BUYING AND SELLING HUMAN TISSUES FOR STEM CELL RESEARCH

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In 2005, the National Research Council ("NRC") commissioned a panel of experts to provide guidelines to the scientific community for conducting human embryonic stem cell research. Among the panel's recommendations was that researchers should make no payment, in cash or in kind, to any person who donates tissues for stem cell research, including eggs, sperm, adult cells, or frozen early-stage embryos stored at *in vitro* fertilization ("IVF") clinics.[1]

The NRC's recommendations are consistent with the existing federal funding policies concerning stem cell research. President Bush's policy permits federal funding of research on human embryonic stem cell ("hESC") lines only if they were created prior to August 2001 and only if they were derived from embryos obtained without financial compensation.[2] The Stem Cell Research Enhancement Act, passed by Congress but vetoed by President Bush in July 2006, would have expanded the scope of federal funding but maintained the no-compensation requirement.[3]

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1. COMM. ON GUIDELINES FOR HUMAN EMBRYONIC STEM CELL RESEARCH, NAT'L RESEARCH COUNCIL, GUIDELINES FOR HUMAN EMBRYONIC STEM CELL RESEARCH 85 (2005) [hereinafter NRC GUIDELINES] (Recommendations 15 and 16).

2. Notice of Criteria for Federal Funding of Research on Existing Human Embryonic Stem Cells and Establishment of NIH Human Embryonic Stem Cell Registry (Nov. 7, 2001), http://grants.nih.gov/grants/guide/notice-files/NOT-OD-02-005.html.

3. Section 1 of the act reads as follows:

> (a) In General. Notwithstanding any other provision of law (including any regulation or guidance), the Secretary shall conduct and support research that utilizes human embryonic stem cells in accordance with this section (regardless of the date on which the stem cells were derived from a human embryo).

California's Proposition 71, overwhelmingly enacted by the state's voters in 2004, authorized $3 billion in state bonds to fund stem cell research. But the initiative prohibits payments of a single penny to donors of tissues, gametes, or embryos in any research project that receives state funds, other than the reimbursement of direct expenses.[4] Last summer, the California legislature enacted a law that prohibited any compensation of egg donors for stem cell research, even when Proposition 71 funds are not involved.[5]

The NRC's position on donor compensation is also consistent with most expert opinion on the issue. The National Institutes of Health guidelines for hESC research provide that "no inducements, monetary or otherwise" should be offered for embryo donation.[6] The American Association of Pediatrics is in agreement as well.[7] In fact, it is hard to find any group in the scientific research or public policy advocacy communities who questions the appropriateness of a no compensation rule.

This overwhelming level of agreement is surprising in light of several observations. First, there is widespread belief that fulfilling the potential of stem cell research and regenerative medicine will require not only a great deal of scientific research but a great deal of raw materials for that research, including early-stage embryos from which hESC lines can be developed, sperm and egg cells to create embryos, egg cells and adult cells for therapeutic cloning, and adult tissues for adult stem cell research.

Second, there is no vocal opposition to scientists, universities, biotech companies, pharmaceutical companies, state governments, lawyers, or health care providers profiting from stem cell research and regenerative medicine. A profit incentive is acceptable for almost everyone. It is only the providers of the necessary tissues, without which the research cannot be done and new medical treatments cannot be developed, who are singled out for remuneration prohibitions.

> [provided]
> (b)(3) The individuals seeking fertility treatment donated the embryos with written informed consent and without receiving any financial or other inducements to make the donation.

Stem Cell Research Enhancement Act of 2005, H.R. 810, 105th Cong. § 1 (2005).

4. CAL. HEALTH & SAFETY CODE § 125290.35(b)(3) (West 2006). The state's stem cell agency has interpreted the direct-expense exception as allowing it to reimburse tissue donors for actual wages lost as a consequence of making a donation in addition to out-of-pocket costs. Draft Recommended Revisions to California Code of Regulations, Title 17, Division 4 (Feb. 10, 2006), www.cirm.ca.gov/meetings/pdf/2006/02/021006_ item_9.pdf. Even this small concession to the idea of compensation is controversial, provoking complaints from a powerful state legislator. *See Ortiz Not Satisfied with Egg Expense Rules*, CAL. STEM CELL REP., Feb. 12, 2006, *available at* http:// californiastemcellreport.blogspot.com/2006_02_01_californiastemcellreport_ archive.html.

5. CAL. HEALTH & SAFETY CODE § 125355 (West 2006).

6. NIH Guidelines for Research Using Human Pluripotent Stem Cells and Notification of Request for Emergency Clearance, 65 Fed. Reg. 51,976-01, at 51,979 (Aug. 25, 2000).

7. Am. Ass'n of Pediatrics, *Human Embryo Research*, 108 PEDIATRICS 813, 815 (2001).

Third, it is common for researchers to compensate the subjects of clinical medical research, although the amounts are usually small and often framed as payments for the subjects' time, not the use of their bodies.[8]

Fourth, the remuneration so broadly opposed in the context of stem cell research is, in most contexts, perfectly legal. With one exception,[9] there is no federal prohibition on compensating donors[10] who provide tissues for biomedical research. A minority of states regulate such payments, but they do so haphazardly. And there are thriving markets for some human tissues—most notably sperm and eggs—throughout most of the nation.

This Article argues that the nearly unanimous opinion in the medical research and public policy communities that tissue donors should be subject to a no-compensation rule is misguided and that purchasing tissues for biomedical research should be both legal and socially acceptable. For readers who remain unconvinced, it then describes less restrictive alternatives to pure no-compensation rules as "second-best" solutions. It concludes by observing the distinct differences between markets for research tissues and markets for transplant tissues.

I. THE LAW OF TISSUE SALES

The primary federal law relating to the purchase or sale of human tissues is the National Organ Transplant Act ("NOTA"). Enacted in 1984, NOTA specifically prohibits—on pain of fine or imprisonment—the buying or selling of human organs, which it defines to include the kidneys, liver, heart, lungs, pancreas, bone marrow, cornea, eye, bone, and skin or any subpart thereof, and any other human organ (or any subpart thereof, including that derived from a fetus).[11] The inclusion in the statute's scope of any "subpart" of any listed organ suggests that even a single skin cell, which conceivably could be used in therapeutic cloning, would fall under the prohibition on sales, however its scope does not encompass renewable tissues, including blood or sperm.[12] More importantly, NOTA's reach is limited, on its face, to organs "for use in human transplantation."[13] This language

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8. *See* Neal Dickert et al., *Paying Research Subjects: A Survey of Current Policies*, 136 ANNALS OF INTERNAL MED. 368, 369–70 (2002).

9. This exception is 42 U.S.C. § 289g-2(a) (2000), discussed in Part I below.

10. Some commentators object to using the term "donor" to describe a person who receives compensation because the term implies that the transfer is a gift. Because tissue providers are usually referred to as donors, and to avoid the need to switch labels whenever compensation is hypothesized, I use "donor" to refer to the provider of research tissues, whether or not the provision is compensated.

11. 42 U.S.C. § 274e(c)(1) (2000).

12. The legislative history of the NOTA specifically states that that statute's prohibition of sales "is not meant to include blood and blood derivatives, which can be replenished and whose donation does not compromise the health of the donor." S. Rep. No. 98-382, at 3982 (1984). *See generally* 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, 173 (2002).

13. 42 U.S.C. § 274e(a) (2000).

indicates that researchers may buy and donors may sell covered organs for research purposes without running afoul of the statute.[14]

The Uniform Anatomical Gift Act ("UAGA") is a state law, but its adoption in all 50 states[15] gives it national scope. The UAGA provides that individuals may donate their entire bodies or "body parts" for transplantation, therapy, research, or education.[16] The Act prohibits the purchase or sale of body parts for use in transplantation or therapy but notably omits research purposes from this prohibition.[17] In addition, the sale prohibition applies only "if removal of the part is to occur after the death of the decedent" and so does not cover *inter vivos* transactions.[18] For both reasons, this statute also appears inapplicable to transactions of the type that might be relevant for obtaining raw materials for use in stem cell research.

Furthermore, neither of these statutes with national scope appears to apply, under any conditions, to gametes, which—especially ova—are likely to be needed in large numbers for stem cell research if the practice of therapeutic cloning becomes widespread. In fact, a federal law criminalizes the donation *or sale* of HIV-positive gametes,[19] which seems, by implication, to recognize the validity of purchases involving uninfected gametes.

Ultimately, there is only one federal statute that interferes with the right to buy or sell human tissues for research purposes, and its scope is limited. As part of the NIH Revitalization Act of 1993 that provided federal support for fetal tissue research, Congress criminalized any purchase or sale of human fetal tissue procured from induced or spontaneous abortions.[20]

Many states have enacted legislation prohibiting the sale of organs and/or tissues in particular circumstances. Most of these, like NOTA, are specifically limited to organs and tissues for transplant. A minority of states—at least nine, in addition to the recent California law specifically targeting egg donation for stem cell research—have statutes that appear to prohibit tissue sales for research purposes as well.[21] A few of these exempt renewable tissues, such as blood and

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14. *Accord* Radhika Rao, *Property, Privacy, and the Human Body*, 80 B.U. L. REV. 359, 376 (1999). It is less clear whether, if regenerative medicine achieves its full potential and stem cells are used directly as therapeutic agent, NOTA would prohibit the sale of tissues for the purpose of creating therapeutic stem cells.

15. All 50 states and the District of Columbia adopted the 1968 version of the UAGA. A minority of states subsequently adopted the 1987 revised version. For a complete list of statutory citations, see Eric B. Seeney, Note, Moore *10 years Later—Still Trying to Fill the Gap: Creating a Personal Property Right in Genetic Material*, 32 NEW ENG. L. REV. 1131, 1153–54 n.204 (1998).

16. UNIF. ANATOMICAL GIFT ACT § 6(a) (1987).

17. *Id.* § 10(a).

18. *Id.* § 10(a) & cmt.

19. 18 U.S.C. § 1122(a) (2000).

20. 42 U.S.C. § 289g-2(a) (2000).

21. FLA. STAT. ANN. § 873.01 (West 2006); GA. CODE ANN. § 16-12-160 (West 2006); 720 ILL. COMP. STAT. § 5/12-20 (West 2006); MD. CODE ANN., HEALTH-GEN. I § 5-408 (West 2006); MASS. GEN. LAWS ANN. ch. 111L, § 8 (2006); MICH. COMP. LAWS. ANN. §

sperm.[22] At least one state (Virginia) groups ova with renewable tissues and excludes them from the ban.[23] (Ova, unlike blood and sperm, are strictly speaking not renewable, although the number with which each female is born is so substantial there is no realistic possibility of running out.[24]) Louisiana, in contrast, does not ban tissue sales for research purposes generally,[25] but it bans the sale of ova for all purposes.[26]

That the Louisiana law is anomalous is indicated by the fact that, in most states, gametes are actively bought and sold for reproductive purposes. Agencies recruit women as potential egg donors and actively market their eggs to infertile couples who wish to purchase ova for *in vitro* fertilization and, hopefully, the creation of a baby. In the typical case, potential purchasers can view photos of the potential donors and learn about their physical attributes, health history, and life accomplishments. Some agencies allow the potential purchasers to conduct live interviews. Donors who are selected, or hired, typically receive between $2,500 and $10,000 for one ovulation cycle, although advertisements in college newspapers routinely offer $50,000–$100,000 or more for ova from women with certain physical characteristics or intellectual achievement.[27] The donation requires the injection of the donor with hormones for 7–10 days, resulting in the hyperstimulation of her ovaries, followed by a minor surgical procedure in which eggs are harvested directly from the ovaries with a needle inserted through the vagina.[28] The agencies that match purchasers with donors usually receive a fee for their services from the purchasers above and beyond the payments made to the donors.

333.10204 (2006); MINN. STAT. ANN. § 145.422 (2006); TEX. PENAL CODE ANN. § 48.02 (Vernon 2006); VA. CODE ANN. § 32.1-289.1 (West 2006).

22. *See, e.g.*, CAL. PENAL CODE § 367f (West 2006) (defining "human organ" to exclude plasma and sperm); 720 ILL. COMP. STAT. § 5/12-20 (permitting the purchase or sale of blood and "other self-replicating body fluids"); MICH. COMP. LAWS. ANN. § 333.10204 (2006) (same).

23. VA. CODE ANN. § 32.1-289.1 (excepting "hair, ova, blood, and other self-replicating body fluids").

24. *See, e.g.*, EMILY JACKSON, REGULATING REPRODUCTION: LAW, TECHNOLOGY AND AUTONOMY 165–66 (2001). Women are born with so many ova, however, relative to the number of years of menstruation, that there is no realistic risk of running out, no matter how many are donated. I use the term "ova" broadly and ignore, as not directly in point, the different stages of oogenesis.

25. Louisiana's ban on organ sales is limited to sales for transplantation purposes. *See* LA. REV. STAT. ANN. § 14:101.1 (West 2006).

26. *See* LA. REV. STAT. ANN. § 9:122 (West 2006) (prohibiting sale of human ova).

27. A recent advertisement in THE DAILY BRUIN (UCLA) newspaper offered $80,000 plus expenses to an egg donor who is 5'9'' or taller, caucasian, "very attractive (modeling experience a plus)," and has no genetic medical issues. DAILY BRUIN, June 26, 2006, at 10.

28. Robert Steinbrook, *Egg Donation and Human Embryonic Stem Cell Research*, 354 NEW ENG. J. MED. 324, 324 (2006).

A similar market exists for sperm, although the dollar figures are far lower—$25–$100 per donation[29]—and the market is structured slightly differently. Rather than waiting for a purchaser to select a sperm donor, sperm banks that serve as intermediaries usually pay donors directly to provide sperm for the bank. In some cases, intermediaries broker specific transactions between purchasers and donors, as is usual in the case of egg donation.

It is unsurprising that more states prohibit the sale of embryos for research purposes than prohibit the sale of other tissues for research purposes. But, at approximately thirteen,[30] the number of states with prohibitions is still quite small. There is no federal law that does so.

To summarize briefly, the full range of human tissues likely to be useful in stem cell research can be bought and sold freely for that purpose in approximately 75 percent of U.S. jurisdictions. The remaining jurisdictions prohibit the sale of various specified tissues, and at least some of their regulations have somewhat ambiguous language that has never been interpreted by courts. Following NOTA's rules concerning the transfer of organs for transplants, many jurisdictions that prohibit tissue sales often explicitly permit payment to donors to compensate for costs incurred in making the donation, including indirect costs such as travel, housing, and lost wages, in addition to the direct cost of tissue extraction.[31]

II. ARGUMENTS FOR NO-COMPENSATION RULES

The widespread opposition of experts in the field of biomedical research to compensating tissue donors might suggest that there are powerful arguments in support of no-compensation rules, especially in light of the fact that most tissue sales for research purposes are perfectly legal. In fact, none of the common arguments for no-compensation rules—that compensation risks coercion, that it undermines human dignity, that it crowds out the possibility of altruistic donation, and that it increases the cost of biomedical research—stand up well to careful examination.

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29. *See* Steven M. Berezney, Zablocki *Reborn?: The Constitutionality of Probation Conditions Prohibiting Deadbeat and Abusive Fathers from Conceiving Children*, 5 J.L. SOC'Y 255, 291 (2003) (reporting a range of $30–$100 per donation); Lisa Hird Chung, *Free Trade in Human Reproductive Cells: A Solution to Procreative Tourism and the Unregulated Internet*, 15 MINN. J. INT'L L. 263, 279 (2006) (reporting a range of $25–$50 per donation).

30. *See, e.g.*, CAL. HEALTH & SAFETY CODE § 125320 (West 2006); CONN. GEN. STAT. § 19a-32d (2006); FLA. STAT. ANN. § 873.05 (West 2006); 720 ILL. COMP. STAT. 510/6 (West 2006); IND. CODE ANN. § 35-46-5-3 (West 2006); LA. REV. STAT. ANN. § 9:122 (West 2006); MASS. GEN. LAWS ANN. ch. 111L, § 8 (2006); MICH. COMP. LAWS ANN. § 333.2690 (2005); MINN. STAT. ANN. § 145.422 (2005); N.J. STAT. ANN. § 26:2Z-2 (2006); N.D. CENT. CODE § 14-02.2-02 (2005); R.I. GEN. LAWS § 11-54-1 (2006); S.D. CODIFIED LAWS § 34-14-17 (Michie 2006).

31. *See, e.g.*, CAL. PENAL CODE § 367f(c)(2) (West 2006); NOTA, 42 U.S.C. § 274e(c)(2) (2000).

A. Involuntariness and Coercion

The most widespread argument within the medical research establishment for a no-compensation rule is that compensation undermines the voluntariness of the donation decision and can be coercive. This view clearly animates the recommendations of the *NRC Guidelines* that no cash or in-kind payments be made to donors of oocytes, sperm, or somatic cells for stem cell research, with the exception of the reimbursement of direct expenses of the donation procedure.[32] It also lies behind the position of the *ASRM Guidelines*, which acknowledge the need to compensate egg donors for *in vitro* fertilization ("IVF") but argue that ethics demands a ceiling be placed on payment—specifically, that compensation should never exceed $5,000.[33] A closely linked concern is that payments will result in a greater rate of donation by the economically disadvantaged, since their greater need for money is more likely to make payment seem coercive.[34] This argument relies on particularly unusual definitions of "involuntariness" and "coercion."

A voluntary action is generally understood to be one taken as a result of free will. Although the concept of free will is itself subject to various interpretations, none would render a decision to provide tissue any less voluntary if financial compensation is offered than if it is not. If no material compensation is offered, a potential donor must decide whether the personal gratification of participating in potentially important research outweighs the risks and inconvenience of undergoing whatever procedure is necessary for donation. If compensation is offered, a potential donor must conduct the same calculation, but an additional factor—the amount of compensation—is added to the positive side of the ledger. The psychic benefits of altruistic donation will appeal to some, cash payments will appeal to others, and a combination of these enticements will appeal to a third group. As long as the donor is fully informed of the risks and inconveniences involved and may choose to make the donation or not, the decision is an equally voluntary one in both cases.

A person who, for example, agrees to donate ova for a fee of $5,000 decides that the benefits she can obtain with that amount of money outweigh the costs and risks of donating. Prohibiting the transaction would make the donor worse off than she otherwise would be according to her own calculation, perhaps by making it impossible for her to purchase food, shelter, or, perhaps, to pay for IVF services to help her conceive her own child[35] or to finance her college

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32. NRC GUIDELINES , *supra* note 1, at 70–72 (Recommendation 16).

33. *See* Ethics Comm. of the Am. Soc'y for Reprod. Med., *Financial Incentives in the Recruitment of Oocyte Donors*, 82 FERTILITY & STERILITY 240, 240, 243 (2000) [hereinafter ASRM, *Financial Incentives*] (supporting "levels of compensation that minimize[] the possibility of undue inducement of donors").

34. *See, e.g.*, Kenneth Baum, *Golden Eggs: Towards the Rational Regulation of Oocyte Donation*, 2001 BYU L. REV. 107, 146–47.

35. In an arrangement known as oocyte sharing, some fertility clinics charge women seeking IVF treatment a lower fee—sometimes as much as 50% lower—in exchange for donating oocytes to other women. *See* ASRM, *Financial Incentives*, *supra* note 33, at 240–41.

education.[36] One can claim that a prohibition that limits her choices is in her best interest only by assuming that she is incapable of making a reasoned decision that maximizes, or at least promotes, her utility. This paternalistic move is more than a little condescending to potential donors, especially if the requirements of informed consent are taken seriously and researchers clearly explain all of the risks associated with donation before accepting even altruistic donations. When the issue is donations that only women are in a position to make—in the stem cell context, the donation of ova—the suggestion that donors are not able to make a voluntary decision when money is at issue takes on the added connotation of gender stereotype and discrimination.

It is possible, of course, that a lack of information or education, or the presence of cognitive heuristics with which people analyze that information, often in biased ways, will lead them to make choices that are bad for them, even given their subjective preferences. If so, paternalism, in the form of preventing people from making choices, can be justified. Federal research regulations for research involving human subjects, known as the "common rule," implicitly recognize this possibility and create a regulatory structure that takes it into account.[37] Under the common rule, which is applicable to most stem cell research,[38] an institutional review board ("IRB") must independently determine that the potential benefits of any approved research project justify any accompanying risks.[39] If the risks are too great, the IRB may not approve the research, regardless of whether researchers obtain the informed consent of subjects.

If the risks associated with making a particular tissue donation are so great that society believes potential donors would be made worse off by taking the risk, even in light of compensation offered, it logically follows that the risks are certainly too great for an uncompensated donor to accept. Yet proponents of no-compensation rules in the context of stem cell research believe that fully informed altruists should be permitted to serve as tissue donors. This contradiction undermines the fear that, as the *NRC Guidelines* put the point, payments might "create an undue influence or offer undue inducement that could compromise a prospective donor's evaluation of the risks or the voluntariness of her choices."[40] The offer of money no doubt would change the cost-benefit calculation of a

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36. *See* Kari L. Karsjens, *Boutique Egg Donations: A New Form of Racism and Patriarchy*, 5 DEPAUL J. HEALTH CARE L. 57, 83 (2002) (arguing that 19–20 year-old college women cannot fully appreciate the inherent risks of egg donation).

37. *See generally* 45 C.F.R. § 46 (2007). The common rule has been adopted verbatim by seventeen federal government agencies responsible for the federal funding or regulation of research.

38. The requirements of the common rule apply to research conducted with federal funds and research conducted by institutions that receive federal funds and have agreed to subject all of their research to the requirements of the common rule, even when an individual project is not federally funded. Any research that will lead to a request for marketing approval from the Food and Drug Administration (i.e., requests for approval for drugs or biologics) must be conducted in accordance with very similar FDA regulations. *See* Russell Korobkin, *Autonomy and Informed Consent in Biomedical Research*, 54 UCLA L. REV. 605, 612–14 (2007).

39. 45 C.F.R. § 46.111(a)(1)–(a)(2) (2007).

40. NRC GUIDELINES, *supra* note 1, at 86.

potential donor, but there is no good reason that it would blind most donors to items on the cost side of the ledger that they would otherwise take into account. It is of course possible that the lure of money would cause some potential donors to completely overlook the risks involved, but the lure of the "warm glow" of altruism could cause other donors to completely overlook the risks as well, and IRB approval of the research will ensure that such potential shortcomings in the decision making processes of some individual donors will not lead to participation decisions that are objectively terrible.

An action is usually understood to be coerced if the actor is threatened with a negative consequence or penalty, relative to what he could expect to occur in the normal course of events, if he does not take it.[41] By this definition, convincing a person to take an action by offering an enticement is not any more coercive than it is inconsistent with voluntariness. Providing people with positive options that they might be tempted to accept can create decision stress and, consequently, it isn't always the case that more choices are desirable, as economists usually assume. But offering people money, no matter how much, to do something that they might not choose to do, while it might create a hard choice, is definitely not coercive.

In 2005, just before South Korean scientist Woo Suk Hwang's claims to have used cloning technology to create human embryos were found to be fraudulent, a scandal erupted when word leaked that two of the junior members of his research team had donated eggs for the research effort.[42] The press reported that this raised the fear of coercion,[43] and, in this context, use of that term was appropriate. Quite unlike offering payment to individuals unconnected with the research, accepting donations from subordinates of a researcher presents a real risk of coercion: If she declines to participate, the would-be donor might be threatened, explicitly or implicitly, with the loss of job benefits or advancement opportunities that she otherwise would reasonably expect.

Because compensation will most likely increase the number of donors, payment actually *reduces* the overall risk of coerced donations. The greatest risk of donors feeling coerced to contribute tissues to research, outside of the Hwang context, is likely to arise when family or friends suffer from diseases under study and the number of volunteer donors is insufficient to support the research. In this situation, potential donors might perceive that a refusal to donate will be punished with social ostracism. A donor shortage could also cause physicians and other healthcare providers who have a personal or professional interest in scientific progress to pressure their patients to donate. This, too, has the potential to be coercive if patients fear a reduction in the quality of their care if they refuse, whether or not the provider intends to make such a threat. The more people who are enticed to make voluntary donations, the lower the likelihood that these types of coercion, which are difficult to detect and police against, will take place.

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41. *See, e.g.*, ALAN WERTHEIMER, COERCION 202-06 (1987).

42. James Brooke, *Korean Leaves Cloning Center in Ethics Furor*, N.Y. TIMES, Nov. 25, 2005, at A1.

43. *See* Rick Weiss, *S. Korean Stem Cell Team Paid Women for Eggs*, WASH. POST, Nov. 22, 2005, at A21.

Some opponents of compensation who fear that payment undermines voluntariness are motivated by a paternalistic belief that potential donors do not know what trade-offs best serve their interest. Others are no doubt motivated by an unstated belief that providing tissue for compensation might maximize the utility of donors given the constraints they face but that this should not be so. Women should not have to choose between selling their ova for science and working in a menial job, or feeding their children. Couples should not have to choose to donate excess embryos from IVF treatment in order to afford IVF treatment and have children of their own. All people should be entitled to meaningful work, sufficient food and shelter, and the best medical technology.

The flawed, magical thinking that underlies this reasoning should be obvious. Wishing away difficult or unpleasant choices in no way assists the people who face the choices. In a capitalist society with an unequal distribution of resources, it is inevitable that the inducement of compensation will affect some people more than others, and that people of lesser means will be more likely to donate at any given payment level than people of greater means. The well-to-do rarely accept dangerous, dirty, or unpleasant jobs, whereas the near-destitute often do. Society's usual response to this fact of life is not to prohibit the poor from accepting such employment and suggest that the work should instead be done by altruists, but to make conditions as safe as reasonably possible and allow the market to provide a risk premium for such labor.[44] It is not clear why potential donors of human tissues, when such donors are needed for important medical research, should be treated differently from potential coal miners, when such laborers are needed for energy production. Coal mining is unpleasant, often dangerous, and correlated with a reduction in lifespan. This rarely leads to suggestions that altruists should mine coal free of charge.

Margaret Radin, who has argued forcefully that government should place limits on what can be bought and sold in the marketplace, concludes that it would be hypocritical to prohibit sales of items solely on the basis of the fact that monetary inducements create hard choices for some people in our society without simultaneously drastically reorganizing the social allocation of resources to create a far more egalitarian nation.[45] The obvious, if often overlooked point, is that a person faced with a choice between two unpleasant options is not helped when a regulatory authority eliminates the more preferred of the options without also offering a better one. Robert Veatch, long a proponent of no-compensation rules in the context of organ donation, now opposes them based on the same reasoning: "a society that deliberately and systematically turns its back on the poor" would be

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44. *Accord* Julia D. Mahoney, *The Market for Human Tissue*, 86 VA. L. REV. 163, 213 (2000); James A. Anderson & Charles Weijer, *The Research Subject as Wage Earner*, 23 THEORETICAL MED. & BIOETHICS 359, 364–65 (2002) (reviewing the history of worker protection statutes).

45. Margaret Jane Radin, *Market-Inalienability*, 100 HARV. L. REV. 1849, 1911 (1987).

"even more immoral . . . to withhold the right of the desperate to market the one valuable commodity they possess."[46]

Radin's and Veatch's pointed analyses are correct as far as they go, but even they underappreciate the problem. It is not the unequal distribution of resources, which in theory could be remedied, that requires individuals often to choose between two goods when they would prefer to have both. The cause of such hard choices is the unalterable fact of resource scarcity. Even if resources were distributed equally amongst all citizens, no one would have everything he or she would like to have, and monetary inducements would tempt some to barter what they have for what they would prefer.

To summarize, assuming informed consent is obtained before any monetary inducements are accepted or provided, tissue donations made in return for valuable consideration—like other more ordinary types of transactions—are fully voluntary and not coercive. On the contrary, prohibiting such transactions would infringe upon the freedom of potential donors. If there is reason to believe that potential donors are unable to make decisions that maximize their subjective utility given the constraints they face, prohibition might be justified, but the prohibition should extend to altruistic donations.

B. Anti-commodification

A second common argument in support of no-compensation rules is that treating tissues as marketable commodities is an affront to human dignity that harms society as a whole.[47] Radin suggests that permitting gifts but prohibiting sales can be appropriate when it is the use of "market rhetoric" in the conception of the interrelationship between people and a good that "creates and fosters an inferior conception of human flourishing."[48] In other words, treating an item that is fundamental to personhood in the realm of market transactions suggests a commensurability between personhood and money that devalues the former. Leon Kass, the former chair of the President's Council on Bioethics, puts the point more bluntly: "[I]f we come to think about ourselves like pork bellies, pork bellies we will become."[49]

For Radin, the potential harms of commodification justify allowing parents to give up their children for adoption but prohibiting baby selling: If babies

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46. Robert M. Veatch, *Why Liberals Should Accept Financial Incentives for Organ Procurement*, 13 KENNEDY INST. ETHICS J. 19, 32 (2003).

47. *See, e.g.*, Baum, *supra* note 34, at 134–36; Charlotte H. Harrison, *Neither* Moore *nor the Market: Alternative Models for Compensating Contributors of Human Tissue*, 28 AM. J. L. & MED. 77, 89 (2002). This argument was made eloquently in a concurring opinion in *Moore*, when Justice Arabian complained that John Moore "entreats us to regard the human vessel—the single most venerated and protected subject in any civilized society—as equal with the basest commercial commodity. He urges us to commingle the sacred with the profane." Moore v. Regents of Univ. of Cal., 793 P.2d 479, 497 (Cal. 1990) (Arabian, J., concurring).

48. Radin, *supra* note 45, at 1912.

49. Leon R. Kass, *Organs for Sale? Propriety, Property, and the Price of Progress*, 107 PUB. INT. 65, 83 (1992) (arguing against the commodification of the human body).

could be sold for cash, both babies and the adults they will grow into—as well as their individual attributes—would be conceived of as commodities, and the creation of the perception of people as commodities would be socially destructive.[50] Even assuming that Radin's empirical claim is correct in this context, the question remains as to whether permitting compensation for *human tissues* would have the same ill social effects as permitting compensation for *human beings* themselves. For such an analogy to be persuasive, however, we would need broad social agreement (which almost certainly does not exist) on a theory of personhood that includes within its definition every individual human cell. Otherwise, to borrow Kass's analogy, although we might well come to view individual disembodied human tissues like pork bellies, there is no reason to fear we will come to view persons like pork bellies.

Of the types of tissues needed for stem cell research, specialized adult tissues present the clearest example of the weakness of the anti-commodification argument. Suppose, for example, that a researcher wished to obtain skin cells from persons with a particular rare genetic mutation, with the hope of creating an hESC line containing the genetic mutation using the process of therapeutic cloning.[51] An anti-commodification argument against allowing the scientist to compensate the donors would emphasize the potential psycho-social harms that market transactions would create. But what social meaning is expressed by the sale of skin cells? One possible interpretation is that our society considers human beings to be mere commodities, commensurable with toasters and widgets. But this interpretation requires equating the moral worth of skin cells to that of human beings. Another possible, and far more plausible interpretation of the social meaning of such a transaction, is that it reflects not at all on human dignity because what it means to be human transcends a handful of particular cells.[52] We all shed cells naturally every day, but few if any among us grieve for the loss of a portion of our humanity as a result, simply because we do not think of our skin cells as central to what makes us, us.

The sale of human eggs presents a more difficult case because it raises not only the question of whether commercializing tissues is harmful to human dignity but also whether selling the right to conduct a bodily invasion to procure those tissues constitutes such an affront. But, as noted above, sales of eggs in the IVF context is widespread. According to the Centers for Disease Control, more than 14,000 cycles of IVF and related procedures are attempted each year in the

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50. Radin, *supra* note 45, at 1925–26; *see also* Note, *The Price of Everything, The Value of Nothing: Reframing the Commodification Debate*, 117 HARV. L. REV. 689, 692 (2003) ("[E]xchanging children for money corrupts the value of children because money and children belong in different spheres of valuation . . . .").

51. For a more thorough discussion of the use of therapeutic cloning in stem cell research, see Russell Korobkin, *Stem Cell Research and the Cloning Wars*, 18 STAN. L. & POL'Y J. (forthcoming, 2007).

52. *Cf.* David B. Resnik, *Regulating the Market for Human Eggs*, 15 BIOETHICS 1, 6 (2001) ("One problem with [the] deontological argument against commodification [of human eggs] is that it implies that human oocytes have the same moral status as human adults, children, or fetuses . . . . Most people would not hold that human eggs have the same moral worth as children, adults, or even embryos.").

United States using donor eggs.[53] A recent Google search for "'egg donation' + compensation" returned 41,500 results.[54] There is no evidence that indicates this active market undermines the dignity of women but, even if it does, permitting a slight expansion of the market to include egg donations for research purposes is unlikely to have much of a marginal effect.

The sale of eggs for IVF is, in fact, much more troubling than the sale for stem cell research would be because IVF donors routinely are selected because of their physical attributes or talents.[55] The implication associated with IVF egg donation that prettier, smarter, or more accomplished women are worth more than others implicitly undermines the equal dignity to which every person is entitled. This effect presumably is absent in the research tissue context, in which genetic diversity might be valued but no specific attributes would be favored over others. Of course, the fact that only members of one gender can contribute the large number of eggs that might eventually be needed for stem cell research does render theoretically possible the development of a dehumanizing view of women as inputs to scientific research. Not only does this seem far-fetched, however, it is also unclear how this risk would be less if altruistic donation were permitted and prohibitions levied only on payment.

Arguably, embryo sales create the greatest risk of the commodification of human beings, and thus present the strongest case for a no-compensation rule. This is because the sale of embryos seems most closely analogous to the selling of babies. It is, thus, unsurprising that more states have prohibited the sale of embryos than the sale of somatic tissues or gametes.[56]

There are several problems with this view, however. First, there are obvious differences between early-stage embryos and children— including, but not limited to, a lack of neural function and consciousness—that undermine arguments that the former possess the attributes of personhood.[57] *In vitro* embryos lack even the potential to become persons without severe human intervention, distinguishing them from *in utero* embryos.[58]

Second, for people who equate *in vitro* embryos with children, even uncompensated donation of embryos for research purposes is inappropriate. Unlike uncompensated adoption of children, which results in treatment of the children in a way that is appropriate given their status as persons, donation of embryos for research results in the use of the embryos for the sole benefit of others. In other

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53. CTRS. FOR DISEASE CONTROL & PREVENTION, 2003 ASSISTED REPRODUCTIVE TECHNOLOGY SUCCESS RATES, § 4, *available at* http://www.cdc.gov/ART/ART2003/section4.htm).

54. Search conducted on November 6, 2006.

55. *See, e.g.*, Kerry Howley, *Ova for Sale: The Art of the Deal in the Gray Market for Human Eggs*, REASON, Oct. 2006, at 19, 21 (reporting the author's inclusion in catalog of donors listing heights, weights, ages, prices, SAT scores, and academic degrees).

56. *See supra* note 30 and accompanying text.

57. *See, e.g.*, Russell Korobkin, *Embryonic Histrionics: A Critical Evaluation of the Bush Stem Cell Funding Policy and the Congressional Alternative*, 47 JURIMETRICS J. 1 (2006).

58. *Id.*

words, if the premise that embryos are persons is accepted, it is the use of embryos for research that is the fundamental problem, not the market rhetoric that might accompany such use if the compensation were to be permitted.

Third, while compensation for embryo donations might appear more problematic from one perspective than compensation for other research tissues, from an equally plausible competing perspective the practice would be less of an affront to human dignity than compensation for other research tissues, such as human eggs. Embryos created ostensibly for IVF treatment can be donated for research purposes without the bodily invasion that is often necessary to procure other types of tissues useful for stem cell research. Thus, insofar as any affront to human dignity created by selling tissue is a consequence of the physical invasion of the body necessary to obtain the tissue, compensation for embryos should be considered relatively less problematic.

Further, a plausible argument can be made that, given the primary role that the IVF process currently serves in the production of embryos, prohibitions on compensation for embryo donation could actually undermine society's special respect for the dignity and value of human life. IVF treatment can cost tens of thousands of dollars, and most people unable to conceive on their own are not fortunate enough to have health insurance that covers these costs.[59] For many infertile couples, the ability to receive compensation for excess embryos created through the IVF process would enable them to afford what would otherwise be prohibitively expensive. If the ability to procreate is viewed as an important element of personhood, permitting those in need of IVF to receive compensation for excess embryos can promote human dignity rather than undermine it.

C. Crowding Out Altruism

A completely different argument against compensation emphasizes the negative effect that the availability of compensation theoretically could have on the practice of altruistic donation. Two versions of the concern about the "crowding out" of altruism can be distinguished, although proponents often conflate the two. One version seeks to protect the ability of altruism to flourish in society. In the book that is the standard citation for the crowding out theory, *The Gift Relationship*, Richard Titmuss argues against paid blood donation by claiming that allowing the market to operate can "place men in situations in which they have less freedom or little freedom to make moral choices and to behave altruistically if they so will."[60] The other version is entirely consequentialist in nature: The availability of compensation might result in fewer donations to medical research because the number of potential donors that would be induced by money is less than the number of potential donors that would be induced by the opportunity to be

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59. *See* Anna Mulrine, *Making Babies*, U.S. NEWS & WORLD REP., Sep. 27, 2004, at 60 (stating that IVF insurance coverage is "a rarity in the United States, where 85 percent of insured Americans have policies that will not cover that treatment").

60. RICHARD M. TITMUSS, THE GIFT RELATIONSHIP: FROM HUMAN BLOOD TO SOCIAL POLICY 242 (1971).

altruistic. The UAGA lists this concern among the reasons that it prohibits payment for posthumous organ donations for transplant purposes.[61]

The former concern seems implausible on its face in the stem cell research context. If some researchers offer compensation to donors of research tissues, this would not in any way preclude altruistic donation. Any donor motivated entirely by a desire to help the ill or promote scientific progress who wishes not to be tainted by compensation would be perfectly free to turn down payment. Of course, some, and perhaps many, people who would have been willing to provide uncompensated donations will accept payment if it is offered to them. If so, however, this suggests that those individuals find compensation more attractive than the warm glow of altruism, not that the market has infringed the freedom of those who wish the opportunity to give altruistically.

The latter concern raises a serious empirical question: Would the availability of compensation convince more potential altruists not to donate than it would persuade non-altruists to donate? To understand the theoretical problem, consider the following hypothetical example. Assume that (1) a research project requires 100 women to donate ova; (2) in a world in which payment for ova donation were prohibited, 100 altruists would donate, satisfying the project's needs; (3) women are routinely paid $5000 to donate ova for other research projects. Because of the availability of payment, the 100 would-be altruists might perceive ova donation as an inherently commercial activity in which they have no interest in participating, rather than as a charitable or humanitarian one that they find enticing, and consequently refuse to donate. Put slightly differently, commercialization might reduce the psychic benefit of volunteerism, thus reducing the desirability of altruism and reducing the amount of it. (Or, viewed from the opposite perspective, a no-compensation rule might encourage altruism that otherwise would not exist.) Of course, for this to imperil the research project in question, there would have to be fewer non-altruists induced by the possibility of payment than altruists turned off by it.

There is no research that I know of that definitively demonstrates the empirical ratio between what might be called "offended altruists" and "non-altruistic sellers" in any given particular context. However, two studies in the context of blood donation suggest that compensation is likely to attract more research participants than it repels. A survey of blood donors in the U.S., where cash payments for blood have been virtually non-existent for more than three decades,[62] found that the number of donors who said they would be *encouraged* to

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61. The comment to UNIF. ANATOMICAL GIFT ACT § 10 (1987) provides as follows:

> Altruism and a desire to benefit other members of the community are important moral reasons which motivate many to donate. Any perception on the part of the public that transplantation unfairly benefits those outside the community, those who are wealthy enough to afford transplantation, or that it is undertaken primarily with an eye toward profit rather than therapy will severely imperil the moral foundations, and thus the efficacy of the system.

62. *See* Kieran Healy, *Embedded Altruiusm: Blood Collection Regimes and the European Union's Donor Population*, 105 AM. J. SOC. 1633, 1637 (2000).

donate in the future by various incentives minus the number who would be *discouraged* by those incentives was positive—and in most cases quite substantially so—for every race, every educational level, both genders, and every age group, with the exception of people over age 55.[63] In a survey of blood donors in New Zealand, seventy-six percent said that they would continue to give blood for free if other donors were paid, while only seven percent said that they would not.[64]

As donation becomes more inconvenient, painful, or risky, the number of potential altruists is likely to decline, rendering any crowding out of offended altruists by the existence of a market less significant. Many altruists might be willing to donate sperm for stem cell research without monetary inducement, finding the belief that one has helped the cause of science reward enough. It seems plausible, although far from certain, that a significant number of these men might be dissuaded from donating if researchers were to pay for sperm. In this case, donating sperm might appear indistinguishable from making a cash donation equal to the market price of sperm.

On the other hand, there are likely to be far fewer altruistic egg donors. The procedure is painful, is accompanied by the risk of bleeding and infection, and carries a small but non-trivial risk of substantial medical complications, including hospitalization and, in extreme cases, infertility. So payment is likely to be necessary if the needs of stem cell researchers are to be met. A relevant fact is that countries that prohibit the compensation of egg donors for IVF purposes face donor shortages that do not exist in the United States,[65] and black markets prosper.[66] In the United Kingdom, where cash payments for egg donations (beyond a small amount for expenses) are prohibited, demand for egg donations exceeded the supply of altruistic donors in 2005.[67] Certainly some women will choose to donate eggs solely for the progress of science and the benefit of humanity, just as some choose to donate ova for IVF solely for the privilege of helping an infertile couple achieve their dream of having a child. But the number is likely to be limited.

D. Increasing the Cost of Research

A final argument against permitting compensation for research tissue is that doing so will increase the cost of conducting research and, consequently, reduce the amount of research and the number of medical advances. This concern is rarely articulated by scientists or bioethicists, but it has been raised by legal

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63. Ana M. Sanchez et al., *The Potential Impact of Incentives on Future Blood Donation Behavior*, 41 TRANSFUSION 172, 175 tbl.3 (2001).

64. Philippa Howden-Chapman et al., *Blood Money: Blood Donors' Attitudes to Changes in the New Zealand Blood Transfusion Service*, 312 BRITISH MED. J. 1131, 1131–32 & tbl.1 (1996).

65. *See* Baum, *supra* note 34, at 139.

66. *See, e.g.*, Clair Weaver, *Women Illegally Trade in Eggs*, SUNDAY TELEGRAPH (Australia), June 4, 2006, at Local 14; Louis Matheieu Gagne, *Life for Sale*, THE TORONTO SUN, Mar. 5, 2006, at News 5.

67. *See* Mary Braid, *The Price of Eggs*, INDEP. ON SUNDAY (London), Mar. 26, 2006, at 58 (citing the Human Fertilisation and Embryology Authority).

analysts in several different forms. Two versions of the claim—that permitting compensation will increase uncertainty over ownership of tissues and increase transaction costs—have little logic to support them in the context of stem cell research. A third version—that direct costs of conducting research will increase—is likely to be true, but it does not provide a compelling basis for no-compensation rules.

In its landmark decision in *Moore v. Regents of the University of California*,[68] the California Supreme Court addressed John Moore's claim that he was entitled to compensation from his physician and the University of California when leftover tissue from his splenectomy was used for commercial research purposes. In ruling for the defendants on this claim, the court raised the concern that if it validated Moore's claim, biotechnology research would be hampered by "[u]ncertainty about how courts will resolve [future] disputes between specimen sources and specimen users."[69]

This concern seems misplaced, at least for prospective tissue donations. Any potential uncertainty could be resolved by researchers and donors by clearly specifying the terms of their transaction and the future compensation, if any, due to the donor. If potential downstream users of tissues, such as biotechnology companies that purchase licenses to exploit patented stem cell inventions, find the existence of future obligations to donors (such as royalties based on commercial success) too constraining, researchers would most likely insist that any compensation be fixed and paid at the time the tissue is donated and that donors disclaim any interest in future inventions or developments.

A related concern, that increased costs of negotiating tissue donations will inhibit medical research,[70] is also a red herring because the alternative to tissue sales is not the unimpeded right of researchers to claim any tissue that might advance their research. The informed consent requirement ensures that researchers must communicate in a substantive way with potential donors prior to using their tissues. In practice, any negotiations over compensation probably would be conducted as part of this interaction.[71] Documenting the terms of a commercial arrangement conceivably could entail some marginal transaction costs, but these should be minimal.

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68. 793 P.2d 479 (Cal. 1990).

69. *Id.* at 495 n.40 (second alteration added) (quoting OFFICE OF TECH. ASSESSMENT, NEW DEVELOPMENT IN BIOTECHNOLOGY: OWNERSHIP OF HUMAN TISSUES AND CELLS (1987)).

70. *See, e.g.*, Donna M. Gitter, *Ownership of Human Tissue: A Proposal for Federal Recognition of Human Research Participants' Property Rights in Their Biological Material*, 61 WASH. & LEE L. REV. 257, 279–80 (2004); Thomas P. Dillon, Note, *Source Compensation for Tissues and Cells Used in Biotechnical Research: Why a Source Shouldn't Share in the Profits*, 64 NOTRE DAME L. REV. 628, 633–34 (1989).

71. Informed consent documents that specify rights and responsibilities of subjects and researchers have the legal force of contract. *See* Dahl v. HEM Pharms. Corp., 7 F.3d 1399, 1405 (9th Cir. 1993) (finding that informed consent documents between researchers and subjects are contracts); Grimes v. Kennedy Krieger Inst., Inc., 782 A.2d 807, 843–44 (Md. 2001) (same).

A third concern, that the permissibility of compensation would increase the direct cost of research,[72] requires a more detailed evaluation. If the willingness (or lack thereof) of potential tissue donors to make uncompensated donations is static, allowing scientists the freedom to compensate donors would not increase the cost of any research project that would be conducted under a no-compensation regime. When tissue donations would involve little pain or risk and, when a wide range of donors would be satisfactory—for example, generic skin cells—researchers likely would be able to collect as much raw material as is necessary for their purposes without offering compensation. There are probably enough altruists to satisfy all research needs, in which case the market-clearing price would be $0. For tissues that are difficult or risky to collect (such as human eggs), or for unique tissues (such as those from donors with unusual diseases or genetic mutations), the market-clearing price for the necessary quantity of tissue might be considerably greater than $0. If so, the cost of research would be higher if compensation were allowed than if it were not, but this result cannot be counted as a strike against a system that permits compensation. Under a no-compensation regime, scientists would have no choice but to abandon the research; if compensation were permitted, they would have the option of pursuing the research if they (or their funding sources) were to believe that the potential benefits justified the costs.

Consider the following simple example: Assume that to develop a new treatment for disease X, researchers predict that they will need 1,000 human egg donors in order to create embryonic stem cell lines through the process of therapeutic cloning. Assume also that there are 100 altruists willing to donate their ova to the research without compensation, but the remaining 900 donors can only be recruited for the painful and somewhat risky procedure[73] if $5,000 is offered as an inducement. When egg sales are permitted, the researchers have three options: (1) they can collect eggs from the altruists for free and pay the non-altruists $5,000 each, (2) they can pay all 1,000 donors $5,000 each if they believe equity requires compensation of the altruists if others are compensated, (3) they can attempt to make do with 100 donors, or (4) they can cancel the project. If egg sales are prohibited, however, the researchers have only options (3) and (4). Thus, having the *option* of purchasing the gametes strictly dominates not having the option.

The problem with this analysis is that the population of altruists is probably dynamic rather than static, and its number is likely dependent on whether compensation is permissible. As the crowding out concern suggests, if some tissue donations are compensated, the perception amongst potential donors of the social meaning of donation will change, and some potential altruists might exit the donor pool, making them unavailable even to researchers who choose not to offer compensation. Altruists might also exit the donor pool if and when the availability of payment eliminates tissue shortages and leads them to believe that their altruism is unnecessary for scientific progress. A different but related effect is that some portion of potential altruistic donors would remain in the pool but demand

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72. *See, e.g.*, Gitter, *supra* note 70, at 279; Dillon, *supra* note 70, at 638–39.

73. For a description of both the risks and the pain involved with retrieving ova from a woman's ovaries, see Ellen A. Waldman, *Disputing Over Embryos: Of Contracts and Consents*, 32 ARIZ. ST. L.J. 897, 903–04 (2000).

compensation. These subjects would receive sufficient utility from the warm glow of altruism to make uncompensated donations if no other type were possible, but would hold out for monetary compensation if they knew it was potentially available. For this population, the possibility of compensation will not cause a shift in the perceived social meaning of donation, but it will cause a shift in the perceived social meaning of accepting a low price (i.e., $0): Whereas accepting $0 when scientists may offer no more means being a good citizen, accepting $0 when more could be paid means being a chump.

For these reasons, it is probably the case that the research that could be conducted under a no-compensation regime would be more expensive to conduct if compensation were permissible. The question is whether this effect is sufficient to justify a no-compensation rule for research tissues.

The fundamental problem with the increasing cost of research argument is that it offers no basis for distinguishing between tissue donors and other individuals who provide socially useful goods or services for biomedical research or in any other context. Exactly the same argument could be made for prohibiting the compensation of stem cell researchers, to use just one of a near-infinite number of possible examples. If such compensation were prohibited, we would have many fewer researchers, of course, but some scientists would work for free, and a few individuals who are not now scientists might join the profession because they would find scientific research a more attractive pursuit if it were divorced from the realm of commerce. Not very much science would be done, but what science survived would be done for a lower monetary cost than society must pay for it now. We permit the compensation of scientists because of our implicit determination that it is worth the extra cost of having to pay the few scientists who might work for free in order to ensure that more science (hopefully something close to the socially optimal amount) will be conducted.

Proponents of a no-compensation rule who argue on the ground that compensation would increase the direct costs of research should bear the burden of demonstrating why tissue donation ought to be treated differently than the vast array of goods and services for which our society permits compensation. Proponents may not satisfy this requirement, of course, by claiming that the provision of human tissues should not be treated like other goods or services because its source is the human body, or by claiming that financial rewards might cause some people to feel undue pressure to donate. These contentions would effectively shift the argument from increasing costs of research to anti-commodification or involuntariness; arguments that have already been considered and found wanting.

III. ALTERNATIVES TO A SALES BAN

The arguments made in favor of a no-compensation rule are theoretically flawed (the voluntariness/coercion and inhibition of research claims), based on a particular and narrow view of the connection between tissues and personhood (the anti-commodification claim), empirically unlikely (the crowding out claim), or correct but insufficient to justify interference with market processes (the increasing cost of research claim). On the other side of the scale is the obvious social benefit of ensuring that the progress of stem cell research is not impeded by an insufficient

quantity or quality of human tissues. This enormous benefit is more than sufficient to justify a rule permitting researchers to compensate tissue donors in whatever way they see fit, including cash payments.

There is no denying, however, that the opposition to compensation on the part of the medical research community and many policy makers remains strong. In light of this, this Part offers two second-best alternatives to permitting unregulated cash compensation of tissue donors designed to allay some of the concerns of opponents, particularly those who find the anti-commodification argument convincing.

A. Framing Compensation with Non-market Terminology

One approach is to attend to the framing of cash compensation rather than prohibiting it. This concept might explain why many state laws that prohibit payment of "valuable consideration" for human tissue (and the federal NOTA,[74] which prohibits payment for organs in the context of transplants) permit compensation of donors for costs incurred, time spent, and lost wages.[75] It also might help explain the ASRM's position that it is morally permissible to pay oocyte donors up to $5000, but not more, in recognition of the estimated 56 hours of time that the organization estimates the donation process requires,[76] the position of a New York State Task Force on Life and the Law that "[g]ametes and embryos should not be sold, but gamete and embryo donors should be offered compensation for the time and inconvenience associated with donation,"[77] and the standard claims of egg donor agencies that this is precisely the basis for compensation received by their donors.

In one sense, these distinctions are at best merely semantic and at worst dishonest.[78] Whether scientists say they pay egg donors for their time and inconvenience or for their eggs does not affect any tangible aspect of the exchange. If payment amounts exceed the out-of-pocket costs of donating, the donors are reaping material gains in exchange for providing tissues, and a market price is implicitly set. But whether society is harmed by the psychological effects of commodification certainly depends, at least in part, on the social framing of the exchange.

B. In-Kind Compensation

Another approach would be for researchers to provide in-kind compensation to donor groups. Although most supporters of no-compensation rules oppose in-kind compensation just as strongly as they do cash compensation,

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74. *See supra* note 11 and accompanying text.

75. *See supra* note 31.

76. ASRM, *Financial Incentives*, *supra* note 33, at 240, 243.

77. N.Y. STATE TASK FORCE ON LIFE & THE LAW, ASSISTED REPRODUCTIVE TECHNOLOGIES: ANALYSIS AND RECOMMEDATIONS FOR PUBLIC POLICY 237 (1998), *available at* http://www.health.state.ny.us/nysdoh/taskfce/execsum.htm.

78. *See, e.g.*, David B. Resnik, *Regulating the Market for Human Eggs*, 15 BIOETHICS 1, 5 (2001).

certain types of in-kind compensation can carry less of a connotation that tissue donation monetizes the value of human beings.

In the United Kingdom, the law prohibits cash payments to women who donate eggs for IVF, but clinics may provide IVF treatments to egg donors at a reduced price as compensation.[79] Of course, IVF treatment has a market price, so it is not difficult to calculate the implicit monetary price that any particular woman receives for providing eggs. But payment in infertility treatment rather than in cash probably weakens the public perception that bodily tissues are being traded in the market as if they were widgets.

The way blood commonly is procured in the United States exemplifies this point. About half of blood donors in this country receive some kind of compensation for their participation in blood drives.[80] In some cases, such as the gift of a t-shirt, the compensation is *de minimis* and might not encourage many people who otherwise would not donate blood to do so. In other cases, the compensation is more significant, and undoubtedly provides a participation incentive. Many companies offer their employees time off work to give blood, a clear inducement to any workers who mind giving blood less than they mind working.[81] In other cases, donors are promised preferential treatment if they ever need a blood transfusion in return for their contributions.[82] In these cases, blood donation can be understood as a barter transaction. Yet, because cash compensation is rare, most Americans perceive the blood donation regime to be entirely altruistic and outside of the market.

In 2001, a group representing patients with pseudoxanthoma elasticum ("PXE") negotiated with researchers for a share of future patent rights and licensing control in return for soliciting tissue donations from families affected with the disease (along with other research support).[83] The group pledges to use these rights to ensure screening tests and treatments are available to all who need them at an affordable cost. This type of arrangement also might strike many as a compensation method more compatible with the nature of personhood than agreeing to pay cash to individual tissue donors.

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79. *See, e.g.*, Braid, *supra* note 67.

80. Ana M. Sanchez et al*., supra* note 63, at 174 tbl.2 (2001) (reporting that 56% of survey participants received an incentive for their last blood donation).

81. *Id.*; *see also* Ronald G. Strauss, *Blood Donations, Safety, and Incentives*, 41 TRANSFUSION 165, 165 (2001) (identifying the U.S. Postal Service and Boeing).

82. Sanchez et al., *supra* note 63, at 174 tbl.2; *see also* DEP'T OF HEALTH & HUM. SERVS., FOOD & DRUG ADMIN. & CTR. FOR BIOLOGICS EVALUATION & RESEARCH, RECRUITING BLOOD DONORS—SUCCESSFUL PRACTICES (July 7, 2000), *available at* http://www.fda.gov/cber/minutes/rctbld0707p2.pdf ("There were, and still are, some blood-credit programs available where, if you donate blood, there are certain 'insurance-type' programs that people in your family . . . will be able to get blood at no cost.").

83. *See* Donna M. Gitter, *Ownership of Human Tissue: A Proposal for Federal Recognition of Human Research Participants' Property Rights in Their Biological Material*, 61 WASH. & LEE L. REV. 257, 315–19 (2004).

CONCLUSION: RESEARCH TISSUES VS. TRANSPLANT ORGANS

This Article's critique of proposed no-compensation rules for research tissues has obvious implications for transplant tissues and organs as well. The no-compensation rules governing organ transplants, enshrined in law by NOTA and the UAGA, are commonly defended with the same arguments reviewed and critiqued here. These arguments suffer many of the same shortcomings in the transplant context as they do in the research tissue context and the costs of such rules are even more clear in the former context: More than 90,000 Americans are currently on wait lists for transplant organs, and approximately 6,500 die every year awaiting a transplant because demand so far outstrips supply. Only a minority of Americans agree to be even cadaveric organ donors,[84] even though cadaveric donations require no effort on the donor's part and cause neither inconvenience nor pain. There is clearly a strong argument for legal reform that permits payment or in-kind compensation for cadaveric transplantation organs or even live donations.[85]

That said, the argument for permitting compensation is even stronger in the research context than it is in the transplant context. Transplant organs are a private good in a way that research tissues are not. If all prohibitions on buying and selling organs for transplant were lifted, significant changes in the distribution of those organs would result, with those willing and able to pay the most jumping to the front of the queue rather than those who are the sickest or have been on the waiting list for the longest time. There are arguments for this result, and, to be sure, there are also ways the law could be structured to avoid or minimize these problems. However, there are serious issues of equity across economic classes that generally cut against eliminating no-compensation rules for transplant organs.

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84. *See, e.g.*, Sheldon F. Kurtz & Michael J. Saks, *The Transplant Paradox: Overwhelming Public Support for Organ Donation vs. Under-Supply of Organs: The Iowa Organ Procurement Study*, 21 J. CORP. L. 767, 783 (1996) (reporting that 43% of Iowa supporters of organ donation had the appropriate mark on their driver's licenses); Veatch, *supra* note 46, at 25 (citing Gallup Poll results that found a minority of respondents had taken steps to become voluntary cadaveric donors); Med. News Today, *DMV and Donate Life California Organ & Tissue Donor Registry Team Up, Challenge Californians to Raise Percentage of Life-Saving Donors*, June 29, 2006, http://www.medicalnewstoday.com/medicalnews.php?newsid=46134 (referencing the DMV/Donate Life California partnership and noting that, as of 2004, only 295,000 of California's 23 million licensed drivers had registered as donors online).

85. I, myself, have argued for lifting the complete ban on compensation for transplant organs. Russell Korobkin, *Sell an Organ, Save a Life,* L.A. TIMES, Oct. 30, 2005, at M5. The number of scholarly articles suggesting or promoting compensation arrangements for organ donors is voluminous. Some recent examples include Eugene Volokh, *Medical Self Defense, Prohibited Experimental Therapies, and Payment for Organs*, 120 HARV. L. REV. (forthcoming 2007), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=941868; T. Randolph Beard & David L. Kaserman, *On the Ethics of Paying Organ Donors: An Economics Perspective*, 55 DEPAUL L. REV. 827, (2006); Steve P. Calandrillo, *Cash for Kidneys? Utilizing Incentives to End America's Organ Shortage*, 13 GEO. MASON L. REV. 69 (2004); Lloyd R. Cohen, *Directions for the Disposition of My Vital Organs*, 55 DEPAUL L. REV. 805 (2006).

These concerns are not implicated in the research context. Of course, "richer" researchers—i.e., those with more funding—might have better access to tissues than others. This does not raise serious equity concerns, however, because the distribution of research funds is correlated, at least broadly speaking, with the worthiness of the research. Government research funding is allocated based on the perceived social importance of the research topic and the quality of the researchers and their grant proposals. Commercial funding is allocated on the basis of what capital markets believe has the greatest chance of leading to the creation of commercially useful tests and treatments.

The distinctions between the research and transplant contexts are important to emphasize, because they indicate that the important principles of consistency and coherence in public policy do not necessarily require that the prohibitions on the sale of transplant tissues be lifted if tissue sales are permitted for research purposes. Markets for transplant tissues might well be desirable, but that topic requires a different analysis.