THE PRICE OF SPERM: AN ECONOMIC ANALYSIS OF THE CURRENT REGULATIONS SURROUNDING THE GAMETE DONATION INDUSTRY

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INTRODUCTION

In 2006, The New York Times published an article illustrating the risks associated with the current United States artificial insemination process. That year, five Michigan children were diagnosed with severe congenital neutropenia (SCN), a rare genetic blood disease that increases the risk of developing leukemia later in life. Because SCN affects only one in five million children, the specialist who diagnosed the Michigan children “suspected that something strange was going on” and soon thereafter discovered that all of the five children had the same father—Donor F827. The specialist further theorized that this donor must have carried the defective gene in his sperm, but he unfortunately could not test this hypothesis because Donor F827 had moved, and self-imposed policy prevented International Cryogenics from testing the sperm without his permission. Although International Cryogenics disposed of the remaining sperm after learning of the children’s condition, Donor F827 fathered eleven other children, whom the sperm bank refused to notify “reason[ing] that, even if other children had developed the disease their families would already know it.”

Five years later, The New York Times published another article about the U.S. artificial insemination process. It reported the story of Cynthia Daily of Washington who used anonymously donated sperm to conceive a child in 2004. Although Daily’s son (as of September 2011) has not inherited any known genetic illnesses, he is one of 150 children fathered by the same donor and part of the largest known group of donor siblings within the United States. Daily discovered this when she searched an online registry for children fathered by the same donor and then helped create an online group to track her son’s half-brothers and half-

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1 Denise Grady, As the Use of Donor Sperm Increases, Secrecy Can be a Health Hazard, N.Y. TIMES (June 6, 2006), available at http://www.nytimes.com/2006/06/06/health/06opin.html.

2 Id.

3 Id.

4 Id.


6 Id.

7 Id.
sisters. Since then, many other groups of donor siblings have been discovered, sometimes with fifty or more half-siblings. This prevalence of half-siblings has raised concerns among parents, donors, and medical experts about the increased odds of accidental incest and the spread of rare diseases through population groups living close to sperm banks.

Although the Michigan and Daily cases have brought negative attention to the gamete donation industry, they have also helped increase awareness of the current problems with the practice. More importantly, they demonstrate how the anonymous sperm donation industry is governed by laissez-faire economics. Since sperm banking began in the 1970s with cryopreservation (technology allowing sperm to be frozen for long periods of time), the industry has mostly been self-regulated with fertility centers only having to report their success to the Centers for Disease Control and abide by basic laws forbidding malpractice and fraud. Sperm banks preserving anonymous donations, the focus of this Note, are subject to Food and Drug Administration (FDA) regulations that focus primarily on the screening of donors and record-keeping to prevent the spread of infectious diseases. State laws mainly address parental rights to children conceived through artificial insemination. Although professional organizations such as the American Society for Reproductive Medicine and the American Fertility Society emphasize the importance of genetic testing and limiting the number of pregnancies achieved using the same sperm, their guidelines are only recommendations. As a result, most U.S. sperm banks establish their own policies, unaffected by any state or federal regulation.

This Note provides an overview and analysis of the U.S. federal and state laws and institutional policies regulating the anonymous sperm donation industry.

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8 Id.
9 Id.
10 Id.
12 Fertility Clinic Success Rate and Certification Act, 42 U.S.C. § 263a-1 (1992); SPAR, supra note 11, at 36, 51.
14 See, e.g., MINN. STAT. ANN. § 257.56(2) (West 2011); MO. ANN. STAT. § 210.824(2) (West 2011); MONT. CODE ANN. § 40-6-106(2) (2011).
and their relation to laissez-faire economics. Part I of this Note briefly chronicles the history of assisted-reproductive technologies and provides an overview of the current federal, state, professional, and institutional policies and regulations in place. Part II describes the economic implications of the sperm donation industry and how sperm banks have successfully commoditized genetic material to benefit both donors and recipients. Part III recommends that, in order to establish predictability for both donors and recipients, the U.S. government should establish a clear set of property rights and regulations for the trade of human reproductive material. Federal and state legal reforms that misunderstand or fail to consider market forces and property rights adequately addressing the gamete donation industry will be ineffective. Comprehensive legal reform is needed and the federal government should take the opportunity to advance new legislation that properly addresses these problems.

I. BACKGROUND: THE REGULATIONS GOVERNING ANONYMOUS SPERM DONATION

Assisted-reproductive technologies (ART) are scientific means of conception not achieved through sexual intercourse. They are used to assist individuals and couples unable to conceive due to infertility, choice of partner (i.e., same-sex), or lack of partner (single individuals wishing to conceive). Sperm donation is crucial to many of these technologies such as artificial insemination, in vitro fertilization, and intracytoplasmic sperm injection.

It is estimated that approximately 30,000 to 50,000 children are born in the U.S. as a result of donated sperm. The use of ART is only expected to continue increasing as more same-sex couples and single individuals pursue parenthood and couples delay having children until later in life. Although exposed sperm donation practices do exist in the U.S., most sperm is donated anonymously through a sperm bank or clinic. While many anonymous sperm donors are

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21 Id.
22 Pi, supra note 11, at 379 (“Exposed donation” refers to fertility practices where the donor’s identity is known by the recipient.).
motivated by monetary compensation, some choose to donate for altruistic reasons to assist infertile couples.\textsuperscript{23}

\textbf{A. Federal Regulations Governing Anonymous Sperm Donation}

Currently, the FDA provides the only federal means to regulate anonymous sperm donations. In March 1997, the FDA announced that it would create a regulatory scheme for “cellular and tissue-based products” that would include donated reproductive tissue (DRT).\textsuperscript{24} In January 2001, the FDA released the Human Tissue Regulations requiring all DRT institutions to register with the FDA and list their physical and mailing addresses, functions, and type of tissue(s) in maintenance.\textsuperscript{25} On May 25, 2005, the FDA’s Donor Eligibility Rule went into effect, focusing on “donor screening, quality processing, and record keeping [with the] . . . goal [of] keeping infectious tissue out of circulation.”\textsuperscript{26}

Under the Donor Eligibility Rule, both anonymous and non-anonymous donors must undergo a physical examination and medical history interview that includes an assessment of their physical and “relevant social behavior[al]” histories.\textsuperscript{27} The rule lists twenty-nine risk factors, including men who have had sex with other men within the last five years, persons who have injected drugs for non-medical reasons within the past five years, and persons who have been exposed to known or suspected HIV and/or HIV-infected blood in the preceding twelve months.\textsuperscript{28} These factors are to be considered in assessing a potential donor’s eligibility.\textsuperscript{29} For anonymous donations, the rule states that donors must be tested for a wide array of infectious diseases such as HIV-1, HIV-2, hepatitis B and C, gonorrhea, and chlamydia while their sperm is frozen and stored for six months before being certified as “disease-free.”\textsuperscript{30} A donor whose sperm tests positive or who is “identified as having [a] risk factor for or clinical evidence of any” of the diseases listed in the Human Tissue Regulations is deemed ineligible to donate.\textsuperscript{31} It


\textsuperscript{26} See Yuen, supra note 13, at 554 (quoting 21 C.F.R. § 1271.1 (2005)).

\textsuperscript{27} See Pi, supra note 11, at 383; 21 C.F.R. § 1271.3(n) (2007).

\textsuperscript{28} 21 C.F.R. § 1271.75 (2006).

\textsuperscript{29} Id.

\textsuperscript{30} Id. §§ 1271.3(r), 1271.50, 1271.75, 1271.80, 1271.85 (2005).

\textsuperscript{31} Id. § 1271.90(a); \textit{Sperm Donation: Anonymous vs. Known Donation, FERTILITYPROREGISTRY.COM} (last visited Nov. 28, 2011), http://www.fertilityproregistry.com/article/sperm-donation-anonymous-vs-known-donation.html (stating that if a serious disease is identified, the donor will be contacted).
is important to note that while the Donor Eligibility Rule requires extensive assessment of each donor’s medical history and current state of health related to infectious diseases, it does not require any analysis or inquiry into possible genetic abnormalities.\(^{32}\)

In addition to the Donor Eligibility Rule, the FDA’s Good Tissue Practice requirements include periodic inspections of fertility institutions to evaluate compliance with the Donor Eligibility Rule and record-keeping standards.\(^{33}\) This record-keeping, however, does not require that sperm banks track donors’ health, disclose information to donor-conceived children, or even place limits on the number of births resulting from one donor’s sperm.\(^{34}\)

**B. State Regulations Governing Anonymous Sperm Donation**

Most state laws concerning anonymous sperm donation consider paternity issues such as voluntary acknowledgement, genetic testing to determine paternity, and other parentage-related concerns. These paternity issues are largely covered by the Uniform Parentage Act (UPA) which, as amended in 2000 and 2002, takes into account new genetic identification technology and new scientific advances including ART.\(^{35}\) The 2002 UPA, however, has been adopted by only some states. The remaining states mimic the original 1973 version of the UPA, incorporate relevant provisions of the 2002 UPA into their own statutes, create their own gamete donation provisions, or completely lack these provisions.\(^{36}\) Only two states—New York and Ohio—mandate that DRT institutions screen and test sperm for genetic risk factors.\(^{37}\)

In general, the 1973 version of the UPA states that when a child is conceived through artificial insemination using a donor’s sperm, the married woman’s husband is considered the natural father.\(^{38}\) This version of the UPA, however, only

\(^{32}\) 21 C.F.R. § 1271.13(n).

\(^{33}\) Id. § 1271.180.

\(^{34}\) Ethel Sloan, Biology of Women 401 (2001); Stryker, supra note 20.


applies to situations where the child’s mother is legally married and where the artificial insemination procedure was performed by a licensed physician.\(^{39}\) Some states such as Minnesota, Missouri, Montana, and Nevada\(^ {40}\) have adopted the UPA’s original language while others such as California, Illinois, New Jersey, and Wisconsin have made minor changes to the provisions including removal of the word “married” to grant more rights to unmarried women seeking to conceive a child and further protect sperm donors.\(^ {41}\) Other states such as New Hampshire, Ohio, and Oregon have completely adopted their own gamete donation statutes having the same effect as the 1973 UPA.\(^ {42}\)

While the 1973 UPA exempts most sperm donors from parental liability, the 2002 version exempts all sperm donors stating that a “donor is not a parent of a child conceived by means of assisted reproduction” and henceforth “can neither sue to establish parental rights, nor be sued and required to support the resulting child.”\(^ {43}\) The new UPA does not require that a licensed physician perform the artificial insemination procedure nor does it only apply to married women.\(^ {44}\) Colorado, Delaware, North Dakota, Texas, Utah, Washington, and Wyoming have adopted the exact language of the 2002 UPA gamete donation provision.\(^ {45}\) Moreover, although Alabama, Connecticut, Florida, Idaho, New Mexico, and

\(^{39}\) Id.


\(^{42}\) N.H. Rev. Stat. Ann. § 168-B:11 (LexisNexis 2012) (“A sperm donor may be liable for support only if he signs an agreement with the other parties to that effect.”); Ohio Rev. Code Ann. § 3111.95(B) (LexisNexis 2012) (“If a woman is the subject of a non-spousal artificial insemination, the donor shall not be treated in law or regarded as the natural father of a child conceived as a result of the artificial insemination, and a child so conceived shall not be treated in law or regarded as the natural child of the donor.”); Or. Rev. Stat. § 109.239 (2009) (“If the donor of semen used in artificial insemination is not the mother’s husband: (1) Such donor shall have no right, obligation or interest with respect to a child born as a result of the artificial insemination; and (2) A child born as a result of the artificial insemination shall have no right, obligation or interest with respect to such donor.”).


Virginia, have not adopted the exact language of the 2002 UPA, their statutes have the same effect as if they had enacted the UPA language.46

Although Alaska, Arizona, New York, North Carolina, and Tennessee have adopted neither the 1973 nor the 2002 version of the UPA, they indirectly mention gamete donation in their statutes by stating that a child conceived through artificial insemination and born to a married couple is the natural and legitimate child of both parents.47 However, if the child is conceived through artificial insemination and the woman using the donated gamete is not married, then the gamete donor is unprotected and could face future liability and parental responsibilities.48

Georgia, Hawaii, Indiana, Iowa, Kentucky, Maine, Maryland, Michigan, Mississippi, Nebraska, Pennsylvania, Rhode Island, South Carolina, South Dakota, Vermont, and West Virginia lack statutes protecting gamete donors and offer no protection from the rights and responsibilities of legal parentage for either male or female gamete donors.49 In the absence of such provisions, traditional family common law principles would apply.50

Two states—Ohio and New York—have expanded beyond the FDA’s Donor Eligibility Rule to require in-state DRT institutions to screen and test reproductive material for genetic risk factors. In addition to obtaining a genetic history and performing a physical examination, Ohio requires that a donor’s semen be tested for genetic diseases such as Tay-Sachs and sickle-cell anemia.51 While the Ohio provision only applies to the screening and testing of semen, the New York law also applies to donated eggs and requires the compilation of a “complete medical history, both individual and family, including first-degree and second-degree relatives.”52 The donor and family history must be evaluated according to criteria such as the existence autosomal, X-linked, dominant, or recessive major genetic disorders,53 history of exposure to radiation or chemicals,54 and any conditions that


47 ALASKA STAT. § 25.20.045 (2012); ARIZ. REV. STAT. ANN. § 25-501(B) (Supp. 2011); N.Y. DOM. REL. LAW § 73(1) (McKinney Supp. 2011); N.C. GEN. STAT. § 49A-1 (2011); TENN. CODE ANN. § 68-3-306 (2011) (“A child born to a married woman as a result of artificial insemination, with consent of the married woman’s husband, is deemed to be the legitimate child of the husband and wife.”).

48 Id.


51 OHIO REV. CODE ANN. § 3111.91(B)(1)(a)–(b) (West 2000).

52 N.Y. COMP. CODES R. & REGS. tit. 10, § 52-8.5(b) (2010).

53 Id. § 52-8.5(b)(2) (2010).
may be set forth by the institution.\textsuperscript{55} New York also requires notifying the recipient’s physician if the sperm donor was older than forty-four years of age at the time of the donation.\textsuperscript{56}

\textbf{C. Guidelines Recommended by Professional Organizations Addressing Anonymous Sperm Donation}

The American Society of Reproductive Medicine (ASRM) Practice Committee provides non-binding guidelines related to donor screening that stress the importance of genetic testing.\textsuperscript{57} The ASRM Guidelines set a minimum standard for genetic testing and screening in which any male (or his first degree relative) who has a major Mendelian disorder, any major functional or cosmetic malformation of a complex cause, heart malformation, or significant familial disease with a genetic component is deemed ineligible to donate.\textsuperscript{58} The ASRM Guidelines also recommend limiting donors to only 25 births per every population group of 800,000.\textsuperscript{59}

Just like the ASRM Guidelines, the American Fertility Society’s (AFS) 1990 non-binding guidelines emphasize the importance of genetic testing.\textsuperscript{60} They recommend that donor records of genetic history be made available on an anonymous basis at the request of the recipient and the resulting child(ren).\textsuperscript{61} They also recommend ten pregnancies per donor or under ten pregnancies if the recipients are part of an isolated geographic subgroup of the general population.\textsuperscript{62}

The American Association of Tissue Banks’ (AATB) non-binding guidelines are similar to both the ASRM and AFS guidelines. They require that “[a]ny condition in a prospective donor or donor’s family history that would pose a risk of producing an offspring with a genetic disease or defect greater than the risk in the

\textsuperscript{54} Id. § 52-8.5(b)(10).
\textsuperscript{55} Id. § 52-8.5(b)(13) (2010).
\textsuperscript{56} Id. § 52-8.5(d).
\textsuperscript{58} Id. at Appendix A S50. A Mendelian disorder, also known as a monogenic or single-gene disorder, is a genetic disease that is caused by a single mutation of a DNA strand’s structure. Definition of Mendelian Disorder, NDI FOUNDATION (last visited Dec. 22, 2011), http://www.ndif.org/public/terms/11890-mendelian_disorder.
\textsuperscript{60} See Am. Fertility Soc’y, supra note 15.
\textsuperscript{61} Id. at S4.
\textsuperscript{62} Id.
general population shall disqualify him/her as a donor.” The AATB Guidelines also set a maximum age limit for semen donors (forty) and recommend an analysis of at least three generations of the donor’s genetic family history.

II. DONATION INDUSTRY ECONOMICS AND THE COMMODIFICATION OF SPERM

In general, the gamete donation industry raises several complex issues, such as: whether males and females own their respective genetic material; whether there is a “fundamental right to ‘consume’ the pleasures of parenting”; and whether government entities are allowed to encroach upon the market of health services, and if so, by how much. There are a variety of interest groups, industries, and affiliations that play a significant role in the debate over gamete donation regulation. These include the government, healthcare, insurance, religion, science, ethics, infertile/fertile persons, and the LGBT community. Because of the vast number of concerned persons, consensus about policy can only exist if and when all these different constituencies finally agree for different reasons. Aside from mere discussions about the need for more federal and state regulation and counterarguments stating that such controls would lead to the scarcity of sperm, there has not been much activity on behalf of legislative bodies, executive agencies, or state representatives in proactively addressing the issue. This, compounded with the practices employed by sperm banks in recruiting, maintaining, and selling sperm, demonstrates how the industry is mostly driven by a free market economy.

U.S. sperm banks have streamlined the process of recruiting sperm donors and the subsequent sale of their genetic material to adhere to factors of cultural value,

64 Id.
65 SPAR, supra note 11, at xvi, xviii.
66 See generally SPAR, supra note 11.
67 Id.
68 See generally Heled, supra note 63, at 248 (stating professional organizations have voluntary regulations because legislators and regulators are opposed to regulating human reproduction issues); see also Pi, supra note 11, at 386 (stating that sperm banks are self-regulated because there is no “meaningful federal or state regulation”); Erik Kriss, Pol in ‘Sperm’ Warfare, N.Y. POST (Sept. 13, 2011), http://www.nypost.com/p/news/local/pol_in_sperm_warfare_t42i2HgtncQzeLUPsyPrVO (discussing Assemblywoman Deborah Glick’s plans to propose legislation to limit the number of children a single donor’s sperm can conceive); Fair Access to Infertility Treatment and Hope Act of 2001, S. 874, 107th Cong. (2001) (describing a bill that did not pass through the Senate that would have required health plans to include infertility benefits).
price, supply, and demand. Generally, sperm donors are considered “reproductive service workers” who sign a contract with a sperm bank pledging to “produce sperm samples once or twice a week for at least one year [with] each visit . . . preceded by two days of abstinence from sexual activity.” Although egg and egg donors are more highly valued than sperm and sperm donors due to the more invasive procedures performed on female donors, such as hormone therapy and subsequent outpatient surgery, sperm banks nevertheless place high value on their inventory by ensuring that their genetic material is disease-free and with a high sperm count. In order to “help” couples/individuals conceive a child and consistently provide “win-win situation[s]” for both donors and recipients, sperm banks must “recruit ‘sellable’ donors who provide ‘high-quality’ gametes to recipients who ‘shop’ different . . . sperm banks.” Not only do sperm banks reject over 90% of applicants in order to maintain quality (i.e. ensuring that not only will each donor give material with exceptionally high sperm counts, but also that he will keep his appointments and regularly donate), but they also limit the number of vials stored from each donor keeping supply low and demand high. Sperm banks “expect donors to be financially motivated” as opposed to altruistic because at least nine months pass (six months of quarantine for testing plus an extra three months to accumulate enough sperm to be released as inventory) before a sperm donor’s material is used to help an infertile woman/couple. During these nine months, the banks “invest[ ] a huge amount of money” in the donors’ gametes without making any return on that specific genetic material. In short, the focus is “not on the donor so much as efficiently running a business without offending the sensibilities of the [sperm] bank’s clients.”

As a result of these practices and the advances of ART, a largely unacknowledged “market for both children and their component parts” has flourished internationally. That market caters to individuals suffering from infertility, a medical problem that plagues upwards to 7.3 million U.S. women.

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70 Id. at 320, 324.
71 See id. at 323–24, 328.
72 Id. at 325.
73 See id. at 332 (describing how donors’ sperm is available to recipients only on a first-come, first-serve basis).
74 Id. at 327, 329.
75 Id. at 328.
76 Id. at 334 (stating that sperm banks must avoid collecting too many samples from one individual donor because it could be hard to cope with the idea of having “100 or 200 offspring”).
77 SPAR, supra note 11, at xv.
Currently, the gamete donation industry is designed to provide genetic material to three main groups of infertile people: (1) very wealthy individual/couples who want to conceive children and who are willing to pay any price; (2) those who want children but have “limited means” to achieve this desire; and (3) those who are not wealthy, but have health insurance plans that cover the costs of fertility treatment. The lack of mandatory health insurance coverage for fertility treatment has restricted access to those individuals/couples who can afford such treatment. As a result, regional variations of regulations have developed both inside and outside the U.S. Three main models have emerged: (1) restrictive government policies (Germany) that allow the government to fully ban certain ART procedures; (2) a line-drawing model (U.K.) that, for instance, allows for the selection of desired genetic traits, but not genetic mutations; and (3) the laissez-faire approach (U.S.) that views “a parents’ ability to conceive a . . . child” as a private choice, free from any government intervention, allowing the market for donated genetic material to develop at will.

The exercise of private choice within the U.S. allows potential recipients of donated genetic material to pick and choose gametes they would like to use by viewing donor profiles. Certain donor characteristics (such as lighter skin, athletic and academic achievements, and musical abilities) are “worth more” than others, contributing to differential pricing. These variations in value and price not only influence which persons may enter the fertility marketplace, but they also create socio-economic distinctions among the wealthy (i.e. those who will pay extra for the genetic material of an athlete). In these situations, what might have “beg[un] as an attempt to treat a disease or prevent a genetic disorder” could turn into “an instrument of improvement and consumer choice” implicating complex ethics and eugenics issues.

In response to the issues raised by differential pricing, both uniform pricing and no price resolutions have been proposed as measures to curb the commodification of gametes. However, even if the buying and selling of sperm were wholly prohibited, the market would not be affected because gamete transfer...
could still occur by an “‘inconvenience allowance’ or by gift.”86 Sperm banks and recipients could still compensate donors monetarily for their time and discomfort in transferring gametes, or donors could donate altruistically with recipients still obtaining the necessary genetic material to conceive a child. Such a market, however, would still “conflatable[ ] human freedom with the exercise of market choice”87 because donors and recipients could forum-shop for those clinics located near prestigious four-year universities to have a better likelihood of obtaining sperm from dedicated and intelligent donors.

In analyzing the U.S. fertility industry as a whole, it is evident to see that laissez-faire economics have fostered a “race to the bottom” where “the customer” (i.e. the donor/recipient) “seek[s] the jurisdictions where it is easiest to acquire the services desired.”88 Sperm banks have created a business model that is largely governed by supply, demand, value, and price in seeking to benefit both donors and recipients. The problems cited by theorists surrounding the current U.S. federal and state regulations are mostly market driven, and any attempts to further regulate the industry must be first approached through an economic analysis focusing on property rights.

III. SPERM AND PROPERTY RIGHTS

“Preserving the social anonymity of market goods is . . . fundamental to the supposition that goods are available to all.”89 In regard to gametes, although sperm is produced by the human body and implicates notions of “self ownership” for the donor, it also “become[s] part of a common store” (i.e. the sperm bank) and is later sold to recipients.90 This notion of “self ownership” should not be interpreted to mean that individuals can sell any and all body parts.91 Certain categories, such as hair and sometimes blood, are permitted to be sold, while the sale of body organs is prohibited.92 Such distinctions are not based solely upon notions of “renewable and nonrenewable materials or between materials necessary and unnecessary to sustain life.”93 Nor are they just based upon judgments that body parts “should not be [put up] for sale either because of the significance of reserving aspects of the human body from commodification, or because economic need might lead poor

86 Id. at 275; Almeling, supra note 69, at 323.
87 Shanley, supra note 83, at 275.
89 Shanley, supra note 83, at 271 (quoting MARILYN STRATHERN, REPRODUCING THE FUTURE: ESSAYS ON ANTHROPOLOGY, KINSHIP AND THE NEW REPRODUCTIVE TECHNOLOGIES 130 (Routledge 1992)).
90 Shanley, supra note 83, at 271.
91 Id. at 271–72.
92 Id. at 271.
93 Id. at 272.
people to sell body parts."94 Rather, these distinctions exist because the gamete donation industry is part of a niche reproductive market that has largely remained free from government intrusion.95 It has operated within a private “domestic sphere” on a “general societal belief that reproduction and birth control [are] private family matters.”96 As a result, private choice has largely dominated the marketplace allowing infertile individuals/couples to bypass average offers of $4,00097 for female gametes for offers of $50,000+ for eggs from Ivy League-educated women.98

Such commodification and assignment of varying values upon gametes suggests that they are “property” and “that the person in whose body they originate has rights of ownership until he or she transfers the gametes (and the rights of ownership) to some-one else.”99 Property rights include “the right to possess, the right to exclude, the right to use, the right to dispose, the right to enjoy the fruits or profits, and the right to destroy” the property in question.100 Although U.S. courts have not clearly established true property rights regarding the human body, at least one court has found ownership interest in a testator’s sperm which amounted to a property right under state probate law.101 At issue was the decedent’s will that had devised his girlfriend to obtain the “right, title, and interest . . . in any specimens of [his] sperm [that were] stored with any sperm bank.”102 In the end, the court concluded that the “decedent had an interest, in the nature of ownership, to the extent that he had decision-making authority as to the sperm within the scope of policy set by law.”103 This suggests that property law is flexible and “adaptable to changing technologies, perhaps even faster and more effectively than the legislature.”104

In general, theorists argue that modern market economies function most efficiently when there is a set of clearly established true property rights.105 The

94 Id. at 271–72.
96 Daniels et al., supra note 95, at 38.
97 Almeling, supra note 69, at 332.
98 Id.; Spar, Supply and Demand, supra note 95, at 135.
102 Hecht, 20 Cal. Rptr. 2d at 276.
103 Id. at 281.
105 See Spar, Supply and Demand, supra note 95, at 138.
reason for this is that when demand propels a certain market to develop, producers, investors, and consumers need reassurance that they will get a return on their investment.\textsuperscript{106} Property rights provide market participants with a “sense of order and predictability” and a “set of norms that would proscribe behavior and establish the limits of predictability.”\textsuperscript{107}

Currently, no such predictability exists in the sperm donation industry. Not only are donors not fully protected from potential parental support obligations due to the varying adoptions of the UPA,\textsuperscript{108} but sperm banks may also be at risk for failure to disclose, fraud, breach of contract, and punitive damages if a sperm specimen provided to an infertile individual/couple proves to carry genetic risks.\textsuperscript{109} Establishing a uniform set of property rights to human reproductive material would allow donors to “transact more securely” because it would “delineate not only who has rights to what forms of genetic or social offspring, but [also] under what conditions those rights can be expanded.”\textsuperscript{110} For instance, the property rights could establish that (1) once a male relinquishes his donated material to a common store, he loses the ownership rights to his own genetic material, (2) anonymous sperm donors have absolutely no rights to the children conceived by their genetic material, and (3) children conceived using donated sperm can only contact their donors to uncover genetic histories under certain pre-established conditions.

It is important to note that such a system of rights would “neither . . . turn children into commodities nor [biological parents] into baby machines.”\textsuperscript{111} Instead, it would ensure that donor-conceived children are not treated as property per se, and it would prohibit parents from relinquishing their offspring or from profiting off their intimate relations.\textsuperscript{112} In “codify[ing] transactions and procedures” that already exist, such rights would establish a standard that would allow donors and recipients to understand the rules before participating in the market.\textsuperscript{113} Most importantly, these government measures would define market limits and create economic efficiency without directly encroaching upon the domestic sphere of “private family matters” and implicating ethics and eugenics issues.\textsuperscript{114}

\textsuperscript{106} See id.
\textsuperscript{107} Id. at 139.
\textsuperscript{108} OKLA. STAT. ANN. tit. 10, § 555 (West 2011) (providing full protection to egg donors only by declaring that “[a]n oocyte donor shall have no right, obligation or interest with respect to a child born as a result of a heterologous oocyte donation from such donor”).
\textsuperscript{109} See, e.g., Johnson v. Super. Ct. of L.A. Couny. (Johnson II), 124 Cal. Rptr. 2d 650 (Cal. Ct. App. 2002) (The case was eventually settled so the court did not proceed to address the allegations against the sperm bank from donor with hereditary kidney disease.).
\textsuperscript{110} Spar, Supply and Demand, supra note 95, at 138–39.
\textsuperscript{111} Id. at 139.
\textsuperscript{112} Id.
\textsuperscript{113} Id.
\textsuperscript{114} Daniels et al., supra note 95, at 38.
CONCLUSION

In short, although the FDA’s Human Tissue Regulations, Donor Eligibility Rule, and Good Tissue Practices coexist with varying state statutes to control the quality of sperm and establish paternity for donor-conceived children, the gamete donation industry has roughly remained subject to laissez-faire economics. U.S. sperm banks have catered their practices of recruiting sperm donors and selling their genetic material to adhere to factors of value, price, supply, and demand. Before any concerns over donor privacy rights, parentage obligations, the spread of rare genetic diseases, and accidental incest can be addressed, a clear set of property rights need to be established for human reproductive materials. Such a recommendation would not only create a more efficient market, but it would also establish predictability in a niche reproductive market.