Prostitution 3.0?

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Scott R. Peppel

ABSTRACT: This Article presents an entirely novel approach to prostitution reform focused on incremental market improvement facilitated by information law and policy. Empirical evidence from the economics and sociology of sex work shows that new, Internet-enabled, indoor forms of prostitution may be healthier, less violent, and more rewarding than traditional street prostitution. This Article argues that these existing "Prostitution 2.0" innovations have not yet improved sex markets sufficiently to warrant legalization. It suggests that creating a new "Prostitution 3.0" that solves the remaining problems of disease, violence, and coercion in prostitution markets is possible, but would require removing legal barriers to ongoing technological innovation in this context, such as state laws criminalizing technologies that "advance prostitution." This Article considers what Prostitution 3.0 might entail, how it might be created, and whether it would succeed in remedying the ongoing problems in prostitution markets.

INTRODUCTION

I. THE FOUR PROBLEMS OF PROSTITUTION 1.0
   A. INFORMATION ASYMMETRIES
   B. NEGATIVE EXTERNALITIES
   C. COERCION
   D. OBJECTIONABLE COMMODIFICATION

II. THE INCOMPLETE IMPROVEMENTS OF PROSTITUTION 2.0
   A. PROSTITUTION 2.0'S TECHNOLOGIES
      1. Low-Cost Advertising
      2. Review of Sellers
      3. Screening of Buyers
   B. THE IMPROVEMENTS OF PROSTITUTION 2.0

* Professor of Law, University of Colorado Law School. Thank you to the faculty of Colorado Law for their feedback, and to Irfan Khan, Ryan Lee, and Maggie Macdonald for their research assistance.
I. Effects on Information Asymmetries .................................. 2016
2. Effects on Negative Externalities ........................................ 2021
3. Effects on Coercion .............................................................. 2022
4. Effects on Objectionable Commodification .......................
   C. THE REMAINING PROBLEMS WITH PROSTITUTION 2.0 ........ 2027
   1. Remaining Information Asymmetries & Externalities ..... 2028
   2. Remaining Coercion .......................................................... 2030
   3. Remaining Commodification .............................................. 2033

III. THE POSSIBILITIES OF PROSTITUTION 3.0........................ 2034
   A. PROSTITUTION 3.0's TECHNOLOGIES ........................................ 2037
      1. Verification of STD Status .................................................. 2037
      2. Verification of Criminal History ......................................... 2038
      3. Anti-Trafficking Analysis ............................................... 2039
      4. Biometric Identity Verification ......................................... 2041
   B. INCREMENTAL PROSTITUTION 3.0 LEGAL REFORM ................. 2043
      1. Removing Legal Barriers to Innovation ............................. 2044
      2. Regulating Prostitution 3.0 Intermediary Firms:
         Confidentiality, Neutrality, Privilege & Reporting
         Requirements .................................................................. 2046
      3. Tightening Existing Safe Harbors Over Time ..................... 2051
      4. Legalizing Prostitution 3.0 & Simultaneously
         Criminalizing the Purchase of Sex Outside of
         Prostitution 3.0 .................................................................. 2052
   C. FINAL ARGUMENTS FOR AND AGAINST .................................. 2053
      1. The Problem of Unexpected Consequences .......................... 2056
      2. The Problem of Remaining Street Prostitution .................... 2057
      3. The Problem of Political Will ............................................. 2058

CONCLUSION ................................................................. 2060
There is no strong evidence that prostitution is, at least in the United States and certainly among its higher echelons, a more desperate exchange than, say, working in Walmart.¹

— Political Philosopher Debra Satz

What is wrong with prostitution cannot be fixed by moving it indoors. The same harms are there whether she is in a trick’s house, a back alley, his car, or a room at a hotel.²

— Prostitution Scholar Melissa Farley

INTRODUCTION

Imagine the following scenario. A potential customer contacts a prostitute through her online advertisement. She agrees to meet with the customer at his hotel room the following week, but first requires him to submit his name and identifying information to a qualified Internet intermediary. The intermediary uses that information to run analytics on the customer. It checks that the customer has no history of crime or violence, verifies the date and results of his last medical test for sexually transmitted diseases ("STDs"), and confirms that no other prostitute has reported him for misbehavior. The intermediary sends this information to the prostitute, without including the customer's identifying information such as his name or address. It simultaneously sends the client a de-identified report on the prostitute, including information on her criminal history, health status, and customer reviews. The intermediary also verifies that she is of age and has not been trafficked by cross-checking her identity against government records and other data. As soon as both parties review this information and confirm their desire to proceed, the intermediary takes a fifty percent deposit from the customer, which it holds in escrow. When the prostitute and the client first meet the following week, they quickly conduct iris scans of each other's eyes using a pocket device that connects to the prostitute's mobile phone. The intermediary uses this biometric information to confirm that each is the actual person whom the firm verified and the other agreed to meet. Neither knows the other's name, but each knows that the other is a safe, healthy, and uncoerced counterpart. Each knows that the intermediary is legally obligated to maintain their confidences, but is also obligated to reveal their identities to law enforcement if their interaction is marred by

¹. DEBRA SATZ, WHY SOME THINGS SHOULD NOT BE FOR SALE: THE MORAL LIMITS OF MARKETS 141 (2010). The term "desperate exchange" comes from Walzer's treatment of market inalienabilities. See MICHAEL WALZER, SPHERES OF JUSTICE: A DEFENSE OF PLURALISM AND EQUALITY 102 (1983) ("Desperate exchanges, 'trades of last resort,' are barred, though the meaning of desperation is always open to dispute.").

violence, fraud, or disease transmission. Finally, each also knows that if—and only if—they use this system, their sexual transaction is legal.

Such a technology-enabled sex market—"Prostitution 3.0"—could keep buyers and sellers of sex safer and healthier by reducing violence, blackmail, and STD transmission. It could help prostitutes by deterring "no shows" and non-paying customers. It could reduce illegal trafficking and coerced prostitution by screening prostitutes for age and legal status, and by using biometric identification to confirm that the prostitute the client hired online was in fact the same individual who appeared in person. It could enable and encourage prostitutes and clients to find and engage each other off the streets and out of view. It could preserve anonymity for both prostitutes and customers, allowing them to avoid social stigma and maintain privacy. It could be conducted by a private (perhaps non-profit) firm, not the government, greatly reducing the risk to either party that the state might in some way exploit the information provided. And it could incentivize participation in the system: not only would transactions outside of Prostitution 3.0's parameters remain illegal, they would remain uninformed. Many—perhaps most—sex buyers and sellers would want to participate in order to gain the safety, health, and other informational benefits the system would provide.

This Article explores whether we could and should create Prostitution 3.0. This is not a technological problem, however, but a legal one. The technologies needed to effect such a system exist already, at least in nascent, "beta" forms. A few are in use today by prostitutes and clients who use Internet tools to find, screen, and review each other online—what some have called "Prostitution 2.0." The remaining technologies could be deployed with sufficient investment and encouragement. The law, however, is hostile to such innovation. It currently criminalizes not just prostitution itself, but activities—including technologies—that advance or facilitate sex markets. As a result, Prostitution 3.0 is unlikely to emerge without legal reform to clear the way for technology to improve these markets. This Article thus presents the possibility of an entirely novel incremental prostitution reform agenda to give prostitution markets that freedom to improve.

Consider two introductory examples. First, in 2006, the Bill and Melinda Gates Foundation bought 500 “smart cards” for prostitutes in


4. There is very little scholarship on the problem of innovation in an illegal market. See, e.g., Georgina Voss, The Dynamics of Technological Change in a Stigmatised Sector 8 (Jan. 4, 2007) (unpublished manuscript), available at http://www2.druid.dk/conferences/viewpaper.php?id=1072&cf=10 ("[The sex] sector has remained almost entirely unexamined in the economic, industrial and innovation literatures . . .").
Mysore, India. Each card contained an embedded computer chip that granted its owner discounts at shops and hotels. If a prostitute received a quarterly medical exam, including tests for STDs, her card continued to work. If not, the card deactivated. The Foundation sought to experiment with technology to improve the health and welfare of prostitutes. Had this experiment taken place in the United States, however, it would almost certainly have violated various state statutes that criminalize "advancing" prostitution. Moreover, the Internal Revenue Service has long maintained a policy of stripping tax-exempt status from non-profits that engage in or aid illegal activities, obviously a deterrent for a foundation considering such work.

Second, consider Qpid, a rapidly expanding Internet firm that provides STD verification services to those in the regular dating market. Qpid verifies that a potential partner has recently tested negative for common STDs. A Qpid user authorizes the Internet service to collect her verified test results from her doctor or testing center. She can then give her Qpid code to a potential partner, and that partner can text the code to the service to receive instant notification of the results and date of the user's most recent STD testing. It is easy to imagine that Qpid could modify its service to target prostitutes and clients, thereby providing one of the components of Prostitution 3.0 discussed in the introductory hypothetical above. If Qpid extended its service to prostitution markets, however, or even if a large number of prostitutes and clients used its service, Qpid could face legal action. In the last decade, prosecutors and lawmakers have actively targeted prostitution-related innovations, including online advertisers that allow prostitutes to avoid streetwalking (such as Craigslist and Backpage), online "review sites" that allow customers to exchange information about

6. Id.
7. Id.
8. Id.
9. See, e.g., N.Y. PENAL LAW § 230.15(1) (McKinney 2008) (criminalizing acts that "[a]dvance prostitution," including by "knowingly caus[ing] or aid[ing] a person to commit or engage in prostitution.... or engag[ing] in any other conduct designed to institute, aid or facilitate an act or enterprise of prostitution" (internal quotation marks omitted for first quotation)). Many other state statutes contain similar provisions. See infra Part III (discussing such laws).
10. See infra Part III (discussing these legal barriers to innovation).
12. To try the service, enter your mobile phone number on the website's home page to receive the most recent test results of the site's founder, Ramin Bastani. See id.
prostitutes (such as The Erotic Review\textsuperscript{15} or PunterNet\textsuperscript{16}), and nascent online customer verification services (such as Date-Check\textsuperscript{17} and RoomService\textsuperscript{2000}\textsuperscript{18}).\textsuperscript{19} These examples illustrate the conundrum of innovation in an illegal market. New technologies may be able to improve prostitution markets by making prostitution safer, healthier, and less socially offensive. Such technologies must contend with an environment hostile to innovation, however. The state attacks these new technologies because they aid those participating in an illegal trade. In the narrow sense, such prosecution may be justified by existing statute. In a broader sense, however, it creates a chicken-and-egg problem. The first versions of such new technologies—such as Craigslist, The Erotic Review, or even Qpid—are predictably imperfect. If allowed to develop over time, however, such innovations may ultimately so improve sex markets that such markets would deserve legalization. Hence the problem: a liberal state committed generally to freedom of contract justifies restricting such freedom in one domain—prostitution—because of its special market and moral failures; innovation can remedy those failures, thus removing the justification for prohibition, but innovation is stymied by the very prohibition it might ultimately overcome. Prostitution markets will never improve in such an environment.

Even considering a reform agenda to create Prostitution 3.0 is thus complex, novel, and controversial. Its complexity derives from the need to draw from many sources: the economics\textsuperscript{20} and political philosophy\textsuperscript{21} of economic analysis of prostitution is relatively new. See Scott Cunningham & Todd D. Kendall, Prostitution, Technology, and the Law: New Data and Directions, in Research Handbook on the Economics of Family Law 221, 221 (Lloyd R. Cohen & Joshua D. Wright eds., 2011) ("Despite the importance of the phenomenon, economic analysis of sex work is in its infancy."); Marina Della Giusta et al., Who Is Watching? The Market for Prostitution Services, 22 J. Population Econ. 501, 502 (2009) ("[U]ntil recently, economists have not been interested in analysing
prostitution; the new empirical study of technology's impact on prostitution; the emerging field of information privacy and technology law; and contract law and theory. Although this Article discusses how technology can address the challenges specific to prostitution, it is but one example of how to conceive of and foster freedom of contract in a technologically evolving world.

This Article's novelty derives from its focus on the intersection of law, technology, and market evolution in this unique context. Despite the fact that roughly eighty percent of prostitution in the United States occurs through online or indoor channels rather than via street prostitution, the legal literature on prostitution has not seriously addressed this phenomenon. This Article presents the first rich description in the legal
literature of Prostitution 2.0’s technologies, the first discussion of the new empirical evidence about the technologies’ impact on prostitution markets, and the first sustained analysis of how they should impact prostitution law and policy. Its conclusion—that we need further innovation to create Prostitution 3.0—is also novel, as is the focus on legal reform as a necessary precursor to such innovation.

Its controversy derives from the sensitive subject matter of prostitution and the need simultaneously to explain the argument and defend it against likely critics. This approach will provoke and conflict with essentially all sides in existing prostitution debate: those who would legalize all forms of prostitution; those who have recently argued that Prostitution 2.0’s budding innovations suffice to make newer “indoor” forms of prostitution justifiable; and, ultimately, those who assert that no form of prostitution should be legalized, even if as improved as Prostitution 3.0. This Article addresses these three central likely objections in turn, through its three Parts.

Part I first focuses on traditional forms of prostitution—or “Prostitution 1.0.” It articulates and explores the four most important objections to


28. In the last two decades, debate over prostitution has largely raged between abolitionists critical of prostitution as an oppressive practice and institution, on the one hand, and both liberals and feminists who see at least some forms of “sex work” as a means of economic empowerment, on the other. See Scott A. Anderson, Prostitution and Sexual Autonomy: Making Sense of the Prohibition of Prostitution, 112 ETHICS 748, 749 (2002) ("[L]iberals and radical feminists have been locked in debate about how best to respond to the problems associated with prostitution."); Jane E. Larson, Prostitution, Labor, and Human Rights, 37 U.C. DAVIS L. REV. 673, 676-82 (2004) (discussing the "sex work model" and the "sexual exploitation approach"); Catharine A. MacKinnon, Trafficking, Prostitution, and Inequality, 46 HARV. C.R.-C.L. L. REV. 271, 272-74 (2011) (distinguishing between the "sex work model" and the "sexual exploitation approach").

29. See, e.g., Susan E. Thompson, Note, Prostitution—A Choice Ignored, 21 WOMEN’S RTS. L. REP. 217, 237 (2000) (arguing that prostitution can be an empowering choice for women seeking economic independence). The "sex work" position has many adherents, and may at this point have become the dominant feminist position on the issue. See generally LAURA MARIA AGUSTÍN, SEX AT THE MARGINS: MIGRATION, LABOUR MARKETS AND THE RESCUE INDUSTRY (2007); GLOBAL SEX WORKERS: RIGHTS, RESISTANCE, AND REDEFINITION (Kamala Kempadoo & Jo Doezema eds., 1998).


31. See, e.g., CAROLE PATEMAN, THE SEXUAL CONTRACT 191-200 (1988) (noting that “[t]he idea of sound prostitution illustrates the dramatic shift that has taken place in arguments over prostitution” and rejecting such reforms); Farley, supra note 2, at 955 (rejecting the possibility that new, Internet-enabled forms of prostitution deserve legalization).
traditional street prostitution: (1) that street prostitution markets suffer from information asymmetries that make them inefficient, unsafe, and unhealthy; (2) that such markets create negative externalities, such as crime and disease, for society generally; (3) that prostitutes participate in such markets only because they feel coerced by violence or economic need, which vitiates their consent; and (4) that such markets denigrate and commodify women or sex in ways that damage our general social norms and practices. Judging against these four criteria, Part I concedes that street prostitution is too compromised a market to justify legalization.

Part II then turns to Prostitution 2.0. Part II.A first explores the ways in which the Internet has already changed prostitution. It highlights three technologies: (1) low-cost online advertisement; (2) interactive escort review sites; and (3) verification of customers’ credentials through the Internet. Early empirical evidence indicates that these three core technologies have made independent, indoor, escort-type prostitution safer, healthier, and more humane than Prostitution 1.0.32 Part II.B thus argues that Prostitution 2.0 significantly improves traditional street prostitution. It partially remedies each of the four objections to prostitution reviewed in Part I. At the same time, Prostitution 2.0’s successes remain incomplete. Part II.C therefore concludes that, despite advances, Prostitution 2.0 fails to meet the four criteria for legalization and argues against simply legalizing these new forms of prostitution as they stand.

Part III explores the possibility of creating Prostitution 3.0. Part III.A considers how four critical technologies missing from current forms of prostitution could improve these markets:33 (1) verification of STD status; (2) verification of criminal history and propensity to violence; (3) verification of anti-trafficking credentials; and (4) biometric identity verification.34 Part III.B explains the incremental law reform that would be required to implement such technologies: first, removing legal barriers to prostitution-related innovation; second, setting up a regulatory regime that provides Prostitution 3.0 firms with confidentiality and neutrality obligations, evidentiary privilege for the information they hold, and
reporting requirements in the event of violence or fraud; third, incentivizing firms to innovate by tightening existing safe harbors that currently tolerate technologies not quite up to Prostitution 3.0's standards; and finally, legalizing Prostitution 3.0 while continuing to criminalize the purchase of sex outside of its improved parameters.

Finally, Part III.C considers not just the mechanics of whether we could create Prostitution 3.0, but the more difficult question of whether we should. I will admit to remaining somewhat tentative about strong prescriptions at this early stage. My purpose is not to argue that Prostitution 3.0 would be an unqualified good, nor to assert without evidence that its reforms would repair prostitution markets sufficiently to justify full legalization or decriminalization. Instead, my goal is to show that existing technological changes do not fully improve these markets, while simultaneously challenging those interested in prostitution reform to consider whether information and technology law and policy should be a part of their debate and agenda. I lean towards pursuing Prostitution 3.0 reforms because of our social commitment to freedom of contract, which, in my view, necessitates allowing markets—even or especially traditionally suspect markets—to improve if they can. Nevertheless, Part III.C ends by considering objections to the possibility of Prostitution 3.0, including the problem of lack of political will.

Before we begin, two additional caveats. First, writing about prostitution presents inherent difficulties. No neutral language exists: some oppose the term “prostitution” as inherently stigmatizing or politicized; others dislike the terms “sex work” and “sexual services” as overly sanitized. Similarly, the labeling of “clients,” “customers,” “johns,” or “prostitutors” creates its own controversy. Pronouns are also difficult. I wish to sidestep these debates

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36. See Sylvia A. Law, Commercial Sex: Beyond Decriminalization, 73 S. CAL. L. REV. 523, 525 (2000) (rejecting the use of “prostitute” or “prostitution”); Vanessa E. Munro & Marina Della Giusta, The Regulation of Prostitution: Contemporary Contexts and Comparative Perspectives, in DEMANDING SEX: CRITICAL REFLECTIONS ON THE REGULATION OF PROSTITUTION 1, 6 (Vanessa E. Munro & Marina Della Giusta eds., 2008) (“[T]he language of ‘prostitute’ and ‘prostitution’ have been closely aligned with abolitionist perspectives that see the sale of sex as entailing women’s exploitation and objectification . . . .”).
to whatever extent I can. Throughout, therefore, I use both "prostitution" and "sex work." I largely use male pronouns to refer to sex purchasers and female pronouns to refer to sex sellers with the understanding that people of any gender can and do participate in either side of the transaction, but that most buyers are male and most sellers female. I also regularly employ the simple terminology of "buyers" and "sellers" in an attempt to strip away some of the either pejorative or celebratory language commonly used in such discussion. Although some may criticize this approach, it seems the best available.

Second, by "prostitution" I mean the sale and purchase of sex by parties at least nominally free to consent to such exchange. This definition, again, will be controversial for some and not others. My goal is to exclude child prostitution, sexual slavery, trafficked prostitutes, and other forms of overtly violent coercion. Prostitution 3.0 aims to reduce trafficking, as explained further in Part III, but coercive markets are not this Article's primary concern.

I. THE FOUR PROBLEMS OF PROSTITUTION 1.0

I will employ four standards to determine whether prostitution markets deserve prohibition or legalization, three internal to economics and one based more in political philosophy. We should judge whether a market is noxious or sound by investigating the following:

(1) Information Asymmetries: Whether market failures—such as information asymmetries—lead one to doubt that transactions in that market are efficient for its participants;

39. Most but not all prostitutes are female, and most clients male. Uniformly adopting female and male pronouns, respectively, however, ignores male–male and male–female prostitution markets.

40. See Barbara Sullivan, Prostitution and Consent: Beyond the Liberal Dichotomy of 'Free or Forced,' in MAKING SENSE OF SEXUAL CONSENT 127, 127 (Mark Cowling & Paul Reynolds eds., 2004) ("Most of the current literature on prostitution and consent tends to—wholly or largely—reject the possibility of consent to prostitution sex (for sex workers).”).

41. Many prominent prostitution scholars have similarly separated coercive from consensual forms of prostitution. See, e.g., Martha C. Nussbaum, "Whether from Reason or Prejudice": Taking Money for Bodily Services, 27 J. LEGAL STUD. 693, 701 (1998) ("Note that nowhere . . . am I addressing the issue of child prostitution or nonconsensual prostitution (for example, young women sold into prostitution by their parents, forcible drugging and abduction, and so forth).”).

42. This approach draws on and has similarities to that of Debra Satz. See SATZ, supra note 1, at 9 (setting out four criteria or parameters for noxious markets: bad outcomes for participants, bad outcomes for society, weak agency, and underlying extreme vulnerabilities of participants). These four criteria also draw on the work of Michael Trebilcock. See generally TREBILCOCK, supra note 26 (including chapters on externalities, asymmetric information, coercion, and commodification).

43. I borrow this term from SATZ, supra note 1, at 9.

44. I borrow this term from Ericsson, supra note 21, at 362, 365–66.
(2) Negative Externalities: Whether negative externalities lead one to suspect that even if transactions in that market create value for its participants, the market is not welfare maximizing for society as a whole;

(3) Coercion: Whether the initial conditions of the market are marred by gross inequalities that undermine the legitimacy of transactions in that market, such that even if transactions create value for its participants and do not create serious externalities, we doubt the fairness of participation in that market; and

(4) Objectionable Commodification: Whether the existence of the market creates serious commodification of the good(s) traded in ways we deem socially harmful, such that even if such transactions create value, do not create externalities, and are fair, we fear that the market harms its participants or society generally.

These criteria are relatively uncontroversial. The first three are the basic efficiency and welfare justifications for legal intervention in a market.\textsuperscript{45} Economics justifies restricting freedom of contract only if its underlying assumptions fail: when information asymmetries create market failures, when externalities make a given transaction unacceptable, or when we doubt the parties' capacity to contract.\textsuperscript{46} These first three criteria track these economic concepts. The fourth criterion certainly relates to economics,\textsuperscript{47} but derives more from political philosophy.\textsuperscript{48} It asks whether the existence of a given market will damage the good to be traded or social norms and practices related to that good.

These criteria provide the four central arguments against traditional forms of prostitution: (1) that information asymmetries between prostitutes and customers lead to market failures; (2) that the market for sex creates negative externalities for the rest of society (e.g., disease and crime); (3) that dire economic conditions taint prostitutes' consent to trading sexual services, making such consent meaningless; and (4) that a market in sex

\textsuperscript{45}See, e.g., ROBERT COOTER & THOMAS ULEN, LAW & ECONOMICS \textsuperscript{231} (5th ed. 2008) (discussing these three reasons and summarizing that "[t]he farther the facts depart from the ideal of perfect rationality and zero transaction costs, the stronger the case for judges' regulating the terms of the contract by law" (emphasis omitted)).

\textsuperscript{46}See id.

\textsuperscript{47}See SANDEL, supra note 21, at 110-13 (discussing the history of commodification or commercialization arguments in modern economics).

\textsuperscript{48}I do not wish to argue at length over whether the fourth criterion could be re-characterized as internal to economic argument. Some have characterized commodification, for example, as an externality. See F.H. Buckley, Introduction to THE FALL AND RISE OF FREEDOM OF CONTRACT 1, 13 (F.H. Buckley ed., 1999) ("The concern for external costs . . . also explains the 'commodification' barriers . . . , where rules of inalienability are imposed to take certain goods out of the stream of commerce because of the social costs their sale would impose.").
commodifies sexual relations and our views of women generally in undesirable ways. This Part considers each in turn.

A. INFORMATION ASYMMETRIES

Information asymmetries plague traditional prostitution markets. A prostitute knows a great deal of private information unavailable to a potential client: the quality of her services, her STD status, criminal and drug history, age and legal status, and whether she has been coerced into selling sex by violence or dire economic conditions. A buyer also knows a great deal of private information: whether he will treat a prostitute well, whether he has any STDs, his criminal and drug history, and the likelihood that he will pay without hassle.

As in any market, such information asymmetries create both adverse selection problems and moral hazard problems. The adverse selection problem is simple: it is difficult for clients to sort "bad" prostitutes—whether offering low-quality services, carrying disease, or prone to crime—from "good." Put differently, a street prostitute has little means to differentiate herself from others in terms of quality of services provided, health status, or other relevant characteristics, and customers have few means to learn a prostitute's reputation from other past clients. As a result, market information is very thin. This can lead to Akerlof's famous "lemons problem": high-quality

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50. Adverse selection problems occur prior to a transaction when information asymmetries permit a party who is likely to produce an adverse outcome to nevertheless transact as if that party were not of the adverse type. See Kenneth J. Arrow, Lecture Presented to the Federation of Swedish Industries, Stockholm, 1973, Information and Economic Behavior, in 4 Collected Papers of Kenneth J. Arrow: The Economics of Information 136, 147-48 (1984) (providing an overview of adverse selection).

51. Moral hazard occurs after a transaction, when a contract shifts risk from one party to another and information asymmetries permit the non-risk bearer to behave adversely under the contract without detection or consequence. See id. at 148-49 (providing an overview of moral hazard).

52. In economic terms, prostitution is an "experience good," which is difficult to evaluate ex ante without experience with that particular person. See generally Phillip Nelson, Information and Consumer Behavior, 78 J. Pol. Econ. 311 (1970) (drawing distinctions between search, experience, and credence goods).

prostitutes will likely exit the market because they cannot differentiate their services from those offered by lower-quality competitors.54

This may seem a trivial problem if one interprets "quality" only in terms of the actual sex services sold. In fact, however, this market failure in traditional street prostitution has profound implications. The inability to differentiate and charge premium prices will drive out healthier sellers, those with more education (and higher opportunity costs), and those with more professional investments (in advertisement, etc.). In short, traditional prostitution offers no mechanism for higher-end prostitutes to make the market work, and thus is likely to include only prostitutes suffering from poor or coercive economic conditions.

Similarly, street prostitutes have little ability to sort "good" from "bad" clients. They must quickly try to assess whether a potential client is likely to be violent, to pay for services without hassle, or to have an STD. This assessment takes place in a context where the prostitute distinctly lacks bargaining leverage: standing on a street, she has little time to conduct such screening and no way to extract information from the potential client. This makes it very difficult for street prostitutes to secure their physical safety. Bad clients—violent, aggressive, drug addicted, unclean, unhealthy, or even impolite—can participate in traditional sex markets with little fear of detection or consequence. This again deters entry by higher-quality sellers, who may be unwilling to bear the costs imposed by such clients, and therefore generally degrades the market, making it more violent and unhealthy than it would be were such screening possible. "High-quality" customers may also be deterred from participating in the market because they will be charged the same prices as more risky or violent clients.

Moral hazard problems also plague both prostitutes and clients. Lack of information may make each party justifiably nervous about the other's future behavior. For example, a prostitute may worry that a potential client will turn violent, refuse to pay, or otherwise cause trouble for the prostitute once the customer meets the prostitute face-to-face. A customer may engage in sex but then threaten to call attention to the prostitute's actions by making a scene or alerting the prostitute's neighbors. Similarly, a client may fear that a prostitute will rob or attempt to blackmail him if she learns his identity. Such fears distort prostitution markets.

These adverse selection and moral hazard problems illustrate the radically underinformed nature of prostitution markets. Given the seriousness of the services being exchanged and the potential physical,

mental, and emotional risks involved, both parties operate in a troublesome informational vacuum.55

B. NEGATIVE EXTERNALITIES

Externalitiess provide a second economic criterion for evaluating a market.57 Even if nothing suggests market failure as between the parties, in this second class of cases we restrict parties' freedom of contract because their transaction creates externalities that impose costs on others.58 Determining which externalities justify regulation is difficult.59 Nevertheless, in the prostitution context, various externalities are well recognized.60 Two

55. The lack of information in prostitution markets is, of course, partly caused by prostitution's illegality: in black markets, buyers and sellers exchange less information out of fear of prosecution. See, e.g., Albert et al., supra note 49, at 4 ("[I]t is easy to understand that a policy of strict prohibition would have a negative impact on the exchanged information between prostitutes and potential clients.").

56. See David B. Johnson, Meade, Bees, and Externalities, 16 J.L. & ECON. 35, 35 (1973) ("[E]xternalities reflect interdependent utility or production functions in which the utility or costs of one economic or political entity affect the utility or costs of another economic or political entity.").


58. See Cooter & Ulen, supra note 45, at 226–27 (discussing externalities and spillovers); TREBILCOCK, supra note 26, at 58 ("Even if both parties to a particular exchange benefit from it, the exchange may entail the imposition of costs on non-consenting third parties.").

59. See TREBILCOCK, supra note 26, at 59 ("[T]he concept of externalities is one of the least satisfactory concepts in welfare economics, and the concept of harm to others is one of the least satisfactory and most indeterminate concepts in liberal political theory."); see also Steven L. Schwarzw, Rethinking Freedom of Contract: A Bankruptcy Paradigm, 77 TEX. L. REV. 515, 557 (1999) ("The more interesting question is not whether a contract adversely affects third parties, but whether it adversely affects third parties in a way that the law deems intolerable.").

The harm principle—generally credited to John Stuart Mill's On Liberty—is "that the sole end for which mankind are warranted . . . in interfering with the liberty of action of any of their number is self-protection. That the only purpose for which power can be rightfully exercised over any member of a civilized community . . . is to prevent harm to others." JOHN STUART MILL, ON LIBERTY 9 (Elizabeth Rapaport ed., 1978) (1859). Prostitution has always presented a difficult case under the harm principle. Mill himself straddled the fence, refusing to determine whether prostitution created sufficient harm to justify prohibition. See id. at 98 (discussing prostitution).

60. See Moffatt, supra note 49, at 221 (providing an overview of the externalities commonly associated with prostitution); Michael J. Trebilcock, External Critiques of Laissez-Faire Contract Values, in THE FALL AND RISE OF FREEDOM OF CONTRACT, supra note 48, at 78, 87–88 (discussing externalities caused by prostitution as a basis for restricting freedom of contract). See generally Melissa Farley, Prostitution, Trafficking, and Cultural Amnesia: What We Must Not Know in Order To
of the most prominent are crime and disease. Street prostitution may cause other forms of crime, and because it occurs in plain view, it may contribute to neighborhood blight or the decline of local property values. It may also lead to the spread of STDs, thereby affecting society at large.

C. COERCION

Our third criterion focuses on whether inequality drives market participation. This criterion derives from the basic egalitarian intuition that even an efficient market can be unfair given an unfair distribution of resources surrounding that market. Even if trading creates value for the transacting parties without creating externalities for others, we may doubt a market if the initial, background conditions of one of the parties makes us suspect that party's motivations for entering the market.

Michael Sandel calls this the "fairness objection" to certain markets. In the prostitution context, "[s]ome people oppose prostitution on the grounds that it is rarely, if ever, truly voluntary. They argue that those who sell their bodies for sex are typically coerced, whether by poverty, drug addiction, or the threat of violence." Although we may concede that some prostitute themselves willingly, we may fear that prostitutes generally sell sex in dangerous conditions only because bad circumstances have forced that choice.


61. See generally Farley, supra note 60 (cataloging harms).

62. See JIM LEITZEL, REGULATING VICE: MISGUIDED PROHIBITIONS AND REALISTIC CONTROLS 196-97 (2008) ("[T]he greater public concern is not so much with commercial sex but rather with certain unseemly public manifestations of commercial sex.").

63. See Debra Satz, Markets in Women's Sexual Labor, 106 ETHICS 63, 68 (1995) ("Prostitution ... has costs to third parties: a man who frequents a prostitute dissipates financial resources which might otherwise be directed to his family; in a society which values intact marriage, infidelity costs a man's wife or companion in terms of mistrust and suffering ... ; and prostitutes often have diseases which can be spread to others."). Some contest that prostitutes are a primary force in spreading disease. See Law, supra note 36, at 546 ("The facts do not support the assumption that commercial sex workers are primary transmitters of venereal disease, including HIV."). All agree, however, that at the very least prostitutes themselves risk infection. See id. at 551 ("[Prostitutes] confront a far greater risk of contracting HIV from their male customers than the customers face of contracting the virus from them.").

64. See, e.g., SATZ, supra note 1, at 139 ("The economic approach ignores the background system of distribution within which prostitution occurs. Some background systems, however, are unjust."); TREBILCOCK, supra note 26, at 78-84 (criticizing traditional law and economics for minimizing coercion based on unequal background conditions).

65. See SANDEL, supra note 21, at 111 ("The fairness objection points to the injustice that can arise when people buy and sell things under conditions of inequality or dire economic necessity.").

66. Id. at 111.

67. See, e.g., Alison M. Jaggar, Prostitution, in THE PHILOSOPHY OF SEX: CONTEMPORARY READINGS 348, 360 (Alan Soble ed., 1980) ("[I]t is the economic coercion underlying prostitution ... that provides the basic feminist objection to prostitution.").
Research has generally shown that street prostitutes are indeed typically poor, relatively uneducated, transient, or otherwise vulnerable. A study by the Sex Workers Project at the Urban Justice Center, for example, found that many streetwalkers face violence from customers and police, "limited job opportunities outside of sex work," "homelessness, substance dependency, and extreme poverty and desperation at levels that are far worse than in the general population." Various studies show high rates of street prostitutes suffered sexual abuse as children. In addition, most law enforcement efforts focus on street prostitutes. Thus, while street prostitutes make up roughly twenty percent of prostitution, "they account for ninety percent of those arrested." Street prostitutes often face dire economic circumstances: "[m]ost streetwalkers are constantly on the edge of financial crisis." One study found that roughly ninety percent of prostitutes were poor. These findings support concern that street prostitution is insufficiently voluntary or consensual to justify legalization.

D. OBJECTIONABLE COMMODIFICATION

Finally, economics generally assumes that the quality or nature of a good is unaffected by the existence of a market in that good. As Debra Satz explains, "the economic approach [to prostitution], attributes the wrongness of prostitution [to inefficiency]." It is "morally indifferent" to the sale of sex: "sexual labor is not to be treated as a commodity if and only if such treatment fails to be efficient or welfare maximizing." Those

68. JUHU THUKRAL & MELISSA DITMORE, SEX WORKERS PROJECT, URBAN JUSTICE CTR., REVOLVING DOOR: AN ANALYSIS OF STREET-BASED PROSTITUTION IN NEW YORK CITY 10, 28 (2003).
69. See Norma Hotaling et al., The Commercial Sexual Exploitation of Women and Girls: A Survivor Service Provider's Perspective, 18 YALE J.L. & FEMINISM 181, 182 (2006) (finding that fifty-seven percent of street prostitutes studied were abused as children); Donna M. Hughes et al., Factbook on Global Sexual Exploitation: United States of America, COAL. AGAINST TRAFFICKING WOMEN (1999), http://www.uri.edu/artsci/wms/hughes/usa.htm (citing between seventy-five percent and ninety-five percent of street prostitutes were abused as children).
70. See Ronald Weitzer, Prostitution: Facts and Fictions, 6 CONTEXTS, Fall 2007, at 28, 29 ("An estimated 20 percent of all prostitutes work on the streets in the United States.").
74. See, e.g., Margaret Jane Radin & Madhavi Sunder, The Subject and Object of Commodification, Introduction to RETHINKING COMMODIFICATION: CASES AND READINGS IN LAW AND CULTURE 8, 10 (Martha M. Ertman & Joan C. Williams eds., 2005) ("[E]conomists tend to view individual preferences as exogenous to the market and the market as merely a neutral mechanism for maximizing satisfaction of those preferences.").
75. Satz, supra note 63, at 64.
76. Id.
focused on objectionable commodification, however, argue that a given market—in this case the market for sex—should be prohibited not because of inefficiency but because it degrades social norms, values or attitudes. According to this fourth criterion,

certain moral and civic goods are diminished or corrupted if bought and sold. The argument from corruption [or commodification] cannot be met by establishing fair bargaining conditions. It applies under conditions of equality and inequality alike.

... The... objection doesn’t depend on tainted consent; it would condemn prostitution even in a society without poverty, even in cases of upscale prostitutes who liked the work and freely chose it.77

The argument takes two forms: that selling sex denigrates the individual prostitute, on the one hand, and that it commodifies our norms and ideals about sex and women generally, on the other.78 In the last decades, various strains of feminist scholarship have argued for both of these views.79 Other theorists have concluded that prostitution, although clearly commodifying, does not warrant prohibition.80 Martha Nussbaum, for example, has compared prostitution to many other forms of employment—working in a factory, being a philosophy professor, singing in a nightclub—and argued that although all work involves some commodification, prostitution is not necessarily more problematic in this regard than other employment.81
Ultimately, she concludes that "there appears to be nothing baneful or value-debasing about taking money for a service, even when that service expresses something intimate about the self." 82

The market conditions under which Prostitution 1.0 occurs exacerbate commodification concerns. 83 When a prostitute sells sex in an anonymous, highly risky context such as street-walking, with essentially no protection against violence or disease and no means to identify and avoid "bad" customers, she is at her most vulnerable. More than that, the customer purchasing her services is willing to participate in making her so vulnerable—is willing, in short, to treat her as a person who deserves nothing better. He participates in a market that is structurally noxious to prostitutes: even if he commits no physical violence against her, he knows that she is in a market that permits others to do so without consequence. This inherently denigrates her personhood. Moreover, social norms that permit such an ill-functioning market likewise suggest that society in general holds a view of women or sex that treats prostitutes as fungible commodities that can—and should—function in such a poor environment. This lack of information in the market triggers the objectionable commodification criterion.

II. THE INCOMPLETE IMPROVEMENTS OF PROSTITUTION 2.0

Prostitution 1.0 suffers from four problems: information asymmetries, negative externalities, coercion, and commodification. These problems motivate the state's infringement on freedom of contract in this context. In short, Prostitution 1.0 can be a brutal and base market that harms its participants and society generally.

In the last decade, however, a new form of prostitution has emerged that may somewhat remedy these shortcomings. Prostitution 2.0 is independent, Internet-enabled, "indoor," and more middle- or upper-class than street prostitution. 84 Sociologists and economists of sex work have increasingly begun to study how Prostitution 2.0 functions, and some have argued that it deserves legalization. 85 This Part presents the first in-depth analysis, however, of the strengths and weaknesses of Prostitution 2.0. It

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82. Nussbaum, supra note 41, at 716.

83. The debate about exactly who and what is commoditized as a result of prostitution seems particularly intractable, and I will not resolve it here. Further, I am not convinced that commodification arguments on their own justify prostitution's prohibition. I am convinced, however, that the market conditions of Prostitution 1.0 are such that commodification is a problem which must be addressed.

84. For clarity, I define "Prostitution 2.0" as technology-enabled, independent prostitution that involves neither solicitation nor sexual activity in public. This definition separates Prostitution 2.0 not only from street prostitution, but also from brothels, strip club prostitution, massage parlor prostitution, or other forms of indoor prostitution that cannot be described as independent because of the involvement of a pimp or agency.

85. See supra notes 29–30 and accompanying text.
looks first at the three technologies driving Prostitution 2.0: low-cost online advertising, reviews of sellers, and screening of buyers. It then takes seriously the possibility that these technologies have sufficiently improved prostitution to warrant legalization. It tests Prostitution 2.0 against our four criteria to see whether it remedies the problems of traditional prostitution. This analysis demonstrates that Prostitution 2.0 is, indeed, an advance. These technologies provide new means for prostitutes and clients to sort and signal each other to overcome adverse selection and moral hazard problems; they make Prostitution 2.0 less socially visible than traditional prostitution and reduce the spread of disease, ameliorating externalities; they make Prostitution 2.0 less coercive; and, finally, they lessen commodification concerns.

This is hopeful. Ultimately, however, this Part concludes by arguing that Prostitution 2.0 has not remedied Prostitution 1.0's problems sufficiently to justify legalization. In many ways, Prostitution 2.0's technologies foreshadow the vision of Prostitution 3.0 laid out in the Introduction. They show the promise and potential of technological reform in this context. At the same time, they have not evolved enough to truly solve the problems in today's sex markets. That would require more concerted legal reform and technological innovation, as discussed in Part III.

A. PROSTITUTION 2.0'S TECHNOLOGIES

Technological change has always impacted sex markets. In the 1970s and 1980s, for example, the CB radio was considered a transformative prostitution tool, reviled by some and celebrated by others for introducing new means for prostitutes and their customers to find and communicate with each other. Today, the Internet has revolutionized the sex trade, at least in the higher echelons of the prostitution market.

This Subpart explores three technologies at the center of this revolution. First, the Internet has lowered the cost of advertising, making it possible for independent prostitutes to reach huge numbers of potential customers without resorting to pimps or escort agencies. Second, interactive review sites permit clients to talk about, rate, and compare prostitutes online. Third, the Internet has created new means for prostitutes to screen

86. See supra Introduction.
88. See Keith Sharp & Sarah Earle, Cyberpunters and Cyberwhores: Prostitution on the Internet, in DOTCONS: CRIME, DEVIANCE AND IDENTITY ON THE INTERNET 36, 96 (Yvonne Jewkes ed., 2003) ("[T]he nature of the relationships involved in the selling of sexual services is undergoing a significant transformation, thanks to the emergence and near exponential spread of the Internet.")
clients, thereby reducing the risk of violence, disease, and arrest. These screening mechanisms include direct email communication with customers and other prostitutes, electronic blacklists of "bad" clients, and intermediated verification services. Consider each of these Prostitution 2.0 innovations.89

1. Low-Cost Advertising

In any market, buyers and sellers incur search costs to find each other.90 Advertising can reduce such costs. Through advertising, a seller can publicly display her resources and capabilities to attract customers.91 Historically, however, street prostitutes have had limited means to advertise.92 The most common is to walk the "stroll[ ]" in one's geography, thus signaling availability to potential buyers.93 Alternatively, prostitutes can pay a pimp or madam to solicit customers.94 Such intermediaries can sometimes better avoid law enforcement and more easily promote a prostitute, but often at significant cost.95

The Internet has radically lowered the cost of prostitution advertising.96 A prostitute can easily create a website at low cost, and many do.97 Such websites typically contain descriptions of the prostitute, photographs, information about rates, a calendar of availability, and contact

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89. Prostitution markets are generally structured to manage three main costs: advertising to attract customers, reputation-building by prostitutes to support price differentiation, and maintaining personal safety and security. See Cunningham & Kendall, supra note 20, at 224 (describing these three basic costs). These three technologies correspond to these three costs. See id. at 226–27, 230–38, 246–52.

90. See, e.g., George J. Stigler, The Economics of Information, 69 J. POL. ECON. 213, 216 (1961) ("The cost of search, for a consumer, may be taken as approximately proportional to the number of (identified) sellers approached, for the chief cost is time.").


92. This is in part due to prostitution's illegality. If prostitution is legal, sellers can take out newspaper or other ads, so long as public solicitation is not banned. The Internet has dramatically lowered the cost of advertising, however, such that one would see its effects whether or not prostitution were legalized.

93. See, e.g., Cunningham & Kendall, supra note 3, at 275 (internal quotation marks omitted).

94. See Cunningham & Kendall, supra note 20, at 224–25.

95. Id.

96. See Scott Cunningham & Todd D. Kendall, Sex for Sale: Online Commerce in the World's Oldest Profession, in CRIME ON-LINE: CORRELATES, CAUSES, AND CONTEXT 145, 147 (Thomas J. Holt ed., 2011) ("The Internet has . . . [led] to a virtual flood of prostitution advertising . . .").

97. See Teela Sanders, Researching the Online Sex Work Community, in VIRTUAL METHODS: ISSUES IN SOCIAL RESEARCH ON THE INTERNET 67, 68 (Christine Hine ed., 2005) ("Sex workers are . . . utilizing new technologies as a tool to make money by creating web sites to promote and organize their business.").
Specialized web design and hosting services facilitate such advertising by catering to the prostitution market.

In addition to creating an independent website, a prostitute can advertise on one of many adult-oriented advertising platforms. Some such platforms focus exclusively on sexual services. Eros, for example, describes itself as "All Things Erotic." It organizes advertisements by country, state, and preference (e.g., female escorts, male escorts, transgendered escorts, etc.). Eros presents each prostitute's advertisement in a standardized template that includes information about height, weight, ethnicity, age, hair and eye color, bust size, and availability (e.g., to men or women), as well as a narrative description, photographs, pricing, and contact information.

Other Internet sites—such as Backpage—permit adult services advertisements while also advertising other goods and services.

Low-cost online advertising "has had the effect of creating a virtual 'red light' district, where prostitutes and their clients operate with relatively low risk of detection." It allows prostitutes to reach customers safely and independently, and customers to search for prostitutes without leaving home. A recent study found, for example, that ninety-three percent of technology-facilitated sex workers are "independents"—operating without a pimp or escort agency—whereas between forty and eighty percent of streetwalking prostitutes "work under pimp management." In addition, by matching prostitutes and clients off the streets and in a less rushed environment than Prostitution 1.0, online advertising permits the next two technologies of Prostitution 2.0: reviews of sellers and screening of buyers.


101. See id.

102. See, e.g., BACKPAGE.COM, supra note 14.

103. Cunningham & Kendall, supra note 96, at 147.

104. See Cunningham & Kendall, supra note 3, at 284.
2. Review of Sellers

In addition to advertising, the Internet has created new mechanisms for clients to review and discuss prostitutes online. For example, The Erotic Review is an interactive peer-to-peer feedback site that hosts tens of thousands of client reviews of prostitutes each year. The site structures reviews using a variety of categories, including some related to appearance (e.g., age, height, ethnicity, hair color, physical build, breast size, etc.), services offered (e.g., massage, sex, kissing, and various sex acts), cost, and general information (e.g., prostitute's phone number, website, email, and agency affiliation, if any). In addition, the site permits a reviewer to include an unstructured narrative describing the client's experience with a prostitute. Most of the information on The Erotic Review is available without charge, with the exception that only paying customers (or customers that have themselves submitted two reviews in the prior month) can access this detailed narrative. Other sites, such as PunterNet, BigDoggie.net, and Naughty Reviews, provide similar services. Specialized review sites also exist for male escorts.

Without including any overly graphic details, a few examples may help clarify how such review sites change prostitution markets. A recent review of a New York escort named "Kylie" included the following information. She is an Asian woman, age twenty-six to thirty, roughly five feet, two inches tall, with straight brown hair below the shoulders. Her breasts are size 34-35 DD due to breast implants. She has a few tattoos. The Erotic Review lists 228 reviews of Kylie's services. A quick read of just the public portions of those reviews reveals the following comments about Kylie's services: "Didn't realize

105. See Luis E.C. Rocha et al., Information Dynamics Shape the Sexual Networks of Internet-Mediated Prostitution, Proc. Nat'l Acad. Sci. 5706, 5706 (2010) ("Over the past decade, the Internet has become an increasingly important vehicle for sharing information about prostitution."). This use of the Internet arose early. In the 1980s, the Usenet groups alt.sex.service and alt.sex.prostitution included discussions between sex buyers of the services offered by sex workers. See Petter Holme, Social, Sexual and Economic Networks of Prostitution, 45 Leonardo 80, 80 (2012) (discussing early Usenet examples).

106. See THE EROTIC REVIEW, supra note 15.

107. See id.

108. See PUNTERNET, supra note 16.


Kylie's English is so poor . . . . Overall a good time, but would not repeat.

"Same as the photos, she's the cutest brunette I've seen in ages. She has . . . the sweetest manners. Kylie well deserves her reputation." Those willing to pay for The Erotic Review's premium service can read more explicit details about her physical appearance and the experiences of her clients, as well as access client ratings of Kylie on a ten-point rating system.

Similarly, the twenty-eight available reviews of another New York escort named "Lindsey" reveal that she is a Caucasian woman with red hair, roughly five feet, five inches tall. Her reviewers comment repeatedly that the photos she provides are not genuine. Some also note that Lindsey shares her apartment, where they met, with a roommate, which requires spending time together in a relatively cramped bedroom that some complain is untidy. Several note that Lindsey is somewhat overweight, and various reviewers comment that although she is enthusiastic, she might not be worth her fees. Others disagreed, arguing that Lindsey offers a reasonable price for her appearance and services.

Such review sites allow buyers to communicate in ways previously unimaginable. Such sharing of client feedback creates vast new pools of information previously unavailable to sex buyers in advance of meeting a prostitute. In addition, review sites also provide a medium for buyers and sellers to communicate outside of in-person, paid sessions. Sometimes

prostitutes contest reviews or call out customers' bad behavior.121 The Erotic Review also hosts discussion boards on which both escorts and clients can opine about various aspects of the industry, or through which clients can discuss a given provider in detail.122

Such sites are by no means value neutral. Some have argued that they inherently degrade and objectify women,123 and that the possibility of online reviews creates an added stressor for prostitutes.124 Research suggests that reviews do, in fact, affect a prostitute's future chances for increased business, as well as the market price for future services.125 In other words, these review sites provide a means for prostitutes to differentiate themselves in the market.126

3. Screening of Buyers

Finally, the Internet has created new means for prostitutes to screen clients in advance of a face-to-face meeting. As we saw in Part I, street prostitutes have few ways to sort "good" from "bad" clients.127 The Internet alleviates this market failure by creating three ways for prostitutes to screen buyers: email communication with the client or other prostitutes, online blacklists, and intermediated identity verification services. Consider each in turn.

Email. First, Internet-enabled prostitutes can demand information from potential clients by email. If a client responds to an online advertisement, for example, the prostitute can require information from the client before arranging a meeting. Such screening is now commonplace. Prostitutes demand name, place of work, telephone number, and other information.128 Such information allows a prostitute to research a potential client online in order to verify his identity. In addition, a prostitute can use information gleaned from such online searching to assess the client's education level, 


125. See Cunningham & Kendall, supra note 20, at 233 ("Based on our interviews with sex workers, we believe [online] reviews are highly important in establishing reputation, and workers exert substantial effort to maintain positive reviews ... ").

126. See infra Part II.B.

127. See supra text accompanying notes 49-55.

128. Murphy & Venkatesh, supra note 22, at 140 (describing screening); see Ray, supra note 121, at 57-58 (describing screening in detail).
whether he is gainfully employed, and other indicators of personality or temperament. Email communication also allows a prostitute to evaluate the client's politeness, timeliness, and responsiveness, all of which may signal the client's likely willingness to be respectful or pay timely for services. Such research can be reassuring. As Ray puts it:

For the most part, this kind of search isn't going to yield any kind of "this man is mean to hookers" explicit warning, but it may deliver vacation photos, a flan-recipe blog, or boring PowerPoint presentations about a company's gains and losses—all of which contribute to a better sense of who the man is in the real world.129

Prostitutes can be quite sophisticated about using technology to screen clients in this way. One escort site, for example, hosts a detailed "how to" on ways to verify a client's identity.130 It includes advice on checking the meta-tags in a photograph sent by a potential client to verify the location at which the photograph was taken, on how to verify an email account's creation date to sort out potential clients with recently created accounts (which may indicate police activity or other trouble), and on tracking a client's Internet Protocol ("IP") address or cell phone to determine general location.131

Email communication in advance of a physical meeting also allows prostitutes to communicate with each other about clients. Internet-enabled prostitutes often request that a client provide references from other prostitutes.132 These reference checks allow prostitutes to exchange information about a client's identity and civility. They serve as a powerful independent check on the client and can greatly reassure prostitutes.

**Online Blacklists.** Second, the Internet facilitates information sharing between prostitutes at scale. Sex workers also shared information about buyers in the pre-Internet economy: "dirty trick lists" were passed around in some cities, listing "bad Johns," their phone numbers, and details of their physical appearance.133 The Internet has made such sharing far more effective at low cost, however. Prostitutes run blacklists online to share information about safety, hygiene, payment problems, drug use, and other issues with customers.134

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129. Ray, supra note 121, at 58.
131. See id.
132. See Cunningham & Kendall, supra note 20, at 226-27 (discussing these screening mechanisms); Cunningham & Kendall, supra note 96 at 151 ("[Fifty-nine percent] of sex workers who operate online regularly demand references.").
133. For an example of a dirty trick list, see Bernstein, supra note 32, at 95 (providing a copy of a San Francisco "Ugly Mugs: Men To Watch Out For" flyer).
134. See Ray, supra note 121, at 61 ("The freedom to post information about bad clients allows sex workers to alert each other to clients to avoid . . . ").
The National Blacklist, for example, describes itself as a "deadbeat registry."\textsuperscript{135} It provides a platform for prostitutes to exchange information about "customers who make threats, use violence, are scammers, ripoffs, time wasters, abusers, or those who withhold money."\textsuperscript{136} The site offers "Automatic Alerts" via email or text message to prostitutes if new postings appear about an incident or police activity in their geographic area. The site is very active, hosting over fifty-seven thousand blacklist entries for various American states and Canadian provinces.\textsuperscript{137} An informal review of the site suggests that many of the blacklist entries are for customers who wasted an escort's time or were "no shows." Others include customers who failed to pay or haggled over fees, threatened to call the police, tried to videotape a prostitute without her consent, behaved strangely, had visible signs of a sexually transmitted disease, or were dangerous.\textsuperscript{138} Other smaller or regional sites provide similar means for prostitutes to blacklist customers.\textsuperscript{139}

Identity Verification Services. The Internet provides a third means for prostitutes to screen potential customers: intermediated identity verification services. These services collect information from clients and then verify that information independently. When a client contacts a prostitute, he refers the prostitute to the verification service using a unique identification number. The verification service then reassures the prostitute that the client's name and place of work has been verified, but does not give her his real name or information.

Date-Check, for example, advertises itself as an "adult entertainment verification" website.\textsuperscript{140} The service verifies to prostitutes that its clients meet Date-Check's criteria:

The client is required to submit a heap of personal information, including his full name and credit card information, as well as a home and work address, the name of the company he works for, and his position and title. This information is not passed directly on to the provider, but it must be given for membership so that a provider can rest assured that the client checked out when the website's staff followed up on his points of contact.\textsuperscript{141}

\textsuperscript{136.} Id.
\textsuperscript{137.} See id.
\textsuperscript{138.} See id.
\textsuperscript{140.} See DATE-CHECK, supra note 17.
\textsuperscript{141.} Ray, supra note 121, at 61.
The service is free for sex workers and costs roughly seventy dollars per year for clients. Other sites provide similar intermediated verification services.

As we will discuss, such intermediated verification services foreshadow the more complex and intensive verification that I argue should be required as part of Prostitution 3.0. These early Prostitution 2.0 services do not verify STD status or criminal history, nor do they simultaneously verify information about prostitutes as opposed to clients. Nevertheless, they are an interesting first step in the direction of Prostitution 3.0.

These three means of client screening—direct email contact, blacklist registries, and intermediated identity verification services—give a prostitute access to new information about her client in advance of an in-person meeting. This is a radical change from street prostitution, in which no such investigation is possible, and even from other forms of indoor prostitution such as brothels, where clients remain more or less anonymous.

B. THE IMPROVEMENTS OF PROSTITUTION 2.0

These Internet technologies—low-cost advertising, reviews of sellers, and screening of buyers—have created Prostitution 2.0. Let us now use our four criteria to assess the impact of these technologies. Doing so illustrates that Prostitution 2.0 is indeed an upgrade as compared to traditional street prostitution. Part II.C will then explore the limits of Prostitution 2.0's improvements.

1. Effects on Information Asymmetries

Figure 1: Prostitution 2.0's Effects on Information Asymmetries

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143. See, e.g., ROOMSERVICE2000, supra note 18.
144. See infra Part III.A (discussing verification in Prostitution 3.0).
In economic terms, Prostitution 2.0 has lowered the costs of both sorting and signaling—the two means by which parties learn about their contracting partners in order to overcome adverse selection problems.\(^\text{145}\) "Sorting" refers to the ways in which an uninformed party can seek out public information to verify a counterparty's type.\(^\text{146}\) "Signaling," by contrast, refers to the ways in which an informed party can credibly indicate its type to its uninformed counterpart.\(^\text{147}\) To the extent that technological changes improve the ability of buyers and sellers to sort and signal—or reduce the costs of sorting and signaling—a market will become more efficient as information asymmetries diminish.

Figure 1 shows the four ways in which Prostitution 2.0 allows new, lower-cost sorting and signaling: (1) prostitutes can now signal more efficiently to clients; (2) buyers can signal to prostitutes; (3) prostitutes can sort clients; and (4) clients can sort prostitutes.\(^\text{148}\) This changes sex markets significantly. Consider each change in turn.

First, prostitutes have new ways to signal quality to clients. Ubiquitous Internet advertising lowers the cost of prostitutes and clients finding each other and affords prostitutes the opportunity to signal their educational background or sophistication to clients.\(^\text{149}\) To the extent that a prostitute spends a greater amount of time and money on her advertisements, this can signal her quality to potential customers.\(^\text{150}\) The escort advertising site Eros provides a good example. Eros' charges for advertisements vary based on the

\(^{145}\) See generally John G. Riley, Silver Signals: Twenty-Five Years of Screening and Signaling, 39 J. ECON. LITERATURE 432 (2001) (providing an overview of sorting and signaling); Michael Spence, Informational Aspects of Market Structure: An Introduction, 90 Q.J. ECON. 591, 592 (1976) ("[Signaling and sorting] are opposite sides of the same coin.").

\(^{146}\) Sorting or "screening" theory assumes that an uninformed party will filter counterparties based on what observable characteristics or information are available, if the desired characteristic is unobservable. See, e.g., Roger Klein et al., Factors Affecting the Output and Quit Propensities of Production Workers, 58 REV. ECON. STUD. 929, 938 (1986) (exploring the example of employers sorting job applicants based on high school graduation as a proxy for perseverance).

\(^{147}\) Signaling "refers to actions taken by an informed party for the sole purpose of credibly revealing his private information." N. GREGORY MANKIW, PRINCIPLES OF ECONOMICS 487 (Jack W. Calhoun et al. eds., 5th ed. 2009). Put differently, "[information asymmetries] may give rise to signaling, which is the attempt by the informed side of the market to communicate information that the other side would find valuable." WILLIAM A. MCEACHERN, ECONOMICS 619 (5th ed. 2000).

\(^{148}\) See, e.g., Cunningham & Kendall, supra note 96, at 152 ("Online institutions increase the availability of information, and may ameliorate some . . . harms for both client and provider.").

\(^{149}\) See supra text accompanying notes 89–102.

\(^{150}\) See Matthew V. Pruitt & Amy C. Krull, Escort Advertisements and Male Patronage of Prostitutes, 32 DEVIAN'T BEHAV. 55, 55–57 (2010) (reporting results of study of escort advertisements and finding evidence that escorts use advertisements to project personality traits in addition to physical traits or services offered).
advertisement's features. Like any business that spends money on advertising, this additional cost is a way for a prostitute to signal credibly that she is of higher quality than her peers.

Perhaps more credible still, if a prostitute invests in her website's copy editing, professional photographs, or video, this may signal to potential customers her quality, education level, or income (and thus popularity or success in the market). Some prostitutes also blog. Such blogs may serve as a signaling device, showing the sex worker's education, conversational ability, and willingness to dedicate time to self-publication and writing. Such signals matter: Evidence suggests, for example, that sex workers proficient in English can charge higher prices and are more likely to attract customers, and that prostitutes willing to reveal an accurate picture of themselves command higher prices.

Second, sex buyers can also signal their quality to prostitutes. For example, a sex buyer's willingness to divulge information to Date-Check serves as a credible signal that the buyer believes that he has nothing to hide. Similarly, if a buyer becomes a member of The Erotic Review and accumulates online references from prostitutes with whom that buyer has transacted, this too signals to prostitutes that the client has invested in his reputation and is therefore likely to be relatively reputable. In addition, by sharing background information such as employment status, a client gives a prostitute access to powerful signals of less visible but important characteristics such as his sense of responsibility or general pro-social nature. Even a willingness to divulge information to the prostitute by email may itself be a signal that the client is forthright and cooperative.

151. See Advertisement Pricing, EROS ADS, http://www.erosads.com/content/pricing (last visited Feb. 11, 2013). Cost also may vary based on location. Id.
155. Male escorts willing to post a face picture as a signal of both quality and commitment—because it is more difficult for a revealed escort to deceive a client and get away with it—command a price premium in the market. See Logan & Shah, supra note 111, at 2.
156. See supra note 140 and accompanying text (explaining Date-Check).
Third, sex buyers can sort prostitutes, primarily by accessing prostitution review sites. These review services begin to solve the lemons problem inherent in street prostitution.\textsuperscript{158} Review sites improve a client’s ability to sort prostitutes, and thus a prostitute’s ability to differentiate herself. If she invests in her reputation and her clients rate her highly, she will be more able to attract clients and charge premium prices. Although somewhat mercenary, competition favors high-end sellers. Indeed, it allows the introduction of such sellers into the market, whereas traditionally the market could not support such prostitution:

As more and more information on providers becomes available through this new medium . . . the informational asymmetries are . . . expected to diminish substantially. In consequence, high-quality providers are likely to see their businesses flourish, while low-quality providers are likely to be driven out of the market early.\textsuperscript{159}

For example, review sites reduce the possibility of and rewards for deception in prostitution markets.

\begin{quote}
[B]y informing other clients of deceptive sex workers and by reviewing sex workers on independent, client-owned websites[, t]he informal policing in the market raises the cost of misrepresentation for would-be fraudulent escorts and rewards the truthful self-disclosure of honest escorts . . . .\textsuperscript{160}
\end{quote}

This disclosure should increase the welfare of both prostitutes and clients.\textsuperscript{161}

Fourth and finally, prostitutes can sort clients. Google and other search engines now give a prostitute free access to huge amounts of publicly available information about a potential client. So long as the client reveals his real name and identifying information, a prostitute can often use the Internet to piece together a relatively rich picture of that client’s background and education level. She can then try to extrapolate from that information the characteristics that matter most to her, such as propensity to violence, health status, or character.

In addition to sorting and signaling, Prostitution 2.0 creates another means to reduce the impact of information asymmetries: hostage-taking.

\begin{flushright}
\textsuperscript{158} See supra Part I.A.
\textsuperscript{159} Moffatt, supra note 49, at 210.
\textsuperscript{160} Logan & Shah, supra note 111, at 1–2 (studying online information exchanges about male escorts).
\textsuperscript{161} See Jeffrey R. Young, Commodification of Sexual Labor: The Contribution of Internet Communities to Prostitution Reform (unpublished Ph.D. dissertation, Florida Atlantic University) (on file with author) (arguing that Internet reviews can contribute to social order and trust, and, to some extent, neutralize concerns about prostitution).
\end{flushright}
Hostage-taking is a means to reduce moral hazard. One party takes something of value to the other—such as a financial bond—to deter future bad behavior.

For example, if a client reveals his identity to a prostitute in advance of a face-to-face meeting, the client knows that the prostitute can now hold that identity hostage. As one escort noted:

When a new client contacted her online, she wouldn’t book an appointment until she had secured his real name and his work telephone number. Then she’d call him the morning of their date, ostensibly just to say how excited she was to meet him.

But the call also acknowledged that she could reach him at will and, if something were to go wrong, she could storm his office. “Nobody wants to see the ‘crazy ho’ routine,” she says with a smile.

The Internet thus changes the leverage between prostitutes and clients, giving the prostitute power to deter a client from bad behavior. By permitting prostitutes to take information hostage in this way, Prostitution 2.0 somewhat levels the playing field between prostitutes and clients.

Empirical study of Prostitution 2.0 seems to confirm that information technology has reduced information asymmetries between prostitutes and clients. In particular, various studies suggest that indoor, Internet-enabled prostitution is physically safer than street prostitution. Sudhir Venkatesh’s study of 290 women in New York over twelve months, for example, found that independent escorts earn about fifty percent more than street prostitutes and experience about half of the violence. Tamara O’Doherty’s review of various studies found that sixty-three percent of independent, Prostitution 2.0 escorts “had not experienced any victimization while working in the sex industry,” and that most victimization that did occur was at the hands of “coworkers or clients [who] refus[ed] to

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164. For some of the limitations of this improvement, see supra Part I.C.

165. See Ronald Weitzer, Moral Crusade Against Prostitution, Soc'y, Mar.–Apr. 2006, at 33, 35 (“[T]he research literature does indicate that violence is more of an occupational hazard for street prostitutes than for indoor workers.”).

use condoms or pay for services." One study has found that street prostitutes are "three times more likely... to experience an assault and eleven times more likely to have been raped." Other studies report similar findings. As Weitzer has put it, "there is no doubt that indoor settings are generally safer than the streets." This suggests that Prostitution 2.0's reduced information asymmetries allow prostitutes to avoid violent clients and stay safer than street prostitutes.

2. Effects on Negative Externalities

Prostitution 2.0 also ameliorates negative externalities to some extent, again by reducing the cost of sorting and signaling. Consider first the externalities of social blight or crime. Unlike street prostitution, Internet-enabled prostitution "may have no appreciable impact on the surrounding neighborhood, and, if it is discreet, there is normally little public awareness of it." Because Prostitution 2.0 moves the search for prostitutes online and out of sight, such markets become much less visible to the public. There is

168. See Weitzer, supra note 165, at 35.
169. See Andrea Krüsi et al., Negotiating Safety and Sexual Risk Reduction with Clients in Unsanctioned Safer Indoor Sex Work Environments: A Qualitative Study, 102 AM. J. PUB. HEALTH 1154, 1154 (2012) ("The incidence of physical violence, including homicide and rape, continues to be significantly higher among street-based sex workers compared with any other population of women globally."); Murphy & Venkatesh, supra note 22, at 139-40 (finding that roughly forty percent of indoor sex workers had experienced violence, as opposed to eighty percent of street prostitutes); Jason Prior et al., Sex Worker Victimization, Modes of Working, and Location in New South Wales, Australia: A Geography of Victimization, J. SEX RES. (forthcoming 2013) (manuscript at 1, 10-12), available at www.tandfonline.com/doi/pdf/10.1080/00224499.2012.668975 reviewing other studies that suggest that indoor prostitution is safer than street prostitution, and reporting results of research finding that geographical location matters less in terms of safety than how much situational control the mode of prostitution gives to the prostitute); Sudhir Venkatesh, Do High End Sex Workers Have It Easier?, FREAKONOMICS (Mar. 18, 2008, 1:07 PM), http://www.freakonomics.com/2008/03/18/how-glam-is-the-high-end-ask-a-sex-worker [hereinafter Venkatesh I] (reporting that high-end escorts experience physical abuse roughly twice per year); Sudhir Venkatesh, Five Myths About Prostitution, WASH. POST (Sept. 12, 2010), http://www.washingtonpost.com/wp-dyn/content/article/2010/09/10/AR2010091002670.html (reporting that "the population of women choosing sex work has changed dramatically over the past decade," and that indoor prostitutes are less likely to experience violence than street prostitutes).
171. Some evidence suggests that independent prostitutes using technology may be safer than other forms of indoor prostitution such as brothel prostitutes or those working for an escort agency. See, e.g., O'Doherty, supra note 167, at 957 ("Women may be safer when they are able to structure their working environments and deal directly with potential clients.").
173. See Judith Kilvington et al., Prostitution Policy in Europe: A Time of Change?, 67 FEMINIST REV. 78, 84 (2001) ("[D]evelopments in the sex industry make it easier to work less visibly including the use of the Internet to advertise services ....").
no need to physically see independent prostitutes and their operations. The public displays required to attract customers in streetwalking are eliminated, replaced by online ads that cause no immediate harm to any given community.

Prostitution 2.0 has also diminished—but not eliminated— the externality of disease. A recent empirical study suggests that Internet-enabled prostitutes engage in high-risk sex acts less frequently than traditional street prostitutes: only 6.1 percent of all transactions studied involved unprotected penetrative sex, whereas other studies show that 79 to 97 percent of street prostitution involves such acts. One can imagine various explanations for this difference. Indoor prostitutes may have more leverage to bargain with clients seeking such risky sex. Or, the lower cost of sorting and signaling may separate the market such that indoor, higher-end prostitutes primarily serve clients not seeking such acts. Finally, it could be that the new ability of clients to communicate through online review sites forces prostitutes with STDs out of the market because clients can post about STD transmission on such sites. Conversely, perhaps prostitutes can more easily avoid infected clients because of blacklists or references from other prostitutes. It is difficult to know without further research. At first blush, however, it seems that Prostitution 2.0 may have somewhat weakened this traditional objection to sex markets.

3. Effects on Coercion

Overall, Prostitution 2.0 also seems less coercive than traditional street prostitution. Empirical study suggests that Internet-enabled, independent

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174. See infra Part II.C (discussing the limits of this improvement).
175. See Scott Cunningham & Todd D. Kendall, Risk Behaviours Among Internet-Facilitated Sex Workers: Evidence from Two New Datasets, 86 SEXUALLY TRANSMITTED INFECTIONS iii100, iii101 (2010) (finding that "sex workers who use the internet to solicit and communicate with customers" are different from street-based workers, and that they see lower volume of clients, more repeat clients, and engage in high-risk sexual activities less frequently"); Jason Chan & Anindya Ghose, Internet's Dirty Secret: Assessing the Impact of Online Intermediaries on the Outbreak of Sexually Transmitted Diseases 17-19 (Apr. 6, 2012) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2033385 (reporting results of an empirical study of the impact of Craigslist on sexually transmitted disease incidence, and finding that Craigslist led to increase in AIDS and syphilis cases, but from casual sexual encounters, not prostitution); Scott Cunningham & Manisha Shah, Does Decriminalization of Indoor Prostitution Reduce Sexually Transmitted Infections? Evidence from the Rhode Island Experiment 21-23 (Jan. 31, 2012) (unpublished manuscript) (on file with author) (finding lower rates of gonorrhea in Rhode Island when only public solicitation was prosecuted but indoor prostitution was essentially legalized).
176. See Charrlotte Seib et al., The Health of Female Sex Workers from Three Industry Sectors in Queensland, Australia, 68 SOC. SCI. & MED. 473, 475 (2009) (finding that private sex workers were offered extra money for sex without a condom far less frequently than street prostitutes).
177. See Cunningham & Kendall, supra note 175, at iii104 (suggesting this possibility).
prostitutes are generally better educated, more middle class, and less drug-dependent or otherwise compromised than street walkers. Koken's study of thirty independent escorts, for example, found that: "Unlike previous samples of street based sex workers, although most women in this sample [of independent indoor escorts] expressed financial motivations for entering sex work, none reported being forced or coerced into the work by pimps or traffickers, and none reported working primarily to support a drug habit." Likewise, Bernstein's work on "middle class prostitution" suggests that sellers in Prostitution 2.0 are more likely to come from economic conditions that support an inference of free choice rather than coercion.

If such findings are accurate, they diminish the power of coercion arguments against Prostitution 2.0. Of course, some discount entirely the possibility that prostitution can ever be a real or free choice. This seems to ignore that the new market conditions of Prostitution 2.0 may attract both buyers and sellers from very different backgrounds than traditional street prostitution. In addition, Prostitution 2.0's diminished information asymmetries allow higher-end sellers to drive less qualified, educated, or

178. See Cunningham & Kendall, supra note 3, at 284 (suggesting that roughly forty percent of indoor prostitutes are college graduates); Cunningham & Kendall, supra note 20, at 261 (reporting that indoor prostitutes have more often than not grown up in households with some higher education, "with over 64% of mothers having at least some college exposure"); Juline A. Koken, Independent Female Escort's Strategies for Coping with Sex Work Related Stigma, 16 SEXUALITY & CULTURE 209, 226 (2012) (finding that a sample of thirty independent escorts "was well educated and many women were actively pursuing career goals outside of sex work," unlike typical samples of street prostitutes); Venkatesh, supra note 166 (studying 290 escorts in New York and finding that 86% had finished high school; 53% had some college experience; and 19% had a college degree).

179. See, e.g., Weitzer, supra note 90, at 28-35 (reviewing studies showing that indoor prostitutes are less likely to come from abusive backgrounds, less likely to be psychologically traumatized by their work, and more likely to have multifaceted social interactions with their clients); Bungay et al., supra note 154, at 15 (reporting results of a study of indoor sex workers and rejecting the binary distinction between seeing sex workers as victims of structural coercion, on the one hand, or as free agents exercising choice, on the other). There is some evidence that Internet-enabled male prostitution is also safer than street prostitution. See generally J.T. Parsons et al., The Use of the Internet by Gay and Bisexual Male Escorts: Sex Workers as Sex Educators, 16 AIDS CARE 1021 (2004).

180. See Lever & Dolnick, supra note 22, at 191-99; Seib et al., supra note 176, at 476 (finding that street prostitutes had more background mental health issues than indoor prostitutes and were four times more likely to report poor mental health).

181. See Koken, supra note 178, at 226 (citations omitted).

182. See Elizabeth Bernstein, Sex Work for the Middle Classes, 10 SEXUALITIES 473, 474-77 (2007).

183. See Satz, supra note 63, at 66 ("Many critics of prostitution have assumed that all prostitutes were women who entered the practice under circumstances which included abuse and economic desperation. But that is a false assumption: the critics have mistaken a part of the practice for the whole.").

184. See, e.g., KATHLEEN BARRY, THE PROSTITUTION OF SEXUALITY 33 (1995) ("Can women choose to do prostitution? As much as they can choose any other context of sexual objectification and dehumanization of the self." (emphasis omitted)).
financially secure prostitutes out of the market. All of this may result in a new sex market that is less coercive than traditional street prostitution.\textsuperscript{185}

4. Effects on Objectionable Commodification

Finally, Prostitution 2.0 lessens the various types of objectionable commodification, as compared to traditional street prostitution.

\textit{Individual Denigration}. Early empirical studies suggest that Prostitution 2.0 is far less denigrating to individual sellers than street prostitution. Prostitution 2.0 may be more financially and psychologically rewarding than other forms of sex work; Internet-enabled prostitutes often see their work as a career with professional implications and undertones; and Prostitution 2.0’s improved working conditions reduce the degrading aspects of such prostitution.\textsuperscript{186}

Internet-enabled prostitutes may feel increased self-efficacy because they can set their own hours and control their work environment.\textsuperscript{187} Some evidence suggests that such work creates less psychological stress or burnout than street prostitution.\textsuperscript{188} In addition, because indoor sex work is less visible than street prostitution, such sex workers may be able to engage in “passing” or “covering” strategies to avoid or reduce the stigma commonly associated with prostitution.\textsuperscript{189} In other words, Prostitution 2.0’s new technologies not

\begin{itemize}
\item \textsuperscript{185} See Murphy & Venkatesh, supra note 22, at 134 (“The decision to engage in sex work may be a fairly rational choice by women: namely, given their qualifications and the state of the market, they realize that they are able to earn more money in sex work than other available jobs.”); Eva Rosen & Sudhir Alladi Venkatesh, A “Perversion” of Choice: Sex Work Offers Just Enough in Chicago’s Urban Ghetto, 37 J. CONTEMP. ETHNOGRAPHY 417, 417 (2008) (“[I]n specific social contexts of limited labor market opportunities, [the] decision [to engage in sex work] can be rational.”).
\item \textsuperscript{186} See Murphy & Venkatesh, supra note 22, at 131 (“S]ex work in New York . . . is undergoing an important shift as more women find themselves moving from the streets to areas indoors. The patterns of earning, exposure to violence and physical abuse, relations with other sex workers, conception of the work, and the overall tenure of participation (including opportunities for exit) have changed for those involved.”).
\item \textsuperscript{187} See Veena N., Revisiting the Prostitution Debate in the Technology Age: Women Who Use the Internet for Sex Work in Bangkok, 11 GENDER, TECH. & DEV. 97, 105–06 (2007) (“[T]he Internet has increased [Thai sex workers’] agency in the work. While their choices are constrained by their circumstances, the Internet helps women to protect their identity and thereby avoid social stigma; increase their earnings by removing the pimp and retain control over their lives by deciding when, where and how they will offer what services.”).
\item \textsuperscript{188} See, e.g., Roberta Perkins & Frances Lovejoy, Healthy and Unhealthy Life Styles of Female Brothel Workers and Call Girls (Private Sex Workers) in Sydney, 20 AUSTL. & N.Z. J. PUB. HEALTH 512 (1996) (finding that independent escorts reported better physical health and healthier lifestyles than brothel prostitutes); Ine Vanwesenbeeck, Burnout Among Female Indoor Sex Workers, 34 ARCHIVES SEXUAL BEHAV. 627 (2005) (finding some psychological depersonalization among indoor sex workers, but not other forms of psychological distress or burnout, and noting that they generally experienced fewer problems than street workers). \textit{But see} Farley, supra note 2, at 956 (citing studies indicating that non-escort types of indoor sex work—such as strip club or massage parlor prostitution—show higher rates of psychiatric symptoms).
\item \textsuperscript{189} See Koken, supra note 178, at 211 (internal quotation marks omitted).
\end{itemize}
only reduce information asymmetries and externalities, but also open up new means for prostitutes to avoid feelings of degradation or commodification.

Indoor sex workers may also feel more of a positive professional identity than street prostitutes, and view their work as a career:

The work begins to shape their identity in ways other than feelings of shame and stigmatization. They begin to define the work not only in terms of the exchange of sex for money, but in terms of other components, such as the relatively autonomous character of the employment relationship, the free time that the work affords; and because of this flexibility, their ability to cultivate other interests, their ability to "be good at what [they] do," and so on. Moreover, . . . the longer women stay in the trade, the more salient their identities as "sex workers" become and in turn, the more likely sex work actually takes on the structure of a profession and a career.199

Again, this contrasts with traditional forms of prostitution.

As part of that careerist orientation, women engaged in Prostitution 2.0 report more therapeutic connection to their clients.191 In comparison, street prostitutes rarely express feelings of attachment to their clients.192 Elizabeth Bernstein argues for this benefit of Prostitution 2.0 in her ethnographic study of prostitutes in five cities.193 She claims that Internet-enabled prostitution can take on a therapeutic tone, which enriches the work experience:

During the era of industrial capitalism in which the institution of modern prostitution in the West was consolidated, what was typically sold and bought in the prostitution encounter was an expedient and emotionally contained exchange of cash for sexual release. . . . In contrast to this, within the postindustrial paradigm of (new) middle-class sex work . . . what is bought and sold frequently incorporates a great deal more emotional, as well as physical labour within the commercial context.194

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190. Murphy & Venkatesh, supra note 22, at 143 (alteration in original).
191. For a general discussion of the idea of prostitution as sexual therapy, see Sibyl Schwarzenbach, Contractarians and Feminists Debate Prostitution, 18 N.Y.U. Rev. L. & Soc. Change 103, 125 (1990–1991) ("The idea that commercial sex can have a therapeutic value is not as far-fetched, nor as 'ad hoc,' as it may seem at first glance.").
192. See Murphy & Venkatesh, supra note 22, at 142.
193. See Bernstein, supra note 182, at 482–83.
194. Id. (citation omitted).
Prostitution 2.0’s sex workers sometimes discuss their emotional attachment to their clients, as well as the healing nature of their work.\textsuperscript{195} Indeed, some studies suggest that as much as forty percent of interactions between buyers and independent escorts do not involve physical sex at all.\textsuperscript{196} As Bernstein has noted, this “complicate[s] the view that the commodification of sexuality is transparently equatable with the erasure of erotic and emotional intimacy.”\textsuperscript{197} In addition, it suggests that for at least some prostitutes, Internet-enabled sex work may be more psychologically enriching than street prostitution.

All of this—better working conditions, the ability to avoid stigma, and careerist or therapeutic experiences—suggests that women involved in Prostitution 2.0 may not experience the same degradation that makes street prostitution seem particularly objectionable. Additional study is obviously needed. Nevertheless, this first version of the commodification objection seems less powerful in the Prostitution 2.0 context.

Social Commodification. Even if individual prostitutes do not experience objectionable commodification, prostitution may still harm social relations as a whole if it degrades our norms and practices about sex, intimacy, or women generally. What of this type of commodification?

This has always been a difficult argument to make. Martha Nussbaum, for example, rejects as “repugnant” the idea that some women should be forbidden from pursuing sex work just to ensure that others can retain their ideal of love.\textsuperscript{198} But even if one accepts the argument at face value, Prostitution 2.0 weakens this objection. For prostitution to debase our norms and ideals about sex, the mere fact that someone somewhere is buying or selling sex must impact how we think and feel about sex in our own lives. Moreover, that impact must be negative—the existence of a sex market must make us believe that all sex, including our own sexual experience, is about market exchange rather than love, or that all women, in particular, are commodities to be traded for pleasure. For this generalization to occur, however, there must be a negative valence to our view of market sex; we must feel negatively about the market transactions that are occurring before we could translate that to all non-market sexual interactions. Similarly, for the existence of a sex market to degrade our views of all women, women in that market must be treated as base commodities. To the extent that Prostitution 2.0 has cleaned up sex markets, however, it may reduce these basic negative feelings about market sex and change our

\begin{footnotes}
\item[195.] See Janet Marie, Working Well: Women’s Experience of Managing Psychological Wellbeing as Sex Workers 138 (2009) (unpublished M.A. thesis, Massey University) (on file with author) (reporting a small survey and finding that “sex workers clearly understood their work to have meaning beyond that of being a sexual object while at work”).
\item[196.] See Venkatesh I, supra note 169.
\item[197.] Bernstein, supra note 182, at 486.
\item[198.] See Nussbaum, supra note 41, at 714.
\end{footnotes}
view of the women that participate in such exchange. There should, therefore, be less of a negative association to generalize to all sexual relations or all women.

The argument that prostitution inherently degrades our views of women thus seems less powerful in the context of Prostitution 2.0. Given the conditions under which women must labor in traditional street prostitution, the argument that the mere existence of such labor reinforces negative, base views of women has some traction. Permitting women to participate in violent, unhealthy, powerless work does seem degrading to women generally. To the extent that Prostitution 2.0 has reformed sex markets, however, this argument weakens. If the market conditions of Prostitution 2.0 are no longer nasty and brutish, then the fact that women choose to participate as sellers in that market does not degrade women generally, any more than a woman’s choice to participate in any other relatively safe and healthy market degrades women generally.

C. THE REMAINING PROBLEMS WITH PROSTITUTION 2.0

At this point, the improvements of Prostitution 2.0 should be clear: technology has created Internet-enabled, indoor sex markets, and this has at least partially ameliorated each of the four main objections to prostitution. New sorting and signaling mechanisms lessen information asymmetries that plague traditional prostitution. Moving sex work off the streets removes externalities by making prostitution less visible, and increased bargaining power seems to give prostitutes the ability to avoid higher-risk sex acts and unhealthy clients, thereby lessening disease. New technologies permit price differentiation, thereby making Prostitution 2.0 more financially rewarding (at least for more successful prostitutes), and fewer sellers seem economically coerced into these markets. Finally, improved working conditions weaken commodification objections, given that the subjective experience of many prostitutes in these markets may be relatively positive and that social norms—about sex or women—seem less likely to be seriously degraded by Prostitution 2.0.

Some believe that these improvements suffice. If market conditions have so progressed that each of the four criterion is satisfied, then continued prohibition may rest only on lingering irrational feelings of disgust left over from our rejection of traditional forms of prostitution. No independent grounds may remain for rejecting Prostitution 2.0. But have market

199. See supra note 29 and accompanying text.
200. See Krawiec, supra note 78, at 1744 (arguing against coercion and commodification objections and concluding that only unjustified repugnance and disgust explain antipathy to prostitution).
201. See id. at 1741 (“[S]ocial and legal impediments to taboo trades sometimes serve no purpose other than constraining normal market functioning or denying providers the status of legitimate suppliers of a valuable good or service.”).
conditions so progressed? Consider several doubts, organized in our familiar categories.202

1. Remaining Information Asymmetries & Externalities

Prostitution 2.0 lessens many of the historical information asymmetries that plague markets for sex. At the same time, it is not at all clear that Prostitution 2.0 has overcome these asymmetries sufficiently to remedy the information-related failures in prostitution markets. At the deepest level, one should want interactions about all sex—commercial or non-commercial—to be as fully informed as possible.203 At the very least, one should not want material information asymmetries to make such interactions excessively risky to either sexual partner. Prostitution should not be the equivalent of Russian Roulette. Unfortunately, two material information asymmetries remain in Prostitution 2.0: whether either the buyer or seller has an STD that could endanger the other, and whether either the buyer or seller is likely to engage in criminal activity—violence, blackmail, etc.—that could endanger the other.

Although some evidence suggests that Prostitution 2.0's buyers and sellers engage in high-risk sex acts less frequently than traditional street

202. The early empirics on indoor prostitution have noted some concerns with Prostitution 2.0, but they are often somewhat trivial. It may be that most work on indoor prostitution generally takes on a pro-liberalization view, and therefore that the negatives have been overlooked. Regardless, the empirical literature does mention some concerns. One concern is that that indoor prostitutes—like street prostitutes—do not report their illegal income and may thus fail to establish credit or save sufficiently. See Murphy & Venkatesh, Vice Careers, supra note 22, at 135. A second concern is that, because Prostitution 2.0's technologies allow women to work independently, they may become socially isolated and not interface or form social networks with other sex workers. See id. at 144 ("Our study... finds a high degree of social isolation for women working indoors."). Third, indoor prostitutes may gain a false sense of security, believing that only street prostitutes face risks of violence or arrest. See id. at 140. Fourth, indoor sex workers may be less able or likely than street prostitutes to access relevant social services, which are often offered to prostitutes through outreach programs—such as outreach vans—that are unable to locate indoor sex workers. See id. at 147. Fifth, indoor sex workers may be less interested in exiting prostitution because the improved work conditions of Prostitution 2.0 make other career options seem less attractive. See id. at 148 ("Many women stated... that available, legitimate employment was usually a 'step down,' offering fewer wages, flexibility, and job satisfaction."). Finally, stigma remains, and that "covering" to avoid such stigma increases stress. See Koken, supra note 178, at 212 ("Though passing, and thus protecting themselves from the loss of status that may accompany revelation of their stigma, the individual with concealable stigma may... engage in high levels of hypervigilence and self-monitoring in social situations.").

203. Debra Satz has put forth five conditions that she believes must be met to ensure that legalized prostitution takes place under market conditions that would guarantee women's equality. See Satz, supra note 63, at 84 ("In order to promote women's autonomy, the law needs to ensure that certain restrictions—in effect, a Bill of Rights for Women—are in place."). Among these, Satz argues for the condition that "[t]he law should ensure that a woman has adequate information before she agrees to sexual intercourse." Id.
prostitutes. Prostitution 2.0 is far from perfect in this regard. In Prostitution 2.0, a prostitute can use Internet-enabled information to guess whether her client is likely to carry infection, but she has no direct means to verify this likelihood. The same is true from the client’s perspective: a sex buyer can guess—based on the signals of education level, sophistication, cleanliness, etc. that he receives from a prostitute—the likelihood that she will expose him to an STD, but he has no knowledge of the many factors (e.g., length of time working as a prostitute, number of clients seen a week, willingness to engage in high-risk sex acts with others) that would help him make that determination in an informed way. Even with the improvements of Prostitution 2.0, both sex sellers and sex buyers remain in the dark about these health risks. Although they may believe that they can accurately predict such risks, they may well be wrong. Guessing someone’s STD status based on a few email exchanges or Google searches is a fraught proposition.

The same holds for information about criminal propensity. Again, some evidence suggests that Prostitution 2.0 is safer than street prostitution, and that prostitutes in these new markets experience less violence. This is an unqualified good. At the same time, we have very little real data on rates of violence, rape, and abuse within Prostitution 2.0 populations. If Prostitution 2.0 is safer, this is most likely due to the better sorting and signaling made possible by the Internet. Again, however, prostitutes and potential clients must “read the tea leaves” to determine the likelihood of victimization. If a prostitute can screen a potential client by talking to another prostitute for a reference, learning about the client online, or emailing with the client, this undoubtedly provides more information about that client’s propensity towards violence than is available to a street prostitute. It remains incomplete, however. Similarly, when a client can read reviews of a prostitute on The Erotic Review, read the prostitute’s blog entries, or email with the prostitute, the client can somewhat gauge whether she is likely to blackmail or otherwise defraud him. Again, however, such assessment is far from fully informed.

Information about criminal propensity remains imperfect in Prostitution 2.0 because identity remains imperfectly disclosed. Prostitutes almost never disclose their true names or identities to clients. Thus, the reviews that a client can read online must necessarily refer to a pseudonym. This makes it possible for a prostitute to change her online identity—or maintain multiple online identities—to camouflage herself if she victimizes a client.

204. See supra text accompanying notes 165–71.
205. See supra note 177 and accompanying text.
206. See supra text accompanying notes 165–71
The same is true of clients. As explained, many prostitutes now require that a potential client submit a name, employment information, or other identifying information in order to be screened prior to meeting in person.\textsuperscript{208} It is easy to imagine violent or criminal clients, however, finding ways around such screening mechanisms. A client could construct an artificial online identity, for example, by using a secondary email account. Or a client could give the prostitute the name and personal information of another person—stealing that person’s identity for the sake of verification. At the time of their face-to-face meeting, the prostitute has little way to ensure that the client standing in front of her is the online persona she researched and verified.

Moreover, despite screening, prostitution clients continue to hide behind pseudonyms and screen names. The National Blacklist, for example, contains thousands of reports on bad clients, but most of them do not list the client’s real name.\textsuperscript{209} Instead, reports generally list just a first name (e.g., “Don,” “Jason,” etc.), a phone number, or an email address.\textsuperscript{210} Screen names, phone numbers, and email addresses can easily be changed, however. The lack of robust identity information reduces the efficacy of blacklist sites and screening mechanisms.

Legalization of Prostitution 2.0 in its current form could only partly overcome these remaining information problems. If Prostitution 2.0 were legalized, prostitutes and clients could make representations and warranties that they did not carry STDs and that they had no criminal history. Such representations and warranties, however, would do little to reassure either sellers or buyers. A client, for example, does not just want damages in the event that a prostitute gives him a sexually transmitted disease—he wants to be able to prevent that infection. Likewise, a prostitute does not merely hope for compensation in the event that a client is violent—she wants to be able to avoid such clients and prevent her own victimization. These information asymmetries would therefore remain, even if Prostitution 2.0 were legal.

2. Remaining Coercion

Prostitution 2.0 also only incompletely solves coercion problems. As discussed, evidence suggests that Internet-enabled prostitutes generally come from more educated, wealthy, and stable backgrounds, reducing the likelihood that their participation in such markets is a result of economic or other coercion.\textsuperscript{211} Although positive, this does not eliminate all concerns.

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\textsuperscript{208} See Murphy & Venkatesh, supra note 22, at 140 (describing screening in detail); Ray, supra note 121, at 57-58 (similar).
\textsuperscript{210} See id.
\textsuperscript{211} See supra notes 177-79 and accompanying text.}
about coercion. As Susan Dewey recently put it, “It is problematic to imply that women compelled for whatever reason to engage in sex work do not make choices designed to improve their lives materially, but it is even more dangerous to argue that they are agents free of coercion by poverty and other limiting circumstances.”

Although in the aggregate Internet-enabled prostitutes may be more educated and better off financially than street prostitutes, such statistics do nothing to inform an individual transaction between a buyer and a seller. There is little way for a buyer, for example, to know whether a particular prostitute came from an economically (or otherwise) coercive background, lives currently in coercive circumstances, or suffers from serious hardship that makes suspect her choice to prostitute herself. The client does not know her history in any way—whether she has been abused in the past, for example, or suffers from mental or emotional instability or from drug addiction. Most important, the client has no idea whether the prostitute may be a victim of sex trafficking. In short, the client is hiring an unknown.

This lack of information about coercion or trafficking seriously weakens the legitimacy of Prostitution 2.0. In normal legal markets, contract law does not require that one contracting party know everything about the other, but it does require some basic level of care that one is not transacting with a minor, an incompetent, or an incapacitated counterpart. If one ignores these limits, one bears the risk of the transaction (because the counterpart can avoid the contract). Similarly, employment law imposes on employers a duty to exercise care during hiring to avoid retaining employees with a past criminal history. If an employer does not exercise such care, it may be liable for the future bad acts of that employee.

212. SUSAN DEWEY, NEON WASTELAND: ON LOVE, MOTHERHOOD, AND SEX WORK IN A RUST BELT TOWN xvi (2011).

213. See E. ALLAN FARNSWORTH, CONTRACTS §§ 4.2–4.8 (4th ed. 2004). Contract law does not take this intuition very far: the doctrine of economic duress continues to require that one party impose a wrongful threat on the other, as opposed to allowing a party experiencing economic duress to avoid a contract regardless of whether the counterpart explicitly used that duress against it. See id. § 4.19.

214. See id. §§ 4.2–4.8.


216. See id. British criminal law likewise provides a defense to statutory rape if a defendant can show that he reasonably believed—particularly after due diligence—that his sexual partner was of age. See Sexual Offences Act, 2003, c. 42, § 9 (U.K.). Put differently, in cases of doubt, the law requires some investigation into the age of a consenting sex partner. U.S. law is less clear. See Catherine L. Carpenter, On Statutory Rape, Strict Liability, and the Public Welfare Offense Model, 53 AM. U. L. REV. 313, 344–50 (2003) (providing an overview of state laws on mistake-of-fact defenses in statutory rape). In general, U.S. law imposes strict liability for statutory rape, shifting the burden even more clearly to investigate the age of a sexual partner. See id. at 318.
I do not invoke these doctrines to suggest that they apply per se, but instead to highlight the principle embedded within them: we sometimes require a contracting party to investigate the status of its counterpart, particularly when circumstances suggest that the counterpart may be vulnerable. Extrapolating only slightly from these doctrines, it seems reasonable to suggest that in a market as fraught with the potential for vulnerability as the market for sex, we might demand not only that coercion be absent in the aggregate, but that buyers and sellers be able to determine and prove that coercion is absent in a given exchange. The existing technologies of Prostitution 2.0 do nothing to so inform prostitution markets.

Legalization of Prostitution 2.0 would not remedy this problem. Were prostitution legal, the state could license Internet-enabled prostitutes after determining that each was competent and entering sex work freely. Such licensure would certainly help with this lingering coercion problem. It is not clear, however, how such a licensing regime would work. As Sheila Jeffreys has recently noted, modern technology-enabled prostitution raises a unique problem for licensing regimes designed to improve the working conditions of prostitutes: by allowing prostitutes to be independent of pimps and brothels, Prostitution 2.0 simultaneously may make it more difficult to use licensing to clean up prostitution markets. Jeffreys concludes that without brothels as the locus of legalized prostitution activity, regulatory reform of the industry is impossible. As Jeffreys puts it:

[T]he escort boom makes legalization obsolete, its purposes unachievable. Legalization is based on the notion that prostitution should take place in legal brothels which will have to obey some state regulation to ensure the safety of the prostituted women from health risks and violence, and the male buyers from sexually transmitted diseases (STDs). The escort industry is beyond regulation. It operates through mobile phones and delivers women to private houses, hotel rooms, and even cars . . ., worksites which cannot be made "safe." 218

As Part III shows, I disagree with Jeffreys' conclusion that independent prostitution cannot be made safe.219 Her basic observation about the difficulty of monitoring such prostitution is valid, however. Pointedly, even if Prostitution 2.0 were legal and the state licensed independent, technology-enabled prostitutes, what would guarantee that clients would care? In the

217. See Jeffreys, supra note 38, at 211 ("Legalization policies, founded on the idea that prostitution will usually take place in brothels, set up special regulatory systems by which brothels can acquire licenses and create conditions of operation, such as . . . health[ ] and safety plans . . .").
218. Id. at 216.
219. See infra Parts III.A–B.
privacy of a hotel room or apartment, how could the state ensure that licensing requirements were observed or that prostitution did not continue without such licensure? This standard approach to minimizing coercion problems in a legalized regime seems hamstrung by the very technology potentially justifying legalization in the first instance.

3. Remaining Commodification

Finally, consider lingering doubts about commodification. As discussed, in some ways Prostitution 2.0 seems to present less objectionable commodification than traditional prostitution. Nevertheless, Prostitution 2.0 presents two new commodification issues of its own that warrant discussion.

First, sites such as The Erotic Review provide detailed descriptions of the physical attributes of thousands of prostitutes, narratives about the services they perform, and rating scales designed to aid clients as they seek prostitution services. This explicit rating of prostitutes may seem a particularly offensive development: not only are prostitutes commodified through the sale of sex itself, but they are then crassly discussed online as if they were actual commodities.

This objection to Prostitution 2.0 has some merit—even a cursory reading of some of the reviews on such sites underscores just how crude and objectifying such peer-to-peer ratings can be. At the same time, this objection must deal with the modern reality of ratings generally. Many things are now rated, as are many people serving in many professions. You can judge your professors at RateMyProfessors, your plumber at Angie’s List, your lawyer at Avvo, or your doctor at RateMDs. More crudely, you can rate your girlfriend or ex. In other words, online rating of others has become relatively commonplace. Any objection based on the commodification inherent in rating another's sexual services would either have to distinguish prostitution ratings as unique or address and reject this more widespread commodification of all services. Neither seems a strong position.

At a deeper level, however, Prostitution 2.0 does not solve the commodification problem. The commodification objection to traditional

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220. See supra notes 106–07 and accompanying text.
221. See Peppet, supra note 25, at 698–703 (discussing the phenomenon of consumer ratings).
streetwalking was that it subjected women to such base market conditions that it both degraded individual prostitutes and undermined social views of women generally. To the extent that Prostitution 2.0 improves those market conditions, this objection falls away. But the remaining information asymmetries in Prostitution 2.0—particularly about STDs, criminal propensity, and the risk of trafficking—seem material. Although they have better information than they once did, prostitutes must still work under extremely risky conditions with very little verified information about these important aspects of the transactions in which they partake. Although they may demand identifying information from their clients, this information may be faked with little consequence, and their interpretation of available data on such a client may not accurately reveal these risks. In all, Prostitution 2.0 remains a flawed market. As a result, one may still—as in Prostitution 1.0—fear that permitting it degrades our views of women generally. To overcome this fear requires improving prostitution further, beyond the advances of Prostitution 2.0. That is the subject of the next Part.

III. THE POSSIBILITIES OF PROSTITUTION 3.0

Let us summarize the argument to this point. Technology allows prostitutes to advertise, screen clients, and be screened by clients in new ways that reduce transaction costs and allow prostitutes and clients to sort and signal each other more efficiently than before. These changes to the underlying economics of prostitution have in turn reduced the information asymmetries, externalities, coercion problems, and commodifying effects of traditional prostitution. Prostitution 2.0 seems safer, healthier, less socially visible or obnoxious, less coercive, and more rewarding than streetwalking or other forms of indoor prostitution. At the same time, concerns remain. In particular, Prostitution 2.0 does not eliminate all troubling information asymmetries between prostitutes and clients—particularly about health risks, criminal propensity, and trafficking.

On balance, I find these concerns sufficiently serious to make legalization or decriminalization premature. In particular, the ongoing information asymmetries between even the most technology-enabled prostitutes and clients raise the troubling possibility that Prostitution 2.0 markets are less well-functioning than some have suggested. Although these markets may be better than Prostitution 1.0, they do not yet seem good enough. It is hard to characterize the transactions that occur in Prostitution 2.0 as adequately informed about these material risks. In addition, the relative paucity of empirical evidence tilts the balance towards caution. Granted, at least some of the evidence we have about Prostitution 2.0 is positive. Nevertheless, there is much we do not know, and those gaps should give pause.

At the same time, Prostitution 2.0 has shown that further innovation may itself be justified. Although Prostitution 2.0 may not be good enough, it
suggests that a further-improved Prostitution 3.0 might be. This justifies exploring the possibility of Prostitution 3.0. What further technological upgrades would be needed to remedy the remaining problems with Prostitution 2.0? What legal reform would be needed to effect such upgrades? And would such reform be a net social positive?

Even asking such questions stands in stark contrast to current trends in prostitution-related law enforcement and policy. Law enforcement has vigorously targeted Prostitution 2.0 technologies in order to suppress online communication related to prostitution.\(^2\)\(^2\)\(^8\) Most notably, various state prosecutors have attacked Craigslist for facilitating prostitution, sometimes threatening criminal prosecution under state statutes.\(^2\)\(^9\) In 2008, for example, forty state attorneys general demanded that Craigslist remove its adult-services advertisements.\(^2\)\(^3\)\(^9\) Craigslist responded by beginning to charge for such postings and by requiring an identifying credit card,\(^3\)\(^1\) which significantly decreased adult-services advertisement on the site.\(^2\)\(^3\)\(^5\) In 2010, Craigslist removed the adult-services section completely.\(^7\)\(^3\)

More recently, the website Backpage has come under attack for hosting prostitution advertising.\(^2\)\(^3\)\(^4\) In 2012, for example, the State of Washington enacted a requirement that any online site allowing personal ads should guarantee that users were at least eighteen years of age.\(^7\)\(^3\)\(^5\) This requirement was targeted directly at Backpage, which immediately brought suit to enjoin the new requirement as a violation of its federal rights. The Washington Attorney General’s Office settled the case and promised to work with the legislature to repeal the law.\(^7\)\(^3\)\(^6\)

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232. See Cunningham & Kendall, supra note 20, at 252–54 (reporting results of a study of Craigslist adult-services ads indicating that policy change had a dramatic effect).


Finally, law enforcement has also targeted prostitution review sites. In 2002, for example, Florida prosecutors brought criminal charges against the owners, operators, and users of one prostitution review site—BigDoggie.net. The Erotic Review has likewise come under scrutiny, and various commentators have urged Congress to further pressure such Internet services by stripping them of the immunity from prosecution currently afforded them by Section 230 of the Communications Decency Act.

I do not wish to defend Craigslist, Backpage, BigDoggie.net, or The Erotic Review. Each has its shortcomings, particularly the troubling reality that such Prostitution 2.0 services are sometimes used to facilitate coercive trafficking. At the same time, ignoring the potential benefits of such technologies is short-sighted. Although Prostitution 2.0's nascent technologies are imperfect, they improve on Prostitution 1.0. We should not seek to suppress them, but instead ask whether further innovation might improve again on their initial advances.

Such further innovation will require legal reform, however. In addition to targeting existing Prostitution 2.0 technologies, we can assume that law enforcement will try to block or inhibit future innovation in this sector. Various legal barriers stand in the way of such innovation, including state statutes criminalizing activity that "advances" or "promotes" prostitution. These statutes could easily be used against those creating technologies in this context. The threat of such prosecution almost certainly has a chilling effect on potential innovators of prostitution-related technologies. This chilling effect may be unjustified: if Prostitution 3.0 could so overcome the basic objections to liberalization of prostitution markets, then inhibiting such innovation seems in itself unjustified.

To set the stage and show the ways in which future technologies might remedy the remaining problems of Prostitution 2.0, Part III.A first considers four technologies that might form the core of Prostitution 3.0. In each case, the focus is not on a particular piece of hardware or software, but on the economic or informational function that Prostitution 3.0 requires. Part III.B

237. See Marshall B. Clinard & Robert F. Meier, Sociology of Deviant Behavior 350 (14th ed. 2011) ("In an unusual move, Florida prosecutors charged not only the sex workers advertised on the Web site, but also the Web site owners and registered users of the site.").
238. See Matt Richtel, Sex Trade Monitors a Key Figure's Woes, N.Y. TIMES (June 17, 2008), http://www.nytimes.com/2008/06/17/us/17erotic.html?_r=1 (describing the legal entanglements of the founder of The Erotic Review).
241. See infra Part III.B.
then lays out the legal reforms that would be required to permit such innovation. Finally, Part III.C considers whether it is worth pursuing Prostitution 3.0, objections to that pursuit, and the realistic possibilities for those interested in prostitution reform.

A. Prostitution 3.0's Technologies

To overcome the remaining problems in sex markets, Prostitution 3.0 requires four innovations: (1) verification of STD status; (2) verification of criminal history; (3) verification of anti-trafficking credentials; and (4) biometric identity verification. These four technologies could change prostitution from a market in which prostitutes and clients must guess at material information to one in which such information becomes routinely available. To understand these changes, consider each innovation in turn.

1. Verification of STD Status

A prostitute and client have no low-cost way to share verified health information. Even if each knows that he or she carries no STDs, it would be difficult to convince the other of that fact. Any attempt to do so would be merely "cheap talk."242

A technology-enabled intermediary can change this by facilitating sharing of verified health information. Services like Qpid show that such verification is possible.243 Others are innovating with such STD verification systems using mobile technologies. In February 2012, for example, Chec-Mate launched an iPhone and Android application that securely stores STD test results on your phone to facilitate sharing with a potential sex partner.244 A user uploads a personal photo to Chec-Mate, as well as contact information for the testing facility the user visits. Chec-Mate then sends a result verification screen to the user's phone. The screen contains the user's image (so that when the user shares the screen with a potential partner, the partner can verify that the results belong to the user) and test results.245

Legal scholars have begun to show interest in the public health advantages of such technology. Mary Fan, for example, has written recently about the possibility of creating a national STD database to provide

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242. See Joseph Farrell & Matthew Rabin, Cheap Talk, J. ECON. PERSP., Summer 1996, at 103, 104 (defining "cheap talk" as "ordinary, informal talk" through which "information sharing" is accomplished).


245. See id.
information about STD status to others in real time.\textsuperscript{246} Although focused on dating culture, not prostitution markets, Fan’s work is directly applicable. She argues for low-cost means to share information with a potential partner about one’s STD status,\textsuperscript{247} for a public health campaign to create a “culture of verification,”\textsuperscript{248} and for more effective legal penalties for those who repeatedly and knowingly spread STDs to others.\textsuperscript{249}

A robust health verification system like this could provide new regulatory opportunities for improving prostitution markets. If such a system was widely used in non-prostitution contexts—among those just casually dating, for example—it could likewise be used (or required) by prostitutes and clients. Moreover, it is quite likely that if such systems became culturally normalized, a prostitute’s or client’s unwillingness to use such a verification regime would itself signal a health concern. This might drive those with sexually transmitted diseases out of the market, or make it far more difficult for them to engage in risky sex acts likely to transmit infection.\textsuperscript{250}

2. Verification of Criminal History

Likewise, a technology-enabled intermediary could provide prostitutes and clients with more robust information about criminal history and propensity for violence than they could obtain through Prostitution 2.0’s technologies. This information could come from two sources. First, the Internet has greatly reduced the cost of criminal background checks. Such checks are now far more comprehensive than in the past, and available cheaply. With valid information about a prostitute or client’s identity, an Internet intermediary could easily provide such basic criminal history.

Second, Prostitution 2.0 shows the power of peer-to-peer information sharing and reputational markets. If a customer has been violent in the past, the prostitutes he has hired will have the best information about that propensity for violence. Similarly, if a prostitute is a drug addict or has stolen from a client, peer-to-peer information will best reveal those problems.

\textsuperscript{246} See Mary D. Fan, Decentralizing STD Surveillance: Toward Better Informed Sexual Consent, 12 Yale J. Health Pol’y L. & Ethics 1, 28 (2012) (“[T]he way forward is to seed private-public partnerships that put power and information in the hands of the people in order to facilitate truly informed decisionmaking and consent . . . .”); see also James M. Helmink, Note, Sexually Transmitted Identification, 6 J.L. & Pol’y 569, 583 (2010) (advocating for the creation of a sexually transmitted disease identification system).

\textsuperscript{247} See Fan, supra note 246, at 30.

\textsuperscript{248} Id. at 30–31.

\textsuperscript{249} See generally Mary D. Fan, Sex, Privacy, and Public Health in a Casual Encounters Culture, 45 U.C. Davis L. Rev. 531 (2011).

\textsuperscript{250} As in many markets, an “unraveling effect” might kick in: as those without disease became comfortable sharing their health status through such a system, the market for disclosure would unravel, forcing all to disclose. For a discussion of unraveling in information markets, see Scott R. Peppet, Unraveling Privacy: The Personal Prospectus and the Threat of a Full-Disclosure Future, 105 Nw. U. L. Rev. 1153 (2011).
Prostitution 2.0’s peer-to-peer networks, such as prostitution review sites and the National Blacklist on customers, suffer from imperfect identity tracking. A prostitute or customer can easily change her online “handle” or username, and thus can evade the reputational consequences of bad behavior. As a result, Prostitution 2.0 imperfectly shares information between peers about bad actors in the prostitution market.

Prostitution 3.0 could solve this problem by more tightly managing identity information. In Prostitution 3.0, both prostitutes and clients would have to share their actual identity with the Internet intermediary to gain access. This allows for stable tracking of reputational information.

3. Anti-Trafficking Analysis

An intermediary with accurate identity information could also attack Prostitution 2.0’s lingering trafficking problem. Again, in Prostitution 2.0 clients have little means to verify that a prostitute that advertises online is actually of age, legal, and non-coerced. More pointedly, a client has no way to know whether the individual that actually appears for their in-person meeting is the individual the client researched online. Digital and physical identity remain too weakly linked, thus opening the door for trafficking to exploit Prostitution 2.0 and give such coercive prostitution a false gloss of legitimacy.

Prostitution 3.0 must address trafficking. This problem will be more challenging, however, than either health or criminal background information, for a simple reason: there is no verified data source on which to draw to determine whether an individual has been coerced into prostitution. One can check a prostitute or client’s STD status through medical testing, or criminal history through a background check. But there is no simple means to verify anti-trafficking credentials.

However, the problem is not intractable. In combination, various data about an individual can likely be combined to estimate the probability that the person is vulnerable to trafficking or is actually consenting to prostitution. Various data points could feed such analysis: whether the person is a U.S. citizen with a verified passport or social security number; whether she has a verified college education; whether she is transient or has a record of leases or home ownership showing stability in her living arrangements over time; whether she has any medical history of drug problems; whether her financial records and credit rating indicate reasonable financial stability; or whether her name appears on any trafficking “watch lists.” These data may not be perfect indicators of trafficking, but it seems likely that they can reveal a risk of trafficking in most cases—at least in the United States where reasonably reliable information is available about most individuals.

In addition, the mere existence and use of Prostitution 3.0’s verification systems will likely impact trafficking markets in the United States. Traffickers
will likely avoid Prostitution 3.0's system because of its reliance on actual identity and stable identity management over time, which may lead to detection. This will deprive traffickers of access to all of the benefits of Internet technologies, such as online advertisement and prostitution review sites. Traffickers will no longer be able to "pass" trafficked victims off as consenting prostitutes by using online media to advertise and advance their services. Instead, trafficking will be forced off the Internet and back to less-effective traditional means of advertising and promotion. The creation of a sound Prostitution 3.0 market may be the most effective means of combatting the coercive trafficking market. 251

Some will argue that liberalization of consensual prostitution will always exacerbate coercive trafficking. 252 Recent arguments against prostitution have tended to make this link to trafficking. 253 These arguments have had measurable policy impact: Rhode Island, for example, recently recriminalized indoor prostitution after almost thirty years of permitting it, in part due to advocacy by anti-trafficking groups. 254 Some disagree, objecting that there is insufficient empirical evidence to establish this link. 255

I can neither dispute nor verify the connection between consensual prostitution and trafficking: this is an empirical question that requires continued study. Even assuming that legalizing prostitution today would

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252. See, e.g., Janie A. Chuang, Rescuing Trafficking from Ideological Capture: Prostitution Reform and Anti-Trafficking Law and Policy, 158 U. PA. L. REV. 1655, 1664 (2010) (discussing the ways in which abolitionists have transformed the anti-trafficking movement into an anti-prostitution movement); Michelle Madden Dempsey, Sex Trafficking and Criminalization: In Defense of Feminist Abolitionism, 158 U. PA. L. REV. 1729, 1746-47 (2010) (conceding that some people may genuinely consent to selling sex and may benefit from such transactions, but concluding that prostitution should nevertheless be prohibited because the value of prostitution does not outweigh its harms).


254. See generally Cunningham & Shah, supra note 175 (describing the change in Rhode Island law).

facilitate trafficking, however, one might nevertheless endorse the possibility of permitting prostitution-related innovation before legalizing Prostitution 3.0 in the future. To satisfy the four criteria discussed in Part I—particularly the coercion criterion—Prostitution 3.0 would have to "solve" the trafficking problem. The best way to fight trafficking would be to create low-cost means to verify the identity of a prostitute—to know her history, nationality and age, for example, so that one could ensure that she was not a trafficking victim. Such information would allow clients to distinguish a consensual prostitute from a trafficked victim—and give the state means to regulate, monitor, and enforce rules against engaging in prostitution with such victims.

Technology may thus be an answer to trafficking, just as it may be an answer to prostitution.\footnote{Technology is already being deployed to fight trafficking. See Mark Latonero, Human Trafficking Online: The Role of Social Networking Sites and Online Classifieds \textit{25-30} (2011), available at http://technologyandtrafficking.usc.edu/files/2011/09/HumanTrafficking_FINAL.pdf (describing three studies using technology to detect trafficking by analyzing online advertisements and Twitter feeds, and the difficulties of such techniques); Hao Wang et al., Data Integration from Open Internet Sources To Combat Sex Trafficking of Minors \textit{248} (2012), available at http://dl.acm.org/citation.cfm?id=2307769&kbi=1 (click PDF icon to download full article) (describing the "TrafficBot" system for use by law enforcement to trawl open Internet sources for references to trafficking).} I do not mean to suggest that trafficking is merely caused by a lack of information about identity—it is a complex problem. But information deficit is a factor in trafficking. If Prostitution 3.0's technologies can reduce that deficit, it may contribute to eliminating coercive sex markets.

4. Biometric Identity Verification

As discussed, it is currently clumsy to link a physical human being to her identity. For the most part, we rely on identification documents, such as a driver's license or passport, to prove that we are Person X as opposed to Person Y. Online, of course, such verification can be difficult: a thief with your credit card information can easily transact online because there is no way to verify whether you are initiating the transaction. We increasingly resort to passwords and verification questions (e.g., mother's maiden name?) to provide increased security, but such mechanisms are relatively easy to compromise. This break between one's physical self and one's true identity poses particular problems in prostitution. As discussed, the weak link between physical and digital identity perpetuates in Prostitution 2.0 at least some of the information asymmetries that plague traditional prostitution.

Biometric identity verification technologies can solve this problem by more closely tying together physical and digital identity. In just the last year, for example, facial recognition technologies have gone from science fiction
to mainstream. Consider a startling example. In July 2011, privacy economist Alessandro Acquisti demonstrated a prototype of an iPhone application that could take a photograph of a person, compare that photograph to the millions of public profile pictures available through Facebook, and, if a match were found, guess the person's name.\textsuperscript{257} The application succeeds a staggering thirty percent of the time.\textsuperscript{258} Acquisti notes that this application is an example of augmented reality that uses both offline and online data.\textsuperscript{259}

Related advances in iris recognition technology also promise to more closely link physical and digital identity.\textsuperscript{260} EyeLock, for example, manufacturers an iris scanner that plugs into a USB port and is about the size of a pencil.\textsuperscript{261} The device can verify a person's identity, so long as the person's iris has already been scanned into an online database.\textsuperscript{262} Iris scanning technology is advancing quickly.\textsuperscript{263} For example, police departments around the United States have already begun deploying commercial iPhone-based iris recognition (and facial recognition) applications to identify criminals in the field.\textsuperscript{264}

For Prostitution 3.0 to succeed, biometrics must be used to verify a person's identity without publicly revealing that identity. This is "intermediated" biometric identity verification—the use of biometric devices to privately identify a person, determine whether that person meets certain criteria, and then reveal the answer to that determination without necessarily revealing their identity itself. Return to the Qpid example discussed above.\textsuperscript{265} Although Qpid certainly holds promise to reduce STD transmission, one can easily imagine ways around the system. You could steal or borrow a friend's Qpid code, for example, if you had not had an STD test in a long while or if you had tested positive for an STD. In the prostitution


\textsuperscript{258.} See id. at slide 30.

\textsuperscript{259.} Id. at slide 25.


\textsuperscript{264.} See id. at 929–30 (describing police applications); Emily Steel & Julia Angwin, Device Raises Fear of Facial Profiling, WALL ST. J. (Aug. 16, 2011, 5:34 PM), http://online.wsj.com/article/SB10001424052702303567874576440253397985070.html ("Dozens of law-enforcement agencies from Massachusetts to Arizona are preparing to outfit their forces with controversial hand-held facial-recognition devices . . .").

\textsuperscript{265.} See supra text accompanying notes 11–19.
context, an STD-verification system would be ineffective if so easily subverted. Such a system would be far more powerful, however, if combined with biometric identification. You could simply iris scan a potential prostitute or client, and Qpid (or a similar system) could return that person’s test results without revealing the person’s name.

Thus, the first three necessary technologies—verification of STD status, verification of criminal propensity, and verification of anti-trafficking credentials—all require intermediated biometric identification to truly make Prostitution 3.0 succeed. Only if prostitutes and clients can be reassured that the physical person they are transacting with is the person that they digitally verified will Prostitution 3.0 improve prostitution markets.266

B. INCREMENTAL PROSTITUTION 3.0 LEGAL REFORM

These technologies show how Prostitution 3.0 might function. Clients and prostitutes could verify each other’s credentials while maintaining anonymity. These technologies could greatly reduce disease, violence, and trafficking—the three major remaining problems with Prostitution 2.0.

To make Prostitution 3.0 a reality, however, will take more than technological innovation. It will require capital investment by firms able to create the data management structures necessary to effect STD verification, criminal propensity verification, and anti-trafficking verification, as well as to incorporate biometric identification hardware into their systems. It will require coordination between such firms and policy-makers to define the boundaries of the confidentiality obligations and qualified privilege that will provide the legal form for Prostitution 3.0. And it will require that various firms that might only tangentially be involved in Prostitution 3.0 nevertheless permit their hardware and software platforms to be used in this fashion. Think of Apple Computer’s iTunes store, for example. If Prostitution 3.0 is to incorporate mobile, location-based technologies, Apple would have to approve such an application through its iPhone application development process. Were Chec-Mate or Qpid to launch an iPhone app targeted at prostitutes and their clients, Apple would have to approve.267 Even if Apple is not itself involved in creating Prostitution 3.0, it—and many other firms that control the basic infrastructure of much of today’s

266. In addition to these four necessary technologies, other technologies may undoubtedly contribute to Prostitution 3.0. I do not have the space to review them all here. Two contenders are location-based mobile matching of prostitutes with clients and sensor-based detection of disease. For a discussion of location-based technologies, see infra Part III.C.2 (discussing the ways in which such technologies may improve street prostitution). On sensor-based disease detection, see John D. Sutter, Mobile Phones May Diagnose STDs, CNN (Nov. 9, 2010, 2:44 PM), http://edition.cnn.com/2010/TECH/innovation/11/09/diseases.mobile.phone/ (describing research on chips that can detect STDs from a urine or saliva sample, and deployment efforts using smartphones).

267. See supra notes 243–45 and accompanying text (describing Qpid and Chec-Mate).
information technology—must be willing to allow Prostitution 3.0's components to function on its proprietary systems.

Prostitution 3.0 will thus be more complicated to create than was Prostitution 2.0. This Subpart suggests that four types of legal reform would be necessary to create Prostitution 3.0. First, policy-makers would have to remove legal barriers to prostitution-related innovation, particularly state laws criminalizing such efforts. Second, we would have to create a regulatory apparatus to structure and guide firms that serve important roles as information intermediaries in Prostitution 3.0. In particular, reform would have to create confidentiality obligations, neutrality requirements, a limited evidentiary privilege, and reporting obligations in cases of violence or fraud. Third, as Prostitution 3.0 innovations came online, we would have to tighten existing laws—such as the Communications Decency Act—that allow less rigorous Prostitution 2.0 services to remain immune from prosecution. Finally, reform would ultimately culminate in simultaneously legalizing Prostitution 3.0 while criminalizing the purchase of sex outside of Prostitution 3.0's parameters, so long as these previous incremental steps towards implementing Prostitution 3.0 provided evidence that the new market was sufficiently improved to justify decriminalization.

1. Removing Legal Barriers to Innovation

Various legal barriers currently inhibit prostitution-related innovation. Perhaps most potent, many states have criminalized activity that advances prostitution or promotes prostitution, other than as a prostitute or a client of prostitution. In most cases, this is defined as activity that "causes or aids" a person in engaging in prostitution, "procures or solicits patrons for prostitution," or "engages in any other conduct designed to institute, aid or facilitate an act or enterprise of prostitution." Other states only ban solicitation without this wider prohibition on "other conduct," but define solicitation broadly in ways that might include online facilitation of


Note that these state requirements differ from a federal requirement that nongovernmental organizations involved with HIV/AIDS treatment and education sign a pledge not to advocate or "promote" prostitution. That pledge has been the subject of First Amendment litigation. See Sung Chang, Prostitutes + Condoms = AIDS?: Leadership Act, USAID, and HHS Guidelines' Failure To Define "Promoting Prostitution," 19 J. Gender, Soc. Pol'y & L. 373, 376–79, 384–85 (2011) (discussing the requirements and litigation). These state requirements, on the other hand, do not compel speech but instead prohibit actions that advance or promote prostitution activities.


270. N.Y. Penal Law § 230.15(1).

prostitution. Still others prohibit "[a]rranging for prostitution," which generally "means any act to procure or attempt to procure or otherwise arrange for the purpose of prostitution, regardless of whether such procurement or arrangement occurred or a fee was paid."

These criminal statutes might obviously deter someone from developing or commercializing prostitution-related technologies. Such laws have been used against Prostitution 2.0—they were employed in the Craigslist litigation, for example, as well as in the prosecution of prostitution-review sites. It seems highly unlikely that corporate-technology firms would risk violating such laws to adopt or promote a prostitution-related advance.

As a first step, reformers could seek to amend state statutes that currently criminalize activity “advancing” or “promoting” prostitution. Such statutes could be amended to include the following language:

“Advancing prostitution” does not include conduct that provides information or information technology to those engaging in or procuring prostitution or that facilitates, develops, or promotes the use of such technology, so long as such technology materially benefits the health, safety, or welfare of its users or the community.

This statutory change would exempt from prosecution entities providing advertising services to prostitutes, maintaining prostitution-review websites, or developing prostitution-related mobile applications. It would allow the Gates Foundation to try their smart card experiment in the United States, or Qpid to incorporate iris scanning technology into a prototype for use in prostitution markets.

If desired, a state could add the following proviso:

and so long as such activity is conducted by a legally recognized not-for-profit entity.

This proviso would no doubt inhibit innovation by limiting protected activity to non-profit entities. It could be a useful compromise, however, for states in which building political consensus around prostitution reform proves difficult. Removing the profit motive by limiting innovation to non-profit service agencies might reassure some that such technologies would be created and deployed in ways that meet the public’s interest in improving prostitution markets rather than meet private interests in exploiting existing inefficiencies.

Federal law would also have to change somewhat. In particular, the Internal Revenue Service might need to clarify that tax-exempt non-profit
organizations can innovate in this context. Historically, tax-exempt non-profits risk their tax status if they engage in or support illegal activities or activities not in the public interest.\(^\text{275}\) Non-profits cannot be organized to violate criminal law or induce the commission of a crime.\(^\text{276}\) Consider the example of the Gates Foundation's experiment with prostitution "smart cards" in India.\(^\text{277}\) Had the Gates Foundation conducted that test in the United States, its non-profit status could have been at risk. Other non-profits have faced similar constraints. For example, the sex work advocacy group SWOP-USA is developing an iPhone application called "Safe Call" to help sex workers stay safe.\(^\text{278}\) It has run afoul of New York's ban on prostitution-related activities.\(^\text{279}\)

This limitation on non-profit prostitution-related innovation could be changed by exempting non-profit activity that "facilitates, develops or promotes" information technology for use by those in the prostitution context.\(^\text{280}\) The IRS could take such action without Congress; it would merely have to reinterpret its existing revenue rulings. This change would allow the non-profit sector to participate in creating Prostitution 3.0.

2. Regulating Prostitution 3.0 Intermediary Firms: Confidentiality, Neutrality, Privilege, & Reporting Requirements

To this point, my description of Prostitution 3.0 has relied heavily on firms playing the role of information intermediaries between prostitutes and customers. This follows a basic Coasean line of reasoning: when transaction costs are high, firms arise to replace or assist those markets.\(^\text{281}\) In particular, intermediaries arise in markets marred by excessive transaction costs, particularly information asymmetries.\(^\text{282}\) Often they add value by providing new information to a market.\(^\text{283}\) Dealers in antiques or fine art, for example,  

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\(^\text{277}\). See supra notes 5-8 and accompanying text.  
\(^\text{279}\). See id.  
\(^\text{280}\). Non-profits receiving federal anti-AIDS or anti-trafficking funding currently must adopt a policy opposing trafficking and prostitution. 22 U.S.C. §§ 7601(1)-(25), 7631(f) (2006). This does not seem to pose much threat to prostitution-related innovation, but may be another federal statute that needs modification.  
may certify the quality of good to be traded, reassuring the buyer and seller of its authenticity. This information-verification or information-provision service can add sufficient value to allow the intermediary to charge a fee for its services.  

In addition, intermediaries can add value by filtering information out. Sometimes Party A fears exploitation if Party B learns Party A's identity. Party A may avoid transacting with B for fear of B's future use (or abuse) of A's participation in a strategic way. An intermediary can again assist. The intermediary can step between A and B and help them transact together without fully revealing A's identity to B, or vice versa. The third party can filter identity-related information to protect privacy while still passing other transaction-relevant information on to the other side.

Prostitution 3.0 could use both of these intermediary functions. Firms could verify information about prostitutes and clients in order to reduce information asymmetries. At the same time, intermediaries could verify information without revealing the identity of either party to either party, thus reducing the moral hazard problems presented by prostitution.

To be effective, however, an intermediary must secure the trust of both parties. To establish that trust in this sensitive context would require more than merely reputation-building by intermediary firms—it would require legal obligations to assure prostitutes and clients that their information is secure. The second step in the incremental strategy of Prostitution 3.0 legal reform would thus be to create the legal background conditions for strong Prostitution 3.0 intermediaries to arise. This would require creating legal obligations for such intermediaries to maintain the confidences of prostitutes and clients; requiring such intermediaries to maintain neutrality, favoring neither prostitutes nor clients; creating an evidentiary privilege to protect information in the hands of such intermediaries; and creating regulatory oversight of Prostitution 3.0.

Confidentiality Obligations. For prostitutes and clients to trust Prostitution 3.0 firms, those firms must protect their clients' sensitive information.

284. On certification intermediaries generally, see Gary Biglaiser & James W. Friedman, Adverse Selection with Competitive Inspection, 8 J. ECON. & MGMT. STRATEGY 1, 1-2 (1999) (modeling the role of middlemen in inspecting quality of goods in a market with heterogeneous buyers and sellers); Gary Biglaiser, Middlemen as Experts, 24 RAND J. ECON. 212, 212-13 (1993) (arguing that middlemen capable of inspecting goods and establishing a reputation for honesty reduce transactional impasses); Yiting Li, Middlemen and Private Information, 42 J. MONETARY ECON. 131, 132 (1998) (modeling how middlemen arise to address adverse selection problems and arguing that "[p]rivate information concerning the quality of goods may be the driving force behind intermediation in several markets in the real world").

285. See Saul Levmore, The Anonymity Tool, 144 U. PA. L. REV. 2191, 2200 (1996) (discussing how an intermediary can transmit information from an informer without revealing the informer's identity, serving as a "useful filter").

286. See id. at 2219-25 (discussing why voting is rarely intermediated in general elections because of the lack of a trusted third party).
Unfortunately, existing Internet intermediaries—such as Google, Facebook, and others—are not subject to confidentiality requirements or regulations, nor does competition seem to produce them.287 Instead, each firm decides in its privacy policy how to handle user information. In the context of prostitution, however, it seems wise to set standards, akin to the fiduciary obligations owed to beneficiaries by a trustee,288 so that intermediaries cannot water down their privacy policies and sell their users’ data.289

Neutrality. For Prostitution 3.0 intermediaries to function, they will have to be neutral as between clients and prostitutes. If either prostitutes or clients believe that such an intermediary is biased towards the other, they will not share information with the intermediary. This already has been a problem with Prostitution 2.0 intermediaries. Recent litigation over a Texas-based prostitution review site provides an example of the neutrality problem. The Escort Client Community Information Exchange (“Eccie”) is an active review site like The Erotic Review and has location-specific prostitution communities, including one focused on Texas.290 For several years, an anonymous blogger with the handle “Ty Steel” has attacked Eccie for being managed by several escort agencies, and thus being biased.291 In May 2012, Eccie sued Ty Steel in Texas court, seeking to reveal Steel’s identity and enjoin what it sees as further defamation.292 Ironically, Eccie also seeks to avoid revealing the actual identity of its owners and managers—thus continuing to raise suspicion that it and other entities like it may, in fact, serve the escort community.293

Because Prostitution 3.0 services must face in two directions and serve two sides of the market—both prostitutes and clients—they should be subject to mediator-like neutrality requirements to remain impartial. They should not accept payment predominantly from either the prostitution or client communities nor be controlled by or have a significant financial stake

287. See, e.g., Frank Pasquale, Beyond Innovation and Competition: The Need for Qualified Transparency in Internet Intermediaries, 104 Nw. U. L. Rev. 105, 151 (2010) (“Competition is often elevated as a solution to the privacy problem, but few Internet intermediaries do (or even can) compete to grant users more privacy.”).

288. Trust models have been similarly used to protect health information. See generally Nicolas P. Terry & Leslie P. Francis, Ensuring the Privacy and Confidentiality of Electronic Health Records, 2007 U. Ill. L. Rev. 681, 723-24 (describing the fiduciary obligations of trustees to keep confidences and applications to health records).

289. See Ralph Spencer Poore, Privacy and the Value of Personal Data, 9 Inf. Systems Security 1, 14–15 (2000) (discussing Internet intermediaries and raising the question of whether to trust that they will keep data secure and private in the face of incentives not to do so).


292. See id.

293. See id.
in other prostitution businesses such as escort agencies. Such basic requirements would make it easier for prostitutes and clients to trust such services.

A Qualified Evidentiary Privilege. In addition to the obligation to keep confidences, Prostitution 3.0 requires the creation of an evidentiary privilege to protect information held by such intermediaries. Absent privilege, all of the various information needed to effect Prostitution 3.0—including the basic fact that a given prostitute agreed to meet with a given client—would be subject to discovery requests. Given the sensitive nature of Prostitution 3.0 information, the inability to protect it from discovery would likely prove fatal to the system’s success.

In general, evidentiary privileges are of two types: topical (applying to a certain class of information) or communicative (applying to information communicated between two people). A topical privilege would be too broad here because it would protect all prostitution-related information even outside of the context of Prostitution 3.0’s systems. A communicative privilege applied only to those making use of Prostitution 3.0 would be more fitting. It would protect only information communicated between a prostitute (or client) and the Prostitution 3.0 intermediary. In this way, prostitutes and clients could be further incentivized to make use of the protections afforded by Prostitution 3.0.

Finally, the privilege should be qualified by an obligation for a Prostitution 3.0 intermediary to disclose information to law enforcement in the event that violence or fraud occurred during a prostitution transaction. The privilege could not be used to conceal such violence or fraud. This would guarantee that neither prostitutes nor clients could hide behind Prostitution 3.0’s information system. Moreover, the knowledge that


295. Jerry Kang and others have recently argued for such a privilege to protect the privacy of personal information derived from sensors and other self-measurement technologies. My argument is quite different here, but draws on the same reasoning vis-à-vis the need for a privilege to protect the privacy of prostitution-related information. See Jerry Kang et al., Self-Surveillance Privacy, 97 IOWA L. REV. 809, 831–33 (2012) (arguing for an evidentiary privilege to protect “self-surveillance” information stored in a data vault); see also Scott R. Peppet, Privacy & the Personal Prospectus: Should We Introduce Privacy Agents or Regulate Privacy Intermediaries?, 97 IOWA L. REV. BULL. 77 (2012) (commenting on Kang’s essay and arguing for the need to protect information held by privacy intermediaries).

296. See, e.g., FED. R. CIV. P. 26(b)(1) (providing that relevant nonprivileged material is subject to discovery); see also Levmore, supra note 285, at 2233 (discussing the general problem that disclosure to an intermediary may not in itself be protected by privilege or immunity and noting that “the intermediary who was approached with the expectation of confidentiality may be legally unable to abide by that expectation or social norm”).

297. See Kang et al., supra note 295, at 835 (discussing the distinction between topical and communicative privileges).
information could be disclosed in the event of violence or fraud might deter such bad behavior in the first instance. Again, unlike in the purely anonymous Prostitution 1.0 or 2.0, where a violent client, for example, can escape because a prostitute does not know his true identity, in Prostitution 3.0 parties to a transaction would understand that their actions could be traced back to them through the Prostitution 3.0 intermediary if they behaved badly.

Regulatory Oversight. Finally, policy-makers could create a regulatory backdrop for Prostitution 3.0 firms. This is not the same as the government attempting to control Prostitution 3.0 directly through licensing or running an intermediary service itself. A regulatory cure is not necessarily the appropriate solution. Particularly in prostitution markets, a government-run solution would be subject to capture by interest groups that could make the problem worse. At the same time, pure self-regulation of firms without any government involvement is rare, and seems particularly unlikely in a sensitive market like prostitution.

Regulatory oversight of Prostitution 3.0 firms could take various forms. At the very least, such regulation could ensure that firms honor their confidentiality commitments and protect users' information. More generally, it seems likely that one massive Prostitution 3.0 intermediary may come to dominate the market. There are network effects in play: the more people use a particular verification service, the more information that service will possess about both prostitutes and clients. As a result, that service will become increasingly effective. In addition, Prostitution 3.0's technologies will require significant capital investment. Verification of STD status, criminal history, and anti-trafficking credentials—as well as integration of biometrics—will require data storage and analysis capabilities, legal compliance, and, of course, marketing. These investments will pay off at scale, and may lead to one large intermediary "making the market" in this context.

298. See Harold Demsetz, Information and Efficiency: Another Viewpoint, 12 J.L. & ECON. 1, 2-3 (1969) (describing the "nirvana fallacy" of assuming that government regulation can transform an imperfect market into its more perfect form).


300. See Saule T. Omarova, Wall Street as Community of Fate: Toward Financial Industry Self-Regulation, 159 U. PA. L. REV. 411, 445 (2011) ("There is a broad consensus among scholars and policymakers that a key condition necessary for a self-regulatory regime to succeed is the existence of a formal framework of government regulation and enforcement within which such self-regulation exists. A 'pure' form of self-regulation without any government presence or intervention is not realistic and is not commonly encountered in practice." (footnote omitted)).

301. Macey & O'Hara have compared the circumstances under which one dominant exchange is more efficient than a market of multiple, competing exchanges. Macey & O'Hara, supra note 299, at 585-88.
There is precedent for such an intermediary: the New York Stock Exchange ("NYSE"). The NYSE emerged as a dominant player in liquidity markets, with a primary regulator—the Securities and Exchange Commission ("SEC")—providing oversight. Intriguingly, the NYSE was organized as a non-profit corporation for more than 200 years. Diamond and Kuan have argued that the NYSE’s non-profit form helped it solve a lemons problem in liquidity markets: that issuing firms—whose shares trade on the exchange—might provide misinformation to investors; that investors might not be able to distinguish truthful from dishonest issuing firms; and that this might ultimately degrade the market, driving out good firms. As an intermediary, the NYSE could overcome this problem in two ways: by conducting due diligence on issuing firms to screen out bad firms, and by taking hostages to motivate truthful disclosure. In addition, they argue that the NYSE could better serve this role as a non-profit than as a for-profit, because a for-profit exchange would be motivated to increase trading volume (to increase profits), rather than to carefully screen all participants in the exchange.

Their argument has analogs here. Regulators should attend to the financial incentives of Prostitution 3.0 intermediaries, particularly the possibility that they may try to "mine" or sell the data they hold, as other Internet firms increasingly have. A non-profit structure may work best to reassure prostitutes, clients, and regulators that Prostitution 3.0 intermediaries are not exploiting their users for gain.

3. Tightening Existing Safe Harbors Over Time

In a jurisdiction pursuing such incremental prostitution reform, the next step would paradoxically be to begin tightening certain legal rules in order to suppress non-Prostitution 3.0 sex markets and incentivize participation in Prostitution 3.0. In particular, prostitution reformers should reexamine existing safe harbors for Internet-related communications that currently immunize certain types of prostitution-related technologies. Specifically, Congress could amend 47 U.S.C. § 230 over time to impose certain substantive requirements on firms that facilitate peer-to-peer prostitution-related communications.

Section 230 provides immunity for providers and users of an "interactive computer service" who publish information provided by

303. See id. at 6-7 (arguing that the NYSE’s lock-up period on IPO shares served as a hostage for insiders who might otherwise issue misinformation).
304. Id. at 7-8.
Courts have generally upheld immunity for Internet intermediaries, including cases in which sexually explicit content—such as prostitution-related advertisements—has been posted on a website such as Craigslist. In general, § 230 immunity is seen as absolute, even in prostitution-related cases. Several authors have therefore argued that Congress should amend § 230 to strip its protections from Internet companies that allow prostitution-related communications through their sites. This has been in reaction to services like Craigslist and Backpage, which are seen as facilitating trafficking.

My argument is at once similar and different. I agree that over time Prostitution 2.0’s Internet firms should begin to lose their CDA immunity in order to suppress trafficking and other harmful forms of prostitution. I fear, however, that Congress will succumb to pressure to remove immunity for all prostitution-related communication. Instead, if Prostitution 3.0 begins to emerge and the evidence establishes that it is, indeed, a safer way to regulate and treat prostitution markets, reformers could use § 230 to incentivize firms to upgrade their services to the more robust requirements of Prostitution 3.0.

To do so, Congress could be encouraged to set out a timetable for reform of § 230. It could declare that after two years, for example, § 230 would no longer protect prostitution-related communications unless the firms facilitating those communications included at least one of Prostitution 3.0’s four core technologies. In particular, § 230 immunity could be tied to biometric identity verification. Without such identity verification, Prostitution 2.0 services—such as online advertisements and prostitution review sites—are too prone to abuse by sex traffickers. By connecting continuing § 230 immunity to upgrading to Prostitution 3.0’s standards, Congress could simultaneously suppress trafficking and promote innovation.

4. Legalizing Prostitution 3.0 & Simultaneously Criminalizing the Purchase of Sex Outside of Prostitution 3.0

Finally we come to the end of the innovation story. With legal barriers to innovation removed, a legal and regulatory regime in place, and legal incentives to participate, firms would hopefully emerge offering Prostitution 3.0’s technologies. In that case, sex markets would be ready for a final

306. See id. § 230(c)(1) (“No provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider.”).


309. See generally Assel, supra note 240; Larkin, supra note 230; Perer, supra note 240; Radbod, supra note 229.
reform: legalizing Prostitution 3.0 while simultaneously criminalizing the purchase of sex outside of its confines.

Lee and Persson have recently created a formal model of the impact of legalization on trafficking, and concluded that criminalizing purchasing of illegal sex is more effective at eliminating trafficking than criminalizing the selling of illegal sex. Although they do not explore in detail, as I do, the way to construct a reformed prostitution that could better guarantee voluntary participation by prostitutes and screen out trafficking victims, they note that for any two-track system to be effective there must be tough penalties for prostitution outside of its confines. In particular, they show that penalizing customers who purchase sex outside of a regulated market may be the most effective approach.

Space constraints do not permit an in-depth discussion here of the pros and cons of penalizing clients as opposed to prostitutes that continue to sell sex outside of Prostitution 3.0. It is possible that either approach—continued criminal sanctions for both sellers and buyers or solely sanctions for buyers—could work. The key final step in Prostitution 3.0's reforms, however, would be legalization of sexual transactions that occur within its parameters. If prostitutes and clients subject themselves to STD verification, criminal history verification, anti-trafficking verification, and biometric identity verification, their transaction could be legal.

I must stress, again, that I am not entirely convinced that such reform would be wise, nor do I believe there is a slam-dunk prescriptive argument for such reform. The final decision about whether to legalize prostitution within the confines of Prostitution 3.0 must be evidence driven, not based in hyperbole or speculation. As these technologies are developed and deployed, evidence could be gathered to determine their effects on the safety and welfare of sellers and buyers of sex, as well as on society generally. If and only if those effects are deemed a net positive should this final reform step occur.

C. FINAL ARGUMENTS FOR AND AGAINST

Although disagreement will undoubtedly remain, I believe I have fairly addressed the major positions likely to oppose my argument. Some believe that all prostitution should be legal; I explained my disagreement in Parts I and II. Some hope that Prostitution 2.0 suffices; I reject this in Parts II and III, showing the material information that remains lacking in even the most informed sex markets. Some will argue that even a fully realized Prostitution 3.0 fails to convince, and that prostitution markets can never “improve”

310. Lee & Persson, supra note 251, at 5-6, 28.
311. See id. at 5.
312. See id. ("[A] sufficiently severe criminal penalty on [customers] who purchase illegal sex can eliminate all demand for illegal sex and thus eradicate trafficking.").
because they are fatally flawed. To this objection I offer an incremental strategy of both technological innovation and legal reform, designed to evolve these markets so that evidence can be gathered about whether improvement is truly possible.

Finally, some scholars have argued for an informal solution: law enforcement officials should just avoid prosecuting indoor prostitution or the prostitution-related innovation that supports it.\(^{313}\) In other words, the argument is that Prostitution 2.0 has sufficiently improved prostitution markets to the point where we can stop paying attention to them. Law enforcement should focus its efforts elsewhere and allow technologically enabled Prostitution 2.0 to go about its business.

This Article obviously takes a different approach. I argue not only that Prostitution 2.0's improvements do not suffice, but that a conscious, explicit, planned reform strategy is required to move forward towards Prostitution 3.0. That reform strategy must combine technological innovation with legal reform if it is to succeed. Most important, that reform should be incremental, not sudden, so that as it proceeds we can research and analyze its effects.

The argument for such incremental technological innovation and legal reform is grounded in our basic commitment to freedom of contract in a liberal society. As a society, we have long been committed to the ideal that contracting parties are best positioned to arrange their affairs and that judicial intervention into those affairs is generally unwarranted absent market failure or other concerns.\(^{314}\) If Prostitution 3.0's further innovations can correct such market and moral failures in prostitution markets, the core objections to freedom of contract in this domain will essentially fall away. To respect our commitment to preserving liberty to the extent possible,\(^{315}\) we should remove legal barriers to such innovation.\(^{316}\)

To do otherwise is to work in an unjustified circle. A liberal state must have justification for criminalizing consensual market transactions. In this context, the state justifies prostitution's prohibition because of the failures that plague that market—such as information asymmetries, externalities, and the presence of coercion—and certain moral qualms about the market's consequences—such as its troubling commodifying effects. If continued innovation in that market is likely to reduce these market and moral

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\(^{313}\) See, e.g., Weitzer, supra note 30, at 56 ("[I]n cities where it is not already standard practice, an unwritten policy of nonenforcement might be a sensible innovation.").

\(^{314}\) The classical Willistonian view emphasized formalist ideas of freedom of contract as enforcing agreements as written. See Grant Gilmore, The Death of Contract 43 (1974) (characterizing the Willistsonian view); Stephen A. Smith, Contract Theory 59 (2004) (defining freedom of contract as "the idea, fundamental in the orthodox understanding of contract law, that the content of a contractual obligation is a matter for the parties, not the law").

\(^{315}\) For a discussion of Mill's harm principle, see supra note 59.

\(^{316}\) For a general discussion along these lines, see Peter De Marneffe, Liberalism and Prostitution (2010).
concerns sufficiently to justify decriminalization or legalization, the extant, historical prohibition cannot be a justified reason to inhibit such innovation. Such a stance would forever condemn black markets by eliminating any possibility of market evolution.

This freedom of contract argument draws power from concerns about perpetuating historical forms of stigma and discrimination, particularly against women, by preventing innovation and thus maintaining the retrograde nature of prostitution markets. Kimberly Krawiec, Martha Nussbaum, and Margaret Radin have most clearly articulated components of this argument. The claim is simple: both commodification and coercion objections to prostitution fail to achieve their goals—market sales of sex continue on a massive scale, but in a less humane manner than they would if legalized. Women are particularly harmed by this state of affairs because they make up the bulk of the sellers of commercial sex. As Krawiec has put it:

[T]he restrictions on taboo markets... do not—and are not intended to—protect sex... from the incursion of market forces. Instead, they are asymmetric legal and social restrictions whose primary purpose and effect is to impede market access by [primarily female] suppliers of these taboo goods and services, with resulting societal costs. Meanwhile, market operation continues, though often in a stunted or dysfunctional manner.

....

.... [W]hen it comes to taboo markets—and especially taboo markets involving women's reproductive or sexual labor—we do not regulate on a clean slate. Instead, the market, social norms, and prior legal rules are likely to embed class, gender, race, and other hierarchies that reflect the pre-existing distribution of wealth and power.

Rather than using that pre-existing distribution as a grounds for continuing illegality, however, it is a grounds for liberalization of sex markets: women find themselves stuck with few options, and banning such trades only worsens this plight.

My argument here is related to this claim. Again, if we outlaw a given type of exchange because of its market and moral failures, innovation that can overcome or eradicate those failures should be permitted else we work in an impossible circle. More than that general claim, however, about any

317. Decriminalization means removing criminal penalties for the sale of sex. Legalization means removing criminal penalties for the sale of sex as well as for its purchase or facilitation, and regulating such sale. See generally Peter de Marneffe, Vice Laws and Self-Sovereignty, 7 CRIM. L. & PHIL. 29 (2013) (discussing the distinction between decriminalization and legalization).

318. Krawiec, supra note 78, at 1768.
market, the justification for innovation is particularly strong here: the retrograde nature of this market has disproportionate negative impacts on one social group—marginalized women. If improvement in the market can in turn improve the lot of that group, it seems particularly important to remove legal barriers to such innovation.

Not all will agree with this incremental reform strategy, of course. Some will undoubtedly see it as too much too fast, or too little too slow. That said, let me consider briefly a few of the pragmatic, rather than philosophical, objections that may remain at this point. Here I consider three such concerns: that technology always brings peril as well as promise, that Prostitution 3.0 leaves out street prostitution, and that the argument for creating Prostitution 3.0 will never garner sufficient political support in the United States to make it feasible.

1. The Problem of Unexpected Consequences

Technological innovation can create unexpected harms as well as hoped-for benefits. One cannot know whether encouraging prostitution-related innovation will do one or the other. Existing technologies are not perfect: the Internet has created new venues for sexual exploitation online\(^{319}\) and new means to facilitate sex trafficking offline.\(^{320}\) This suggests that legalizing the technologies of Prostitution 3.0 may be unwise.

My primary response to such technological skepticism is the empirical evidence we have about Prostitution 2.0, which suggests that, overall, technology-enabled prostitutes experience improved working conditions. The trend seems positive. The justification for decriminalizing prostitution-related innovation is not that such innovation will be fool-proof. Instead, the justification derives from the overall positive experience with technology over the last ten years.

In addition, my proposal is for incremental reform, not immediate legalization. It is conservative in this sense. If the first steps towards Prostitution 3.0 fail, and the technological and legal infrastructure does not materialize to significantly remedy the remaining problems of disease,

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\(^{319}\) See generally Donna M. Hughes, Prostitution Online, in PROSTITUTION, TRAFFICKING, AND TRAUMATIC STRESS 115, 118–20 (Melissa Farley ed., 2003) (arguing that Internet technology has created new venues for exploitation, including live video sites); Donna Hughes, The Internet and the Global Prostitution Industry, in CYBERFEMINISM: CONNECTIVITY, CRITIQUE and CREATIVITY 157 (Susan Hawthorne & Renate Klein eds., 1999) (providing an early critique of the impact of the Internet on sexual exploitation of women and children); Donna M. Hughes, The Use of New Communications and Information Technologies for Sexual Exploitation of Women and Children, 13 HASTINGS WOMEN'S L.J. 127 (2002) (focusing on the sale of pictures and video of exploited women and children).

\(^{320}\) See generally Erin I. Kunze, Note, Sex Trafficking Via the Internet: How International Agreements Address the Problem and Fail to Go Far Enough, 10 J. HIGH TECH. L. 241 (2010) (arguing that the Internet has facilitated sex trafficking by providing new means for traffickers to find and enlist female victims).
criminal propensity, and trafficking, we can reassess. The goal is an interim one—to permit and encourage further innovation based on the positive gains already achieved by existing technological changes to prostitution markets. If further innovation fails, so be it. We can search for other reform strategies.

2. The Problem of Remaining Street Prostitution

A second objection is more difficult. Prostitution 3.0 may help technology-enabled prostitutes and clients avoid disease, violence, and trafficking, but it will leave out less affluent street prostitutes. Moreover, it may make their plight worse if a better-informed Prostitution 3.0 market forces the lowest-quality prostitutes and clients onto the street. Prostitution 1.0 can already be brutal, as Part I argued. Prostitution 3.0 may merely upgrade high-end escort prostitution markets at its expense.

Criminalization of the purchase of sex outside of Prostitution 3.0 offers some response, but it is obviously imperfect. Although legalizing this one sex market and penalizing other transactions will help shift demand to Prostitution 3.0 and away from remaining black markets, such demand will never drop to zero. What to do about street prostitution?

The short answer is Prostitution 3.5—taking the improvements of Prostitution 3.0 to the street through location-based mobile technologies. In the last several years, sophisticated mobile devices have increasingly integrated Internet information into physical space.\textsuperscript{321} We now live in an "augmented reality" in which digital information pervades our physical interactions, informing us about other people, places, and goods in real time.\textsuperscript{322} As Prostitution 3.0's information architectures evolve to verify identity, disease status, trafficking credentials, etc., online, such evolutions can increasingly be brought to the street and delivered via mobile technologies.

In particular, mobile location-based matching applications could allow prostitutes and clients to find each other in physical space without resorting to the historical signaling methods—such as cruising a particular street corner—that have often marked real-space matching in this market. In other words, street prostitution could become far less visible, like Prostitution 2.0's online forms. Imagine our opening hypothetical, but with the twist that it occurs in a crowded bar rather than purely online. A prostitute's mobile device signals to those around her that she is available for hire; their devices signal interest. Such technology would be invisible to all others in the bar, but it would permit real-time matching of prostitutes and clients in close

\textsuperscript{321} See Peppet, supra note 25, at 678–79 (explaining augmented reality technologies and providing statistics on the ways in which mobile technologies are collapsing the distinction between physical space and online space).

\textsuperscript{322} See id. at 688–92.
proximity. In addition, Prostitution 3.0's verifications and information checks could occur via such mobile technologies. If, for example, a client were pre-verified through a Prostitution 3.0 intermediary, a prostitute could access that information on her phone as easily as if she were sitting at a computer. With continued development, such mobile applications could bring increasingly sophisticated information to prostitutes and clients in real time, in real space.

Such location-based matching technology already exists for dating services that pair interested parties in real space. Grindr is a popular all-male location-based smartphone dating app;323 Blendr, from the makers of Grindr, promises to bring location-based dating services to the heterosexual population.324 Other location-enabled dating apps, such as MeetMoi,325 similarly make it easy to find available partners near you. These technologies demonstrate how simply one could create applications to facilitate real-space matching of prostitutes and clients.326

Such technologies would further shrink the remaining illegal market for prostitution and increase the reach of Prostitution 3.0's improvements. Of course some illegal prostitution would continue—there will always be an unhappy remainder. I cannot offer a perfect solution, only the possibility of significant improvement over the status quo.

3. The Problem of Political Will

The last objection is the most difficult. The United States has no recent history of prostitution legalization, decriminalization, or even liberalization. It is exceedingly difficult to imagine garnering political support for such reforms.327 In some instances, the prostitution status quo benefits local economic actors in ways that incentivize them to combat legalization.328 In

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326. In May 2011, the web service SugarSugar proposed an iPhone application that would allow "Sugar Daddies" and "Sugar Babies" to find each other in physical space based on GPS location information. A Sugar Daddy looking for a date could simply check his smartphone for the location and profiles of nearby, available SugarSugar users. SugarSugar bills itself as a site "Where Romance Meets Finance." SUGARSUGAR.COM, http://www.sugarsugar.com (last visited Mar. 19, 2013). Many assumed that the new mobile application would be used by high-end escorts. See, e.g., Catalin Alexandru, Apple Approves Prostitution iPhone App?, GEEKY GADGETS (May 14, 2011, 1:26 AM), http://www.geeky-gadgets.com/apple-approves-prostitution-app-05-14-2011/. Although Apple at first approved the iPhone application, it has not yet become available, suggesting that Apple must have reconsidered.
others, the political sensitivity of the topic of prostitution makes political reform unlikely.

Many countries have pursued sound prostitution reforms in the last decades, liberalizing and regulating various forms of indoor prostitution—such as brothels—while continuing to prohibit street walking. For the most part, however, these debates over prostitution reform have been largely academic in the United States. There has been no political will to improve prostitution markets.

I have no simple solution to this problem. Perhaps social norms about prostitution will shift sufficiently to make such reforms possible on a broad basis. Educational programs explaining the health, safety, and welfare benefits of Prostitution 3.0 may help. My hope is that feminists, prostitution reformers, and anti-trafficking advocates can join forces to pursue Prostitution 3.0 as a viable, consensus reform strategy. If so, they could draw on their powerful respective bases—particularly the anti-trafficking social movement—to begin to argue for prostitution-related innovation. If such groups coalesce around Prostitution 3.0 as a solution, we can at least begin a discussion about its merits, problems, and possibilities.

Finally, Prostitution 3.0’s reforms could be undertaken by a single state, or even a large city. Although some federal law stands in its way, the first steps towards reform need to occur on a state-by-state basis to decriminalize prostitution-related technological innovation. This lessens the problem of political will somewhat—perhaps consensus to try this approach could emerge in a given geography, even if not nationally. San Francisco may be a contender: it has a technology-rich economy and some history of considering prostitution reform. Or Prostitution 3.0 may first emerge in a more prostitution-friendly legal context, such as Canada, Britain, or Australia. If it succeeds in just one location, Prostitution 3.0 may slowly build momentum and garner sufficient political will to succeed more broadly.

329. In an increasing number of countries, including Britain, Canada, New Zealand, Australia, Germany, and France—payment for sex is now legal, but solicitation, procuring, advertising, and pimping are not. See Trebilcock, supra note 26, at 39–40 (discussing Canada and other examples).

330. In 2009, Rhode Island went the other direction, recriminalizing prostitution after almost thirty years in which indoor prostitution was decriminalized. See, e.g., Cunningham & Shah, supra note 175, at 3–5 (explaining the Rhode Island legal regime and policy reversal).

331. See generally Fan, supra note 246 (arguing that shifting norms would allow for the improvement of disease control, even if politically difficult).

332. See supra notes 240, 275–76 and accompanying text (discussing IRS regulations and the Communications Decency Act).

CONCLUSION

Prostitution is changing. Internet technologies have improved it, making high-end forms of indoor, independent prostitution safer, healthier, and more rewarding. It has not changed enough, however. Further technological innovation provides a new avenue for effective prostitution reform. Coupled with smart legal changes to bolster such technological innovation, Prostitution 3.0 could usher in a new, better sex market that solves many of prostitution's basic problems.