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Repugnance as a Constraint on Markets

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May 29, 2007

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Abstract: This essay examines how *repugnance* sometimes constrains what transactions and markets we see. When my colleagues and I have helped design markets and allocation procedures, we have often found that distaste for certain kinds of transactions is a real constraint, every bit as real as the constraints imposed by technology or by the requirements of incentives and efficiency. I'll first consider a range of examples, from slavery and indentured servitude (which once were not as repugnant as they now are) to lending money for interest (which used to be widely repugnant and is now not), and from bans on eating horse meat in California to bans on dwarf tossing in France. An example of special interest will be the widespread laws against the buying and selling of organs for transplantation. The historical record suggests that while repugnance can change over time, it can persist for a very long time, although changes in institutions that reflect repugnance can occur relatively quickly when the underlying repugnance changes.

Why can't you eat horse or dog meat in a restaurant in California, a state with a population that hails from all over the world, including some places where such meals are appreciated? The answer is that many Californians not only don't wish to eat horses or dogs themselves, but find it repugnant that anyone else should do so, and they enacted this repugnance into California law by referendum in 1998. Section 598 of the California Penal Code states in part: "[H]orsemeat may not be offered for sale for human consumption. No restaurant, cafe, or other public eating place may offer horsemeat for human consumption." The measure passed by a margin of 60 to 40 percent with over 4.6 million people voting for it (see <http://vote98.ss.ca.gov/Returns/prop/00.htm>.

Notice that this law does not seek to protect the safety of *consumers* by governing the slaughter, sale, preparation and labeling of animals used for food. It is different from laws prohibiting the inhumane *treatment* of animals, like rules on how farm animals can be raised or slaughtered, or laws prohibiting cockfights, or the recently established (and still contested) ban on selling *foie gras* in Chicago restaurants (Ruethling, 2006). It is not illegal in California to kill horses; the California law only outlaws such killing "if that person knows or should have known that any part of that horse will be used for human consumption." The prohibited use is "*human* consumption," so it apparently remains legal in California to buy and sell pet food that contains horse meat (although the use of horse meat in pet food has declined in the face of the demand for U.S. horse meat in Europe, for human consumption).

The repugnance of eating horses is not limited to California. On September 7, 2006, the U.S. House of Representatives passed, by a vote of 351 – 40, and sent to the Senate, H.R. 503: "To … prohibit the shipping, transporting, moving, delivering, receiving, possessing, purchasing, selling, or donation of horses and other equines to be slaughtered for human consumption." (That bill seems unlikely to pass into law, however.)

Apparently, some kinds of transactions are repugnant in some times and places and not in others. This essay examines repugnance and its consequences for what transactions and markets we see. When my colleagues and I have helped design markets and allocation procedures, we have often found that distaste for certain kinds of transactions can be a real constraint on markets and how they are designed, every bit as real as the constraints imposed by technology or by the requirements of incentives and efficiency. In this essay I'll first consider a wide range of examples, including slavery and indentured servitude, lending money for interest, price-gouging after disasters, selling pollution permits and life insurance, and dwarf tossing.

This will bring me naturally to the laws against the buying and selling of kidneys for transplantation, which will connect this essay with the others on organ transplantation in this issue. Because healthy people have two kidneys and can remain healthy with only one, kidneys from living donors are now widely used for kidney transplantation, the preferred treatment for end stage renal disease. The laws against buying or selling kidneys reflect a reasonably widespread repugnance, and this repugnance may make it difficult for arguments that focus only on the gains from trade to make headway in changing these laws.

That does not mean that no gains from exchange can be realized, in fact some gains are beginning to be realized in the kidney exchange programs that Tayfun Sönmez and Utku Ünver and I have helped to design in New England and elsewhere. In the simplest form of kidney exchange, a patient with a willing donor who has an incompatible blood type (or who is incompatible for another reason) can exchange a kidney with another such incompatible patient-donor pair. (That is, the pairs are matched so that the donor from one pair is compatible with the patient from the other, and each patient receives a kidney from the other patient's donor.) This sort of "in kind" exchange has gained acceptance in the transplant community.[1]

More generally, this essay will explain why I think economists need to understand better and engage more with the phenomenon of repugnant transactions. Attitudes about the repugnance or other kinds of inappropriateness of transactions shape whole markets, and therefore shape what choices people face.

Repugnant Markets

Table 1 lists some examples of transactions in which repugnance has established important constraints, presently or at some time in the past. The arrow of time points in both directions: some markets that are repugnant today once were not (or not sufficiently to serve as a binding constraint). Other markets are not widely repugnant today that once were.

[Table 1 about here]

Slavery is an obvious example of a market that is now repugnant and illegal even in places like the United States where such markets were once openly conducted. Slavery was forbidden by the 13th amendment to the U.S. Constitution in 1865, which states: "Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction." Courts have interpreted this amendment as also outlawing indentured servitude, and today we find servitude so repugnant that a person may not even sell him or her *self* into slavery or indentured servitude. But indentured servitude was once one of the common ways for Europeans to buy passage across the Atlantic to America (Galenson, 1981).

Lending money for interest was once widely repugnant, and no longer is, (with the important exception that Islamic law is commonly interpreted as prohibiting it). State usury laws in the United States, and Islamic banks in some countries, are examples of

[1] See Roth, Sonmez, and Unver (2004, 2005a,b, 2007), Saidman, Roth, Sonmez, Unver, and Delmonico (2006), and Roth, Sonmez, Unver, Delmonico, and Saidman (2006) for discussions of the issues involved in organizing kidney exchange on an efficient scale. A very small number of individual kidney exchanges had been conducted before the issue of efficient organization was raised, giving an early indication that this kind of exchange did not arouse the repugnance associated with monetary payments for organs.

modern expressions of this repugnance.[2] The changing repugnance of debt and of involuntary servitude have even interacted, in changes in bankruptcy law. In colonial America and the early years of the Republic, insolvent debtors could be imprisoned, or sentenced to indentured servitude (Coleman, 1974). But as involuntary servitude became more repugnant, and debts less repugnant, bankruptcy laws were rewritten to be less punitive to debtors.

The examples in Table 1, and others I will discuss, reflect that, even when there may be willing suppliers and demanders of certain transactions, aversion to those transactions by others may constrain or even prevent them. In Table 1, "repugnance" or even "revulsion" is often exactly the right word for how some transactions are or were once regarded. In other examples, a milder word would be more apt: some transactions may be called distasteful, inappropriate, unfair, undignified, or unprofessional.

Of course, there may also be other reasons to object to markets that some people find repugnant, and so it may be difficult to attribute only to repugnance the limits on certain markets. For example, while hiring mercenaries was once an accepted way of dealing with military affairs (and although there has once again been increasing use of private security firms to perform defensive military functions), mercenaries have largely fallen out of favor. The declining use of mercenaries is not only because of repugnance towards the fact that mercenaries kill for pay rather than for state-sanctioned duty or patriotism. But that such repugnance plays a role is strongly suggested by the lesser protection mercenaries receive under international law. For example, Article 47 of the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts states: "A mercenary shall not have the right to be a combatant or a prisoner of war."

How Repugnance Combines With Other Factors

Some markets are banned or limited for combinations of reasons that include both repugnance and also concerns about negative externalities. For example, limits on prostitution or pornography depend in part on revulsion at commercializing sex. Fiske and Tetlock (1997) talk about "taboo tradeoffs between different spheres of justice" to discuss why bringing to the market activities or goods that are customarily provided in other settings, like within families, may seem inappropriate or worse. But concern also arises about the negative effects pornography or commercial sex may have on the quality

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[2] Near the beginning of his essay "The Spirit of Capitalism," Max Weber quotes Benjamin Franklin on the virtues of responsible lending and borrowing, and near the end of the essay Weber (1930, p. 74) asks "Now, how could activity, which was at best ethically tolerated, turn into a calling in the sense of Benjamin Franklin?" Hirschman (1977, p. 9) paraphrases Weber's question as "How did commercial, banking, and similar money-making pursuits become honorable at some point in the modern age after having stood condemned or despised as greed, love of lucre, and avarice for centuries past?" In this journal, see Persky (2007) on the Jeremy Bentham/Adam Smith arguments about usury, and Kuran (1995) on Islamic banks.

of life in neighborhoods where it is sold. In addition, prostitution and pornography may not involve only transactions between willing parties.

Bans on commerce involving material judged to be obscene may also involve concerns about externalities, as in Federal Communications Commission regulations regarding certain words forbidden on radio and television broadcasts, or voluntary regulations concerning whether children can see certain movies; for example, Fairman (2007) discusses the laws and jurisprudence concerning the word "fuck." But repugnance can be present even when externalities are minimal. For example, in 1959 the U.S. Post Office imposed a ban on sending copies of D.H. Lawrence's *Lady Chatterley's Lover* through the mail (this story and several related obscenity trials are recounted in Rembar, 1968). Similarly, bans in various times and places on profane language may primarily concern externalities, but bans on blasphemy—like banning the sale of Salman Rushdie's *Satanic Verses* in a number of Islamic countries--seem also to be aimed at limiting private consumption (and production).

Limits on the sale of alcohol and various drugs, and on gambling, may also be complicated in this way. (The sale of alcohol was banned throughout the United States from 1920 to 1933 by the 18th amendment to the Constitution, known as "Prohibition," which was repealed by the 21st amendment, although individual states and counties still retain a variety of restrictions.) When addiction is an issue, even apart from the negative externality imposed on third parties (through increases in bankruptcy and crime, for example), we may question whether the parties to the transaction are willing in the sense that economists normally mean when we discuss voluntary transactions.

Some kinds of repugnance are also intermixed with concerns about providing incentives for bad behavior. The very idea of life insurance ("You want to set a *price* on your life, and then place a *bet* on your date of death?") seems to have had to overcome initial repugnance in the early 1800s (Zelizer, 1979). The incentive issue was often addressed by "insurable interest" laws specifying who could be a beneficiary of life insurance. As discussed by Justice Oliver Wendell Holmes Jr. in a 1911 Supreme Court case: "A contract of insurance upon a life in which the insured has no interest is a pure wager that gives the insured a sinister counter interest in having the life come to an end." [Grigsby v. Russell, 222 U.S. 149 (1911) , 222 U.S. 149, Decided December 4, 1911]. Even today, life insurance for small children raises questions about motives. The insurance industry lobbies against Stranger (or Investor) Owned Life Insurance (SOLI) and "viatical settlements," which are third party markets and funds that purchase life insurance policies from elderly or terminally ill patients who wish to realize the cash value of their policies while still alive. The arguments against such funds often focus on the repugnance of having life insurance held by an entity that profits from deaths (in contrast to insurance companies, which make money when their customers continue living). Of course, sellers of annuities also profit from untimely deaths. For some flavor of the discussions about these issues, see Silverman (2005).

Repugnance to betting on life and death also shows up in other contexts. In July 2003, a proposed U.S. government-funded "prediction market" for terrorism-related events was

scrapped amidst much publicity, with the Senate Minority Leader (Tom Daschle) saying "I can't believe that anybody would seriously propose that we trade in death." Senator Barbara Boxer was quoted as saying "There is something very sick about it," and adding that those responsible should be fired. In this discussion, there was also some concern that terrorists themselves shouldn't be encouraged to play such markets (CNN.com, 2003).

To clarify ideas about repugnance, it may be helpful to look at a relatively uncomplicated case, in which little else besides repugnance seems to be at work. Dwarf tossing seems like a market whose widespread banning involves no more than simple repugnance.

Dwarf Tossing

Dwarf tossing is an activity in which a large person throws a small person. The venue often is one in which alcohol is served. It is often a source of livelihood for the small person, with the large person paying for the privilege. While legal in many places, dwarf-tossing is sometimes banned by law. These bans suggest a concern quite different from occupational health and safety regulations that might attempt to regulate how to conduct such an event (for instance, by requiring the wearing of helmets and kneepads). For example, the summary of the Ontario Dwarf Tossing Ban Act of 2003 states: "The Bill bans dwarf tossing in Ontario and makes it an offence to engage in dwarf tossing."

The matter came before the UN Human Rights Committee after the French Ministry of the Interior, in 1991, issued a statement saying that "dwarf tossing should be banned on the basis of, among other things, article 3 of the European Convention for the Protection of Human Rights and Fundamental Freedoms." After bans were subsequently enforced in some municipalities, a French dwarf, who had been employed by a company called Société Fun-Productions, successfully sued in French courts to have the bans overturned. However the bans were upheld on appeal in 1995 by the French Council of State on the grounds that "dwarf tossing… affronted human dignity." The dwarf then brought his complaint to the United Nations, asserting that he was the victim of a discriminatory violation by France of his right to employment. A report from the Office of the United Nations High Commissioner for Human Rights (2002) further notes that he stated "that there is no work for dwarves in France and that his job does not constitute an affront to human dignity since dignity consists in having a job." However the UN committee found in favor of France: "The Committee considers that [France] has demonstrated…that the ban on dwarf tossing… did not constitute an abusive measure but was necessary in order to protect public order, which brings into play considerations of human dignity that are compatible with the objectives of the Covenant." Thus the UN committee, like the French Council of State, essentially concluded that dwarf tossing was itself so repugnant that it imposed a negative externality by diminishing human dignity, a public good.

Repugnance Is Hard To Predict

Repugnance, whether alone or in alliance with other objections, can impose serious constraints on various kinds of transactions. However, predicting when repugnance will

play a decisive role is difficult, because apparently similar activities and transactions are often judged differently. For example, while dwarf tossing is repugnant in many places, wife carrying, another sport that involves persons of disparate stature, has North American and world championships. In wife carrying, large men carrying small women (not necessarily their wives) race to complete an obstacle course in the fastest time, with the prize traditionally including the "wife's" weight in beer. The website of the world championship in Finland is at <http://www.sonkajarvi.fi/?deptid=15136>.

Many other examples of apparently similar activities elicited very different reactions regarding their repugnance.

The proposed prediction market for terrorist events met with vigorous denunciation, but general prediction markets have thrived, including some that include bets on various aspects of current events, as discussed by Wolfers and Zitsewitz (2004) in this journal.

In 1990, the Clean Air Act was amended to allow trading of rights to pollute through tradable emissions entitlements. In 1991, the World Bank issued a memo under the signature of its then-chief economist Lawrence Summers, suggesting that it would be efficient for polluting industries to be located in low-income countries. Both policies involve relocating pollution. But although some critics found "selling a right to pollute" to be repugnant, the 1990 law passed as an efficiency-enhancing measure with relatively little public controversy (Schmalensee et al., 1998). However, the World Bank memo set off a firestorm of public controversy (Harvard Magazine, 2001). Similar controversies have erupted around issues such as whether New York City can send its garbage to landfills in other states.

There are laws criminalizing kickbacks offered by vendors to purchasing agents, and such behavior is viewed with repugnance. However, no legal and few corporate restrictions exist on frequent flier miles given to business travelers, who book their flights in their capacity as purchasing agents for their companies. Frequent flyer miles are not viewed as a repugnant kickback, but as an appropriate reward.

There are laws against various forms of "price gouging," and ticket scalping remains illegal in many places. However, Ticketmaster has recently started auctioning some tickets just before the time of the event (Smith and Silver, 2006).

Payment to the birth mother for a child genetically related to the mother is widely regarded as repugnant, and forbidden both internationally by the Hague Convention on Intercountry Adoption, and in the United States though the Intercountry Adoption Act of 2000. However, largely unregulated markets have developed for many relatively new forms of reproductive technology, from markets for sperm and eggs, to the hiring of surrogate mothers who have a fertilized egg implanted and carry out the pregnancy of a genetically unrelated child (Spar, 2006).

Finally, the sale of food crops that have been modified by traditional methods of cross breeding do not seem widely repugnant anywhere. However, food crops genetically

modified by recombinant DNA technology are not accepted nearly as widely. See, for example, the European Union's wide array of regulations limiting genetically modified crops, listed at <http://ec.europa.eu/food/food/biotechnology/gmfood/legisl_en.htm>.

Cash Payments and Repugnance

One often-noted regularity is that some transactions that are not repugnant as gifts and in-kind exchanges become repugnant when money is added. The historical repugnance to charging interest for loans seems to fall into this class, as do prohibitions on paying birth mothers of children put up for adoption, and perhaps prostitution. That is, loans themselves, and adoption, and love are widely regarded as good things when given freely, even when their commercial counterparts are regarded in a negative way. Similarly, in Massachusetts and California, it is legal to sell human eggs for fertilization but illegal to sell them for research purposes, although it is legal to donate them for research (Associated Press, January 20, 2007). And widespread outrage in Britain greeted the decision to allow sailors recently released from captivity in Iran to sell their stories to news media: after two sailors had done so, the remaining sailors were no longer allowed to receive money for interviews (Peck, 2007).

Offering money is often regarded as inappropriate even when not repugnant. For example, dinner guests at your home may respond in-kind, by bringing wine or inviting you to dinner in return, but they would likely not be invited back if they offered to pay for their dinner. Sometimes the level of the price is regarded as repugnant rather than the existence of a price: after a natural disaster it is often regarded as acceptable to sell supplies at their pre-disaster price, but as repugnant *price-gouging* to raise the price (see for example Kahneman, Knetsch, and Thaler, 1986). Also, there may be resistance to charging for goods that have previously been provided for free or at low cost: like water or the right to drive in cities during rush hours.

Of course, sometimes laws or public outrage focus on monetary transactions only because they are easier to ban than non-monetary transactions. For example, the supporters of the law that forbids restaurants from selling horsemeat in California aren't trying to preserve the sanctity of the family barbecue; they find eating horses repugnant, but regulation of restaurants was easier than passing laws about what could be cooked at home.

Concerns about the monetization of transactions fall into three principal classes. One concern is *objectification:* that is, the fear that putting a price on certain things and buying or selling them might move them into a class of impersonal *objects* to which they should not belong. The sociology literature has shown a longstanding interest in how the introduction of money changes many kinds of social relationships and their meanings (as a starting point, see Simmel, 1990). A second concern is that offering substantial monetary payments might be *coercive*, in the sense that it might leave some people, particularly the poor, open to *exploitation* from which they deserve protection. A third

concern, sometimes less clearly articulated, is that monetizing certain transactions that might not themselves be objectionable may cause society to slide down a *slippery slope* to genuinely repugnant transactions. Let's consider these three concerns in more detail as they apply to paying organ donors.

Compensating Organ Donors

Objectification

Many people clearly regard monetary compensation for organ donation as something that transforms a good deed into a bad one. In both western Europe and the United States, governments strongly encourage organ donation, but forbid monetary payments to donors or their heirs. For example, Article 21 of the Council of Europe's (2002) *Additional Protocol to the Convention on Human Rights and Biomedicine, on Transplantation of Organs and Tissues of Human Origin* states: "The human body and its parts shall not, as such, give rise to financial gain." However, the European legislation does exempt from this prohibition compensation to donors for expenses and loss of earnings. The U.S. National Organ Transplant Act of 1984 states "it shall be unlawful for any person to knowingly acquire, receive or otherwise transfer any human organ for valuable consideration for use in human transplantation." This law also exempts payment of expenses directly incurred by organ donors, like travel expenses.

The feeling that virtuous organ donations are transformed into immoral commercial transactions by the introduction of monetary payments is clearly enunciated in the writings and speeches of Pope John Paul II. In his 1998 encyclical letter *Evangelium Vitae* (paragraph 86), the Pope mentions the donation of organs as a "particularly praiseworthy example" of an action that builds "an authentic culture of life." But in an address to transplant surgeons in Rome, John Paul (2000) warned that "any procedure which tends to commercialize human organs or to consider them as items of exchange or trade must be considered morally unacceptable, because to use the body as an "object" is to violate the dignity of the human person." The Lutheran Church in America (1984) expresses a similar sentiment.

I note in passing that other religious traditions view the matter very differently. The emerging Jewish consensus on live kidney donations, for example, is that donation of organs is a good thing, and that under some circumstances it would be allowable to offer and accept compensation. [3] This opinion reflects the tremendous importance that Jewish law gives to saving a life, which can overturn many more mundane prohibitions. For

[3] While there is no central authority on the application of Jewish law to modern concerns such as transplantation, the most authoritative opinions are contained in various "*responsa*" or answers to particular questions by rabbis acting as legal "deciders" (*poskim*), whose authority arises from the respect of their peers. The consensus on the matter of live kidney donation, for example, seems to be that live donation is allowed (since it saves lives), but it is not required (since the donor becomes wounded and takes some risk to his own life), and hence it falls into the category of things for which compensation could be offered and accepted (unlike actions that are either forbidden or required). See e.g. Eisenberg (2006), Grazi and Wowlowelsky (2004), Kunin (2005), and Israeli (1997) who cite eminent modern *poskim* such as R. Shlomo Zalman Auerbach and R. Moshe Feinstein..

example, Avraham (2004, p. 271-2) reports the opinion of the eminent Rabbi Shlomo Zalman Auerbach that someone who sells a kidney with the intention of saving a life does a good deed "even if he would not have donated his kidney only to save life." But he goes on to note, "[I]n spite of all that has been said above, it seems to me that it is the community that needs soul-searching for allowing a person to reach such a depth of despair that he must sell a kidney, either because of poverty, debts or the inability to pay for a relative's medical expenses."

I am less familiar with Islamic thought on the matter, but I surmise that it is in some respects similar, since the Islamic Republic of Iran presently allows live kidney donors to receive monetary payments (Bagheri, 2006; Ghods and Savaj, 2006).

Coercion

A different concern, quite common in the organ transplant literature and elsewhere, is that money may be coercive, so that allowing kidneys to be sold would allow the poor to be exploited. Even in the absence of money, transplant surgeons are eager to avoid accepting organs from donors who may feel coerced, perhaps by family pressure. Contract law in general holds that contracts may be voidable by the courts in case of coercion due to, among other things, "undue influence" by parties with special relationships (Farnsworth, 1990, section 4.20). (I am not aware, however, of any part of contract law that views excessive monetary compensation as a source of coercion.) Interestingly, Ghods and Savaj (2006) express the view that the availability of paid unrelated kidney donors in Iran has reduced the coercion of unpaid related donors.

In a recent exchange, Gaston et al. (2006) proposed in the *American Journal of Transplantation* that it might be possible to avoid the repugnance of outright payments for kidneys, while "limiting financial disincentives in live organ donation," by providing a fixed package of benefits to kidney donors, including insurance, compensation for expenses and lost wages, and a fixed payment (they suggest $5,000) to compensate donors for pain and suffering. In response, in an editorial in the same issue of the journal, Fox (2006) writes of the "moral cost of living donor inducements." Fox argues: "While the proposed benefit may not be a deciding factor to the CEO of a Fortune 500 company, to someone earning only minimum wage, the compensation may represent several months' pay. To deny the potential of this proposal to 'coerce an otherwise unwarranted decision to donate' reflects the folly of the privileged, not the reality of the poor." Similarly, Kahn and Delmonico (2004) summarize their opposition to buying and selling organs by saying: "It is an unethical approach to shift the tragedy from those waiting for organs to those exploited into selling them."

This viewpoint is not restricted to the transplant community. The National Bioethics Advisory Commission (2001), writes that paying subjects to participate in medical experiments may be coercive.[4] They go on to say that, if an institutional review board is

[4] In contrast, experimental economists often think that paying subjects in economic experiments, based on their performance, is an essential element in creating an economic environment in the laboratory in which the experimenter can exercise some control over subjects' preferences .

concerned that the subjects in an experiment may be economically disadvantaged, it may require that the researchers reduce the payments they make to participants. The concern here is not to protect the research design against the possibility that rich and poor participants might self-select differently into the experiment for a given participation fee, but rather to protect low-income participants from being faced with such a high participation fee that they would feel coerced to participate. Baron, (2006) offers a critical view of this line of argument.

Slippery slope

Concern that monetizing some transactions might lead to other changes seems to lurk beneath the more explicit concerns. Some critics fear a commercial dystopia in which kidney sales would enter into contracts: for example, as collateral, or as payment for other medical services, or to repay debts, or as means tests for eligibility for social services and financial aid. Such scenarios have found their way into fiction and movies also (Ishiguro, 2005; Picoult, 2004; Farmer, 2002).

This concern is not altogether different from concerns about how legalizing certain kinds of voluntary transactions may change the terms of trade so as to disadvantage those who don't wish to participate in them. In this journal, Basu (2003) uses sexual harassment as an example, and argues that legalizing labor contracts that allowed sexual harassment would put workers who did not wish to be party to such contracts at a disadvantage relative to the status quo in which such contracts are illegal. Similarly, for example, bans on polygamy might be understood as outlawing certain kinds of competition that would disadvantage some men and some women relative to the monogamous status quo, even while allowing others to engage in welfare-improving transactions.

Some (but by no means all) of the opposition to monetary compensation for *deceased* donor organs seems also to be of the slippery slope variety, with the concern being that it might pave the way for live organ sales.

Accounts of black markets for kidney transplants lead to concerns about whether legal markets would inevitably be similar. In this connection, Schepper-Hughes (2003, p. 1645) summarizes the black market experience as follows. "In general, the circulation of kidneys follows established routes of capital from South to North, from East to West, from poorer to more affluent bodies, from black and brown bodies to white ones, and from female to male or from poor, low status men to more affluent men." She concludes (p. 1648): "The division of the world into organ buyers and organ sellers is a medical, social, and moral tragedy of immense and not yet fully recognized proportions."

A related concern is that monetary markets might crowd out altruistic giving, and that this might both reduce the supply of transplantable kidneys (Howard, this issue; Institute of Medicine, 2006) and harm other characteristics of the organ transplantation process -- for example, Danovitch and Leichtman (2006) worry that it could reduce the incidence of

deceased donation, which supplies not only kidneys but other organs as well). A related literature in economics and psychology is concerned with the loss of intrinsic motivation that might accompany the introduction of monetary payments (for example, Gneezy and Rustichini, 2000).

The medical literature encompasses broad views on these subjects and also contains arguments in reply. For example Hippen (2005) notes that regulated legal markets might be quite different from illegal ones, and that similar slippery slope fears were expressed about allowing live kidney donations from unrelated donors, but that unrelated donors are now a substantial percentage of all donors. Matas and Schnitzler (2004) argue that allowing kidney sales would be socially cost effective (Matas is the current president of the American Society of Transplant Surgeons).

Other Sources of Repugnance Towards Paying For Live Donor Kidneys

Although I have argued that repugnance felt towards kidney sales shares characteristics with repugnance towards monetizing other kinds of transactions, payments for live kidney donors may also have some unique features.

For example, taking a kidney from a healthy donor holds little appeal to surgeons trained in the Hippocratic tradition of "first, do no harm." While live donor kidney transplants save lives, it is not the life of the donor that is being saved. A surgeon who is already overcoming some distaste for performing a nephrectomy (kidney removal) on a healthy person may find the distaste more difficult to overcome if he views himself as facilitating a commercial transaction. However surgeons may not (or may no longer) be the primary locus of repugnance to kidney sales. In an informal poll following a debate on the subject at a recent meeting of the American Society of Transplant Surgeons, a majority of those polled expressed a willingness to contemplate a trial or demonstration project (personal communication, Arthur Matas, 1/27/07).

Overall, Boulware et al. (2006) report on the basis of a telephone survey of randomly selected households: "The U.S. public is not generally supportive of incentives for DD [deceased organ donation], but is supportive of limited incentives for LD [live donation]. Racial/ethnic minorities are more supportive than Whites of some incentives. Persons with low income may be more accepting of certain monetary incentives."

Historical Perspective

To put the debate about organ donation into some historical context, consider the case of cadavers. When the British medical journal *The Lancet* published its first volume in 1824, its pages reflected a concern that too few cadavers were available for anatomy classes. The main source of cadavers was an illegal black market supplied by so-called "resurrection men," and an editorial by that name opens with the news that a reliable resurrection man had recently been arrested and sentenced. The editorial goes on to suggest—in an early observation that how issues are framed may influence how they are perceived--that the government policy of only allowing the bodies of executed murderers

to be used for anatomy studies "tends to keep up…the prejudice which is at present so strong against the obtaining of bodies for dissection" (Lancet, 1824).

The situation has changed, slowly but profoundly. In Britain, the Anatomy Act of 1832 considerably expanded the source of legal cadavers for dissection. Today, the "Bodyworlds" exhibits that have been touring museums worldwide feature partially dissected cadavers in artful poses. Such exhibits do arouse some repugnance, although not at the level that prevents the company from obtaining cadavers, or the shows from attracting large audiences (<http://www.bodyworlds.com>; Barboza, 2006). There are also today legal, regulated international markets for various storable transplantable cadaver tissues (for example, bones), that can be used in surgical procedures such as hip replacements (Mahoney, 2000). Opponents of regulated markets for organs will not be reassured: there have been some notable abuses in the market for cadaver tissues, including the widely publicized scandal (and subsequent prosecutions) associated with the fraudulent sale of some of the body parts of Alistair Cooke, host of the television show "Masterpiece Theater," who died of cancer at the age of 95. Bone (2006) discusses how the family authorization to harvest Cooke's body parts was falsified, and so was Cooke's age and cause of death, thus interfering with medical decision-making on appropriate use of body parts (Howley, 2007).

Economists' Voices in the Debate About Organ Sales

Sandel (2005) begins this way: "My topic tonight is 'The Moral Limits of Markets.' My question is: Are there some things that should not be bought and sold, and, if so, why?" His talk was introduced by Stanley Hoffmann, who wrote: "The topic falls a bit between the cracks of business school professors, who often hate to raise ethical problems, and economists, who don't always know what ethical problems are!" While Hoffman's jibe overstates the case, it does seem true that when confronted with repugnance toward a market transaction, economists often respond as if a sufficiently clear argument focused on the welfare gains due to trade will overcome that repugnance.

Becker and Elias in this issue present many of the arguments with which economists and others often respond to concerns over the repugnance of paying live kidney donors. The claim that organ sales "objectify" people is met by noting that in labor markets generally, poorer workers tend to take more dangerous and less pleasant jobs, in return for wages, and that we mostly think they do not diminish their humanity by doing so. The response to arguments about "coercion" is typically that voluntary transactions increase welfare of both the seller and the buyer, if the transaction is truly voluntary. The response to "slippery slope" arguments is that markets can be regulated, if necessary. Sometimes these arguments are supplemented by the observation that organ donation itself could be criticized with some of the same objections made to organ sales, even with a ban on monetary payments. For references to both sides of the debate, particularly in the medical literature, see McCarrick and Darragh (2003) and Nadel and Nadel (2005), and also Leonard (2004).

In making such arguments, the role of repugnance *per se* is often regarded as a side issue. For example, Radcliffe-Richards et al. (1998) conclude their "case for allowing kidney sales" with the following statement: "The weakness of the familiar arguments [against kidney sales] suggests that they are attempts to justify the deep feelings of repugnance which are the real driving force of prohibition, and feelings of repugnance among the rich and healthy, no matter how strongly felt, cannot justify removing the only hope of the destitute and dying. This is why we conclude that the issue should be considered again, and with scrupulous impartiality."

Some discussion has focused on thinking about how the worst abuses of unregulated markets could be reduced by regulations. Such regulations might include: restrictions on compensation (Gaston et al. 2006); allowing outright purchases but only by a single authorized governmental buyer (Satel, 2006); requiring an above-market-clearing price (that might be bundled with insurance or annuities); mandatory standards for the health and postoperative care of donors; or perhaps bans on international trade (since the thought of rich Americans importing kidneys from the third world seems to arouse a repugnance distinct from kidney sales itself).. Of course, the question of how much new supply of kidneys would be elicited at what price is related both to whether the market would be international, and to how how perceptions of repugnance (and not just of risk) would influence the willingness to sell..

These arguments against banning organ sales leave many opponents unpersuaded. For example, Harmon and Delmonico (2006) write: "The Transplantation Society, the American Society of Transplantation, the American Society of Transplant Surgeons, the European Union, Eurotransplant, the National Kidney Foundation, the World Health Organization, and more have long recognized the unethical realities regarding a regulated market, and each organization has consistently opposed it."

Readers who want to test their own potential repugnance to voluntary transactions by well-informed, consenting adults might note that most of the arguments designed to disarm repugnance to legalizing the sale of a kidney would also, in principle, apply to a live donor who was willing to sell for a sufficiently high price an eye, an arm, a leg -- or a heart.

Market Design When Repugnance Matters

My colleagues and I have encountered resistance to certain kinds of transactions when helping design both markets that involve monetary transactions, like labor markets, and allocation procedures that do not, like allocating public school places to children. Our experience suggests that ideas about the inappropriateness of certain kinds of transaction, even when this inappropriateness falls short of outright repugnance, can constrain market design.

Many labor markets for entry-level professionals have suffered market failures due to unraveling of the transaction times at which new employees are hired. Typically in these

markets, the hiring date moves further and further in advance of employment, with firms making potential employees "exploding offers" with the effect of not allowing employees the opportunity to consider other opportunities before responding (Roth and Xing, 1994). This kind of unraveling occurs in a variety of markets, from markets for new doctors and lawyers, to markets for college football bowls. Often this leads to clearly inefficient outcomes; Niederle and Roth (2003) show how this unraveling of appointment dates caused the markets for new gastroenterologists to fragment from a national market into much more local markets, and Frechette, Roth, and Unver (2007) show how the better matchups increase the television viewership of bowl games. Sometimes there is an opportunity to correct such market failures by creating clearinghouses that will provide a thick market (see for example Roth 1984). Clearinghouses are also sometimes employed to fix market failures due to congestion (Roth and Xing, 1997, Abdulkadiroglu, Pathak, and Roth, 2005).

When Muriel Niederle and I were asked to help implement a clearinghouse for the entry-level market for gastroenterologists, along the lines of the medical match for new medical graduates (Roth and Peranson, 1999), one issue was whether the gastroenterology professional societies would adopt a resolution that would allow applicants who had accepted early exploding offers, well before the date for the clearinghouse to operate, to subsequently decline these offers and participate in the clearinghouse. Many gastroenterologists felt that it would be *unprofessional* for future gastroenterologists to begin their careers by first accepting an offer, and subsequently declining it. But it was also widely felt that early exploding offers were inappropriate and anti-competitive, and should be discouraged. After much discussion, the four gastroenterology professional organizations became convinced that allowing applicants to change their minds about exploding offers would make such offers unprofitable, so that very few such offers would be made and subsequently declined. This prediction ultimately was fulfilled. (Niederle, Proctor, and Roth 2006; Niederle and Roth 2006). The relevance for the present essay is that much of the debate focused on the *propriety* of how offers should be made, and accepted or rejected.

Discussions about propriety are not always decided on the basis of welfare. My colleagues and I have encountered this at several junctures in designing public school choice allocation procedures (for which monetary payments would be widely regarded as inappropriate). In Boston, one of the ways that children are assigned priority to enter particular schools is if they have an older sibling already attending that school. We proposed two alternative designs for a strategy proof allocation procedure, one of which was adopted (Abdulkadiro_lu, Pathak, Roth, and Sönmez, 2005). The procedure that was rejected would have produced welfare gains in cases in which two students each would have preferred to go to the school for which the other had a high priority. But this proposal was rejected because it would have allowed the "trading" of sibling priorities, which was felt to be an *inappropriate* transaction, because sibling priorities in particular shouldn't be tradable, as they were assigned to families only to make it easier for them to have both children in the same school if that was their preference. Instead, Boston adopted a clearinghouse built along the lines of the clearinghouses designed for medical matches, a modified version of which was also adapted for matching students to high schools in New York City (Abulkadiro_lu, Pathak and Roth, 2005).

This brings me back to kidney exchange. My point in the present essay is simply that, unlike the buying and selling of kidneys, in-kind exchanges have not aroused a repugnant reaction. The Roth et al. (2006) article reporting the success of a novel kind of exchange in New England appeared, without any negative reaction, in the same issue of the *American Journal of Transplantation* as the Gaston et al. (2006) proposal for modest payments, and the Fox (2006) editorial reply that the proposal was repugnant. In fact, legislation has passed Congress to amend the National Organ Transplant Act to explicitly endorse kidney exchange: the Living Kidney Organ Donation Clarification Act of 2007, S. 487, passed in the Senate February 15, 2007 and H.R. 710 passed in the House of Representatives on March 7, 2007, although the law has yet to be enacted..

Kidney exchange by itself won't solve the general shortage of transplantable kidneys. In-kind kidney exchange directly helps only people who already have a willing live donor (although more complex kinds of exchanges can also directly help some patients on the waiting list for a deceased-donor kidney, and every live donor transplant helps reduce the demand for scarce deceased donor kidneys). However, if we can successfully organize kidney exchange on a national scale, we might be able to do several thousand more transplants per year (instead of the dozens to which the local and regional exchanges are still presently limited). The increase would come both from extending the possibility of exchange to all regions of the country, and from the increasing number of exchanges that result when there is a thicker market consisting of more available patient-donor pairs. Whatever other policies might be adopted in the more distant future to benefit patients who need transplants, or to reduce the incidence of kidney disease, kidney exchange offers real gains that have proved to be achievable.

Conclusions

Repugnance can be a real constraint on markets. Almost whenever I have been involved in practical market design, the question of whether certain kinds of transactions may be inappropriate has come up for discussion.[5]

To say that repugnance is a real phenomenon doesn't mean that repugnance isn't sometimes deployed for strategic purposes by self-interested parties, to recruit allies who would not respond to a clear appeal to narrower motives such as rent seeking. The opposition of insurance companies to viatical settlements might be an example. Experiments in the laboratory show clearly how arguments about unfairness can be deployed in a self-interested way, with agents' perception of what is fair closely correlated with their interests (for example, Roth and Murnighan, 1982). But the real repugnance that some people feel toward some transactions means that economists interested in proposing and designing markets must take this repugnance into account.

[5] One notable exception has been in my role as chair of the American Economic Association's, Ad Hoc Committee on the Job Market, which has implemented several changes in the market for new Ph.D. economists. As nearly as I can recall, our discussions have focused only on efficiency and incentives. (The other members of that committee are John Cawley, Philip Levine, Muriel Niederle, and John Siegfried.)

The debate over whether the sale of kidneys should be legalized is just one example among many in which repugnance plays a large role. Because of its importance, the arguments on both sides have been presented with particular force and clarity. All parties agree it is urgently desirable to cure patients with end stage renal disease, and that the best current treatment is organ transplantation, particularly from live donors. The current situation in the United States involves long wait times for deceased donor kidneys by tens of thousands of patients without a live donor, difficult and costly palliative treatment by dialysis, and thousands of deaths annually while waiting. But opponents of organ sales find the prospect of a market for organs so repugnant as to be worse than the current situation. Proponents of markets are correspondingly frustrated at the failure to adopt what they see as a feasible solution that could be implemented quickly.

One way of seeing the role that repugnance plays in this debate is to compare it to a difficult technological barrier. If the technological barriers could be overcome that currently prevent, say, transplanting pig kidneys into human patients, such "xenotransplants" would also end the kidney shortage. But no one supposes that this solution can be implemented quickly, because some technological barriers cannot be overcome quickly, if at all. I've argued in this essay that repugnance is similar to technological barriers in this respect: markets that we can envision may nevertheless not be easily achievable. I would not like to guess whether repeal of the widespread laws against kidney sales is likely to happen more quickly than the advances in xenotranplantation, or artificial kidneys, or other medical breakthroughs that would end the shortage of kidneys.

Of course, there can also be "technological" developments in the law. For example, Volokh (2007) endorses a "medical right to self defense," that would give a person dying of end stage renal disease the right to pursue all reasonable avenues to preserve their life, including purchasing a kidney. If this argument or one like it makes headway, the courts might end bans on organ sales. Popular repugnance often affects courts differently than legislatures; for example, the ban on gay marriage was lifted in Massachusetts by a court interpreting the state constitution's guarantee of equal protection, not by new legislation. The Massachusetts court decision is an example in which a ban based on a repugnance that had survived since at least Biblical antiquity was ended quite suddenly, although repugnance-inspired political battles on the issue continue.

The persistence of repugnance in many markets doesn't mean that economists should give up on the important educational role of pointing to inefficiencies and tradeoffs and costs and benefits. But neither should economists expect such arguments to immediately win every debate. Being aware of the sources of repugnance can only help make such discussions more productive, not least because it can help separate the issues that are fundamentally empirical—like the degree of crowding out of altruistic donations that might result from different incentive schemes compared to how much new supply might be produced—from areas of disagreement that are not primarily empirical.

Just as economists and other proponents of legalizing kidney sales may not always take repugnance with sufficient seriousness, opponents of such sales often fail to directly address the costs of the current kidney shortage, borne directly by kidney patients, and

indirectly by society as a whole. Although economists see very few tradeoffs as completely taboo, non-economists often decline to discuss tradeoffs at all, preferring to focus on the repugnance of transactions like organ sales. Advocates of well regulated markets for organ transplants could more clearly address the concern that markets are hard to regulate perfectly and that at least some repugnant transactions would likely slip through even the best regulatory barriers . Opponents could better engage the question of why a carefully regulated market with some inevitable abuses might not possibly, nevertheless, be an improvement over current conditions. (In this view, the current situation can be viewed as a regulated market with the only legal price being zero, which makes it difficult to prevent unregulated transactions on international black markets, see e.g. the account in Morais, 2007).

Discussion itself may change some views on repugnance (Baron and Leshner, 2000), in some cases by reducing visceral repugnance, and in others by refining it. A participant in the discussion of a draft of this paper by the Chicago Transplant Ethics Consortium (personal communication, Jason Snyder, 1/29/2007) noted: "I think that the visceral response that almost everyone has to the notion of a market for organs, what they feel the first 10 seconds after hearing about such a market, is a significant sense of repugnance. According to [the previous discussion,] a few years ago most people in the transplant community felt this way. However it appears that there is a growing divergence of opinion on this topic in the transplant community. Essentially what I think is happening is that the more people carefully think about these issues, the more they get beyond the initial yuck factor. Some go towards the pro-market side, and others stay on the anti-market side for reasons that go deeper than the first visceral response."

No one can contemplate the costs to the sick and dying without sharing the concern for a solution to the shortage of transplantable organs. The questions are, what kinds of solution are feasible and desirable, how to get from here to there, on what time scale, with what costs, to whom, and what to do in the meantime?

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Table 1
Markets In Which Some Transactions Are, or Were Once, Repugnant

Human Remains
- Cadavers for anatomical study, organ donation, bone and tissue
- Live donor organs (kidneys, livers)

Labor
- Indentured servitude, slavery
- Volunteer army, mercenary soldiers
- Discrimination on race, gender, handicap, marital status, etc.

Reproduction and sex
- Adoption
- Surrogate mothers, egg and sperm donation, abortion, birth control
- Prostitution, pornography
- Bride price, dowry
- Polygamy, gay marriage, incest

Words, ideas, and art
- Obscenity, profanity, and blasphemy
- Cultural treasures, art, and antiquities

Risk
- Life insurance for adults, children, and strangers
- Gambling
- Prediction markets

Finance
- Short selling, currency speculation
- Interest on loans

Pollution markets:
- Tradeable emissions entitlements
- Dirty industries in less developed countries

"Price gouging"
- After natural disasters
- Ticket scalping

Religion/Sports
- Sale of indulgences, ecclesiastical offices, etc. ("simony")
- Endorsements/payments for amateur versus pro athletes
- Drugs and sports

Food, drink, and drugs
- Horse and dog meat
- Alcohol (Prohibition)
- Marijuana and narcotics

Vote selling and Bribery

Dwarf-tossing

Bibliography

110th Congress, "S 487 IS, Living Kidney Organ Donation Clarification Act," February 1, 2007, http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:s487is.txt.pdf

Abdulkadiro_lu, Atila, Parag A. Pathak, and Alvin E. Roth. 2005. "The New York City High School Match," *American Economic Review*, Papers and Proceedings, 95(2): 364-367.

Abdulkadiro_lu, Atila, Parag A. Pathak, Alvin E. Roth, and Tayfun Sönmez. 2005. "The Boston Public School Match," *American Economic Review*, Papers and Proceedings, 95(2): 368-371.

Associated Press. 2007. "Payment for Stem Cell Eggs Debated." January 20**.** http://www.nytimes.com/aponline/us/AP-Stem-Cell-Eggs.html?ex=1169960400&en=d93c9f0ff31002fd&ei=5070&emc=eta1

Avraham, Avraham S. 2004. *Nishmat Avraham, Even Ha'Ezer and Choshen Mishpat (Vol. 3)*, *Medical Halachah for doctors, nurses, health-care personnel and patients*, ArtScroll Halachah Series, Brooklyn, N.Y. Mesorah Publications.

Bagheri, Alireza. 2006. "Compensated Kidney Donation: An Ethical Review of the Iranian Model." *Kennedy Institute of Ethics Journal*, 16(3): 269-282

Baron, Jonathan. 2006. *Against Bioethics*. MIT Press.

Baron, Jonathan, and Sarah Leshner. 2000. "How serious are expressions of protected values." *Journal of Experimental Psychology: Applied, 6*: 183-194.

Barboza, David. 2006. "China Turns Out Mummified Bodies for Displays." August 8. New York Times.

Basu, Kaushik. 2003. "The Economics and Law of Sexual Harassment in the Workplace." *Journal of Economic Perspectives.* 17: 141-157.

Becker, Gary S. and Julio Jorge Elias. "Introducing Incentives in the Market for Live and Cadaveric Organ Donations." *Journal of Economic Perspectives*. This issue.

Bone, James. 2006. "Undertaker admits stealing and selling Alistair Cooke body parts." Times Online. October 20. http://www.timesonline.co.uk/article/0,,3-2412747_1,00.html

L. E. Boulware, M. U. Troll, N. Y. Wang and N. R. Powe. 2006. "Public Attitudes Toward Incentives for Organ Donation: A National Study of Different Racial/Ethnic and Income Groups." *American Journal of Transplantation.* 6: 2774–2785

California Penal Code, Section 598. http://www.leginfo.ca.gov/calaw.html

Clean Air Act Amendments. 1990. S.1630, Title IV, Acid Deposition Control. http://www.epa.gov/oar/caa/caaa.txt

Coleman, Peter J. 1999. *Debtors and Creditors in America: Insolvency, Imprisonment for Debt, and Bankruptcy, 1607-1900.* (State Historical Society of Wisconsin, 1974) reprint, Beard Books.

Council of Europe. 2002. *Additional Protocol to the Convention on Human Rights and Biomedicine, on Transplantation of Organs and Tissues of Human Origin Strasbourg, 24.I.2002.* http://conventions.coe.int/Treaty/en/Treaties/Html/186.htm

Danovitch, Gabriel M. and Alan B. Leichtman. 2006. "Kidney Vending: The 'Trojan Horse' of Organ Transplantation." *Clinical Journal of the American Society of Nephrology.* xxx…

Eisenberg, Daniel. 2006. "Live Organ Donation." *Society Today*. February. http://www.aish.com/societyWork/sciencenature/Live_Organ_Donation.asp

Fairman, Christopher M. "Fuck". 2006. Ohio State Public Law Working Paper No. 59 Available at SSRN: http://ssrn.com/abstract=896790 , Cardozo Law Review, 28, 2007, forthcoming.

Farmer, Nancy. 2002. *House of the Scorpion*, Atheneum/Richard Jackson Books.

Farnsworth, E. Allan. 1990. *Contracts*. Boston: Little Brown and Company.

Fiske, A. & Tetlock, P. E.. 1997. "Taboo trade-offs: Reactions to transactions that transgress spheres of justice." *Political Psychology*. 18: 255-297.

Fox, M.D. 2006. "The Price Is Wrong: The Moral Cost of Living Donor Inducements." *American Journal of Transplantation*. 6(11): 2529-30.

Fréchette, Guillaume, Alvin E. Roth, and M. Utku Ünver. 2007. "Unraveling Yields Inefficient Matchings: Evidence from Post-Season College Football Bowls." *Rand Journal of Economics*. forthcoming.

Gneezy, Uri and Aldo Rustichini. 2000. "Pay Enough or Don't Pay at All." *Quarterly Journal of Economics*. *115*(3):. 791-810.

Grazi, Richard V. and Joel B. Wolowelsky. 2004. "Jewish Medical Ethics: Monetary Compensation for Donating Kidneys." *Israel Medical Association Journal*. 6(March): 185-8.

Ghods and Savaj. 2006. "Iranian Model of Paid and Regulated Living Unrelated Kidney Donation." *Clinical Journal of the American Society of Nephrology*.

Galenson, David W. 1981. White Servitude in Colonial America: An Economic Analysis. New York: Cambridge University Press.

R. S. Gaston, G. M. Danovitch, R. A. Epstein, J. P. Kahn, A. J. Matas, M. A. Schnitzler. 2006: "Limiting Financial Disincentives in Live Organ Donation: A Rational Solution to the Kidney Shortage ." *American Journal of Transplantation*. 6(11): 2548-55.

Hague Convention On Protection of Children and Co-Operation In Respect of Intercountry Adoption, 29 May 1993, http://www.hcch.net/index_en.php?act=conventions.text&cid=69

Harmon, William and Francis Delmonico. 2006. "Payment for Kidneys: A Government Regulated System Is Not Ethically Achievable." *Clinical Journal of the American Society of Nephrology*.

Harvard Magazine. 2001. "Toxic Memo." May-June, http://www.harvardmagazine.com/on-line/050171.html

Hippen, Benjamin E.. 2005. "In Defense of a Regulated Market in Kidneys from Living Vendors." *Journal of Medicine and Philosophy*. 30: 593–626.

Hirschman, Albert. 1977, *The Passions and the Interests: Political Arguments for Capitalism before Its Triumph.* Princeton, Princeton University Press.

Howard, David H. "Producing Organ Donors: The Current System and Prospects for Reform." *Journal of Economic Perspectives*. This issue.

Howley, Kerry. 2007. "Who Owns Your Body Parts?" *Reason Magazine*. March, http://www.reason.com/news/show/118517.html

Institute of Medicine (IOM). *Organ Donation: Opportunities for Action*, Washington, D.C.: National Academies Press.

Ishiguro, Kazuo. 2005. *Never Let Me Go,* Knopf.

Israeli, Shaul. 1997 . "Organ Transplants: Responsa." *ASSIA – Jewish Medical Ethics*. III(1): 14-17. http://www.szmc.org.il/index.asp?id=97&top=1&page_id=231.

John Paul II. 1998. "Evangelium Vitae." http://www.cin.org/jp2ency/jp2evang.html

John Paul II. 2000. "Address to International Congress on Transplants." Rome, August 29. http://www.cin.org/pope/organ-transplant-cloning.html

Kahn, Jeffrey P. and Francis L. Delmonico. 2004. "The Consequences of Public Policy to Buy and Sell Organs for Transplantation." *American Journal of Transplantation.* 4.: 178-180.

Kahneman, Daniel, Jack Knetsch and Richard H. Thaler. 1986: "Fairness as a Constraint on Profit-Seeking: Entitlements in the Market." *American Economic Review.* 76(4): 728-741.

Kunin, J.D.. 2005. "The search for organs: *halachic* perspectives on altruistic giving and the selling of organs." *J Med Ethics.* 31: 269-272. http://jme.bmjjournals.com/cgi/content/full/31/5/269

Kuran, Timur. 1995. ""Islamic economics and the Islamic subeconomy." *Journal of Economic Perspectives*. 9(Fall): 155-173.

Lancet: Resurrection **Men.** • Discussion (unsigned editorial)**.** *The Lancet, Volume 1, Issue 19, 8 February 1824, Pages 194-195.*

Leonard, Thomas C. 2004. "The Price is Wrong: Causes and Consequences of Ethical Restraint of Trade." *Journal des Économistes et des Études Humaines.* 14(2): 133-150.

Lutheran Church in America. 1984. "Organ Donation: A Resolution." Adopted by the Twelfth Biennial Convention of the Lutheran Church in America, Toronto. http://www.elca.org/jle/article.asp?k=341

MacDonald, H.P. 2005. *Human Remains: Episodes in Human Dissection*.

Mahoney, Julia D. 2000 . "The Market for Human Tissue." *Virginia Law Review*. 86(2): 163-223.

Matas, Arthur J. & Schnitzler. 2004. "Mark, Payment for Living Donor (Vendor) Kidneys: A Cost-Effectiveness Analysis." *American Journal of Transplantation.* 4(2): 216-221.

McCarrick, Patricia Milmoe, Martina Darragh. "Scope note 43: Incentives for providing organs." *Kennedy Institute of Ethics Journal*. Mar 2003. Vol. 13, 1; p. 53-64.

Morais, Richard C. "Desperate Arrangements." *Forbes Magazine*, January 29, 2007, http://www.forbes.com/forbes/2007/0129/072_print.html .

Nadel, Mark S. and Caroline A. Nadel. 2005. "Using reciprocity to motivate organ donations." *Yale Journal of Health Policy, Law and Ethics.* 5: 293-325.

National Bioethics Advisory Commission. 2001. "Ethical and Policy Issues in Research Involving Human Participants." Volume I, Report and Recommendations, Bethesda. August. http://www.georgetown.edu/research/nrcbl/nbac/human/overvol1.html

Niederle, Muriel and Alvin E. Roth. 2003 . "Unraveling reduces mobility in a labor market: Gastroenterology with and without a centralized match." *Journal of Political Economy*. 111(6): 1342-1352.

Niederle, Muriel and Alvin E. Roth. 2006 "Making Markets Thick: How Norms Governing Exploding Offers Affect Market Performance."

Niederle, Muriel, Deborah D. Proctor, and Alvin E. Roth. 2006 . "What will be needed for the new GI fellowship match to succeed?" *Gastroenterology*. 130(January): 218-224.

Ontario Dwarf Tossing Ban Act. 2003. http://www.ontla.on.ca/documents/bills/37_parliament/session4/b097_e.htm.

Office of the United Nations High Commisioner for Human Rights, *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol 1)*, Adopted on 8 June 1977 by the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law applicable in Armed Conflicts, entry into force 7 December 1979, in accordance with Article 95, http://www.unhchr.ch/html/menu3/b/93.htm

Office of the United Nations High Commissioner for Human Rights, International Covenant on Civil and Political Rights, ***Communication No. 854/1999 : France. 26/07/2002. CCPR/C/75/D/854/1999. (Jurisprudence*)**
http://www.unhchr.ch/tbs/doc.nsf/0/09d49050a9b34aaac1256c6e0031b919?OpenDocument

Peck, Sally. 2007. "Blair: Iranian stories deal 'not a good idea' " Telegraph, April 11. http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2007/04/11/nbrowne211.xml

Persky, Joseph. 2007. "xxx" *Journal of Economic Perspectives.* (Winter): *xxx.*

Picoult, Jodi. 2004. *My Sister's Keeper: A Novel*, Washington Square Press.

Radcliffe-Richards, J., Daar, A.S., Guttmann, R.D., Hoffenberg, R., Kennedy, I., Lock, M., Seils, R.A., Tilney, N., [for the International Forum for Transplant Ethics]. 1998. "The case for allowing kidney sales." *Lancet*. 351(9120) 1950-52.

Rembar, Charles. 1968 *The End of Obscenity: The Trials of Lady Chatterly, Tropic of Cancer, and Fanny Hill.* New York: Random House.

Roth, Alvin E. 1984. "The Evolution of the Labor Market for Medical Interns and Residents: A Case Study in Game Theory." *Journal of Political Economy.* 92: 991-1016.

Roth, Alvin E. 1991. "A Natural Experiment in the Organization of Entry Level Labor Markets: Regional Markets for New Physicians and Surgeons in the U.K." *American Economic Review*. 81(June):415-440.

Roth, A.E. and Murnighan, J.K. 1982. "The Role of Information in Bargaining: An Experimental Study." *Econometrica*. 50: 1123-1142.

Roth, A.E. and E. Peranson. 1999. "The Redesign of the Matching Market for American Physicians: Some Engineering Aspects of Economic Design." *American Economic Review*. 89(4): 748-780.

Roth, Alvin E., Tayfun Sönmez and M. Utku Ünver, "Kidney Exchange." *Quarterly Journal of Economics*, 119, 2, May, 2004, 457-488.

Roth, Alvin E., Tayfun Sönmez, and M. Utku Ünver. 2005. "A Kidney Exchange Clearinghouse in New England." *American Economic Review*. Papers and Proceedings. 95(2): 376-380.

Roth, Alvin E., Tayfun Sönmez and M. Utku Ünver. 2005. "Pairwise Kidney Exchange." *Journal of Economic Theory*. 125(2): 151-188.

Roth, Alvin E., Tayfun Sönmez and M. Utku Ünver . Forthcoming. "Efficient Kidney Exchange: Coincidence of Wants in a Structured Market." *American Economic Review*.

Roth, Alvin E., Tayfun Sönmez, M. Utku Ünver, Francis L. Delmonico, and Susan L. Saidman. 2006. "Utilizing List Exchange and Undirected Good Samaritan Donation through "Chain" Paired Kidney Exchanges." *American Journal of Transplantation*. 6(11): 2694-2705.

Roth, Alvin E. and Xiaolin Xing. 1994. "Jumping the Gun: Imperfections and Institutions Related to the Timing of Market Transactions." *American Economic Review*. 84(September): 992-1044.

Roth, A.E. and X. Xing. 1997. "Turnaround Time and Bottlenecks in Market Clearing: Decentralized Matching in the Market for Clinical Psychologists." *Journal of Political Economy*. 105(April): 284-329.

Ruethling, Gretchen. 2006. "Chicago Prohibits Foie Gras." April 27. New York Times.

Saidman, Susan L., Alvin E. Roth, Tayfun Sönmez, M. Utku Ünver, and Francis L. Delmonico. 2006. "Increasing the Opportunity of Live Kidney Donation By Matching for Two and Three Way Exchanges." *Transplantation*. 81(5): 773-782.

Sandel, Michael J. 2005. "The Moral Limits of Markets." *Bulletin of the American Academy of Arts and Sciences*. with an Introduction by Stanley Hoffmann, Summer: 6-10.

Satel, Sally. 2006. "Organs for Sale."

http://www.american.com/archive/2006/november/organs-for-sale/

Scheper-Hughes, Nancy. 2003. "Keeping an eye on the global traffic in human organs." *The Lancet*. 361(May 10): 1645-48.

Schmalensee, Richard, Paul L. Joskow, A. Denny Ellerman, Juan Pablo Montero, and Elizabeth M. Bailey. [1998]. "An Interim Evaluation of Sulfur Dioxide Emissions Trading." *Journal of Economic Perspectives*. 12(3): 53–68.

Silverman, Rachel Emma. 2005. "Letting an Investor Bet on When You'll Die; New Insurance Deals Aimed At Wealthy Raise Concerns; Surviving a Two-Year Window." *Wall Street Journal*, May 26: D1.

Simmel, Georg. 1990. *The Philosophy of Money*. London, Routledge. second edition.

Smith, Ethan and Sara Silver. 2006. "Hot Seat: To Protect Its Box-Office Turf, Ticketmaster Plays Rivals' Tune -- As Online Threat Crescendos, It Goes After Resellers With Auctions, Exchanges -- Artists Get Piece of the Action." *Wall Street Journal*, 12 September: A1.

Spar, Debora L. 2006. *The Baby Business: How Money, Science, and Politics Drive the Commerce of Conception*. Boston: Harvard Business School Press.

U.S. Congress, *Intercountry Adoption Act of 2000*, Public Law 106-279.

Volokh, Eugene. 2007. "Medical Self-Defense, Prohibited Experimental Therapies, and Payment for Organs." . *Harvard Law Review*. 120(April). Available at SSRN: http://ssrn.com/abstract=941868

Weber, Max. 1930. *The Protestant Ethic and the Spirit of Capitalism*. translated by Talcott Parsons. New York, Scribner's Sons.

Wolfers, Justin and Eric Zitzewitz. 2004. "Prediction Markets." *Journal of Economic Perspectives*. 18(2): 107–126

Viviana A. Zelizer. 1979. *Morals and Markets*: *The Development of Life Insurance in the United States*. New York: Columbia University Press.