R. Chapman et al. eds., Hodder Arnold Publishing 1997) (concluding that “the bulk of evidence indicates that presumed consent laws create an environment more likely to lead to higher rates of organ retrieval than informed consent.”).

116. PRICE, *supra* note 8, at 86–89. Almost half of the European countries surveyed had implemented some form of presumed consent. *Id.* There was a 114% increase in the amount

In addition, a number of states in the United States have adopted a presumed consent regime for cornea procurement.<sup>117</sup>

Proponents of the presumed consent system argue that if it were implemented, there would be an increase in the number of available organs for transplantation, which would cause an increase in the transplant rate and an increase in the success rate of the transplantations.<sup>118</sup> When there is a larger supply of organs available, a doctor will be able to choose an organ that better matches the donee's tissue, thus increasing the likelihood of a successful transplantation.<sup>119</sup> The presumed consent system also has the potential to lower taxes because there might be less governmental spending on treatments for patients who are on the waiting list for transplants.<sup>120</sup>

The opponents of the presumed consent system argue that it is an imposition on personal autonomy and it creates coercion.<sup>121</sup> This system conflicts with the concept of personal autonomy because "there is a distinct possibility of organs being removed under a [presumed consent system] where the deceased has remained silent, despite the deceased possessing an objection to organ donation."<sup>122</sup> The presumed consent system takes advantage of the "public's general reluctance to dissent and ignorance or temporary confusion,"<sup>123</sup> and so people who do not wish to donate their organs might be forced to donate because they never took the time to go and fill out an opt-out form. Even worse, they might have to donate their organs just because they did not know that the law presumed consent.<sup>124</sup>

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of kidneys available for transplantation in Belgium, but in other countries like Germany who had similar presumed consent laws, they did not see a similar increase in the supply of organs. *Id.* at 89.

117. Dorothy Nelkin & Lori Andrews, *Do the Dead Have Interests? Policy Issues for Research After Life*, 24 AM. J.L. & MED. 261, 288 (1998) (noting that "seventeen state statutes allow the removal and retention of corneas and/or pituitary glands without consent if they are to be used for research and/or manufacturing drugs."). Minnesota has passed a statute stating that "due to the important state interest in researching and preventing Alzheimer's, the coroner may remove the brain of any deceased person suspected of suffering from Alzheimer's for the purposes of research—unless the coroner knows the patient or his relative has previously objected to the research." *Id.* at 289.

118. Troy R. Jensen, Comment, *Organ Procurement: Various Legal Systems and Their Effectiveness*, 22 HOUS. J. INT'L L. 555, 567 (2000).

119. *Id.*

120. RENEE C. FOX & JUDITH P. SWAZEY, *SPARE PARTS: ORGAN REPLACEMENT IN AMERICAN SOCIETY* 76 (Oxford Univ. Press) (1992) (explaining how reduced costs in Medicare expenditures can result in a decrease in taxes).

121. PRICE, *supra* note 8, at 113.

122. *Id.*

123. *Id.*

124. *See id.*

### B. Xenotransplantation

Physicians and researchers have tried to use xenotransplantation as a method of addressing the shortage of organs.<sup>125</sup> Xenotransplantation is a process of transplanting organs from one species to another; generally from animals to humans.<sup>126</sup> Concordant xenotransplants are those between related species, such as baboons and humans, whereas discordant xenotransplants are those between divergent species, such as pigs and humans.<sup>127</sup> The biggest problem with xenotransplantation is the concordant and discordant rejection of animal organs by the human body.<sup>128</sup> Concordant rejection usually occurs a few days after the transplantation procedure, and discordant rejection usually occurs within minutes following the transplantation procedure.<sup>129</sup>

The first xenotransplantation of a heart occurred in 1964, when the heart of an adult chimpanzee was transplanted into a human.<sup>130</sup> Xenotransplantations of chimpanzee, baboon and monkey kidneys also took place in the United States during 1964.<sup>131</sup> In the 1970s, baboon and chimpanzee hearts were transplanted into humans.<sup>132</sup> However, xenotransplantations have met little success.<sup>133</sup> Due to the differences between human and animal organs, hyper acute rejection usually occurs.<sup>134</sup> The increased graft rejection caused by xenotransplantations, coupled with the possibility of cross-species disease transfer and moral objections, makes it an unfeasible measure to obtain the supply of organs needed to meet the current demand.<sup>135</sup>

### C. Artificial Body Parts

To help eliminate the shortage of organs available for transplantations, there has been a movement toward using artificial body parts. In some instances, artificial kidney and heart

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125. See generally FUTURE STRATEGIES FOR TISSUE AND ORGAN REPLACEMENT (Julia M. Polak et al. eds.) (2002).

126. *Id.*

127. See David J.G. White, *Xenotransplantation—A Solution to the Donor Organ Shortage*, in ORGAN AND TISSUE DONATION FOR TRANSPLANTATION 448 (Jeremy R. Chapman et al. eds., Hodder Arnold Publishing 1997).

128. See *id.* at 446–47.

129. See *id.* at 448.

130. RUSSELL SCOTT, THE BODY AS PROPERTY 39 (Viking Press 1981).

131. *Id.*

132. *Id.*

133. Markus Weber et al., *Organ Transplantation in the Twenty-First Century*, 25 UROLOGIC CLINICS N. AM. 51, 55–56 (1998).

134. *Id.*

135. See generally Boyd, *supra* note 7, at 429.

transplantations have been successfully conducted.<sup>136</sup> The artificial heart and its related devices have been the most successful in transplantations.<sup>137</sup> However, even though there have been some successful artificial organ transplantations conducted, these procedures have only replaced human organs on a limited basis.<sup>138</sup>

#### *D. Tissue Engineering*

The last major proposal made to meet the shortage of organs is to use tissue engineering to produce tissue engineered organs.<sup>139</sup> “Tissue engineering is an interdisciplinary field that involves the use of biological sciences and engineering to develop tissues that restore, maintain, or enhance tissue function.”<sup>140</sup> “There are three main approaches to tissue engineering: [1] to use isolated cells or cell substitutes as cellular replacement parts, [2] to use acellular biomaterials capable of inducing tissue regeneration, and [3] to use a combination of cells and materials.”<sup>141</sup> Tissue engineering has successfully engineered skin and cartilage, but there are still multiple factors that make off-the-shelf tissue-engineered organs hard to develop.<sup>142</sup> The layering of cells in the tissue engineering process has been successful in engineering myocardial tissues and blood vessels, but this approach still lacks the complexity associated with engineering more complex organs.<sup>143</sup>

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136. See Clare Selden & Humphrey Hodgson, *Engineering the Liver*, in FUTURE STRATEGIES FOR TISSUE AND ORGAN REPLACEMENT 141–46 (Julia M. Polak et al. eds.) (2002).

137. See D. Glenn Pennington et al., *Cardiac Assist Devices*, 78 *CARDIOTHORACIC VASCULAR SURGERY* 691, 691–95 (1998).

138. Selden & Hodgson, *supra* note 132, at 141–42.

139. See Ali Khademhosseini et al., *Microscale Technologies for Tissue Engineering and Biology*, 103 *PROCS. NAT’L ACAD. SCI. U.S.A.* 2480, 2480 (2006), available at <http://www.pnas.org/cgi/content/full/103/8/2480>.

140. *Id.*

141. *Id.*

142. *Id.* “These barriers include the lack of a renewable source of functional cells that are immunologically compatible with the patient; the lack of biomaterials with desired mechanical, chemical, and biological properties; and the inability to generate large, vascularized tissues that can easily integrate into the host’s circulatory system with the architectural complexity of native tissues.” *Id.*

143. *Id.* at 2483. “Layering of cells has been used to engineer myocardial tissues by assembling multiple sheets of cardiomyocytes or to engineer blood vessels by fabricating cylindrically rolled sheets of endothelial cells. Although such approaches may be suitable for some tissue engineering applications, they lack the complexity associated with the architecture of more complex organs.” *Id.*

## V. CASE LAW ABOUT PROPERTY INTEREST IN BODY PARTS

A property right is usually viewed as a “bundle of rights.”<sup>144</sup> Throughout judicial history, courts have held that people do not possess a property right in a dead body for commercial purposes.<sup>145</sup> However, there has been some progress, leading some courts to hold that the next of kin possess a “quasi-property right” in the body of the deceased.<sup>146</sup> In addition, the “UAGA provisions treat the body and body parts as property of the individual for gift purposes.”<sup>147</sup>

*A. Moore v. The Regents of the University of California*

The Supreme Court of California ruling in *Moore v. The Regents of the University of California* is one of the main cases establishing that a person does not have a property interest in his or her body parts once removed from the body.<sup>148</sup> In 1990, the Supreme Court of California heard a case brought forth by John Moore against a doctor and the Regents of the University of California for thirteen causes of action, including breach of fiduciary duty and conversion of his body’s cells.<sup>149</sup>

One of the main issues in the case was whether Moore had a property interest in his cells, thus making the doctor’s actions conversion.<sup>150</sup> The California Court of Appeal held that Moore did have a property interest in his body parts, stating that a “patient must have the ultimate power to control what becomes of his or her tissues.”<sup>151</sup> It also

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144. Brotherton v. Cleveland, 923 F.2d 477, 481 (6th Cir. 1991).

145. Snyder v. Holy Cross Hospital, 352 A.2d 334, 340 (Md. 1976).

146. See Fuller v. Marx, 724 F.2d 717, 719 (8th Cir. 1984); State v. Powell, 497 So. 2d 1188, 1191–92 (Fla. 1986).

147. Boyd, *supra* note 7, at 457 (discussing Uniform Anatomical Gift Act § 2(a) (1987)).

148. See *Moore v. Regents of Univ. of Cal.*, 793 P.2d 479 (Cal 1990).

149. *Id.* When Moore went to the University of California at Los Angeles (UCLA) in 1976 he learned that he had hairy-cell leukemia. *Id.* at 481. He underwent treatment for the hairy-cell leukemia at the UCLA medical center. *Id.* at 480. Dr. Golde told Moore that his spleen should be removed because it would slow down the progress of the disease. *Id.* at 481. Before the operation was performed, Dr. Golde had formed the intent of taking a part of Moore’s spleen and using it for research, but he never informed Moore of his intent. *Id.* For seven years, Moore traveled to the UCLA Medical Center from Seattle, because Dr. Golde told him that the visits were necessary and that the procedures can only be done there and only under his direction. *Id.* On each visit Dr. Golde withdrew additional “blood, blood serum, skin, bone marrow aspirate, and sperm.” *Id.* Dr. Golde was actually conducting research on Moore’s cells and planned to “benefit financially and competitively by exploiting the cells and their exclusive access to the cells by virtue of [Golde’s] on-going physician-patient relationship.” *Id.* Golde established a cell line from Moore’s T-lymphocytes from which he and the regents financially benefited. *Id.* at 482–83.

150. *Id.* at 487.

151. *Moore v. Regents of Univ. of Cal.*, 249 Cal. Rptr. 494, 508 (Ct. App. 1988).

stated that “it cannot be said that a person has no property right in materials which were once part of his body.”<sup>152</sup> However, the Supreme Court of California reversed the Court of Appeal’s holding by rejecting his conversion claim and stating that Moore had “abandoned” his cells.<sup>153</sup>

In rejecting Moore’s conversion claim, the court based its reasoning on the possible effects that it would have on the “innocent parties who are engaged in socially useful activities, such as researchers who have no reason to believe that their use of a particular cell sample is, or may be, against the donor’s will.”<sup>154</sup> The Supreme Court of California said that under the Court of Appeal’s holding, the use of the biological materials that are distributed by the original researcher to other researchers and scientists for experiments may create tort liability for these other researchers who were using the biological materials in their research.<sup>155</sup> The court explained “the uncertainty could affect product developments as well as research. Since inventions containing human tissues and cells may be patented and licensed for commercial use, companies are unlikely to invest heavily in developing, manufacturing, or marketing a product when uncertainty about clear title exists.”<sup>156</sup>

Justice Mosk, in the dissent, said that property is often referred to as a “bundle of rights” including “the rights to possess the property, to use the property, to exclude others from the property, and to dispose of the property by sale or by gift.”<sup>157</sup> Justice Mosk stated that “even if . . . section 7054.4 limited the use and disposition of [Moore’s] excised tissue in the manner claimed by the majority, Moore nevertheless retained valuable rights in that tissue.”<sup>158</sup> Mosk continued, arguing that at the time of excision, Moore “at least had the right to do with his own tissue whatever the defendants did with it: i.e., he could have contracted with researchers and pharmaceutical companies to develop and exploit the vast commercial potential of his tissue and its products.”<sup>159</sup> Justice Mosk’s conclusion is supported by dicta from the California Court of

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152. *Moore*, 793 P.2d at 479.

153. *Id.* at 488–89.

154. *Id.* at 493.

155. *Id.* at 494.

156. *Id.*

157. *Id.* at 510.

158. *Moore*, 793 P.2d at 510.

159. *Id.*

Appeal, which stated that “[d]efendants’ position that plaintiff cannot own his tissue, but that they can, is fraught with irony.”<sup>160</sup>

To protect patients against wrongful acts, such as the ones that occurred with Moore, the Supreme Court of California relied on the doctrine of informed consent, rather than conversion, to hold the doctor and the regents accountable for their actions.<sup>161</sup> Since the court focused on informed consent to protect the patients and did not directly address the issue of property rights in body parts,<sup>162</sup> “scholars have argued that the court did not reach a true decision regarding property rights in tissues and that the court’s property interest dicta should be limited to surreptitiously extracted research tissues.”<sup>163</sup>

### *B. Fuller v. Marx*

In *Fuller v. Marx*,<sup>164</sup> the plaintiff’s husband died while he was in prison.<sup>165</sup> An autopsy was conducted by the state medical examiner and after the autopsy was completed, the body, except for the organs that were examined, was returned to the decedent’s family.<sup>166</sup> The organs were disposed of separately.<sup>167</sup> The regular practice of the Medical Examiner’s office was to incinerate or provide the organs to medical students after the autopsy.<sup>168</sup> Among other causes of action, the plaintiff sued the state medical examiner and his insurance company, alleging that the medical examiner had violated her constitutional rights by not returning her husband’s organs to the dead body after the autopsy.<sup>169</sup> Plaintiff argued that she had a constitutionally protected property right in her husband’s body;<sup>170</sup> however, the District Court held that she did not.<sup>171</sup>

On appeal, the plaintiff argued that “she had a property right in her husband’s body and that she had a First Amendment right to bury her husband in a manner consistent with her religious beliefs.”<sup>172</sup> The plaintiff believed that in order to have a proper Christian burial, the

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160. *Id.*

161. *Id.* at 491–95.

162. *Id.*

163. Boyd, *supra* note 7, at 447.

164. *Fuller v. Marx*, 724 F.2d 717 (8th Cir. 1984).

165. *Id.* at 718.

166. *Id.*

167. *Id.*

168. *Id.*

169. *Id.* at 719.

170. *Fuller*, 724 F.2d at 719.

171. *Id.*

172. *Id.*

organs must be buried with the body.<sup>173</sup> The Eighth Circuit Court of Appeals held that under Arkansas law, “the next of kin does have a quasi-property right in a dead body.”<sup>174</sup> Although the plaintiff had a quasi-property right in the body of her deceased husband, there are no Arkansas cases that extend this quasi-property right to all of the body’s organs.<sup>175</sup> The Court of Appeals found that if the plaintiff had a quasi-property right to her husband’s organs, protected by the United States Constitution, then the Arkansas statute protected that same right.<sup>176</sup> Under the Arkansas statute, plaintiff could have taken possession of her husband’s organs if she had made a written request stating that she was going to take them for burial.<sup>177</sup>

This case is pertinent to the issue of property rights in the human body because the Eighth Circuit has recognized that, under Arkansas Law, there is a quasi-property right in a dead body.<sup>178</sup> Although the quasi-property right limits what the person claiming the right may do with the body, it still is one step toward finding that a person has a property right in his or her body.

### C. *Brotherton v. Cleveland*

In *Brotherton v. Cleveland*, the decedent’s body was sent to the coroner’s office where an autopsy was conducted.<sup>179</sup> After the autopsy was conducted, the coroner made an anatomical gift of the corneas to the Cincinnati Eye Bank, which was allowed by an Ohio code so long as the coroner did not have knowledge of an objection by the decedent, his family members, or the person authorized to dispose of his body.<sup>180</sup> The wife of the decedent filed an action arguing that her husband’s corneas were removed without due process of law and in violation of the Equal Protection Clause of the Fourteenth Amendment.<sup>181</sup>

The court said that, in this case, there was no need to determine whether a dead body is granted to the spouse as property, quasi-property, or not as property.<sup>182</sup> The court did however determine that the “aggregate of rights granted by the state of Ohio to [the widow rose]

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173. *Id.* at 720.

174. *Id.* at 719.

175. *Id.*

176. *Fuller*, 724 F.2d at 719.

177. *Id.*

178. *Id.*

179. *Brotherton v. Cleveland*, 923 F.2d 477, 478 (6th Cir. 1991).

180. *Id.*

181. *Id.* at 478-79.

182. *Id.* at 481.

to the level of a ‘legitimate claim of entitlement’ in [the decedent’s] body, including his corneas, protected by the [D]ue [P]rocess [C]lause of the [F]ourteenth [A]mendment.”<sup>183</sup> In addition, the court addressed the importance of establishing rights in a decedent’s body, due to the advancements in the scientific field.<sup>184</sup> The court said that “[a]s biotechnology continues to develop, so will the capacity to cultivate the resources in a dead body.”<sup>185</sup> The advances in biotechnology have “created a marketplace in which human tissues are routinely sold to and by scientists, physicians and others.”<sup>186</sup>

#### *D. Colavito v. New York Organ Donor Network*

In *Colavito v. New York Organ Donor Network*, a widow decided to donate both kidneys of her deceased husband to his long-time friend (Colavito).<sup>187</sup> The left kidney was air-lifted to a hospital where the friend was to have the transplantation.<sup>188</sup> The doctor at the hospital discovered that the kidney was irreparably damaged, and so a member of the hospital called to have the right kidney delivered.<sup>189</sup> However, the right kidney was already delivered and transplanted in another patient.<sup>190</sup> Colavito brought a lawsuit in the United States District Court asserting, among other things, conversion.<sup>191</sup> The District Court granted the defendant’s motion for summary judgment, concluding that Colavito’s conversion claim was barred by a commonlaw public policy against recognizing property rights in human corpses.<sup>192</sup>

The Second Circuit reversed the District Court’s ruling on the issue of the conversion claim, certifying the following question, among others, to the New York Court of Appeals: “Do the applicable provisions of the New York Public Health Law vest the intended recipient of a directed organ donation with rights that can be vindicated in a private party’s lawsuit sounding in the common law tort of conversion . . . .”<sup>193</sup> The Second Circuit did not make a determination

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183. *Id.* at 482.

184. *Id.* at 481.

185. *Brotherton*, 923 F.2d at 481.

186. *Id.* (citing Roy Hardiman, Comment, *Toward the Right of Commerciality: Recognizing Property Rights in the Commercial Value of Human Tissue*, 34 UCLA L. REV. 207, 219 (1986)).

187. *Colavito v. N.Y. Organ Donor Network*, 438 F.3d 214, 216 (2d Cir. 2006).

188. *Id.*

189. *Id.*

190. *Id.*

191. *Id.*

192. *Id.*

193. *Colavito*, 438 F.3d at 216–17.

on whether or not a donee has a property right in an organ that is donated to the donee. However, the court's analysis tends to show that there might be a property interest in a deceased person's organs. Under common law, there was no property right in a human corpse.<sup>194</sup> The court here stated that there is "by no means a modern consensus that body parts are excluded from conversion actions at common law."<sup>195</sup> Other tort claims were allowed based on the court created legal-fiction of the "quasi-property right" in the body of a deceased.<sup>196</sup>

The court further stated that, even though New York might want to "prohibit the treatment of functioning human organs as though they were commodities[,] [that] does not necessarily imply that it also intends that no one can acquire a property right in them."<sup>197</sup> The majority acknowledged that the Sixth and Ninth Circuits have recognized that "a state-law right to prevent mutilating or removing organs from a decedent's body can constitute a property interest under the Due Process Clause of the Fourteenth Amendment."<sup>198</sup> This case was decided in 2006, and it tends to show that courts are starting to consider the possibility of having a property interest in a human body. If the courts declare that there is a property interest in the human body, this will also be one step toward allowing people to sell their organs in a free market.

## VI. THE ECONOMICAL BENEFITS OF HAVING A FREE MARKET IN ORGANS

### *A. The Free Market Enterprise Structure: Background Economic Knowledge*

Scarcity is a fundamental component in the study of economics.<sup>199</sup> "Scarcity means that our behavior is constrained because we live in a world of limited resources and unlimited desires."<sup>200</sup> Personal autonomy is another important concept in the study of economics and "is rooted in the liberal[,] moral and political tradition of the importance of individual freedom and choice."<sup>201</sup> Autonomy requires "freedom

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194. *Id.* at 223.

195. *Id.* at 224.

196. *Id.*

197. *Id.* at 226.

198. *Id.* at 225.

199. HENRY N. BUTLER & CHRISTOPHER R. DRAHOZAL, *ECONOMIC ANALYSIS FOR LAWYERS 1* (Carolina Academic Press 2d ed. 2005).

200. *Id.*

201. TOM L. BEAUCHAMP & LEROY WALTERS, *CONTEMPORARY ISSUES IN BIOETHICS 19* (Wadsworth Publishing Co. 5th ed. 1999).

from external restraint.”<sup>202</sup> In the current market for organs, there is a large disparity between supply and demand.<sup>203</sup> A free market system can cure this shortage if it is allowed to do so.<sup>204</sup> “[F]reely fluctuating prices can bring supply into line with demand.”<sup>205</sup>

Based on the concept of microeconomic theory, if the following six conditions of the perfectly competitive model are met, then “the perfectly competitive model will create efficiencies in consumption, production, and allocation.”<sup>206</sup>

1. The free market must consist of numerous buyers and sellers,<sup>207</sup> each acting independently<sup>208</sup> and rationally;<sup>209</sup>
2. No one buyer or seller can affect price by the amount they consume or the amount they produce;<sup>210</sup>
3. There are no barriers to entry or exit in either the consumer or producer markets;<sup>211</sup>
4. All products are homogenous;<sup>212</sup>
5. All of the market participants are fully informed “of all relevant economic and technological data”;<sup>213</sup> and

202. *Id.* Beauchamp and Walters argue that personal autonomy should only be restricted “if an individual’s choices endanger the public health, potentially harm another party, or involve a scarce resource for which the patient cannot pay.” *Id.* at 20.

203. There are over 100,000 people on the waiting list this year. Health Resources III, *supra* note 21. However, as of November 21, 2008, there were only 9490 donors. Health Resources II, *supra* note 20.

204. See Block et al., *supra* note 12, at 107 (claiming that “[t]he beauty of the free market system is that it can fix any shortage, if only allowed to do so.”).

205. *Id.* at 108.

206. Kevin S. Marshall, *Product Disparagement Under the Sherman Act, Its Nurturing and Injurious Effects to Competition, and the Tension Between Jurisprudential Economics and Microeconomics*, 46 SANTA CLARA L. REV. 231, 237–38 (2006) [hereinafter *Product Disparagement*].

207. Kevin S. Marshall, *The Economics of Competitive Injury*, 45 BRANDEIS L.J. 345, 352 (2007) [hereinafter *Competitive Injury*] (citing ROBERT S. PINDYCK & DANIEL L. RUBINFELD, *MICROECONOMICS* 327 (Prentice Hall 5th ed. 2001)).

208. *Id.* (citing STEVEN E. LANDSBURG, *PRICE THEORY & APPLICATIONS* 634 (South-Western College Pub. 6th ed. 2005)).

209. *Id.* (citing PINDYCK & RUBINFELD, *supra* note 207, at 252).

210. *Id.* (citing PINDYCK & RUBINFELD, *supra* note 207, at 252).

211. *Id.* (citing PINDYCK & RUBINFELD, *supra* note 207, at 253).

212. *Id.* (citing PINDYCK & RUBINFELD, *supra* note 207, at 252–53).

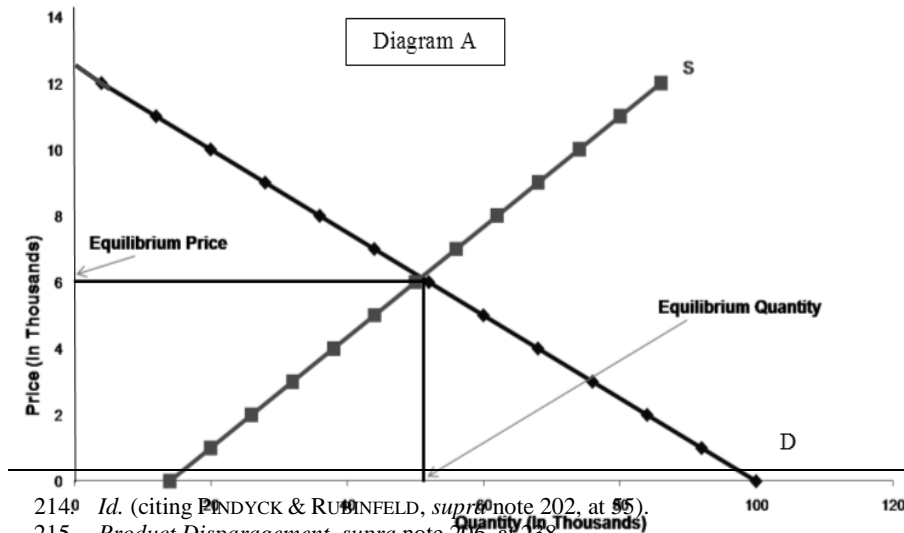
213. *Competitive Injury*, *supra* note 207, at 353 (citing PINDYCK & RUBINFELD, *supra* note 207, at 595)..

6. “The forces of supply and demand are free to determine the quantity of output in a relevant market as well as determine a market-clearing, competitive price with respect to that output.”<sup>214</sup>

If the preceding conditions are crucial for “the perfectly competitive market to thrive, then, from a purely economic perspective, it follows that any market conduct or activity that impairs, threatens, suppresses, or jeopardizes any one or more of such underlying conditions must be discouraged as a matter of public policy.”<sup>215</sup>

#### *B. Basic Economic Principles Applied: Supply and Demand*

A market demand curve is calculated by taking the aggregate of each individual’s consumer demand.<sup>216</sup> A market supply curve is calculated by “looking at the total quantity that firms in an industry would be willing to sell at different possible prices.”<sup>217</sup> Equilibrium price is the “price at which the quantity demanded equals the quantity supplied.”<sup>218</sup> Equilibrium quantity is the “quantity sold when the quantity demanded is equal to the quantity supplied.”<sup>219</sup>



214. *Id.* (citing PANDYCK & RUMFELD, *supra* note 202, at 55).

215. *Product Disparagement*, *supra* note 206, at 238.

216. BUTLER & DRAHOZAL, *supra* note 199, at 55.

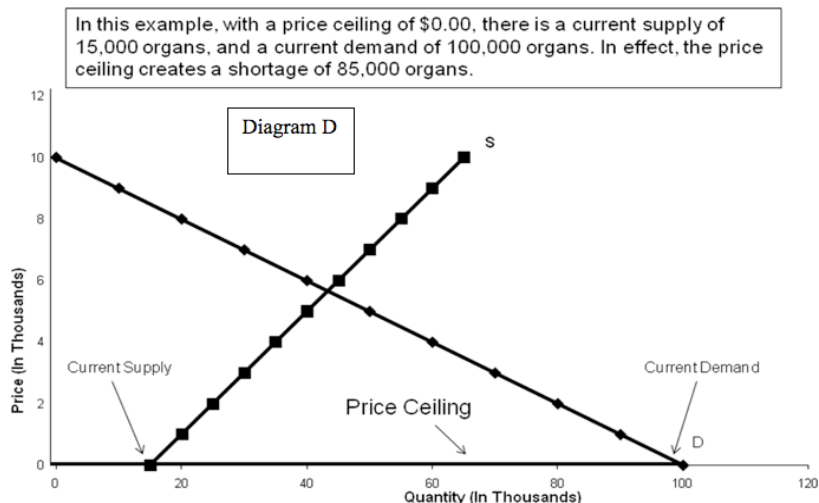
217. LOUIS KAPLOW & STEVEN SHAVELL, *MICROECONOMICS* 11 (Foundation Press 2004).

218. STEPHEN L. SLAVIN, *ECONOMICS* 48 (McGraw-Hill College 7th ed. 2005).

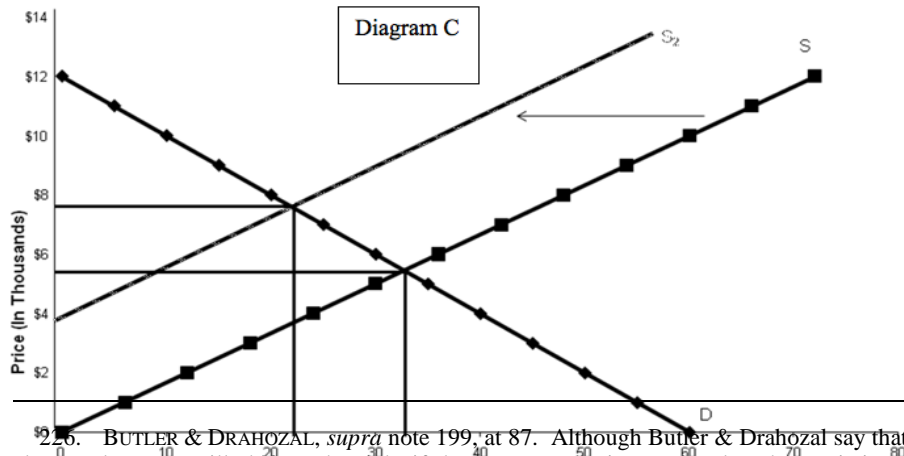
219. *Id.*

As seen in Diagram A, there is an inverse effect on demand based on price; the higher the price, the lower the demand.<sup>220</sup> This inverse effect on demand is always there, unless the demand is perfectly inelastic. The above diagram also shows that there is a direct relation between price and supply; more items will be produced when the prices reach higher levels.<sup>221</sup> “The law of supply states that, other things being equal, there is a positive relationship between price and the quantity supplied.”<sup>222</sup> The equilibrium price and quantity are determined by where the supply and demand curves intersect.<sup>223</sup> The above example shows that the equilibrium price is \$6000 and the equilibrium quantity demanded and supplied is approximately 50,000.

Although the law currently does not recognize a property interest in organs, commentators and the American Medical Association have “advocated investigating some system of financial compensation for organ donors to increase the supply of transplantable organs.”<sup>224</sup> If a free market in human organs is established, there will likely be an increase in the total amount of organs available for transplantations.<sup>225</sup> Assume for the purpose of analysis that the above supply curve represents the total number of organs donated by donors, and the demand curve represents the number of donees who are in need of an organ. At price zero, there is an approximate supply of 14,000 organ donors, while there is a demand for 100,000 organs. However, at a price of \$6000, the total supply of organs would be 50,000, an increase of 36,000 in supply, whereas the demand would drop to 50,000. Out of the 100,000 donees that are waiting for an organ on the national waiting list, about half of them might be willing to buy the organ instead of having to wait, which in return would make the national waiting list shorter.



“The supply curve shifts positions in response to changes in non-price variables.”<sup>226</sup> This shift is represented by  $S_2$  above. As seen in Diagram B, “an increase in supply with no corresponding change in demand results in a decrease in market price and an increase in quantity.”<sup>227</sup> The interaction between the increased supply curve ( $S_2$ ) with the demand curve in Diagram B indicates that the equilibrium price declines from slightly under \$6000 to slightly under \$4000, whereas the equilibrium quantity increases from about 33,000 to about 42,000. A shift in the supply curve to the right can be caused by a number of variables, including a decrease in the price of inputs, improvements in technology, and the removal of certain trade restrictions.<sup>228</sup>



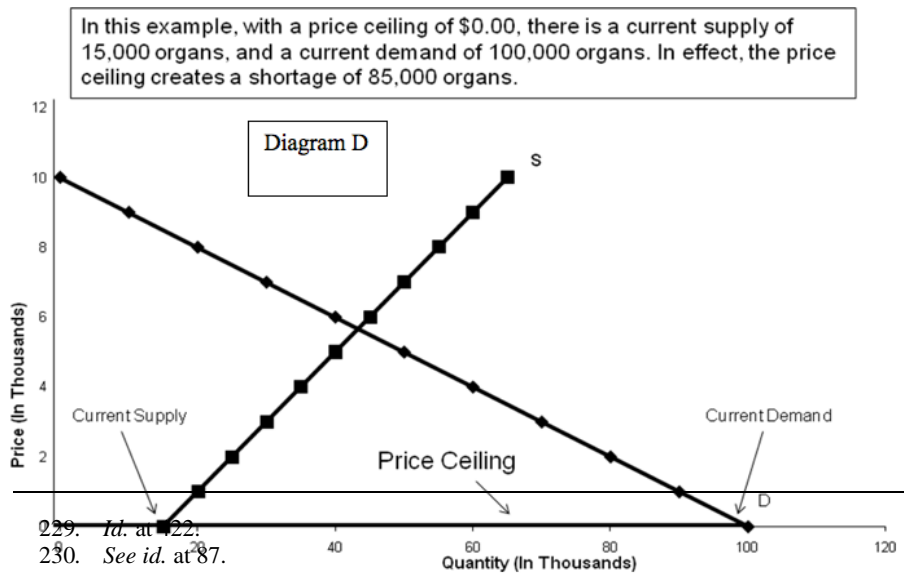
<sup>226</sup> BUTLER & DRAHOZAL, *supra* note 199, at 87. Although Butler & Drahozal say that the supply curve will shift to the right if there are certain international trade restrictions, such as if tariffs are removed, the removal of regulations and statutes that had the effect of reducing the number of supplier to domestic market will also cause a right shift in the supply curve. *See generally id.*

<sup>227</sup> *Id.*

<sup>228</sup> *Id.*

The conditions for a perfectly competitive market are not being met under the current organ procurement system. The current regulations, which bar the selling of human organs, work as a legal barrier to entry into the market. “Legal barriers to entry are restrictions placed upon the entry of new firms into an industry by the government.”<sup>229</sup> By preventing everyone from selling their organs, the government has, in a sense, created a barrier to entry for the entire market, since the only organs procured under the current system are donated. As illustrated in Diagram C, a barrier to entry causes the supply curve to move to the left, thereby decreasing the amount of organs available, while causing the cost to rise.<sup>230</sup>

The current system can also be viewed as a price ceiling that is set to \$0.00. “A price ceiling is a restraint on the maximum price that may be charged for a particular good or service.”<sup>231</sup> Some professional economists view the “organ shortage as a near-textbook illustration of how the imposition of a price ceiling upon the equilibrating processes of supply and demand weakens supplier incentives and causes persistent excess demand.”<sup>232</sup> Diagram D illustrates an example of the effects of a price ceiling.



229. *Id.* at 22.

230. *See id.* at 87.

231. *Id.* at 94.

232. Gregory S. Crespi, *Overcoming the Legal Obstacles to the Creation of a Futures Market in Bodily Organs*, 55 OHIO ST. L.J. 1, 19 (1994).

As all the above diagrams show, governmental interference with the free market structure causes increased costs and a lower amount of organs procured. If the price ceiling were removed, then the market would likely adjust itself to the equilibrium price and quantity, thereby increasing the overall amount of organs available. In Diagram D, the removal of the price ceiling would cause the current supply of 15,000 organs to increase to around 42,000 based on the equilibrium quantity. As a result, more people would receive the organs they need to remain alive.

## VII. CONCERNS ABOUT HAVING A FREE MARKET IN ORGANS

### A. *Effects the Free Market Will Have on the Altruistic System*

One of the primary concerns of creating a free market in human organs is the effect it may have on the altruistic system.<sup>233</sup> It is argued that some people will refrain from having anything to do with the entire procurement process because they feel that a market for human organs is appalling. Others, who would normally donate their organs, will cease to do so because they would rather sell their organs and get financial compensation.<sup>234</sup> The argument that an altruistic system and a market system cannot coexist is speculative.<sup>235</sup> In fact, the blood market in the United States tends to show that two market systems can coexist without a detrimental deduction in the number of donations.<sup>236</sup> In addition, some people will still choose to donate their organs because they feel a personal sense of satisfaction knowing that they donated something when they could have sold it.<sup>237</sup>

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233. KASERMAN & BARNETT, *supra* note 38, at 79 (proposing that “a market environment may cause some former altruists to refuse to supply their organs at death.”).

234. *Id.*

235. Sobota, *supra* note 26, at 1246.

236. KASERMAN & BARNETT, *supra* note 38, at 86 (stating that the “blood market evidence appears to provide no indication of a significant reduction in total collections as the result of payments to donors.”).

237. Crespi, *supra* note 227, at 6.

*B. Exploitation of the Poor and Uneducated*

Scholars have speculated that, by allowing people to sell their organs on a free market, the poor and uneducated might be pressured into selling their organs just to be able to provide themselves with the basic necessities of life.<sup>238</sup> However, whose right is it to say that a person would be better off by starving himself to death rather than by selling one of his organs to provide for his needs? Rational people make decisions regarding their lives based on the personal utility theory.<sup>239</sup> “[T]he concept of utility has been thought of as a cornerstone of economics.”<sup>240</sup> Utility theory states that a person’s economic choices are based on choosing from “a large set of bundles consisting of quantities of various items;” and for every set of bundles, a person is supposed to make a reflective choice by choosing one over the other.<sup>241</sup> Individuals are assumed to behave rationally, and they “seek to maximize their self-interest.”<sup>242</sup> Based on the utility theory, if a man had a choice between selling an organ to provide himself with food to live, or starving to death, it is assumed that he would make the decision that would put him in the better position.<sup>243</sup> If a free market in human organs were created, the increase in supply would cause a decrease in costs due to competition, which would benefit everyone in the market for organs, especially the poor.<sup>244</sup>

*C. The Wealthy Might Gain Inequitable Access to Organs*

People are also concerned that a free market system for human organs might cause a disproportionate division of organs between wealthy donees who can afford to buy them, and the poor donees, who cannot afford to buy them.<sup>245</sup> It has been proposed that if a market were to be formed for human organs, there should be two separate markets; one for procurement of organs, and one for their distribution.<sup>246</sup> Under this system, only hospitals, insurance companies, or OPOs would be

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238. David J. Rothman, *Ethical and Social Consequences of Selling a Kidney*, 288 JAMA 1640, 1640–41 (2002).

239. I.M.D. LITTLE, *ETHICS, ECONOMICS & POLITICS: PRINCIPLES OF PUBLIC POLICY* 3 (Oxford Univ. Press 2002).

240. *Id.*

241. *Id.*

242. BUTLER & DRAHOZAL, *supra* note 199, at 2.

243. LITTLE, *supra* note 239, at 8 (stating that “if someone chooses situation A when he could have chosen situation B he is assumed to be better off in A than B.”).

244. Kaserman, *supra* note 5, at 567–80.

245. See Boyd, *supra* note 7, at 470 (citing Kaserman, *supra* note 5, at 575–77).

246. Kaserman, *supra* note 5, at 575–77.

able to procure organs, whereas a general member of the public would not be able to purchase an organ.<sup>247</sup> Proponents of separating the procurement and distributive systems argue that by allowing some organizations to purchase human organs for financial compensation, there will be an increase in the supply of human organs for transplantations, and because the distribution will continue as it is now under the Final Rule, there will be an equitable distribution of organs.<sup>248</sup>

However, there is a major flaw in this argument. If hospitals, insurance companies, and OPOs are the only entities that are allowed to procure organs by providing donors with financial compensation, that will only increase the costs of procurement. That in return would increase the total cost of a transplant, thus making transplants impossible for people who cannot pay the higher price.<sup>249</sup>

The current system has been accused of discriminating against the poor and minority racial groups.<sup>250</sup> The current distributive system “tolerates inequities based on the economic, racial, and social status of transplant candidates.”<sup>251</sup> An example of this is the fact that before a candidate is even placed on the national waiting list for an organ, they “must [first] prove that they have the [financial resources] to pay for [the] transplant, either through insurance or state assistance.”<sup>252</sup> Some state-supported hospitals say that they will accept patients regardless of their level of income,<sup>253</sup> but a majority of the hospitals that offer transplants require that the donee provide assurance of his or her ability to pay.<sup>254</sup> Data also suggests that, in some areas, nonwhites are

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247. *Id.*

248. *Id.*

249. *See* Diagram C. When there is a constraint on the supply then the supply curve shifts to the left, as evidenced by  $S_2$  on the diagram, which results in an increase in market price. By only allowing hospitals, insurance companies, and OPOs to procure organs for financial compensation, the supply of organs will be limited. If a free market is established where individuals can purchase organs directly from another person, then the supply curve will shift to the right, as demonstrated in Diagram B, which would result in a decrease in market price.

250. *See* Ian Ayres et al., *Unequal Racial Access to Kidney Transplantation*, 46 VAND. L. REV. 805, 806–09 (1993).

251. Daniel T. Stimson, *Private Solicitation of Organ Donors: A Threat to the Fairness of the U.S. Organ Transplant System, or a Solution to the National Organ Shortage?*, 10 MICH. ST. U. J. MED. & L. 349, 364 (2006).

252. *Id.* Requiring a person to show that he/she has the financial resources to pay for the transplant may be a business decision; however, it has a discriminatory effect because indigent individuals will not be able to obtain the organs they need to survive.

253. Organ Procurement and Transplantation Network, 63 Fed. Reg. 16,296, 16,305 (Apr. 2, 1998) (to be codified at 42 C.F.R. pt. 121).

254. Organ Procurement and Transplantation Network, 63 Fed. Reg. at 16,305.

significantly less likely to be placed on the waiting list when compared to whites.<sup>255</sup>

In addition to the current altruistic system, a free market, open to the general public, should be endorsed by the United States. By endorsing both an altruistic system and a free market in human organs, there will be an increase in the supply of organs, which will benefit the people that are or will be waiting on the national waiting list, whether they are wealthy or poor. For example, if a poor person is fifth in line on the waiting list for a kidney, and two of the wealthy people ahead of him decide to go purchase a kidney instead of waiting to be matched up with a donated one, the poor person just moved up to third on the list. In addition, another poor person who might have been number twenty on the list just moved up to number eighteen. By having both a market system open to the public and an altruistic system, there will be better potential to save lives. A portion of the people who would have died on the waiting list while waiting for an organ would actually survive because they just moved up on the waiting list and had the transplantation performed before it was too late.

### VIII. REASONS FOR ALLOWING A FREE MARKET IN ORGANS

#### A. *Concept of Autonomy*

The United States Supreme Court in 2003 stated that “[l]iberty presumes an autonomy of self that includes freedom of thought, belief, expression, and certain intimate conduct.”<sup>256</sup> Autonomy is “a principle of self-determination and independence.”<sup>257</sup> Autonomy includes a person’s right to enter into contracts without the interference of others.<sup>258</sup> Under the current procurement system for human organs, “autonomy is a valued social norm . . . but ironically only to the extent that individuals surrender organs without any consideration.”<sup>259</sup> Proponents of a free market in human organs argue that if compensation

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255. Stimson, *supra* note 251, at 364 (“For example, an investigation by the New York Daily News found that between 1996 and 1998, nearly 75 percent of patients from the New York City area referred for organ transplantation were white. This disparity occurred even though whites made up only 54 percent of the area’s population, and nonwhites in the area donated proportionately more organs.”) (citing Michele Goodwin, *Altruism’s Limits: Law, Capacity, and Organ Commodification*, 56 RUTGERS L. REV. 305, 332, 335 (2004)).

256. *Lawrence v. Texas*, 539 U.S. 558, 562 (2003).

257. Michele Goodwin, *Private Ordering and Intimate Spaces: Why the Ability to Negotiate is Non-Negotiable*, 105 MICH. L. REV. 1367, 1373 (2007).

258. *Id.*

259. *Id.* at 1374.

were offered for organ procurement, the concept of autonomy would be promoted.<sup>260</sup>

Based on the concept of autonomy, a person should be left with the decision of whether or not he or she is going to sell or donate his or her organs. People have the autonomy to conduct other acts that could be detrimental to themselves, such as refusing medical treatment that could save their lives, and yet the government does not step in to interfere in those situations.<sup>261</sup> The government should only intervene in a person's freedom to choose in a limited number of situations, such as when someone is not acting rationally, or when someone's actions create negative externalities. Alternatively, when people are able to make a rational choice and their actions do not create negative externalities, then their autonomy should not be interfered with. By barring a person from selling his or her organs, the government hinders a person's personal autonomy. This, in effect, forces a person to either donate an organ or refrain from providing an organ. By barring an individual's ability to sell his or her organs, less organs will be available for transplantations and therefore, less people will receive the organs they need to live.

Take, for example, an indigent father who decides to sell his kidney to get the financial resources he needs to pay for his daughter's life-threatening illness. By selling his organ, the father will be able to provide for the treatment that will save his daughter's life and he will get the personal satisfaction of knowing that he helped to save both his daughter and the donee from dying.<sup>262</sup> By preventing indigent people, like the father in the above example, from selling their organs, "society may actually be denying them the use of one of the few assets they have, their bodies, and by extension, their personal autonomy."<sup>263</sup>

In *Hamer v. Sidway*, there was a reciprocally induced exchange of promises between a nephew and his uncle in which the uncle was to pay

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260. Danielle M. Wagner, Comment, *Property Rights in the Human Body: The Commercialization of Organ Transplantation and Biotechnology*, 33 DUQ. L. REV. 931, 955 (1995) (citing Roy Hardiman, Comment, *Toward the Right of Commerciality: Recognizing Property Rights in the Commercial Value of Human Tissue*, 34 UCLA L. REV. 207, 235 (1986)).

261. The Patient Self-Determination Act of 1990, 42 U.S.C. § 1395 (2000).

262. See generally Boyd, *supra* note 7, at 466–67 (stating that by selling an organ the donor will also "certainly benefit the organ recipient, the random victim of disease").

263. *Id.* at 466. Our society allows people to use their bodies for profit in socially acceptable activities, such as engaging in extreme sports, even though the individuals have a high risk of being severely injured. *Id.* However, our society scorns people who wish to use their body for profit in manners that society deems to be morally unacceptable, such as selling organs, even though the risk of harm might be slight. *Id.*

his nephew \$5000 if the nephew would refrain from drinking liquor, smoking tobacco, swearing, and playing cards or billiards for money until he turned twenty-one.<sup>264</sup> The court determined that it was not the court's duty to question the adequacy of the benefits received by the person, so long as consideration was given.<sup>265</sup> In the example above, the court following the decision in *Hamer v. Sidway* should not try to determine if the financial compensation for the organ is adequate, so long as there was mutual consideration given.

*B. Reducing Body Snatching and Transplants Done on the Black Market*

People are exposed to numerous dangers when they resort to the black market to have transplants, just like the women who resorted to the black market and back-alleys for abortions. From the "1880s to 1973, abortion[s] were] illegal in all or most U.S. states", depending on the exact year.<sup>266</sup> Women determined to have an abortion resorted to "untrained practitioners who performed abortions with primitive instruments or in unsanitary conditions."<sup>267</sup> During the years when abortions were illegal, thousands of women were harmed as a result.<sup>268</sup> Now that abortions are legal in the United States, out of the women who have abortions conducted within the first thirteen weeks, "[97%] report no complications" and only "[2.5%] have minor complications that can be handled at the medical office or abortion facility."<sup>269</sup> "[I]n countries where abortion is illegal, it remains a leading cause of maternal death. An estimated 68,000 women worldwide die each year from unsafe abortions."<sup>270</sup> The current shortage of organs in the United States has caused desperate people to resort to the black market to have transplantations performed.<sup>271</sup> People who have the financial resources required often travel to places like India, the Philippines, and Thailand

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264. *Hamer v. Sidway*, 27 N.E. 256, 257 (N.Y. 1891).

265. *Id.* at 257. The "Courts 'will not ask whether the thing which forms the consideration does in fact benefit the promisee or a third party, or is of any substantial value to anyone.'" *Id.*

266. SUSAN DUDLEY & BETH KRUSE, NATIONAL ABORTION FEDERATION, SAFETY OF ABORTION 1 (2006), [http://www.prochoice.org/pubs\\_research/publications/downloads/about\\_abortion/safety\\_of\\_abortion.pdf](http://www.prochoice.org/pubs_research/publications/downloads/about_abortion/safety_of_abortion.pdf).

267. *Id.*

268. National Abortion Federation, History of Abortion, [http://www.prochoice.org/about\\_abortion/history\\_abortion.html](http://www.prochoice.org/about_abortion/history_abortion.html) (last visited June 21, 2009).

269. DUDLEY & KRUSE, *supra* note 269.

270. *Id.*

271. Jason Altman, *Organ Transplantations: The Need for an International Open Organ Market*, 5 TOURO INT'L L. REV. 161, 169 (1994).

to obtain a transplant.<sup>272</sup> By resorting to the black market for transplants, people are exposing themselves to the same dangers as women did when they illegally had abortions on the black market. For example, “from 1986 to 1991, 150 reported Singaporeans went to India and China for transplants and returned with serious diseases and infections such as hepatitis and AIDS.”<sup>273</sup> When abortions were legalized, the amount of women who were harmed drastically decreased because the abortions were being conducted in sanitary clinics by professionals who had the right instruments.<sup>274</sup> If a free market were established for human organs, then the supply would increase and more legal transplantations would occur. As a result, less people would be exposed to the dangers of the black market.

Some people think that the high prices that have been reported in association with black market activities are indications of the types of outcomes likely to accompany legalized organ markets.<sup>275</sup> “The truth is that the types of behavior and price levels that frequently accompany black market sales tend to disappear when trade is legalized.”<sup>276</sup>

Black market prices of any item are usually higher than the prices that the item can be sold for on a normal market.<sup>277</sup> Due to the restrictions on selling organs, in a black market, there is a diminished supply of organs and the illegality of procuring organs also presents additional risks.<sup>278</sup> Both of these factors cause an increase in the price of an organ in the black market.<sup>279</sup> The effects of these factors are shown in Diagram C. Due to the restrictions on selling organs, there is a shift in the supply curve to the left, which causes an increase in the overall cost for purchasing an organ. If a free market were established, then there would be an increase in the total amount of organs supplied,<sup>280</sup> and there would “only [be] ordinary risks associated with selling the good.”<sup>281</sup> By establishing a free market, the price ceiling of zero dollars in Diagram D shown above would be removed, and therefore there would be a shift to the right in the supply curve. As

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272. *Id.* at 170.

273. *Id.* at 172.

274. See DUDLEY & KRUSE, *supra* note 269.

275. KASERMAN & BARNETT, *supra* note 38, at 95.

276. Kaserman, *supra* note 5, at 573.

277. *Id.* at 573-75.

278. *Id.*

279. See Boyd, *supra* note 7, at 467.

280. BUTLER & DRAHOZAL, *supra* note 199, at 87. “An increase in supply is represented by a shift of the supply curve to the right.” *Id.* This shift to the right can be caused by a number of variables, including the removal of certain trade restrictions. *Id.*

281. *Id.*

shown in Diagram B above, when the supply curve shifts to the right, the price of an organ decreases and there is an increase in the total number of organs available.<sup>282</sup>

The increased supply of organs that a free market would create would also decrease the amount of people who would normally try to obtain organs on the black market. This in turn would likely result in a lower level of body snatching and kidnappings.<sup>283</sup> When a law prohibits the selling of organs, people on the black market have more of an incentive to pursue obtaining organs by any means.<sup>284</sup> This is because they will get a higher pay-off due to the diminished supply.<sup>285</sup> This higher pay-off allows a black market supplier to stay in business. Under the “marginal analysis decision-making rule, . . . if the marginal benefit of an activity is greater than the marginal cost of an activity,” then a person will conduct that activity.<sup>286</sup> For example, take a black market supplier who calculates the costs of procuring and selling an organ on the black market (e.g. the possibility of going to prison and being fined) and says that he will not conduct business on the black market unless he can get \$20,000 per organ. Since the market is currently restrained, and there is a shortage, the supplier can get over \$20,000 and thus he will stay in business. However, if a free market were established, the supply of organs would increase and the price would likely drop below \$20,000. Therefore, the marginal cost of selling an additional organ exceeds the marginal revenue, forcing the supplier to withdraw from the black market.

### *C. Comparison with the Sale of Blood, Bone Marrow, Sperm, Hair, and Eggs*

The United States currently has free markets for blood, sperm and human hair.<sup>287</sup> Most states that have allowed the selling of renewable body fluids have characterized such fluids as a service, rather than as a good thus taking away any sort of property right in these fluids.<sup>288</sup> The opponents of having a free market in human organs state that the distinction between organs and tissues is that unlike tissue, organs are

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282. Kaserman, *supra* note 5, at 573–75.

283. See Michael J. Butler, *The Law of Human Organ Procurement: A Modest Proposal*, 1 J. CONTEMP. HEALTH L. & POL’Y 195, 204 (1985) (stating that there will be a reduction in the inappropriate retrieval of organs).

284. Kaserman, *supra* note 5, at 573.

285. *Id.*

286. BUTLER & DRAHOZAL, *supra* note 199, at 5.

287. SCOTT, *supra* note 16, at 180, 190.

288. *Id.* at 112.

nonrenewable.<sup>289</sup> However, there is currently a free market system in the United States for human eggs,<sup>290</sup> which are not renewable.<sup>291</sup> Unlike sperm, which are renewable, human eggs do not regenerate, making them similar to human organs.<sup>292</sup> People may additionally argue that the process of harvesting human organs is physically invasive, but the process of harvesting human eggs is physically invasive as well, and yet, there still is a free market for it.<sup>293</sup>

#### *D. Profits from the Transplantation Process*

One of the primary reasons why there should be a free market in human organs is to prevent unjust enrichment.<sup>294</sup> Currently, hospitals and organ matching agencies profit from the transplantations, but the actual donor does not. Under our system, physicians, surgeons, radiologists, anesthesiologists, hospitals and organ procurement organization specialists, who solicit donations, all receive financial compensation for the part they take in the organ transplantation process, whereas the actual donor does not.<sup>295</sup> Under the current system, the donee has the responsibility to pay for the procurement of the organ, as well as all other transplant related costs.<sup>296</sup> In 2007, the United States' average estimated costs for only the first year charges for a transplant were as follows: \$246,400 for a kidney;<sup>297</sup> \$399,500 for a single lung;<sup>298</sup>

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289. Jordan & Price, *supra* note 41, at 160 (stating “when patients are alive, they are free to donate renewable tissues (e.g. blood and semen) and tissues that are not necessary to maintain health (e.g. ova)”); Sobota, *supra* note 26, at 1236; *see also* 42 U.S.C. 274e(c)(1) (2006) (where the definition of an organ specifically excludes blood and blood products).

290. Kenneth Baum, *Golden Eggs: Towards the Rational Regulation of Oocyte Donation*, 2001 BYU L. REV. 107, 139 (2001).

291. EMILY JACKSON, *REGULATING REPRODUCTION: LAW, TECHNOLOGY AND AUTONOMY* 165–66 (Hart Publishing 2001).

292. *Id.*

293. *See id.* at 166 (stating that egg donations are uncomfortable and invasive and describing the procedure of harvesting the human eggs).

294. *See Moore v. Regents of Univ. of Cal.*, 793 P.2d 479, 516-17 (Cal 1990) (Mosk, J., dissenting).

295. *See* Transplant Living, *Financing a Transplant*, <http://www.transplantliving.org/beforethetransplant/finance/costs.aspx> (last visited June 21, 2009) (information found under the “Medical Costs” section).

296. Roger W. Evans & Daniel J. Kitzmann, *An Economic Analysis of Kidney Transplantation*, 78 *Renal Transplantation* 149, 162 (1998) (cited in Boyd, *supra* note 7, at 462).

297. *Financing a Transplant*, *supra* note 295 (information retrieved from the “Estimated U.S. Average 2007 First-Year Billed Charges Per Transplant” section).

298. *Id.*

\$519,600 for a liver;<sup>299</sup> \$557,400 for a double lung;<sup>300</sup> \$658,800 for a heart;<sup>301</sup> and over \$900,000 for an intestine.<sup>302</sup>

Out of the \$246,400 estimated charges for the first year for kidney transplants, \$58,300 of that amount is attributed to the procurement of the organ.<sup>303</sup> Out of the \$658,800 estimated in costs for a heart, \$89,900 of that amount is attributed to the procurement of the organ.<sup>304</sup> These numbers indicate that a large portion of the costs of transplantations are related to the costs of procuring the organ. In essence, OPO specialists are compensated for procuring organs, whereas the actual donor is not being compensated for giving the organ. The high costs associated with the organ procurement process can be attributed to the smaller supply of organs available since a free market has not been established for organs.

If a free market in human organs was established, the supply for organs would almost certainly increase and people would find ways to advertise what they were willing to sell. People will then be able to enter into contractual agreements to procure the organs that they need. It is likely that procurement costs of the organ will be less than the current procurement costs because this creates a shift to the right on a supply curve that will decrease the price of an item. This in turn will decrease the total cost of a transplant for the donee, and it will also provide the donor with the option of receiving compensation for his or her organs, which will aid in preventing the unjust enrichment that is present under the current system.

By establishing a free market in organs, the fundamental concept of personal autonomy would be promoted. A free market would lead to a decrease in body snatching and transplantations that occur on the black market. In addition, by establishing a free market, the unjust enrichment that occurs under the current system would be diminished.

#### IX. WHAT KIND OF MARKET?

A free market in human organs needs to be established. Both a living donor market and a cadaveric donor market should be utilized.

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299. *Id.*

300. *Id.*

301. *Id.*

302. *Id.*

303. *Financing a Transplant, supra* note 295.

304. *Id.*

### A. Living Donor Market

Under a living donor market, a donor would be allowed to advertise through agencies or by other means and personally contract with a third party for the purchase of the donor's organ. This system would provide the donee (third party) with the benefit of knowing that he or she is purchasing an organ that is compatible with his or her body. If a living donor market was established which allowed the donor to receive financial compensation for his or her organs, there would be an increase in the number of organs available for transplants.

Under the current living donor system there are a number of requirements that must be established "before a living donor transplant will be performed: (1) the chance of success must be high; (2) the risk to the donor must be low and acceptable to the donor, the recipient, and the physician; and (3) the living donor must give her informed consent for the donation."<sup>305</sup> After this procedure is done, the donor and donee undergo further tests to confirm that their tissues match to ensure that there is a successful transplant.<sup>306</sup> The donor is then screened to make sure that the organ being donated is free of any diseases that would prevent the transplant from happening.<sup>307</sup> Thus, under a living donor market, the procedure established would help ensure that the donee is actually receiving something of value in return for the cash, property or services he offers the donor.

### B. Cadaveric Donor Market

The cadaveric market is, in essence, a future market in organs since, under this system, a donor may receive money, property, or services during the donor's lifetime in return for an organ that will not be recovered until death.<sup>308</sup> The problem with this system is that an individual might contract with a person who has an organ that is of value to the donee now, but over the years, or depending on the way the person dies, the organ might be deemed useless.<sup>309</sup> For example, a contract can be formed where the donor receives consideration for his liver now, and the donee will get the liver upon the death of the donor. If the donor chooses to drink alcohol excessively, thus making his liver

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305. Sobota, *supra* note 26, at 1229.

306. *Id.* at 1229–30.

307. *Id.* at 1230.

308. Boyd, *supra* note 7, at 470.

309. See KASERMAN & BARNETT, *supra* note 38, at 9 (stating that "it has been estimated that only about [one] percent of all deaths in the United States occur under circumstances that would allow the organs of the deceased to be used in transplantation[s].").

useless to the donee, there would be injustice because the donor already reaped the benefits of the contract, while the donee would be left with nothing. In addition, even if the donor kept his or her body in good shape, “it has been estimated that only about [1] percent of all deaths in the United States occur under circumstances that would allow the organs of the deceased to be used in transplantation[s].”<sup>310</sup> A cadaveric market system should be established, but it should be limited to contracts that are enforceable only after the donor dies. This would solve the problem raised above. Under this proposal, a donor and donee would enter into a contract stating that the donor’s estate would receive the consideration that the donor contracted for if the organ that is to be received by the donee is adequate for transplantation. By introducing these limitations, the donor would have incentive to keep his body in good shape so that his organs will be healthy for transplantation upon his death. Under this model, if for any reason the organ were deemed to be inadequate, the donee would not suffer a loss and could look for another organ elsewhere.

A free market in human organs (both a living donor market and a cadaveric donor market) should be established because it would cause an increase in the total amount of organs available for transplantations. The establishment of a free market would cause a shift to the right in the supply curve. This would cause an increase in the quantity of organs, and the costs of procuring an organ would diminish.<sup>311</sup>

#### CONCLUSION

A free market in human organs needs to be established. A free market would lead to an increase in the supply of organs, which would lead to lower costs of procurement and more transplantations. This in return, would result in more lives being saved. Over the years, case law has evolved from finding no property rights in the human body,<sup>312</sup> to finding a quasi-property right in the human body.<sup>313</sup> Pennsylvania has already taken the lead in providing individuals with some sort of financial compensation for their organs. Under “The Governor Robert P. Casey Memorial Organ and Tissue Donation Awareness Trust Fund,” a person is given the option to donate \$1.00 when getting an original or renewal driver’s license or identification card.<sup>314</sup> A portion of the

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310. *Id.*

311. *See* Diagram B.

312. *See* Moore v. Regents of Univ. of Cal., 793 P.2d 479 (Cal 1990).

313. Fuller v. Marx, 724 F.2d 717, 719 (8th Cir. 1984).

314. 20 PA. CONS. STAT. ANN. § 8621(a) (West 2005).

contributions will be used as financial compensation to pay for the “funeral expenses and incidental expenses incurred by the donor or [his or her] family in connection with making a vital organ donation.”<sup>315</sup>

A market in human organs can bring the supply and demand of organs to equilibrium, but “[a] market controlled by the government is certainly not compatible with free enterprise.”<sup>316</sup> A market controlled by the government interferes with one of the main economic principles that needs to be established in order for there to be “[e]fficiencies in consumption, production, and allocation,” under the perfectly competitive model.<sup>317</sup> A free market must consist of numerous buyers and sellers each acting independently and rationally.<sup>318</sup> If the government had complete control over the market, then this essential element would not be met.

If a living market and a cadaveric market were both allowed in addition to the current donation system, then people could choose the method by which they would want to dispense of their organs. Adam Smith once said that “man has almost constant occasion for the help of his brethren, and it is in vain for him to expect it from their benevolence only.”<sup>319</sup> There are people who will refuse to donate their organs under any conditions because of religious beliefs or personal preference. However, a number of people who would have otherwise donated their organs might have been reluctant to do so, under the current donation market, because there is no personal incentive for them to donate. These people might change their minds under a free market system, since there would be an economic benefit that could be reaped by the donors (through a living market) or by their heirs (through a cadaveric donor market). The increase in supply caused by establishing a free market would also lead to a decrease in deaths since the organ shortage problem would be resolved. Therefore, the establishment of a free market in human organs would be economically beneficial to both the donors and donees.

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315. § 8622(b)(1).

316. Block et al., *supra* note 12, at 108.

317. *Product Disparagement*, *supra* note 206, at 237–38.

318. *Competitive Injury*, *supra* note 207, at 352 (citing PINDYCK & RUBINFELD, *supra* note 207, at 327).

319. SMITH, *supra* note 1, at 16.