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The Economics of Shame: Why Less Shame is Better than More

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THE ECONOMICS OF SHAME: WHY LESS SHAMING IS BETTER THAN MORE

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ABSTRACT

This paper investigates the effectiveness of shaming penalties. It establishes that there may be an inverse relation between the rate of shaming penalties and their deterrent effects - the more people are shamed the less deterring shaming penalties become. This conclusion is based on a *search model* in which the costs of searching for law-abiding partners increase with the rate of shaming, and may lead to lower expected sanction for offenders. The inverse relation between the rate of shaming penalties and their effectiveness is later used to show that increasing the probability of detection, increasing the magnitude of shaming penalties or reducing the number of wrongful acquittals does not necessarily increase the deterrent effects of shaming penalties (and may, in fact, decrease these effects).

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1. Introduction

Shaming penalties have earned considerable attention in recent years, both from courts and academics.¹ The attraction of shaming penalties has grown not merely because of their own virtues but also because traditional schemes of sanctions based on incarceration and fines have been professed brutal and inefficient.² The aim of this article is to point out some limitations of shaming penalties that have gone unaccounted for – limitations that constrain their extensive use. More particularly, it is argued that wide-ranging use of shaming penalties is likely to erode their

¹ The Texas State District Court Judge, Ted Poe, who is well-known for his use of shaming sanctions articulated the reasons for using shame penalties: "[A] little shame goes a long way. Some folks say everyone should have high self-esteem, but that's not the real world. Sometimes people should feel bad". See Dan Markel, *Are Shaming Punishments Beautifully Retributive? Retributivism and the Implications for the Alternative Sanctions Debate*, 54 VANDERBILT LAW REVIEW 2157, 2175-2176. There are numerous cases in which shaming penalties have been used. See, e.g., *People v. Meyer*, 680 N.E.2d 315, 315-16 (Ill. 1997) (ordering the defendant to post a large sign at all entrances to his farm stating "Warning! A Violent Felon lives here. Enter at your own risk!") *People v. Letterlough*, 613 N.Y.S. 2d 687, 688 (App. Div. 1994) (ordering the defendant to affix a fluorescent "CONVICTED DWI" sign to the license plate of his vehicle). Recently the Ninth Circuit upheld the decision to require a convict to wear a signboard proclaiming his guilt while appearing in public. See *United States v. Gementera*, 379 F. 3d 596 (9th Cir. 2004). For a description of the modern evolution of shame penalties and review of case law, see Markel, *Id* at 2170-2177 (2001); Academics have also raised their voice in support of shaming penalties. See, e.g., Dan Kahan, *What do Alternative Sanctions Mean?* 63 U. Chi. L. Rev. 591, 592 (1996) (advocating the use of shaming penalties as a substitute for traditional sanctions such as incarceration and fines); Dan M. Kahan, & Eric A. Posner, *Shaming White-Collar Criminals: A Proposal for Reform of the Federal Sentencing Guidelines* XLII JOURNAL OF L.&ECON. 365, 367-68 (1999) (advocating the use of shame penalties for white collar crimes). For a harsh critique of this inclination on the part of academics, see John B. Owens, *Have We No Shame?: Thoughts on Shaming, "While Collar" Criminals and the Federal Sentencing Guide* 49 AM. U. L. REV. 1047 ("some of the legal academia's brightest stars have jumped on the shame train") Last, it seems also that the nation as a whole has become fascinated with shaming penalties. For references, see Dan Markel, *id.* n. 18 (noting the interest of reporters in shaming penalties); Comment: Sentenced to Wear the Scarlet Letter: Judicial Innovations in Sentencing – Are they Constitutional?, 93 DICK. L. REV. 759 ("Modern day scarlet letters have stunned the country and drawn national attention to the various issues surrounding these controversial sentencing..."); Aaron S. Book, *Note: Shame on You: An Analysis of Modern Shame Punishment as an Alternative to Incarceration* 40 WM AND MARY L. REV. 653, 660-670 (1999); *Id.* at 653 ("[T]here is no doubt that shame is receiving national attention").

² See Kahan, *id.* at 592 (1996) ("imprisonment is harsh and degrading for offenders and extraordinarily expensive for society"); Kahan & Posner, *id.* at 367-68 (arguing that "shaming penalties create strong economic and psychological disincentives ... at a small fraction of the cost of incarceration.") Toni M. Massaro, *Shame, Culture, and American Criminal Law*, 89 MICH. L. REV. 1880, 1884 (1991) (noting a "revival of shaming [that] springs from profound and widespread dissatisfaction with existing methods of punishment"); Toni M. Massaro, *The Meanings of Shame: Implications for Legal Reform* 3 PSYCH. PUB. POL. & L. 645, 649 ("Shaming...is cheaper than imprisonment and may in some ways be less cruel to offenders"); Markel, *id.* at 2170-71 ("Frustrated by the apparent inability of the criminal justice systems to reduce criminal populations at a reasonable cost, various scholars have united behind the flag of finding cheaper and more effective methods to reduce criminal populations and recidivism"); Note: shame on you, *supra* note at 655 ("In light of the current violent and overcrowded atmosphere of American prisons, shaming constitutes an efficient, fiscally sound, and creative form of sentencing").

effectiveness, and that their extensive use as a substitute for traditional sanctions may undermine their deterrent effects.

Shaming penalties operate primarily by publicizing an offender's illegal conduct. They expose the wrongdoer, inflict psychological and social costs on her by raising feelings of guilt and remorse and shunning her from her community, impose economic costs by limiting her ability to conduct commercial interactions with others, and reinforce the prevailing social norms that disapprove of such behavior.³ Such penalties differ from traditional legal sanctions such as imprisonment or fines in that their deterrent effects depend largely on a network of mutual social understandings; in particular, their effectiveness depends on the reaction of members in society or in the market to the public information concerning the offender.

The controversy concerning the use of shaming penalties touches upon their normative appropriateness, their effectiveness and their legality. The advocates of shaming penalties point out that these penalties express the moral sentiments of law-abiding citizens and, in particular, their revulsion when confronting criminal behavior.⁴ They also maintain that shaming penalties are cheap to administer, are often effective in deterring crime,⁵ and that they are also less brutal than traditional sanctions.⁶ The foes of shaming penalties claim that shaming penalties often degrade the offenders,⁷ that they transform the role of government in policing criminal

³ See Note: *Shame, Stigma, and Crime: Evaluating the Efficacy of Shaming Sanctions in Criminal Law* 116 HARVARD L.REV. 2187 (2003).

⁴ See Kahan, *supra* note at 635 (arguing that shaming penalties "express appropriate moral condemnation"). ; Kahan & Posner, *supra* note at 368 (arguing that "shame...expresses moral condemnation"); 380-383 (discussing the expressive utility of shaming penalties); Dan M. Kahan, *Social Meaning and the Economic Analysis of Crime* 27 J. LEGAL STUD. 609 at 617 (1998) (arguing that shame punishments express moral disapprobation); David A. Skeel, *Shaming in Corporate Law* 149 U. PA. L. REV. 1811, 1816 ("From this perspective, an obvious benefit of shaming sanctions is that they clearly signal a community's moral disapproval of the offender's conduct"). For anecdotal evidence that shaming penalties are more effective forms of expressing social condemnation, see Markel, *supra* note at 2175-76.

⁵ Kahan, *supra* note at 592 (noting that imprisonment is extraordinarily expensive); Kahan and Posner, *supra* note at 368 ("[S]haming penalties could prove to be an efficient alternative to prison"). For a recent attempt to evaluate the effectiveness of shaming sanctions, see Note, *supra* note at 2186.

⁶ See, Kahan, *Id.*, at 592 ("Imprisonment is harsh and degrading for offenders").

⁷ Mark Kappelhoff of the ACLU shares this view and described shaming penalties as "gratuitous humiliation of the individual [that] serves no societal purpose at all." See Note: *Shame on You*, *supra* note at 655. For academic writers who made this claim, see Massaro, *The Meanings of Shame*, *supra* note at 699-700 ("Shaming may convey the message that drunk drivers, child molesters, and the other offenders subjected to these penalties are less than humans others who deserve our contempt. Again, these penalties rely explicitly and exclusively on status degradation as a means of enforcing public laws; they emphasize, rather than mitigate, the caste features of punishment..."); Massaro, *Shame, Culture and American Constitutional Law*, *supra* note at (arguing that shaming penalties are likely to violate "humanness factors"); James Q. Whitman, *What is Wrong with Inflicting Shame Sanctions?* 107 YALE L.J. 1055, 1090 (arguing that shaming penalties infringe on the offender's "transcendental

behavior,⁸ and that their deterrent effects are highly unpredictable and context-sensitive.⁹ In addition, critics point out that the imposition of shaming penalties may erode (rather than reinforce) social norms.¹⁰ Last, the risks of vigilante excesses were forcefully raised by the opponents of shaming penalties.¹¹ On the legal side, shaming penalties have been subjected to legal challenges (some of which were successful¹²) yet there are a substantial number of appellate court decisions upholding the infliction of shaming penalties.¹³

This article focuses exclusively on issues concerning the effectiveness of shaming penalties. In particular, it establishes that the effectiveness of shaming penalties may be inversely related to the rate of shaming in the society. The more people are shamed, the less effective shaming penalties may become. Unlike some previous

dignity"); *Id* at 1055 (describing shaming penalties as "barbarism of the old punishments: the pillory, the stocks, the ducking stool, branding"); Mark Spatz, *Comment: Shame's Revival: An Unconstitutional Regression*, 4 U. PA. J. CONST. L. 827, 830 (2002) (arguing that shaming penalties are degrading and often inhumane).

⁸ See Massaro, *supra* note at 699 ([T]he most serious potential side effect [of shame crimes is that they]...transform the role of the government in policing criminal conduct"); Whitman, *supra* note at 1088 (arguing that shaming penalties "involve a dangerous willingness, on the part of the government, to delegate part of its enforcement power to a fickle and uncontrolled general populace"); Markel, *supra* note at 2218 (arguing that judges should not authorize the public to act as an agent of the state).

⁹ See Massaro, *supra* note at 692-695 (arguing that shaming penalties have unpredictable effects that are dependent on contingent ambiguous and unstable social circumstances). For an attempt to address this objection, see Kahan & Posner, *supra* note at 372-74.

¹⁰ See, e.g., Massro, *id.*, at 649 (arguing that shaming penalties "may erode important social norms of decency and respect for others' dignity, including criminal offenders' dignity"); Markel, *supra* note at 2220 (arguing that shaming penalties "coarsens our sensitivity to the dignity of other persons and thus, ourselves").

¹¹ See Massaro *id.*, at 649 (raising the concern that the imposition of shaming penalties may encourage retaliation against criminals"); Whitman, *supra* note at 1088 (pointing out that riots are likely to follow the imposition of shaming penalties); Markel, *supra* note at 2217-19 (raising the concern that shaming penalties may lead to violence).

¹² See, e.g., Meyer, *supra* note (overruling the decision of the Illinois trial court to order the defendant to erect at his home a four foot by eight foot sign with eight inch high lettering that reads "Warning! A Violent Felon Lives Here. Enter at your own Risk"); Letterlough, *supra* note (rejecting the decision of the lower court to require the defendant to affix to the license plate of any vehicle he drove a sign stating "convicted DWI"). For a discussion and a critique of the appellate courts decisions to strike down shaming as a form of probation, see Book, *supra* note at 670-672.

¹³ See, e.g., *Gementera*, *supra* note (upholding the decision of to require a convict to wear a signboard proclaiming his guilt); *Goldschmitt v. State*, No. 69,094, Supreme Court of Florida, 496 So. 2d 142; (upholding the decision of the trial court to require a defendant to place a sticker read: "CONVICTED DUI – RESTRICTED LICENSE"); *United States v. Coenen*, 135 F.3d 938 (upholding the decision requiring the defendant to publish notice in the official journal of the governing authority of the parish; *United States v. Schecter*, 13 F.3d 1117 (7th Cir. 1994) (upholding the decision to require the defendant to notify all future employers of the defendant past criminal conduct (tax evasions); *Ballenger v. State* (upholding imposition of a condition requiring a probationer to wear a fluorescent pink plastic bracelet imprinted with the words "DUI CONVICTED"). Commentators have also speculated that the Supreme Court is likely to uphold shame penalties since "[A]n examination of Supreme Court jurisprudence regarding corporal punishments reveals that shaming penalties likely would be upheld when subjected to Eight Amendment challenge." See *Notes: Shame on You*, *supra* note at 673.

accounts, this conclusion is not based on mere psychological conjectures. Instead, it is founded on the analysis of rational behavior in social groups and in the market. It is rationality of individuals (both of law-abiding citizens and that of offenders) which dictates that shaming penalties may lose their effectiveness if used extensively. In the setting of rational expectations models, our result stands in stark contrast to previous writings.¹⁴

To demonstrate the inverse relations between the rate of imposing shaming penalties and the effectiveness of shaming penalties we use a market search model demonstrating that search costs (and alternatively, the information costs) of law-abiding citizens (resulting from shunning the shamed and searching for law abiding commercial partners) increase with the size of the shamed population.¹⁵ We show that the effectiveness of shaming penalties therefore depends on their prevalence; the more they are used, the less effective they may be.

The search model is based on a distinctive feature of shame penalties, i.e., on the fact that shame penalties are inflicted not by the state but by individuals in the society. In an important way shame penalties are a form of privatizing criminal sanctions.¹⁶ The government needs only to disseminate information concerning the liability of those audited. Their sanction is a consequence of rational individual decision making in the market or in society. Stigmatizing an offender relays information about his trustworthiness, efficiency, or other required qualities. It also evokes antagonism toward that individual for having committed the illegal act. Both effects render transactions with him less beneficial. Yet, shunning that individual is costly. In the model, it is the cost of delay and search which is prohibitive to some who therefore overcome their distaste toward shamed offenders and associate with them.

This conclusion is highly relevant to the way shaming penalties ought to be administered. More particularly, the inverse relations between the number of shamed and the deterrent effect of shaming penalties may translate into three distinctive and counter-intuitive features that ought to influence the ways in which these penalties are used. We show that increasing the *probability* of detection and conviction, increasing

¹⁴ See Eric Rasmusen, *Stigma and Self Fulfilling Expectations of Criminality*, 29 J. LAW & ECON. 519 (1996).

¹⁵ Although each shaming mechanism is modeled in a distinct setting, we show that both may operate either in a social or a market setting and that both settings may feature an inverse correlation between the rate of shaming sanction and its deterrent effect.

¹⁶ This feature of shaming penalties was often criticized by legal scholars, See, e.g., Whitman, *supra* note at

the *magnitude* of shaming penalties, and increasing the *accuracy* of the legal process, i.e., reducing the number of legal mistakes, may each dilute the deterrent effects of shaming penalties. These three effects ought to be considered while determining the optimal investment in detection, the optimal size of the shaming sanctions and the optimal investment in judicial accuracy. Furthermore, these effects should alert policy makers that the maximal level of deterrence feasible through shaming might prove to be much lower than the one possible when using traditional sanctions.

Section 2 explores the interrelations between shaming and crime. It makes some novel distinctions, the most important of which is the distinction between the effect of the rate of crime and that of the rate of shaming penalties on the level of deterrence. Section 3 establishes our main claim - that the deterrent effects of shaming may be inversely related to the number of individuals who are shamed. This section also demonstrates that an increase in the probability of detection, in the size of the sanction or in the accuracy of the judicial process may result in a decrease in the deterrent effects of shaming penalties. Section 4 concludes.

2. The Interrelations Between Shaming and Crime

A. How Does Shaming Work?

Judges have shown great creativity in designing shaming penalties. Some courts have required offenders to wear signs announcing their crimes in busy public areas,¹⁷ to advertise their offenses in local newspapers¹⁸ or on community access television stations, to place stickers on their cars publicizing their convictions for drunk driving,¹⁹ or to make public apologies.²⁰ Yet, despite their different forms, all shaming

¹⁷ See, e.g., *US. v. Gementera* 379 F.3d 596 ("The defendant shall perform 1 day of 8 total hours of community service during which time he shall either (i) wear a two-sided sandwich board-style sign or (ii) carry a large two-sided sign stating, 'I stole mail; this is my punishment,' in front of a San Francisco postal facility identified by the probation officer"). Dean E. Murphy, Justice as a Morality Play That Ends with Shame, *N.Y. Times*, June 3, 2001, 4, at 5 (describing a case of a convicted drunk driver who was ordered to wear a sign stating, 'I killed two people while driving drunk.'). Jeanie Russell, Shame! Shame! Shame!, *Good Housekeeping*, Aug. 1, 1997, at 102 (describing shoplifters who were ordered to march in front of the store from which they had stolen wearing signs reading, "I STOLE FROM THIS STORE."). For more cases, see Kahan, *supra* note at 632.

¹⁸ See, e.g., Jan Hoffman, *Crime and Punishment: Shame Gains Popularity*, *N.Y. TIMES*, Jan. 16, 1997, at A1 (describing a case in which a woman was required to place an ad in the local newspaper announcing that she had bought drugs in front of her children). See also Kahan, *id* at 632.

¹⁹ See *People v. Letterlough*, 86 N.Y.2d 259, 655 N.E.2d 146, 631 N.Y.S.2d 105 (N.Y. 1995) (the offender was required to affix a fluorescent sign to his license plate, stating "CONVICTED DUI"). For a detailed list of cases in which shaming penalties have been imposed, see Kahan, *supra* note at 632.

²⁰ See, e.g., *United States v. Clark* 918 F.2d 843, 848 (9th Cir. 1990) (overruled on other grounds in *United States v. Kays*, 95 F.3d 874 (9th Cir. 1996) (Upholding published public apology as a condition of probation and noting that "a public apology may serve rehabilitative purpose"). For a discussion of

penalties operate in three primary ways: a) generating guilt and remorse on the part of the offender; b) reinforcing respect towards legal norms and entrenching a law abiding culture; and c) imposing costs on offenders by exposing their identity and thereby generating social and professional isolation and alienation from law abiding society.²¹

First, shaming penalties operate by inflicting a sense of guilt and remorse upon potential perpetrators of crime. To be sure, common sense suggests that genuine remorse is triggered by committing the crime, not by publicizing it. Yet, much of the theory of punishment argues otherwise and regards publicity as a means of triggering guilt and remorse.²²

Second, shaming penalties help generating or at least strengthening and entrenching respect towards the law, i.e., help in forming a law-abiding culture. Under this view, shaming penalties fortify and reinforce legal norms through mechanisms of preference formation and "belief-dependent propensities" to obey the law.²³ Shaming penalties provide a mechanism that strengthens the force of social norms and generates greater respect towards legal norms.

Third, shaming penalties operate by disseminating information that a particular person committed a crime and thereby leading to the imposition of social and economic sanctions on her. Individuals are deterred by the belief that other individuals, law abiding individuals in particular, would limit their social or professional interaction with them as a result of their being subjected to a shaming penalty.²⁴ It is this latter mode of operation that we examine in this paper. Let us

apology rituals, see Stephen P. Garvey, *Can Shaming Punishments Educate?* 65 U. CHI. L. REV. 733, 791-794 (1998).

²¹ For a survey of these three effects, see Note, *supra* note

²² This view has some empirical support. See Richard H. Smith & J. Matthew Webster, W. Gerrod Parrot & Heidi L. Eyre, *The Role of Public Exposure in Moral and Nonmoral Shame and Guilt*, 83 JOURNAL OF PERSONALITY & SOCIAL PSYCHOLOGY, 138 (2002) ("the linking of public exposure with shame is unmistakable.")

²³ Kahan at 638-89 (arguing that shaming penalties deter through preference formation and that they reinforce "belief-dependent propensities to obey the law"); Kahan & Posner at 376-80. For a forceful critique, see Massaro, *supra* note at 675 ("The primary insight...is the difficulty of identifying, creating enforcing, or modifying a given culture's shared sense of what is shameful, given the extensive range of factors at play in each.")

²⁴ See Kahan, *supra* note at 638 ("The consequences of shaming penalties are extremely unpleasant. Those who lose the respect of their peers often suffer a crippling diminishment of self-esteem. Moreover, criminal offenders are as likely to be shunned in the marketplace as they are in the public square, leading to serious financial hardship."); Garvey, *supra* note at 752 (noting that the person who is subject to shame penalties "may suffer adverse consequences from members of the community, who may...refuse to engage in various forms of social and economic intercourse with him.") .

therefore first establish that shaming penalties are indeed distinctive in that they serve to disseminate information concerning the criminal record of individuals.

Arguably, the dissemination of information concerning a person's criminal record is also facilitated by the imposition of traditional sanctions such as incarceration and fines. Usually, both the outcome of a person's criminal trial (irrespective of what the sanctions are) and his criminal record are publicly available. Indeed, to the extent that the publicity effects of shaming penalties and traditional penalties are identical there is no difference between the two schemes. Our analysis therefore is equally applicable to traditional penalties.

Yet, it is also the case that shaming penalties are especially designed to facilitate easy and cheap dissemination of information and thereby result in a much broader dissemination of information than traditional sanctions. Publicity is often the primary and sometimes the exclusive component of shaming penalties.²⁵ Moreover, the theatrical exposure of the criminal, his evil deeds and sometimes his (forced) apology attracts broad public attention and consequently is likely to be more broadly disseminated. Both the use of better means of dissemination (providing cheaper and more accessible information) and the fact that the information is disseminated in a lively and theatrical manner are responsible for the fact that shaming penalties are more effective in disseminating the information than traditional penalties. To sum up, while traditional penalties can lead potentially to the dissemination of information (because law-abiding individuals can acquire the relevant information if they wish to do so), shaming penalties are especially conducive to the dissemination of this information.

It seems that much of the support for shaming penalties is founded on the belief that the effective dissemination of information resulting from shaming penalties is particularly detrimental to the interests of the perpetrators of the crime. Most advocates of shaming penalties emphasize the social and commercial isolation resulting from the dissemination of such information.²⁶ There are two ways to explain why the imposition of shaming penalties constrains social and professional interaction. One explanation (the *preference* explanation) suggests that by shunning offenders, non-offenders affirm their self-esteem and reinforce their identification with societal norms. Terminating their social or professional contacts with those who

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are shamed reinforces their values as well as their social standing in society.²⁷ Moreover, maintaining social or professional contacts with identified offenders may adversely affect the social standing of non-offenders, as they may be thought to support or encourage offenders' illegal acts or omissions.

Under the preference explanation, the effectiveness of shaming penalties requires that individuals internalize social dislike towards the offence and express their dislike by shunning the offender. The social isolation of sexual offenders as a result of the Megan laws is an extreme example of the costs of social dislike.

An alternative explanation (the *information* explanation) is that even if law-abiding individuals do not internalize the legal or social norms, these individuals may still wish to refrain from social or economic relations with offenders. This is because shaming penalties expose offenders and reveal that they are "bad types", likely to be unreliable in cooperative endeavors,²⁸ less productive,²⁹ or posing a greater risk to their peers or customers.³⁰ In this case, shaming penalties facilitate the dissemination of information concerning the (inferior) quality of the goods or services which the offender is likely to provide. Thus, being informed that a cabdriver has prior convictions for drunk driving may indicate that his driving is unsafe, and therefore that the service he provides is more risky.

Both explanations maintain that social or business interaction with identified offenders is more costly, or alternatively, less beneficial to individuals.³¹ It is this feature that we assume throughout our analysis. Given this feature we illustrate how the deterrent effect of shaming can be inversely correlated with the rate of inflicting shaming penalties.

B. Distinguishing the Rate of Shaming from the Rate of Crime

To better understand our claim, it must be distinguished from another related but distinct argument - that there is an inverse relationship between beliefs concerning the

²⁷ See Kahan & Posner, *supra* note at 370.

²⁸ See, e.g., Kahan & Posner, *supra* note at . This explains perhaps the fact that one of the main categories of offences that trigger shaming penalties are commercial offences. See Whitman, *supra* note at 1064.

²⁹ ***REFERENCE to Rasmussen and his references****

³⁰ ***REFERENCE***

³¹ The cost or benefit from interacting with an offender may depend on whether the other party herself was identified as an offender. We do not model this dependence, yet our analysis may be extended to cases where such dependence exists.

rate of a certain offense in the society and the effectiveness of shaming.³² Like our claim, this argument may also be supported either in a *preference* setting or an *information* setting. The more people commit the offense, the less such behavior is likely to be treated as socially blameworthy and the more it becomes part of the social norm (preference setting).³³ Alternatively, the more people commit the offense, the less one can infer untrustworthiness on the part of offenders, or assume trustworthiness of those who were not identified as such (informational setting).³⁴ Both explanations assume, however, that knowing the rate of crime is necessary to predict the deterrent effect of shaming penalties.

In contrast, our argument is not founded on the premise that the effectiveness of shaming penalties depend on potential offenders' beliefs concerning the *rate of crime* (i.e., on the number of offenders); instead, it is founded on the claim that the effectiveness of shaming penalties depend on the *rate of infliction of shaming penalties* (i.e., on the number of publicly identified offenders) in the society. The more people are shamed the less effective shaming penalties may be.

To illustrate the difference consider the following two societies. In society A. it is common knowledge that 50% of the population violates the law and that 20% of the offenders are caught and publicly exposed. In society B it is also common knowledge that 50% of the population violates the law, yet here 90% of the offenders are caught and publicly shamed.

The view that the effectiveness of shaming penalties depends on the rate of crime in the society does not predict a different rate of crime in society A and in society B. In contrast, our conjecture is that while the information concerning the high rate of crime may reduce the effectiveness of penalties in both societies, the higher rate of shaming penalties in society B would lead to greater erosion in deterrence in society

³² Dan M. Kahan, *Social Influence, Social Meaning and Deterrence* 83 VA. L. REV. 349, 357 (1997) ("The more prevalent criminal activity is in a particular community the less likely someone is to be condemned for it by either those with criminal records or those without"). For the claim that the rate of crime can influence the size of the social sanction, see Oren Bar-Gill, Alon Harel, *Crime Rates and Expected Sanctions: The Economics of Deterrence Revisited* 30 J. LEGAL STUDIES 485 (2001).

³³ See, e.g., Bar-Gill & Harel at

³⁴ See Kahan & Posner *supra* note at 372 372 (A person's response to the shaming of the offender will depend on the trustworthiness of the population. If we do not trust anyone very much, we might very well not infer from the shaming that the offender is any worse than anyone else.") and at 373 ("Shaming produces highly imperfect deterrence because the injury to the offender is a function of ... the willingness of other people to trust people who are shamed – which itself is a function of the proportion of bad types in the population...").

B. Since more criminals are detected and shamed in society B, the effectiveness of the shaming penalties there would be lower.³⁵

Few commentators raised the conjecture that shaming penalties are inversely related to the number of shamed individuals in the society. Most clearly this claim was made by Toni Massaro:

But...if shaming penalties were imposed equally on all offenders who commit similar offences, this could undercut the impact of these penalties; the more people subject to shaming, the less it compromises one's social status – it could even begin to elevate it in some cases (If, e.g., five cars in the neighborhood bear 'DUI' plates, then the plates may lose some ego ideal and social status shattering effect.) Just as jail time has lost its stigma within certain subcultures, so might pillory time lose its sting if many members of the subculture have endured it."³⁶

Massaro thus asserts that there is an inverse correlation between the number of shamed individuals and the effectiveness of shaming penalties. Yet, Massaro's bold assertion simply presupposes the existence of such an inverse correlation as a matter of human psychology. In contrast, we argue that no psychological speculations need to be made in order to establish the inverse relation between the deterrent effects of shaming penalties and the frequency of the infliction of shaming penalties. Instead, this inverse relation can be established by examining more rigorously the way in which rational law-abiding individuals inflict harm on those who are subject to shaming, and the rational responses of shamed offenders.

One model that examines the effect of shame and stigma in a rational expectation setup is Eric Rasmusen's.³⁷ His model demonstrates a negative effect of the rate of crime on the level of deterrence. Yet, it maintains that increasing the enforcement level (by increasing the probability of shaming) would be efficient in deterring criminal behavior. This finding relies on the value employers derive from public announcement of liability. It does not analyze the effect of the number of identified

³⁵ Notice it was assumed that the rate of crime and the rate of shaming were common knowledge in both societies. Indeed, if this were not the case then an argument could be made that the number of shamed offenders only serves as a proxy for the rate of crime, and that the latter is the explaining variable for the deterrent effect of shaming. Whether such an argument may be maintained in a rational expectation model or not, it is our intention to demonstrate that the number of shamed may inversely affect the deterrence of shame, keeping the rate of offense constant and publicly known.

³⁶ See Massaro, *supra* note, *The Meanings of Shame* 697-98.

³⁷ See Rasmusen, *supra* note 14.

criminals on the cost of 'privately' sanctioning them. It is therefore interesting to compare our search model with that of Rasmusen. As we show, a higher probability of shaming results in higher search costs – which may outweigh the informational effect identified by Rasmusen.

3. Why Shaming More May Deter Less

A. The Search Model

Shaming penalties often operate by limiting and constraining both social and commercial opportunities. These constraints are the byproduct of the willingness of individuals to "punish" the perpetrators of crime by limiting their social or professional interactions with them.³⁸ Yet, this willingness on the part of individuals to punish the shamed may be costly, and its costs depend upon the number of shamed individuals. In order to cooperate with the scheme of shaming penalties, law abiding citizens have to incur costs. These costs result from the willingness of law-abiding citizens to forgo social and economic opportunities by shunning from the company of offenders and search for law-abiding partners. But shunning from the company of offenders has costs which increase with the rise in the number of offenders who are subject to shaming.³⁹ Hence, it is to be assumed, that the larger the number of people who are detected and "shamed", the smaller the willingness of individuals to bear these costs. If shaming precludes me from interacting with one shamed individual, its costs are ones I am willing to bear. If, in contrast, shaming precludes one from interacting with many, its costs are too high and the potential shamer would be less inclined to perform his part in the shaming scheme, namely to limit his social and professional interactions with the shamed. We examine this hypothesis in the following model.

There is a population of risk neutral individuals, who are engaged in the following two period game.⁴⁰ In period 1, each individual contemplates whether to commit an illegal act. Individual i 's utility from committing the illegal act, u_i , is drawn from a continuous distribution function $F(\cdot)$ on $[\underline{u}, \bar{u}]$, where $\underline{u} \leq 0 < \bar{u}$. Only the individual knows his utility and whether he committed the illegal act. Each individual is audited with probability p . If an individual is found to have committed the illegal act then this

³⁸ See Kahan, *supra* note at

³⁹ Kahan & Posner, *supra* note at 372 ("If a lot of people are caught and shamed, then we might have no choice about whether to cooperate with him.")

⁴⁰ The setting of our model is similar to Rasmussen, *supra* note...

is made publicly known. Thus, at the end of period 1 the population is divided to individuals who were announced *liable*, and individuals who were not (they are *non-liable*).

In period 2 a population of risk neutral employers are searching for a new employee. The ratio of demand to supply of employees is given by $d < 1$. An employer's benefit from hiring an individual is denoted B . This benefit is independent of the individual's type. Thus, it is assumed the public announcement of liability has no information value for employers. Yet, if the employer hires a liable individual he bears a "shaming cost", denoted $S \geq 0$. The shaming cost is due either to internalization of the social norm against the wrongful act, or it is a social cost imposed on the employer since she hired a liable employee. It is assumed that $B > S$. This condition assures that employers would hire liable employees if this were their only choice.

The setup of this model is to be distinguished from that of Rasmusen, who analyzed the information effect of shaming, assuming no preference for shaming liable individuals. Our model, in contrast, focuses on a preference setting. Although it can easily be extended to allow for information effect of shaming, our analysis is greatly simplified by constraining it to the preference setting, assuming no correlation between an individual's type and an employer's benefit from hiring him.

Each employer picks a random individual and decides whether to hire him or not. If and only if she does not hire him, she must wait another period and pick another individual. Employer j 's discount rate is δ_j , where $0 \leq \delta_j \leq 1$.⁴¹ Individuals only know that δ_j is drawn from a continuous distribution function $G(\cdot)$. The value an individual derives from being hired is denoted v where, $\underline{u} < v < \bar{u}$.⁴² Most importantly, we assume that wages for liable and non-liable individuals are the same. Thus, there is no price mechanism to differentiate between them.

An outcome of this two period game is given by the decision of each individual whether to commit the illegal act, and the decision of each employer whether to search in each period for a non-liable individual.

⁴¹ It is assumed for simplicity that individuals do not discount future payoffs.

⁴² Under this assumption if all illegal acts are detected there are some individuals who would nevertheless commit the illegal act. On the other hand, there are some individuals who would not commit the illegal act even if they were certain they would not be caught. We make this assumption only to assure an "internal" equilibrium, that is, an equilibrium in which some, but not all, individuals commit the illegal act. See note 43 below.

B. Analysis

Since employers may only recognize whether an individual is liable or not, there are two possible probabilities of being hired: that of a liable individual, denoted h_L , and that of a non-liable individual, denoted h_N . Therefore, the expected utility of an individual who commits the illegal act, denoted U_i^C , is

$$U_i^C = u_i + v(p h_L + (1-p) h_N),$$

whereas the expected utility of an individual who does not commit the illegal act, denoted U_i^I , is

$$U_i^I = v h_N.$$

An individual would commit the illegal act if and only if his expected utility would be higher than if he didn't,

$$U_i^C > U_i^I. \quad (1)$$

Define a threshold u_T such that all individuals whose utility is higher commit the illegal act, and all individuals whose utility is lower refrain from doing so. Thus,

$$\begin{aligned} u_T + v(p h_L + (1-p) h_N) &= v h_N \Leftrightarrow \\ u_T &= v p (h_N - h_L). \end{aligned} \quad (2)$$

Examine now the decision of employer j whether to search for a non-liable individual, for any given $u_T < \bar{u}$.⁴³ Since there is a continuum of employers, each employer's hiring decision does not affect other employers. An employer's expected utility from hiring a liable individual is $B-S$ and her expected utility from hiring a non-liable individual is B .

The employer's value from searching until a non-liable individual is found is

$$\begin{aligned} V &= \delta_j \left[\left(1 - p(1 - F(u_T)) \right) B + p(1 - F(u_T)) V \right] \Leftrightarrow \\ V &= \frac{\delta_j \left(1 - p(1 - F(u_T)) \right) B}{1 - \delta_j p(1 - F(u_T))} = B \left(\frac{1 - \delta_j}{1 - \delta_j p(1 - F(u_T))} \right). \end{aligned} \quad (3)$$

Since the alternative is to hire the liable individual, the employer would choose to search for a non-liable individual if and only if

⁴³ Since $v < \bar{u}$ in equilibrium it must be that $u_T < \bar{u}$.

$$\begin{aligned}
V &\geq B - S \Leftrightarrow \\
B \left(1 - \frac{1 - \delta_j}{1 - \delta_j p (1 - F(u_T))} \right) &\geq B - S \Leftrightarrow \\
\delta_j &\geq \frac{B - S}{B - Sp(1 - F(u_T))} \equiv \delta_T(u_T, p) \equiv \delta_T.
\end{aligned} \tag{4}$$

Thus, δ_T is a threshold discount rate. An employer would hire a liable individual only if her discount rate is lower than δ_T .

Period 1 decision of all individuals whether to commit the illegal act in is fully characterized by u_T . The probability of a liable individual to be hired is

$$h_L = dG(\delta_T(u_T, p)),$$

and the respective probability of a non-liable individual is

$$h_N = d \left[G(\delta_T(u_T, p)) + \frac{(1 - G(\delta_T(u_T, p)))}{(1 - p(1 - F(u_T)))} \right].$$

where the first term in the parenthesis is the probability of being hired by an employer who is too impatient to search, and the second term is the probability of being hired by an employer who searches for a non-liable employee.⁴⁴

Substituting into (2) we get the equilibrium condition (where u^* and δ^* are the equilibrium thresholds)

$$u^* = \frac{dvp(1 - G(\delta^*(u^*, p)))}{1 - p(1 - F(u^*))} = \frac{dvp \left(1 - G \left(\frac{B - S}{B - Sp(1 - F(u^*))} \right) \right)}{1 - p(1 - F(u^*))}. \tag{5}$$

On the right hand side of condition (5) we have the *actual* cutoff type, assuming a *belief* that the cutoff would be u^* . A Perfect Bayesian (or rational expectation) Equilibrium obtains if and only if the actual cutoff equals the expected cutoff. The proof for the existence of at least one such equilibrium is given in the Appendix (A1).

C. Rate of Shaming and Deterrence

Examine first how the probability of being hired is affected by the rate of crime. It is easily verified that δ_T , and therefore $G(\delta_T)$, are decreasing in u_T , and are therefore increasing in the rate of crime ($1 - F(u_T)$). Since there are $G(\delta_T)$ employers who are too

⁴⁴ It may be verified that $p(1 - F(u_T))h_L + (1 - p(1 - F(u_T)))h_N = d$.

impatient to search for a non-liable individual, whereas only $1-G(\delta_T)$ employers are sufficiently patient to search, this leads to the following proposition

Proposition 1. *A liable individual's probability of being hired is increasing in the rate of crime.*

To understand this result note that the 'cutoff' employer, whose discount rate is δ_T , is indifferent between hiring a liable individual and searching for a non-liable. She is therefore indifferent between hiring the liable individual without any further search, and hiring *any* individual, liable or not, in the next period. Thus, the higher is the rate of crime, the more likely she is to bear the shaming cost in the next period. This renders search less appealing.

An immediate corollary to this proposition is that when *all* illegal activity is detected and publicly announced ($p=1$) the expected sanction for any individual who commits the illegal act is decreasing in the rate of crime.⁴⁵ Thus, a direct change in the rate of crime (resulting, for example, from a change in traditional sanctions) would be amplified by its effect on the expected shaming sanction.

A similar conclusion was also derived by Rasmusen. Yet, in his model the rate of crime affected the expected sanction only through the implied change in the expected quality of liable and non-liable individuals. Our model identifies an additional distinct effect – manifested in the cost of search. As we show next, this additional effect may cause the inverse relations between the rate of shaming and the expected sanction to carry over to the three policy instruments that can be used to improve deterrence – the *probability* of detection, the *magnitude* of the shaming sanction, and the *accuracy* of shaming. We examine each of these instruments next.

1) Probability of Detection

To analyze the effect of an increase in the probability of audit on the level of crime, examine first the effect of p on the expected sanction, conditional on committing the illegal act and being detected. Since the denominator in condition (4) is decreasing in p , we get the following proposition:

⁴⁵ Notice that the equilibrium must be internal, $\underline{u} < u^* < \bar{u}$. See *supra*, note 43.

Proposition 2. *For any value of u_T , a liable individual's probability of being hired is increasing in p .*

The more offenders are identified, the longer it takes to find a non-liable individual. Searching for a non-liable becomes more costly. This effect is, obviously, missing from a simple pricing model without search.

To understand this result, consider again the threshold employer type δ_T . This employer is indifferent between hiring a liable individual and waiting for another period. In that next period he is again indifferent between hiring a liable and searching for a non liable, so his expected payoff in that next period equals the expected payoff from hiring any individual, independent of his liability. This value, of course, is independent of the probability of detection. Thus, the only effect of that probability is through the shaming cost, which is borne with certainty if a liable individual is hired, and borne with probability $p(1-F(u_T))$ if the employer waits for another period.

Moving to examine the equilibrium condition (5) we see that increasing p affects the level of deterrence in three ways. First, the probability of being detected after committing the illegal act increases. Second, the probability of not being hired, conditional on being detected, decreases. And third, the opportunity to be hired by employers who only hire non-liable employees becomes more valuable, since there are less non-liable individuals to choose from. Which of these effects dominates depends on the specific functions B , F and G , and on S .

To sum up, increasing the rate of detection within the frame of a shaming scheme has several results which go in different directions. For our purposes, it is particularly important to notice that increasing the rate of detection decreases the deterrent effects of shaming since it increases the number of shamed individuals in the society and, as was shown earlier, such an increase decreases the expected costs of shaming due to the larger search costs it imposes on law-abiding individuals. Conflicting effects may of course overcome this effect. The overall effect of increasing the rate of detection depends upon the relative intensity of this effect vis a vis other effects.

Proposition 3. *The rate of crime may increase in the level of enforcement, p .*

2. Magnitude of Sanction

One way of setting the magnitude of a shaming sanction is through the availability of information regarding conviction of liable individuals. The more public the announcement of liability, the more people are aware of it.

Shaming penalties require the authorities to disseminate information regarding a person who was convicted of a crime. It is often claimed that it is difficult to disseminate this information in a way that is proportional to the severity of the offence. It is also difficult to measure and control the degree of stigma associated with shaming penalties.⁴⁶

Yet, despite this difficulty there are ways in which the severity of shaming penalties can be controlled or manipulated. The authorities can increase the shaming penalty either by increasing the number of people to whom the relevant information is disseminated (by using more effective means of communication) or by increasing the length of time during which the information is disseminated.⁴⁷ In one case, the information concerning any instance of shaming is better disseminated (and consequently every law abiding person is aware of more shamed individuals). In the second case, the information concerning every instance of shaming remains longer in the public sphere (and consequently there are more people shamed at any point in time).⁴⁸ Our analysis is limited to the first manner in which the magnitude of the

⁴⁶ See Garvey, *supra* note at 748 ("[U]nlike fines and imprisonment...[shaming penalties] make the proportionality calculus much more difficult, increasing the risk of disproportionate punishment"); Kahan & Posner *supra* note at 384-85 ; Massaro, *supra* note at 693 (Shaming penalties may hurt *some* offenders too little (because the penalties miss their shame marks), may hurt *some* offenders too much.(because the penalties hit their shame marks), may do nothing *by themselves* to deter norm violations...and may also have unpredictable impact on an offender's subsequent behavior.").

⁴⁷ Kahan & Posner, *supra* note at 386.

⁴⁸ To illustrate the first way of increasing the sanction, imagine a society in which the authorities have two means to disseminate the information that a person was convicted of a crime. The information could either be disseminated on the internet or it could be published on a poster. Assume that publicizing the information on the internet is a more effective means of dissemination, namely that more people would identify the person (and consequently shun her from their community) if the information is disseminated through the internet than if that information is published on a poster. Increasing the sanction implies therefore publicizing the information on the internet rather than on a poster. The more effective means of communication results in better dissemination of the information and consequently results in better information on the part of "shamers". Both law abiding citizens and offenders know of more people who are subject to shaming penalties and such information may, as was shown above, lead to a reduction in the expected costs of the shaming penalty.

To illustrate the second way of increasing the size of the sanction, imagine a society which increases the sanction by increasing the length of time in which the information is being disseminated. The longer the period in which the information is disseminated, the harsher the sanction is. Doing so would also increase the number of individuals who *at any point in time* are shamed and consequently may decrease the expected costs of the shaming penalty.

sanction can be increased, namely by facilitating better dissemination of information.⁴⁹

To examine the sanction's magnitude's effect on deterrence assume that all criminals are announced liable, yet each employer's (independent) probability of identifying a liable individual is p . Since it was assumed throughout that each individual has at most one opportunity to be hired (his employment is considered by at most one employer), and that individuals do not know whether they will be announced liable at the time they decide whether to commit the illegal act, the independence of probability of detection among employers does not affect our analysis. Similar conclusions therefore follow:

Making liability information more easily available would increase the number of liable individuals each employer is aware of. Therefore, the probability of being hired after committing the illegal act would increase when information is made more publicly available. In equilibrium, however, higher publicity of each individual's liability would also make her more prone to be identified, and would render not committing the illegal act more valuable. Which of these effects would dominate depends on the parameters of the population.

3. Accuracy of the Judicial Process

The judicial process is not necessarily accurate. Courts may mistakenly acquit guilty individuals (*type I mistake*), or convict innocent individuals (*type II mistake*). An individual's decision whether to commit the illegal act would depend on judicial accuracy – the difference in the expected sanction if he commits the illegal act and if he does not.

An increase in judicial accuracy would either increase the probability that an offender will be convicted, or increase the probability that an innocent person be acquitted, or both. Consequently, an increase in judicial accuracy would increase the gap in the expected costs resulting from the imposition of criminal sanctions between offenders and non-offenders. By convicting more criminals (rather than exculpating them by mistake) and by acquitting more innocent individuals (rather than convicting them by mistake), the judicial system would increase the expected costs of sanctions

⁴⁹ Analyzing the consequences of the second way of influencing the magnitude of the sanction requires extending the model to a multi-period setting, which is beyond the scope of this paper. We conjecture, however, that extending 'shaming time' would result in more publicly known liable individuals per-period, and would therefore have similar effects to the ones analyzed in the text.

for criminals relative to those imposed on non-criminals. Hence, such an increase in the accuracy of the judicial process would be conducive to deterrence.

Moreover, fixing this difference (and consequently, the level of accuracy), deterrence would not depend on the absolute rate of false convictions or false acquittals. For example, when the probability of convicting a guilty individual is 0.8 and the respective probability for an innocent individual is 0.3, the level of deterrence would be the same as when the respective probabilities are 0.7 and 0.2, as the difference between the two probabilities is kept constant (0.5). That the first case has more type II mistakes and less type I mistakes would not affect deterrence.⁵⁰

Since the model assumed that not all individuals who committed the illegal act are found liable, it implicitly allowed for one type of inaccuracy, namely mistaken acquittal (type I mistake). Yet, the other type of inaccuracy, mistaken conviction (type II mistake), was not taken into account. In the Appendix (A3) we extend the model for this type of mistake by letting the probability of finding an innocent individual liable $q > 0$.

We show that the relationship between accuracy and deterrence changes when shame sanctions are used. In particular, we find that reducing the probability of type II mistakes may affect the rate of crime differently than an equivalent reduction in type I mistakes. Whereas identifying and convicting more individuals who committed the illegal act increases the number of shamed individuals and consequently may lead to a lower expected sanction, reducing the number of innocent individuals convicted *decreases* the number of shamed, and with it the probability of hiring a liable individual. At the same time, convicting more criminals increases the opportunity to be hired by employers who only hire non-labile employees, conditional on being picked by such an employer. Decreasing type II mistakes would have the opposite effect, adversely affecting deterrence. The level of deterrence would therefore not be invariable to the rate of type I and type II mistakes, even if the difference between the probability of guilty and innocent individuals to be found liable is kept constant.⁵¹

⁵⁰ See Louis Kaplow & Steven Shavell, *Accuracy in the Determination of Liability*, 37 J. L. & ECON. 1 (1994); Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. LEGAL STUD. 307 (1994).

⁵¹ For example, changing the burden of proof may affect deterrence even if the consequent change in the rate of convicted individuals is the same among criminals as among innocent (that is, even if the level of accuracy is kept unchanged).

D. Alternative Models

Search costs provide but one mechanism to explain the inverse relations between the rate of shaming and the deterrent effects of shaming penalties. It follows from this model that being the only one who is shamed (or one among few) may be worse than being one among many who are subjected to shaming penalties. We briefly review here two alternative mechanisms which support the same conclusion. One is a *bounded information model* grounded in the cognitive limitations of "shamers"; the other is a *group formation model*, that features a possible constraint on the number of shamed individuals who are socially sanctioned. This constraint is due to the costs of forming law-abiding communities, which rise with the rise in the number of the shamed, and the costs of forming alternative (shamed) communities, which decline with the rise in the number of the shamed.

A Bounded Information Model: The more people are shamed, the lesser the social isolation of the shamed is since the ability of law abiding individuals to identify the shamed and isolate them decreases.

Think of the case of shoplifters who were ordered to march in front of the store from which they had stolen, wearing signs that read: "I stole from this store."⁵² Standing alone in front of the store could guarantee that customers and bystanders would identify the shamed individual and shun him. Standing, however, in company with ten other convicted shoplifters would reduce the ability of individuals to identify the offenders and to inflict harms upon them. Therefore, the cognitive limitations of law-abiding individuals constrain the effectiveness of shaming penalties. Consequently, raising the probability of detection may be counter-productive because it may reduce the costs of shamed individuals.

A Group Formation Model: The more people shamed, the larger the ability of the shamed to form alternative communities and consequently, the lesser the expected costs of being shamed. Moreover the more people shamed, the lesser the ability of law-abiding individuals to form law-abiding communities.

Commentators have often pointed out the risk that shaming penalties may alienate individuals and induce them to drop out of law abiding society altogether.⁵³ The larger

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⁵³ See, e.g., Skeel, *supra* note at 1817 Perhaps the most vivid danger is the risk that shaming will prove to be *too* effective. If the relevant community shuns an offender enough, the offender may form a deviant subcommunity' that flaunts the morals of the relevant community") ; Note: Shame, Stigma and Culture, *supra* note at 2195 (The stigma that accompanies shaming sanctions ...induces further

the number of shamed individuals, the lower is the cost to form an alternative community or to join an existing alternative community.

Shaming reduces the costs of forming or joining alternative communities in at least three ways. First, by publicizing the identity of offenders, it reduces the costs of identifying other offenders. Shaming penalties provide law-abiding citizens an opportunity to identify offenders and shun them from their community. At the same time, shaming penalties also enable offenders to identify other offenders thus reducing the costs of forming alternative communities.

Second, some forms of shaming provide opportunities for the shamed to interact with each other. Placing a group of offenders in front of a store provides a wonderful opportunity to share experiences and to facilitate the formation of an alternative community of offenders with its own distinctive norms.

Last, shaming may create a sense of bonding among the shamed and create a sense of identification, which previously did not exist.⁵⁴ Shaming penalties do not merely reduce the costs of forming alternative communities; they may even reinforce a sense of identity, which is a prerequisite for the formation of these alternative communities.

At the same time, exclusively law-abiding communities become less sustainable as the number of their members falls. Thus, identifying too many offenders may necessitate keeping some of them within the group. This, however, would translate into a higher probability of avoiding the private sanction for shamed offenders, as the number of shamed increases.⁵⁵

There are therefore three considerations which support the conjecture that there is an inverse relation between the number of people who are successfully detected and "shamed" and the deterrent effects of the shaming: the search model, the bounded information model and the group formation model. None of these considerations

criminal behavior by alienating offenders from their communities and steering them towards criminal subcultures"). In such alternative communities, the imposition of a shaming penalty may become a badge of honor. See, e.g., Lawrence Rosenthal, *Gang Loitering and Race* 9 J. CRIM. L & CRIMINOLOGY 99, 117 (2000) (suggesting that gangs invert dominant moral and legal norms)

⁵⁴ See, e.g., Michael S. Kirsch, *Alternative Sanctions and the Federal Tax Law: Symbols, Shaming, and Social Norm Management as a Substitute for Effective Tax Policy* 89 IOWA L. REV. 863, 920 (2004) (pointing out that the public shaming provisions that require publication of those who renounce citizenship (often for tax purposes) may cause expatriates "to identify with the new community – the community of former United States citizens who surrendered citizenship for tax purposes.")

⁵⁵ A graphical demonstration of this claim is given in the appendix.

operates in the context of a conventional penal scheme that is based on incarceration or fines.

4. Conclusion

In a traditional sentencing scheme based on imprisonment and fines, an increase in the rate of detection of criminals inevitably leads to an increase in the expected costs of the sanction. Similarly, increasing the sentence inevitably leads to an increase in the deterrent effects of the sanctions. These two observations provide the basis for the economic analysis of crime and law enforcement.⁵⁶ In addition, both common sense and law and economics scholars suggest that increasing the accuracy of the judicial system leads to an increase in the expected costs of committing a crime and consequently reduces the rate of crime. This paper showed that at least in the context of penalties which derive most of their power from publicizing the criminals' conviction and from the resulting isolation and alienation of criminals, these traditional claims made by legal theorists may be false. Increasing the rate of detection, the magnitude of the sanction and the accuracy of the judicial process may decrease rather than increase deterrence. Shaming penalties are perhaps the prime example of penalties which acquire their deterrent effects from the publicity resulting from their imposition. Hence, these perverse effects are most likely to occur in the context of shaming penalties.

Contemporary scholarship concerning shaming penalties is typically divided between advocates of shaming and opponents of shaming. While this paper does not directly take sides in this debate, its conclusions are ones that suggest that the use of shaming penalties is restricted. If the deterrence resulting from the imposition of shaming penalties is insufficient, it ought to be complemented by greater use of regular sanctions rather than by greater use of shaming penalties. Shaming penalties are self destructive as an extensive use of them may erode their effectiveness. This erosion is the byproduct of the fact that the costs of inflicting shaming penalties is borne not by the state but by individuals. A greater use of shaming penalties increases these costs and consequently reduces the willingness of the public to perform their part in the imposition of shaming penalties.

⁵⁶ Gary Becker, *Crime and Punishment: an Economic Approach*, 76 JOURNAL OF PUBLIC ECONOMICS 169 (1968)

Appendix

A1.

Define the (continuous) function $H(u^*)$ as follows

$$H(u^*) = \frac{dvp(1 - G(\delta^*(u^*, p)))}{(1 - p(1 - F(u^*)))}.$$

Clearly, $H(u^*) > u^*$ when $u^* = 0$. Also, since $v < \bar{u}$ it must be that $\lim_{u^* \rightarrow \bar{u}} H(u^*) < u^*$. By the intermediate value theorem there must be u^* such that $H(u^*) = u^*$.

A2.

Define a *locally stable equilibrium* to be a Perfect Bayesian Equilibrium⁵⁷ of the game (u^* satisfying condition (5)), for which the adjustment process

$$u_{i+1}^* = \frac{dvp(1 - G(\delta^*(u_i^*, p)))}{(1 - p(1 - F(u_i^*)))}, \quad i=0,1,2,\dots \text{ converges to } u^* \text{ for } u_0^* \text{ sufficiently close to } u^*.$$

⁵⁸ An equilibrium is locally stable only if $\frac{\partial H(u^*)}{\partial u^*} < 1$.

Totally differentiating condition (5) with respect to p we get

$$\frac{du^*}{dp} \left(1 - \frac{\partial H(u^*)}{\partial u} \right) = \frac{\partial H(u^*)}{\partial p}.$$

Since $\frac{\partial H(u^*)}{\partial u^*} < 1$, $\frac{du^*}{dp}$ has the same sign as $\frac{\partial H(u^*)}{\partial p}$. Differentiation proves that

$$\frac{\partial H(u^*)}{\partial p} \text{ may be negative.}$$

A3.

In this part of the Appendix we adjust our analysis for the case where innocent individuals may be found liable by mistake. We assume all individuals are audited, and let p and q denote the probability of finding a guilty and an innocent individual liable, respectively. Thus, the expected utility of a guilty individual is

⁵⁷ For a definition of a Perfect Bayesian Equilibrium see Osborne & Rubinstein (1995), p. 231.

⁵⁸ For a similar definition see Rasmusen, *supra* note 14, and Stephen Coate and Glen Loury, *Will Affirmative Action Policies Eliminate Negative Stereotypes*, 83 *AMERICAN ECONOMIC REVIEW* 1220, 1226 (1993).

$$U_i^C = u_i + v(ph_L + (1-p)h_N),$$

whereas the expected utility of an innocent individual is

$$U_i^I = v(qh_L + (1-q)h_N).$$

Thus,

$$\begin{aligned} u^* + v(ph_L + (1-p)h_N) &= v(qh_L + (1-q)h_N) \Leftrightarrow \\ u^* &= v(p-q)(h_N - h_L). \end{aligned} \quad (A1)$$

If an employer picks a liable individual his expected utility from hiring her is

$$\frac{qBF(u^*) + pB(1-F(u^*))}{qF(u^*) + p(1-F(u^*))} - S,$$

and her expected utility from hiring a non-liable individual is

$$\frac{(1-q)BF(u^*) + (1-p)B(1-F(u^*))}{1-qF(u^*) - p(1-F(u^*))}.$$

The employer's value from searching if she picked a liable individual is

(A2)

$$\begin{aligned} V &= \delta_j \left[(1-q)BF(u^*) + (1-p)B(1-F(u^*)) + [qF(u^*) + p(1-F(u^*))]V \right] \Leftrightarrow \\ V &= \delta_j \frac{(1-q)BF(u^*) + (1-p)B(1-F(u^*))}{1 - \delta_j [qF(u^*) + p(1-F(u^*))]}. \end{aligned}$$

Since the alternative is to hire the liable individual, the employer would choose to search for a non-liable individual if and only if

(A3)

$$\begin{aligned} \delta_j \frac{(1-q)BF(u^*) + (1-p)B(1-F(u^*))}{1 - \delta_j [qF(u^*) + p(1-F(u^*))]} &\geq \frac{qBF(u^*) + pB(1-F(u^*))}{qF(u^*) + p(1-F(u^*))} - S \Leftrightarrow \\ \delta_j &\geq \frac{B-S}{B-S[qF(u^*) + p(1-F(u^*))]} \equiv \delta^*(u^*, p, q) \equiv \delta^*. \end{aligned}$$

Whereas h_L is defined similarly to the case where no innocent individuals are found liable,⁵⁹ h_N is now given by

$$h_N = d \left[G(\delta_T(u_T, p)) + \frac{(1 - G(\delta_T(u_T, p)))}{(1 - p(1 - F(u_T)) - qF(u_T))} \right]$$

The equilibrium condition is therefore

(A4)

$$\begin{aligned} u^* &= \frac{dv(p-q)(1-G(\delta^*(u^*, p)))}{1-p(1-F(u^*)) - qF(u^*)} = \frac{dv(p-q) \left(1 - G \left(\frac{B-S}{B-S[(p-q)(1-F(u^*)) + q]} \right) \right)}{1-(p-q)(1-F(u^*)) - q} = \\ &= \frac{dv(p-q) \left(1 - G \left(\frac{B-S}{B+S[(p-q)(F(u^*)) - p]} \right) \right)}{1+(p-q)(F(u^*)) - p}. \end{aligned}$$

Unlike under traditional sanctions, under shame sanctions deterrence is not fully determined by the level of accuracy ($p-q$). Fixing the level of accuracy, and decreasing the probability of finding an innocent individual liable, q , increases δ^* , and consequently also $G(\delta^*)$, thus increasing the ratio of employers who search for non-liable individual. Yet, at the same time it decreases non-liable individuals' expected probability of being hired by employers who search, conditional on being chosen by such an employer. Whereas the first effect enhances deterrence, the latter impairs it. Thus, for any level of accuracy, the decision whether to convict or acquit more criminals should depend on which of these two effects dominates.



⁵⁹ See *supra*, p. ***.