

ARTICLES

Tort Liability and the Risk of Discriminatory Government

Ehud Guttel[†] & *Ariel Porat*^{††}

When individuals and firms fail to invest in adequate care, the government often steps in, taking costly measures to restore safety or mitigate harm. Under such circumstances, a question arises as to whether the government can demand recovery for its costs. For many years, the answer has been negative; tort law has persistently refused to render negligent individuals and firms liable for governmental expenditures. Yet recently, the law changed markedly. Recognizing that the no-liability regime subsidizes faulty behavior, an increasing number of jurisdictions have established the right of public entities to sue for reimbursement of costs. Against this backdrop, this Article shows that the government's right of recovery often has little effect on individuals' and firms' incentives to prevent harm. More important and disturbing, however, this right distorts governmental incentives to provide equal services to all. Particularly, given the right to demand compensation for its expenditures, the government will favor the rich at the expense of the poor. This risk is not theoretical but real and troubling. The Article proposes a legal regime that induces individuals and firms to prevent harm optimally, while eliminating the government's incentives to discriminate.

INTRODUCTION	2
I. PREVAILING LAW.....	7
A. Governmental Entities	7
B. Public Officials	13
C. Assessment.....	16
II. WHY NO LIABILITY?.....	18
A. The Social Costs of PGS.....	18

[†] Bora Laskin Professor, Hebrew University of Jerusalem Faculty of Law.

^{††} President, Tel Aviv University. For their helpful comments, we thank Christopher Kutz, Meirav Furth-Matzkin, Lee Fennell, Daniel Hemel, Saul Levmore, Barak Medina, Jonathan Masur, Mitchell Polinsky, Yuval Procaccia, Weijia Rao, Re'em Segev, Stephen Sugarman, George Triantis, Eyal Zamir, and participants in the Annual Meeting of the American Law and Economics Association and in faculty workshops at the University of California, Berkeley, the University of Chicago, the Interdisciplinary Center Herzliya, the University of Haifa, the University of Southern California, Stanford University, and Tel Aviv University. For superb research assistance, we thank Bar Dor and Niva Orion.

1. The basic argument.....	18
2. Refinements.....	22
B. Incentives of Governmental Entities.....	25
1. The government and monetary incentives.....	26
2. Perverse incentives under a liability regime.....	30
C. Reimbursement Versus No-Reimbursement.....	34
1. Efficiency.....	34
2. Distributive justice.....	36
3. The case of full internalization.....	37
D. Limitations.....	38
1. It is hard to distinguish the rich from the poor.....	38
2. No risk of undercompensation and availability of insurance.....	40
3. Cases in which the government cannot discriminate in providing PGS.....	41
4. Other potential limitations.....	42
E. Summary.....	43
III. OTHER SOLUTIONS.....	43
A. Four Liability Rules.....	43
1. Ex post internalization.....	43
2. Ex post disgorgement.....	46
3. Ex ante internalization and mandatory insurance.....	47
4. Ex ante disgorgement.....	49
B. Applications.....	52
1. Police services.....	52
2. Park rangers and rescue squads.....	54
3. Environmental hazards.....	55
4. Medical care and treatment.....	57
5. Summary.....	59
CONCLUSION.....	60

INTRODUCTION

Fire departments, police forces, rangers, health authorities, environmental agencies, and emergency squads are all examples of governmental entities that take costly measures to reduce risks to individuals, to rescue them or their property when necessary, and to provide them with other services essential to their well-being. The circumstances and risks requiring the provision of such personal governmental services (PGS) can be the result of the behavior, faulty or not, of third parties or the recipients of the services. For example, a fire that endangers someone's property might be the result of wrongdoing by a third party (say, a negligent neighbor), the faulty behavior of the property owner herself,

or a nonwrongful cause. Is the governmental entity—the fire department in this case—that rescues the individual at risk entitled to recover its costs from the wrongdoer (if there is one) or, alternatively, the negligent rescuer? If a public official—a firefighter in our example—is injured in the course of a rescue, is she entitled to recover her losses from the wrongdoer or negligent rescuer? Traditionally, the answer to both questions has been no. The provision of PGS following faulty behavior has been considered part of the services that citizens—wrongdoers and negligent rescues included—are entitled to receive for free or, more accurately, for the taxes that they pay to the government.

The unwillingness to allow the government to recover for PGS is not restricted to rescue operations in the strict sense. Public hospitals, which provide healthcare to tort victims, cannot recover their costs from wrongdoers.¹ Similarly, costly measures taken by governmental entities to prevent harmful events before they occur are commonly nonrecoverable. Thus, if the police, military, health authorities, or agencies responsible for handling and supervising hazardous substances secure citizens' activities—even negligent ones—before any harm is done, they are generally not entitled to reimbursement of their costs.²

In recent years, however, the law has been undergoing a transformation. Courts have substantially limited the rules that restrict the recovery rights of governmental entities and public officials. Similarly, more and more jurisdictions are enacting statutes allowing governmental entities and their employees to recover their costs from either wrongdoers or negligent rescues who are responsible for the events that triggered the need for PGS. The common argument supporting this new trend is that

¹ See, for example, *Daughters of Charity Health Services of Waco v Linnstaedter*, 226 SW3d 409, 411 (Tex 2007) (noting that a “hospital has neither tort nor contract rights against a tortfeasor who has injured a patient”). For further discussion regarding the ability of hospitals to secure recovery for the costs of treating victims and, in particular, their ability to place a lien on recoveries patients may receive from third parties that caused the patients' injuries, see text accompanying notes 94–97. See also *Midwest Neurosurgery, P.C. v State Farm Insurance Co*, 686 NW2d 572, 578 (Neb 2004) (“Without the lien statute, the provider would be limited to bringing an action against the *patient* to recover the debt.”) (emphasis added).

² See, for example, *City of Bridgeton v B.P. Oil, Inc*, 369 A2d 49, 54–55 (NJ 1976) (holding that a city could not recover the costs it incurred while taking measures to prevent possible harms following an oil spill). But see *Camden County Board of Chosen Freeholders v Beretta U.S.A. Corp*, 123 F Supp 2d 245, 261 n 10 (D NJ 2000) (noting that the New Jersey legislature's decision to repeal the “fireman's rule” by statute “may signify a willingness to depart from the common law rule with respect to personal injuries caused to governmental personnel due to the negligent or intentional torts of others”). See also Parts I.A–B.

such liability is essential for optimal deterrence.³ The reasoning is that a wrongdoer or a potential rescuee who bears no liability for the costs of PGS has insufficient incentives to take precautions in the first place, knowing that the costs of eliminating risks or ameliorating the harm if something goes wrong will be borne by others.

This Article makes three claims about the scope of and justification for imposing liability on negligent beneficiaries of PGS. It claims *first* that ideally, and as opposed to what is commonly assumed, a negligent beneficiary of PGS (whether a third party or rescuee) should bear liability not just for the immediate costs of providing the services but for the entire social harm caused by her faulty behavior,⁴ which is typically much greater than the costs to the PGS provider. In many cases, this social harm includes harms to third parties who were deprived of critical PGS or received inferior PGS because of the beneficiary's failure to take care.

To illustrate the Article's first claim, consider an emergency case, such as a flood or a severe storm, in which rescue services are rendered to many beneficiaries, including those who were negligent by failing to take proper care. Given the large number of people in need, however, the governmental agency may not accommodate all affected individuals. To provide potential beneficiaries with efficient incentives to take care, the negligent beneficiaries should be liable not for the costs they inflicted on the governmental agency,⁵ but rather for the harm borne by the individuals whom the agency failed to accommodate because of the negligent beneficiaries' insufficient care. In other words, the negligent beneficiaries occupied rescue forces, which otherwise would have been allocated to other individuals, thereby preventing their harms.

³ See, for example, Hanoch Dagan and James J. White, *Governments, Citizens, and Injurious Industries*, 75 NYU L Rev 354, 398 (2000):

Public authorities should be able to respond in an efficient manner to any threat to the public health or safety, without worrying that the provision of services would insulate those who are responsible to these threats from liability and unjustifiably shift the burden of their wrongdoing to the public purse.

⁴ While the recent trend has been to expand the liability of *negligent* PGS beneficiaries, existing rules do not require *nonnegligent* beneficiaries to pay (beyond their taxes) for such services. See Part I.A. The bulk of the arguments developed in this Article, however, would also apply if liability were strict, namely, under a regime in which beneficiaries are liable for governmental expenditures irrespective of their fault.

⁵ As we explain, paying the average fixed costs alongside the varying costs would not be enough to provide beneficiaries with efficient incentives. See Part II.A.2.d.

This liability rule—which we will call ex post internalization—could be hard to apply for both practical and legal reasons. But we emphasize one important concern, which motivates the Article’s *second* claim: any extensive ex post liability, be it reimbursement of costs or ex post internalization, will distort the PGS providers’ incentives in providing the services. Specifically, governmental entities will be induced to provide more PGS or better quality PGS to the rich than what is provided to the poor, since the chances of successfully collecting compensation from the former are greater than from the latter. We show these concerns to be not just theoretical but very real and troubling. The perverse incentives of PGS providers would not only lead to injustice, but also distort the incentives of the rich to take care, even when efficiency requires them to do so. Furthermore, if it is possible for the government to know in advance whether the beneficiary of the services was negligent, it might prefer to provide more and higher-quality services to negligent beneficiaries than to beneficiaries who took adequate care, since compensation can be collected only from the former. Such governmental bias would also lead to injustice and inefficiency. The straightforward solution to these concerns is to eliminate any ex post liability for PGS.

To illustrate our second claim, and in particular the concern that the poor would be discriminated against by the government, consider a fire station that serves two neighborhoods: one rich and one poor. With reimbursement of costs imposed on beneficiaries, the fire station would be incentivized to post more fire trucks to the rich neighborhood. Its motivation to do so would be not only the result of a calculation of the expected harm in each neighborhood,⁶ but mainly its understanding that collecting compensation from the rich would be much easier than from the poor. Apart from being unjust, this preference of the fire station to better protect the rich would undermine the latter’s incentives to take optimal care. In particular, residents of the rich neighborhood might refrain from taking care, relying instead on the fire station to assist them when necessary. Indeed, under a reimbursement rule, the residents would be required to compensate the fire station. However, because this compensation would often be limited in scope (for reasons we explain in more detail below⁷), it would be

⁶ Which arguably (although it would be objected to by many) could justify the posting of more trucks to the rich neighborhood, because expected property harm might be higher in that neighborhood.

⁷ For an explanation of why implementing full ex post cost internalization would not be feasible, see Part II.A.2.

cheaper for rich residents to take no precautions even when doing so is efficient and reimburse the fire station for its costs when it rescues them. We show that the same argument applies to other providers of PGS as well. By contrast, the no-liability rule would eliminate the incentives of PGS providers to invest excessively in protecting the rich, thereby avoiding the troubling consequences that follow.

The no-liability rule, however, is not cost free. As we have already pointed out, with no liability, beneficiaries of PGS do not internalize many of the costs of their careless behavior, and their incentives to take care are deficient. Although this concern is not as troubling as the government providing discriminatory services, it should not be ignored. This brings us to the Article's *third* and last claim: both concerns can be mitigated by applying *ex ante* (rather than *ex post*) liability rules. In particular, *ex ante* liability of negligent beneficiaries would provide them with efficient incentives to take care, and since the government would not expect to recover any compensation *after* providing its services, it would have no reason to discriminate against the poor (or against nonnegligent beneficiaries).

The Article proceeds as follows. Part I presents the prevailing law on the liability of PGS beneficiaries toward governmental entities and toward officials injured in the course of providing these services. It points to the emerging tendency to impose a reimbursement duty on PGS beneficiaries and explores the justifications raised by courts and scholars for and against such a liability regime.

Part II lays out the Article's two central claims. First, it argues that making PGS beneficiaries liable for governmental entities' costs (reimbursement of costs) does not efficiently incentivize them to take optimal care. Rather, to incentivize them to take proper care, the government should hold beneficiaries liable for the entire harm they caused (*ex post* internalization). This Part then argues that both a reimbursement of costs rule and an *ex post* internalization rule could skew governmental entities' incentives in providing PGS and thereby also distort beneficiaries' incentives to prevent harm. It explores the limits of this argument and acknowledges a few exceptions in which either of the two rules might work well.

Part III elaborates on how liability can be designed to incentivize not only potential beneficiaries to take optimal care, but also governmental entities to provide their services nondiscriminatorily. It proposes liability rules—mostly *ex ante*

ones, including mandatory insurance—and suggests how they could be applied to some notable categories of PGS. The Article concludes with a summary of its arguments and recommendations, and briefly discusses further applications of the analysis.

I. PREVAILING LAW

Courts have traditionally restricted the liability of PGS beneficiaries for the costs of public services that have been required due to their faulty behavior. This has applied to cases in which the services were provided following a self-inflicted risk (for example, putting out a fire in the beneficiary’s home that was caused by his negligence) and to beneficiaries whose negligence put others at risk (for example, putting out a fire that spreads to a neighbor’s home).⁸ The conventional legal regime restricting beneficiary liability is two pronged. First, unless otherwise explicitly authorized in legislation, governmental entities have been precluded from claiming compensation for their costs in taking measures to eliminate risks or ameliorate harms caused by beneficiaries’ activities. Second, officials who were injured during, or in relation to, the provision of such measures usually could not recover from those whose faulty behavior led to the injury. These limitations on beneficiary liability, however, are being relaxed, and PGS beneficiaries are increasingly being sued for compensation by both governmental entities and individual officials.

A. Governmental Entities

In dismissing governmental entities’ claims against PGS beneficiaries, courts have often referred to what is known as the “free public services doctrine.”⁹ Under this common-law doctrine, “the

⁸ See, for example, *Allenton Volunteer Fire Department v Soo Line Railroad Co*, 372 F Supp 422, 423–24 (ED Wis 1974) (rejecting a fire department’s recovery claim for the costs of extinguishing fires involving the defendant’s trains); *District of Columbia v Air Florida, Inc*, 750 F2d 1077, 1080 (DC Cir 1984) (rejecting the District of Columbia’s recovery claim against an allegedly negligent airline for, among other things, the costs of cleaning up the wreckage of the defendant’s crashed plane); *State v Long Island Lighting Co*, 493 NYS2d 255, 257–58 (NY Cty 1985) (rejecting the state’s recovery claim against the utility company for the costs of diverting drivers from the vicinity of the defendant’s fallen power lines).

⁹ Timothy D. Lytton, *Should Government Be Allowed to Recover the Costs of Public Services from Tortfeasors?: Tort Subsidies, the Limits of Loss Spreading, and the Free Public Services Doctrine*, 76 *Tulane L Rev* 727, 731–41 (2002). For a comprehensive review of cases applying the free public services doctrine and a description of its origins and wide application, see David C. McIntyre, Note, *Tortfeasor Liability for Disaster Response Costs: Accounting for the True Cost of Accidents*, 55 *Fordham L Rev* 1001, 1007–19 (1987). In some jurisdictions, the doctrine is termed the “municipal cost recovery rule,” particularly

cost of public services . . . is to be borne by the public as a whole, not assessed against the tortfeasor whose negligence creates the need for the service.”¹⁰ The doctrine has been long espoused by federal and state courts alike in their jurisprudence.¹¹ Courts, including the Supreme Court, have ruled that in the absence of a clear statutory provision allowing for recovery, governmental entities must bear the costs of public services rendered in response to wrongdoers’ and negligent rescues’ behavior.¹² Accordingly, while negligent tortfeasors have been required to compensate individual victims for their personal harms, claims filed by states, cities, and local municipalities against the same tortfeasors have been consistently dismissed.

Courts have commonly grounded their application of the doctrine in the principle that determining fiscal policy is the exclusive authority of the legislature. Because PGS beneficiaries are taxpayers, making them liable for public expenditures is a decision only the legislature can make. The default rule, courts have emphasized, is that taxes are the only payments individuals are required to make to cover the costs of benefits received from the government. Accordingly, if there is no legislation permitting a shifting of the costs of public services to wrongdoers and negligent rescues, those costs are to be borne “by the public as a whole.”¹³ The no-recovery rule has one exception. Courts have recognized

in the context of claims filed by cities. See Barbara J. Van Arsdale, *Construction and Application of “Municipal Cost Recovery Rule,” or “Free Public Services Doctrine”*, 32 ALR6th 261, 272–84 (2008) (surveying the application of the doctrine across jurisdictions); Michael I. Krauss, *Public Services Meet Private Law*, 44 San Diego L Rev 1, 6–22 (2007) (showing that the doctrine is entrenched in tort law adjudication).

¹⁰ *City of Flagstaff v Atchison, Topeka and Santa Fe Railway Co*, 719 F2d 322, 323 (9th Cir 1983) (denying a claim to recover costs incurred by the city in responding to an incident involving derailed tank cars containing a highly flammable substance).

¹¹ See McIntyre, Note, 55 Fordham L Rev at 1011–12 (cited in note 9). See also Lytton, 76 Tulane L Rev at 740–41 (cited in note 9) (discussing state and federal cases applying the doctrine and the historical origins of the doctrine). But see Krauss, 44 San Diego L Rev at 32–45 (cited in note 9) (criticizing Lytton’s account and conclusions).

¹² In *United States v Standard Oil Co*, 332 US 301, 316–17 (1947), the Supreme Court declined to recognize the right of the federal government, in the absence of a statute, to recover costs of hospitalizing a soldier injured in a car accident caused by the defendant’s negligent driver.

¹³ *Flagstaff*, 719 F2d at 323. Justice Wiley Rutledge, writing for the majority in *Standard Oil*, explained that it is Congress, and not the Court, that is “the custodian of the national purse” and “the exclusive arbiter of federal fiscal affairs.” *Standard Oil*, 332 US at 314. See also *Air Florida*, 750 F2d at 1080 (“[W]here a generally fair system for spreading the costs of accidents is already in effect—as it is here through assessing taxpayers the expense of emergency services—we do not find the argument for judicial adjustment of liabilities to be compelling.”).

the right of governmental entities to claim damages when beneficiaries' activities endangered government-owned property or created a public nuisance.¹⁴ In such cases, courts have reasoned, the governmental entities acting in response to faulty behavior are not invoking governmental powers but, rather, are akin to individual victims seeking to protect their property. The fiscal argument therefore does not apply in such cases, and thus governmental entities can claim compensation for costs incurred as result of individuals' wrongdoing. Yet this exception has been narrowly construed, with courts following "[t]he general rule [] that public expenditures made in the performance of governmental functions are not recoverable."¹⁵

Along with the free public services doctrine, courts have also rejected claims by governmental entities for failing to meet certain standard doctrinal requirements for establishing liability. For example, some such claims for recovery have been dismissed on the grounds that the defendants-beneficiaries owe no duty of care to the government.¹⁶ In other cases, the courts have justified the denial of recovery on the "pure economic loss" doctrine, based on the fact that the plaintiff's harm is limited to economic losses.¹⁷ Under this doctrine, tort plaintiffs cannot recover for negligent infliction of monetary losses that are not accompanied by physical harm.¹⁸ Other courts have grounded their decisions on

¹⁴ See W. Keeton, et al, *Prosser & Keeton on the Law of Torts* § 2 at 7 (5th ed 1984) ("The state never can sue in tort in its political or governmental capacity, although as the owner of property it may resort to the same tort actions as any individual proprietor to recover for injuries to the property."). See also *Air Florida*, 750 F2d at 1080 ("Exceptions to this general common-law rule [of no recovery] have been made where the government incurs expenses to protect its own property.").

¹⁵ *Koch v Consolidated Edison Co of New York*, 468 NE2d 1, 7–8 (NY 1984) (allowing city to recover for damage to city property, but disallowing recovery of "costs incurred for wages, salaries, overtime and other benefits").

¹⁶ See, for example, *Mayor and Council of City of Morgan City v Jesse J. Fontenot, Inc.*, 460 S2d 685, 687–88 (La App 1984) (rejecting the city's compensation claim for the costs of fire suppression against a factory whose negligence caused the fire on the grounds that the factory bore no duty of care toward the city); *County of San Luis Obispo v Abalone Alliance*, 178 Cal App 3d 848, 865–66 (1986) (holding that the plaintiff cannot claim compensation for costs incurred in sending police forces to deal with protesters committing intentional trespass as the defendants had no duty of care toward the plaintiff).

¹⁷ See *In re TMI Litigation Governmental Entities Claims*, 544 F Supp 853, 856–58 (MD Pa 1982) (finding that the plaintiff's claim for civil defense expenses and excessive government employee's wages relates to pure economic losses, which are not compensable in the absence of personal injury or property damage), *affd in part, vacd, and remd in part*, *Pennsylvania v General Public Utilities Corp.*, 710 F2d 117, 122–23 (3d Cir 1983).

¹⁸ Dan B. Dobbs, Paul T. Hayden, and Ellen M. Bublick, *Hornbook on Torts* 1060 (West 2d ed 2016) ("Economic harms or losses are financial costs to the plaintiff that do not arise from personal injury to the plaintiff or damage to tangible property Such a claim for pure economic loss will often be rejected."). See also Restatement (Third) of Torts

the argument that the plaintiffs failed to show they were adversely affected by the defendants' misconduct. Because responding to risks (including those created by negligent individuals) is the preexisting duty of the governmental plaintiffs, the costs associated with governmental actions to perform this duty should not be considered "harm."¹⁹

However, acknowledging that the no-recovery rule substantially subsidizes tortious activities and shifts the cost of harm from those engaging in risky activities to the taxpayers, courts have gradually limited its application. One approach has been to carve out additional exceptions to the free public services doctrine. Some courts, for example, have ruled that the doctrine precludes compensation claims by governmental entities only so long as the defendant's fault was a lone occurrence rather than recurring behavior.²⁰ Other courts have held that the doctrine cannot apply when the defendants-beneficiaries and the governmental entity were in contractual relations (explicit or implied).²¹ A second approach has been to broaden the scope of the doctrine's standard exception regarding government-owned property. By interpreting this term broadly, courts have limited the scope of the no-recovery rule and enabled governmental entities to claim compensation in a variety of circumstances. For example, some courts have allowed the government to recover the costs of eliminating hazards that threaten to harm not only the property of individuals, but also public property.²² Courts have treated similarly the doctrinal objections of duty of care, pure economic loss, and preexisting duty to act, holding that just as they were rejected when

§ 29, cmt c (2010) ("Generally, no- or limited-duty rules have been employed to limit liability for other harms, such as economic loss, for which tort law has historically provided less protection.").

¹⁹ See, for example, *Long Island Lighting Co*, 493 NYS2d at 257 (denying the state recovery of the costs of diverting traffic from the vicinity of fallen power lines and ruling that "[t]he plaintiff may not recover damages for undertaking its duty to ensure the safety of the travelling public").

²⁰ See *City of Boston v Smith & Wesson Corp*, 12 Mass L Rptr 225, 231, 2000 WL 1473568, *8 (Mass Super) (holding that the no-recovery rule does not apply when public expenditures are made following "a repeated course of conduct causing recurring costs to the municipality").

²¹ See Lytton, 76 Tulane L Rev at 741–42 (cited in note 9) (providing an example of a case in which a court allowed recovery for public services on the basis of an explicit contractual relation). See also McIntyre, Note, 55 Fordham L Rev at 1032–34 (cited in note 9) (discussing cases involving quasi-contractual relations).

²² See, for example, *State v Black Hills Power, Inc*, 354 P3d 83, 88–89 (Wyo 2015) (holding that the government is entitled to recover the costs of eliminating risks created by the defendant's negligence if its own property was at peril).

raised by defendants in analogous tort litigation, they should be rejected when raised by PGS beneficiaries against the government.²³

The expansion of governmental entities' right to claim compensation has not been limited to the case law. Legislative reforms at both the federal and state levels have broadened the scope of this right as well, in two respects. First, statutes have been passed providing for a range of expenditures for which governmental entities can claim recovery from beneficiaries. These statutes authorize governmental entities to collect compensation for services such as fire suppression,²⁴ elimination and mitigation of environmental hazards,²⁵ response to traffic-related accidents and risks,²⁶ law enforcement efforts,²⁷ medical treatment of victims,²⁸ and provision of assistance to individuals in distress in various situations.²⁹ Second, subsequent legislation increased the

²³ See, for example, *City of St Louis v Lead Industries Association, Inc.*, 2002 WL 34395189, *65–72, 84 (Mo Cir) (upholding the city's right to recover from manufacturers of lead-based paint while rejecting both the argument that the manufacturers had no duty of care and the argument that the claim should be dismissed under the pure economic loss doctrine); *Smith & Wesson Corp.*, 12 Mass L Rptr at 232–35 (allowing the city to claim reimbursement for expenditures made in response to the defendant's manufacturing and distribution of firearms even though these expenditures constitute only economic harm).

²⁴ Cal Health & Safety Code § 13009 (“Any person [] who negligently . . . sets a fire . . . is liable for the fire suppression costs incurred in fighting the fire and for the cost of providing rescue or emergency medical services, and those costs shall be a charge against that person.”).

²⁵ 33 USC § 1321(b)(10) (“Any costs of removal incurred in connection with a discharge [of a prohibited substance] . . . shall be recoverable from the owner or operator of the source of the discharge.”).

²⁶ Cal Gov Code § 53150:

Any person who is under the influence of an alcoholic beverage or any drug . . . whose negligent operation of a motor vehicle caused by that influence proximately causes any incident resulting in an appropriate emergency response . . . is liable for the expense of an emergency response by a public agency to the incident.

²⁷ Idaho Code § 37-2732(k) (“[T]he court may order restitution for costs incurred by law enforcement agencies in investigating the violation.”).

²⁸ Cal Gov Code § 53159:

(a)(1) “Expenses of an emergency response” . . . include the cost of providing . . . emergency medical services at the scene of an incident
 (b) Any person who intentionally, knowingly, and willfully enters into any area that is closed or has been closed to the public . . . is liable for the expenses of an emergency response required to search for or rescue that person

²⁹ NH Rev Stat § 153-A:24 (“A person shall be liable for response expenses if, in the judgment of the court, such person . . . [r]ecklessly or intentionally creates a situation requiring an emergency response.”); Or Rev Stat § 404.270(1) (“A public body that has authority to conduct search and rescue activities may collect an amount specified in this section as reimbursement for the cost of search and rescue activities . . . for the benefit of hikers, climbers, hunters and other users of wilderness areas.”); Va Code Ann § 44-146.18:1(3) (“[The state] shall promptly seek reimbursement from any person causing or

number of categories of potential liable beneficiaries. While the initial legislation permitted governmental entities to file compensation claims against a limited set of beneficiaries, the more recent regulation removed these limitations, enabling lawsuits to be brought against broad categories of beneficiaries.³⁰

In recent years, there has been a growing trend toward restricting the no-recovery rule even further. An increasing number of cities and municipalities have passed regulations that impose broad reimbursement duties.³¹ These regulations require PGS beneficiaries to pay the costs (often described as “response costs”) incurred by local authorities such as the police and fire departments, emergency services units, and environmental protection squads when their action was necessitated by the beneficiaries’ faulty behavior. The wide scope of these new rules, as well as their rising popularity among local governments, has led to public criticism and to state-government efforts aimed at repealing them.³² These efforts have been somewhat successful; between 2008 and 2011, twelve states enacted laws setting limitations on governmental entities’ right to claim compensation for expenditures caused by beneficiaries’ negligence.³³ The limitations set by these statutes vary among the jurisdictions, with some states opting for

contributing to an emergency or disaster for [] . . . sums [incurred for] protection, relief and recovery from loss or damage caused by such person.”).

³⁰ Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and similar state legislation, for example, governmental entities can now demand recovery for their clean-up costs from a number of parties (beyond the polluter itself). 42 USC § 9601 et seq. See also note 144 and accompanying text. For a general discussion of CERCLA’s extended liability regime, see Melissa A. McGonigal, Comment, *Extended Liability Under CERCLA: Easement Holders and the Scope of Control*, 87 Nw U L Rev 992, 996–1020 (1993).

³¹ See, for example, Christopher Jensen, *A Crash. A Call for Help. Then, a Bill*. (NY Times, Sept 3, 2010), archived at <https://perma.cc/TX9U-X4FD> (describing the rise in recovery claims brought by governmental entities, and noting that in at least twenty-six states, cities and municipalities now charge injurers, and sometimes victims, for services provided by local fire and police departments).

³² See id.

³³ See Act of April 29, 2010, 2010 Ala Acts 1691, codified at Ala Code § 32-10-13; Act of April 13, 2011, 2011 Ariz Sess Laws 544, codified at Ariz Rev Stat Ann § 28-677; Act of April 6, 2009, 2009 Ark Acts 5143, codified at Ark Code Ann § 27-53-307; Act of June 16, 2009, 2009 Fla Laws 1914, codified at Fla Stat Ann §§ 125.01045, 166.0447; Act of May 12, 2008, 2008 Ga Laws 490, codified at Ga Code Ann § 33-8-8.2; Act of March 19, 2008, 2008 Ind Acts 146, codified at Ind Code Ann § 9-29-11.5, repealed by 2016 Ind Acts 198; Act of May 12, 2011, 2011 Kan Sess Laws 939, codified at Kan Stat Ann § 12-16,129; Act of July 13, 2007, 2007 Mo Laws 830, codified at Mo Ann Stat § 374.055; Act of May 27, 2009, 2009 Okla Sess Laws 1813, codified at 47 Okla Stat Ann § 10-118; Act of December 18, 2007, 2007 Pa Laws 461, codified at 53 Pa Cons Stat Ann § 1392; Act of March 27, 2008, 2008 Tenn Pub Acts 1, codified at Tenn Code Ann § 55-10-108; Act of March 22, 2011, 2011 Utah Laws 978, codified at Utah Code Ann § 10-8-55.5.

only light restrictions and others adopting a more stringent approach.³⁴ No state, however, has seen fit to sweepingly eliminate governmental entities' right of recovery. Furthermore, the majority of states have opted not to enact any similar legislation, thereby allowing cities and local municipalities within their jurisdiction to recover from negligent PGS beneficiaries.

This transformation of beneficiary liability for PGS costs has led governmental entities to try to extend their right to compensation to other areas.³⁵ States, cities, and local municipalities have filed precedent-setting lawsuits against major industries (such as the cigarette, gun, and lead paint industries) for the costs they incurred in dealing with harms resulting from these industries' products.³⁶ Despite the complexity and novelty of these lawsuits, courts have shown considerable willingness to impose liability on these defendants.³⁷ Consequently, although the free public services doctrine has not been abolished, its effect has been substantially diminished.

B. Public Officials

Public officials who suffer losses while responding to individuals' risky activities also have traditionally faced considerable obstacles to claiming compensation.³⁸ Under the "fireman's rule,"

³⁴ Under Pennsylvania law, for example, cities and municipalities may not recover for police services rendered in response to car accidents, and may only recover police-report-related costs in all other situations. In Utah, by contrast, the police can still recover for a host of services irrespective of the reason they arrived on the scene. Compare 53 Pa Cons Stat Ann § 1392, with Utah Code Ann § 10-8-55.5.

³⁵ See Sara L. Swan, *Plaintiff Cities*, 71 Vand L Rev 1227, 1233–49 (2018) (showing the significant rise in litigation initiated by cities and municipalities to recover expenditures made in response to the faulty behavior of injurers).

³⁶ See *id.* See also Greg J. Carlson, *Lead Paint: Who Will Bear the Cost of Abating the Latest Public Nuisance?*, 59 Hastings L J 1553, 1560–70 (2007) (describing court rulings in lead-paint cases in various jurisdictions and referring to tobacco and gun litigation). Most recently, cities and municipalities have filed tort claims in response to the opioid epidemic, seeking reimbursement of costs from pharmaceutical companies and distributors. See, for example, *In re National Prescription Opiate Litigation*, 2018 WL 4895856, *8–10 (ND Ohio) (rejecting a pharmaceutical company's argument that a city's claim for reimbursement of costs is barred by the "free public services" doctrine).

³⁷ For cases in which courts have acknowledged plaintiffs' right of recovery against gun manufacturers and distributors while explicitly rejecting defendants' reliance on the free public services doctrine, see *Smith & Wesson Corp*, 12 Mass L Rptr at 230–31; *City of Cincinnati v Beretta U.S.A. Corp*, 768 NE2d 1136, 1149–50 (Ohio 2002); *City of Gary v Smith & Wesson Corp*, 801 NE2d 1222, 1240–41 (Ind 2003); *James v Arms Technology, Inc*, 820 A2d 27, 47–49 (NJ Super 2003). The enactment of the Protection of Lawful Commerce in Arms Act, Pub L No 109-92, 119 Stat 2095 (2005), codified at 15 USC § 7901 et seq, however, immunized the gun industry against many such lawsuits.

³⁸ See Dan B. Dobbs, *Law of Torts* § 363 (West 2d ed 2014) (discussing the fireman's rule and injurers' "[l]imited duties [toward] professional risk-takers").

courts generally reject claims filed by safety professionals injured in attending to the risks and harms that resulted from faulty behavior. The rule has been invoked in dismissing claims brought by “firefighters, police officers, ambulance drivers, emergency medical technicians, and other professional rescuers.”³⁹

Courts have offered several rationales for the fireman’s rule. The first decisions to apply the rule justified it based on the formal premises liability rules.⁴⁰ Since firefighters (and similar rescuers) are generally considered to be licensees, they are assumed to enter premises at their own peril, thereby waiving any future claims against the property owner. More recent cases have extended the fireman’s rule to also cover claims related to harms occurring outside the defendant’s land and have suggested that the rule is grounded on the special characteristics of the plaintiffs. Referring to the fireman’s special training as well as the payments they receive for performing their dangerous jobs, courts have ruled that they voluntarily exposed themselves to the risk and therefore cannot claim compensation.⁴¹

Other decisions have held that the rule safeguards against excessive liability. Under this rationale, because public officials are entitled to publicly funded compensation (in the form of workers compensation or similar benefits), they cannot seek further payments from PGS beneficiaries, who have already paid compensation through their taxes.⁴² Some commentators shift the focus of the rationale to beneficiaries’ incentives. They maintain that by eliminating the risk of liability for harm caused to rescuers, the rule incentivizes beneficiaries not to hesitate to call for

³⁹ See Robert H. Heidt, *When Plaintiffs Are Premium Planners for Their Injuries: A Fresh Look at the Fireman’s Rule*, 82 Ind L J 745, 745–46 (2007) (providing examples for cases in which professional rescuers were denied recovery based on the fireman’s rule).

⁴⁰ For a collection of cases, see Larry D. Scheafer, Annotation, *Liability of Owner or Occupant of Premises to Fireman Coming Thereon in Discharge of His Duty*, 11 ALR4th 597, 602–07 (1981); Richard C. Tinney, Annotation, *Liability of Owner or Occupant of Premises to Police Officer Coming Thereon in Discharge of Officer’s Duty*, 30 ALR4th 81, 89–98 (1981).

⁴¹ See, for example, *Krauth v Geller*, 157 A2d 129, 130–31 (NJ 1960) (holding that the plaintiff-firefighter cannot claim compensation for harm caused while rendering services “for which he is trained and paid”).

⁴² See, for example, *Kiernan v Miller*, 612 A2d 1344, 1346 (NJ Super 1992):

[T]he taxpayer who pays the fire and police departments to confront the risks occasioned by his own future acts of negligence does not expect to pay again when the officer is injured while exposed to those risks. Otherwise, individual citizens would compensate police officers twice: once for risking injury, once for sustaining it.

assistance when loss might still be prevented or minimized by professionals.⁴³

Similar to the free public services doctrine, the fireman's rule is facing increasing criticism for diluting beneficiaries' incentives to take proper precautions. A number of states have abolished the rule altogether or statutorily limited its scope.⁴⁴ In states where the rule still applies, its scope has been narrowed through substantial exceptions. One group of these exceptions relates to instances in which the defendant's behavior is found to be grossly unreasonable. For example, multiple courts have held that the fireman's rule will not preclude claims when a beneficiary's risky behavior was intentional or willful.⁴⁵ Other courts have restricted the application of the rule when a beneficiary could have warned the rescuer about the risk that eventually led to the latter's injury but refrained from doing so, or when the beneficiary's behavior was in violation of an explicit safety ordinance or regulation.⁴⁶

The rule's application has been restricted, moreover, even when a wrongdoer or rescuer's behavior did not manifest gross unreasonableness. Most states now allow recovery when the plaintiff-rescuer's harm resulted from a different risk than the risk that "necessitates [their] presence" in the first place.⁴⁷ Thus, a police officer who was injured by a negligent driver while issuing a speeding ticket to another driver can claim compensation

⁴³ See *Prosser & Keeton* at 431 (cited in note 14) ("The argument sometimes offered[] [is] that tort liability might deter landowners from uttering such cries of distress [to policemen and firemen].") (citation omitted). Judges, following Prosser (who notes that the argument is "preposterous"), have been skeptical about this concern. *Id.* As wrongdoers seek to both protect themselves and minimize compensation to potential victims, whether they are liable for the rescuers' harm arguably should have little effect on their incentives to call for help. See, for example, *Hannah v Jensen*, 298 NW2d 52, 56 (Minn 1980) (Scott dissenting) (rejecting the argument as justification for the fireman's rule).

⁴⁴ See *Minnich v Med-Waste, Inc.*, 564 SE2d 98, 102–03 (SC 2002) (reviewing legislation that abrogates or significantly constrains the application of the rule in California, Florida, Minnesota, New Jersey, New York, Nevada, and Virginia). See also Heidt, 82 Ind L J 745 at 746 n 3 (cited in note 39) (reviewing a similar statute in Michigan).

⁴⁵ See, for example, *Miller v Inglis*, 567 NW2d 253, 256 (Mich App 1997) ("[A] tortfeasor who acts wilfully and wantonly is so culpable that the fireman's rule ought not to preclude the injured officer from suing the egregiously culpable wrongdoer.").

⁴⁶ See, for example, *Bartholomew v Klinger*, 53 Cal App 3d 975, 978–81 (1975) (holding that the fireman's rule did not preclude liability for a police officer's injury caused by "a known concealed defect [] on the premises" that the "defendant failed to warn" the officer about "despite [having] the opportunity to do so"); *Mullen v Zoebe, Inc.*, 654 NE2d 90, 91–92 (NY 1995) (holding that a firefighter injured while evacuating residents can recover from the building owner after showing that the owner violated safety regulations).

⁴⁷ See, for example, *Moody v Delta Western, Inc.*, 38 P3d 1139, 1141 (Alaska 2002) ("[T]he Firefighter's Rule does not apply to negligent conduct occurring after the police officer or firefighter arrives at the scene or to misconduct other than that which necessitates the officer's presence.").

from the negligent driver who hit him because the officer was present only due to the speeding driver's traffic violation.⁴⁸ Similarly, a firefighter who was harmed by a homeowner's guard dog is entitled to damages because the dog was not the reason for the firefighter's presence on the premises.⁴⁹

The tenuous status of the fireman's rule is perhaps most evident in how it was treated by the drafters of the new Restatement of Torts. Despite the rule's long history and its continued endorsement by some courts, the drafters noted that its primary traditional justification (identification of professional rescuers as "licensees" who assume the risk of harm) is no longer persuasive.⁵⁰ Taking into account the extensive criticism of the rule as well as its many exceptions, the drafters decided to take "no position" in the debate over the desirability of the rule and its scope.⁵¹

C. Assessment

Presently, there is a tendency on the part of both courts and legislatures to curtail the free public services doctrine and fireman's rule. The underlying rationale for this is that PGS beneficiaries should internalize the entire cost of their faulty behavior. This internalization is just because it makes the negligent party compensate the nonnegligent party for the latter's losses. It is efficient because it forces PGS beneficiaries to take into account those potential losses in conducting their affairs.

Although counterarguments can be made in favor of maintaining the no-recovery rule, none seem particularly compelling. As noted, the main argument made in support of the free public services doctrine is that beneficiaries have already paid with their taxes for the services rendered to them by the government. This is an unconvincing justification for the rule, however, because it *presupposes* that a tax payment is intended to cover the costs incurred by the government *pursuant to the taxpayer's wrongdoing*. This is a questionable assumption: Would it not make more sense that a taxpayer whose negligence increased government expenses pay more to cover those costs than taxpayers who commit no

⁴⁸ See *Harris-Fields v Syze*, 600 NW2d 611, 615–16 (Mich 1999).

⁴⁹ See Dan B. Dobbs, Paul T. Hayden, and Ellen M. Bublick, *Torts and Compensation: Personal Accountability and Social Responsibility for Injury* 330–34 (West 6th ed 2009).

⁵⁰ See Restatement (Third) of Torts § 51, cmt m (2010) ("Whatever the rationale behind limiting land possessors' liability to professional rescuers injured in the course of performing their duties, the movement away from the original status-based justifications requires rethinking the firefighter rule and, if it is retained, adapting its scope to the rationale justifying its continuation.")

⁵¹ *Id.*

wrongs? Another argument, which is applicable to both the free public services doctrine and the fireman's rule, is that beneficiaries who know they will be liable for the costs of governmental services will hesitate in requesting them in the first place; they will instead attempt to contend with the hazard themselves even if they lack the proper capacity to do so. This argument is also unpersuasive. When the governmental entity is the cheapest cost avoider, it is by definition less costly for the potential beneficiary to ask for its assistance—even if he will bear the costs of that assistance—than handling the risks himself. Certainly, there are irrational beneficiaries or beneficiaries who lack information about the risks and might refrain from calling for governmental assistance. But it is (at least) unclear whether this subset of irrational and uninformed beneficiaries would behave differently if they were not liable toward the government for its costs. It is also unclear whether this specific concern counteracts the benefits of a liability rule, which provides potential beneficiaries with efficient incentives to reduce risks *before* they materialize.

The arguments supporting the fireman's rule are even less convincing. As mentioned, a central rationale offered for the rule is that public officials willingly expose themselves to the risk of harm while being paid for their risky jobs. However, this argument makes the implicit—unfounded—assumption that public officials assume the risk of being injured *due to a wrongdoing without compensation*. We can see no good reason to endorse such an assumption. Another justification for the rule is that because public officials recover for injuries under workers' compensation schemes, they should not be allowed to recover from beneficiaries. Yet even if there is good reason not to allow public officials to sue negligent beneficiaries, there is nothing to justify not allowing the government to bring indemnification suits against these individuals. Indeed, the same reasons for not allowing the government to recover its expenses in providing services can arguably be applied in this context: there is no difference, after all, between costs incurred to compensate officials and costs incurred in providing PGS. It is doubtful, however, whether this argument suffices, for the justice and efficiency arguments supporting beneficiary liability are more appealing when bodily injuries, rather than monetary costs, are at stake.

In sum, at first glance, the arguments supporting the free public services doctrine and the fireman's rule seem much weaker than the counterarguments opposing these rules. In the next Part, we show that this impression is false.

II. WHY NO LIABILITY?

In this Part, we will show that, contrary to the conventional view, making negligent PGS beneficiaries liable for the costs of services does not produce optimal care. Even when beneficiaries are required to fully reimburse governmental entities, their harm-prevention incentives are not aligned with the maximization of social welfare. The reason for this is that the reimbursement accounts for only the losses incurred by governmental entities and ignores the harm deriving from depriving others of public services. This Part, moreover, demonstrates how current analysis has disregarded the distorting effect of beneficiary liability on the incentives of governmental entities and officials, which undermines beneficiaries' incentives to efficiently prevent harm. Part II.A presents the overlooked externality costs—or harms—involved in the consumption of PGS. Part II.B discusses how the imposition of liability for PGS widens the scope of cases in which beneficiaries' care incentives are distorted. Building on the analyses in the first two sections, Part II.C then assesses the social desirability of making negligent beneficiaries liable for the costs incurred by governmental entities in providing PGS. Part II.D points out some limitations of the analysis conducted in Part II.C.

A. The Social Costs of PGS

1. The basic argument.

Personal government services are a substitute for private investment in care. When the costs to governmental entities, and officials, of eliminating risks or ameliorating harms are lower than the costs to private parties to take corresponding care measures, efficient harm prevention is rendered through governmental action. Conversely, when private investment in care can reduce harm at a low cost, social welfare is maximized when there is no governmental intervention in preventing harms. When multiple precaution alternatives are available, optimal harm prevention often requires a combination of public and private investment in care.⁵²

⁵² As economic theory has long shown, in bilateral-care cases, when both injurers and victims can invest in harm prevention, efficiency is usually attained when both parties take care. This outcome is predicated on the diminishing marginal return on parties' investments in care. See Robert Cooter and Thomas Ulen, *Law and Economics* 205–11 (Pearson 6th ed 2012) (discussing how a negligence rule can lead to efficient precautions by both victims and injurers). Analogously, in our context, optimal harm prevention would

The need to balance between public and private care measures suggests that optimal harm prevention entails considering differences between individuals' relative costs of care. Specifically, PGS should be provided to individuals for whom the cost of eliminating or reducing risks would exceed the cost to the government to take the same measures. By contrast, individuals who can eliminate or reduce risks at a lower cost (in other words, below the cost to the government) should be required to take precautions and not drain the public fisc.

This tradeoff between private and public investment in care is illustrated by Example 1. While Example 1 focuses on the implications of negligent beneficiaries' duty to reimburse governmental entities, it is equally applicable to the duty to compensate officials. In addition, although Example 1 relates to the provision of PGS to negligent rescuees (such as a self-inflicted injury case), it is no less applicable to the provision of PGS to wrongdoers (in other words, when a beneficiary's wrongdoing exposes others to risk). Finally, Example 1 illustrates a case of simultaneous rescue,⁵³ but as we explain below, the analysis holds for sequential circumstances as well (that is, when the governmental entity is required to rescue only one potential beneficiary at a time).

Example 1. Two factories are operating in the same industrial area. There is a 10 percent annual risk that a fire will break out due to natural causes. If this happens, and no precautions have been taken, each factory will suffer a loss of 100. Factory A can spray a fire retardant at an annual cost of 7, which would save Factory A from the fire (but would not affect the probability of its occurrence). Factory B, by contrast, cannot take any efficient precautions. If a fire erupts, the local fire station can send its fire trucks to put out the fire at a cost of 20. However, the trucks' water tanks are sufficient to save only one of the factories.

From a social perspective, optimal care requires that Factory A take precautions (spray a fire retardant) and Factory B rely on public services (firefighters). Under this scenario, neither of the factories will be harmed and total social costs (Factory A's

often require that both potential beneficiaries (injurers) and governmental entities (victims) take care.

⁵³ For a description of some recent examples in which resource-constrained governmental entities were required to provide simultaneous rescues upon the occurrence of natural disasters, disease outbreaks, and terror attacks and the policy questions such rescues raise, see Sheri Fink, *Whose Lives Should Be Saved? Researchers Ask the Public* (NY Times, Aug 21, 2016), archived at <https://perma.cc/ACK2-AARB>. Of course, simultaneous rescues also arise in less extreme situations.

costs of spraying and the local fire station's costs of care) equal 9 ($7 + (10\% \times 20)$). This combination of private and public investment in care reflects the government's limited ability to provide its services (at a low cost) to more than one factory at a time,⁵⁴ as well as the difference between the prevention costs each factory would incur.

Consider now Factory A's care incentives under a no-liability regime for negligent PGS beneficiaries. If Factory A takes proper care, it eliminates the risk of harm at a cost of 7. Alternatively, if it does not take care, it faces a 10 percent risk of suffering harm of 100 (expected harm of 10). This harm, however, will not materialize if Factory A is rescued by the firefighters. Considering that in the event of a fire both factories face the same expected harm, the firefighters will randomly choose between the two. Factory A thus has a 50 percent chance of suffering no harm if a fire breaks out, making its expected overall cost equal to 5 ($10\% \times 50\% \times 100$) if it takes no care. Because this is lower than the cost of spraying a fire retardant ($7 > 5$), Factory A is better off taking no care under a no-liability regime.⁵⁵

Intuitively, it would seem that Factory A's suboptimal care incentives result from its ability to free ride on the public investment in fire suppression: since Factory A is not liable for the fire department's costs, it takes less than optimal care. As explained, this concern has been the central justification for expanding governmental entities' right to recover from wrongdoers.

To see why this reasoning is misguided, however, consider now a regime under which a factory benefiting from firefighting services must reimburse the government for its costs. This reimbursement would be from the factory's own resources, since property insurance policies usually cover only direct losses and exclude payments required by governmental agencies.⁵⁶ While this regime increases the factory's cost of refraining from spraying fire retardant, it would nevertheless still be in Factory A's

⁵⁴ For further discussion on the constraints of governmental entities in providing public services, see text accompanying note 57.

⁵⁵ Theoretically, the two factories might enter a Coasean agreement, under which Factory B pays Factory A to take precautions. In practice, however, transaction costs are likely to be prohibitively high, so that bargaining between the two factories is infeasible.

⁵⁶ See, for example, Robert Passmore, *Fighting Back Against the Crash Tax Trend* (CLM Magazine, June 2, 2011), archived at <https://perma.cc/DLE8-MEWH> ("These fees [claimed by governmental entities] generally do not fit the standard definition of either property damage or bodily injury coverage. Although ambulance services often are paid as part of medical expense coverage, police and fire services have always been funded through tax dollars.").

best interest to take no care. Although Factory A would now have to pay 20 if it is rescued from a fire, its overall cost of taking no care would still be lower than the cost of spraying. Specifically, Factory A's cost of taking no care is comprised of the risk of suffering harm ($10\% \times 50\% \times 100$) and the cost of reimbursing the government ($10\% \times 50\% \times 20$), which amounts to an overall cost of 6. As the cost of spraying remains greater ($7 > 6$), Factory A is still incentivized to take no care. Table 1 summarizes Factory A's costs as a function of its care level under both regimes, presenting its benefits from not spraying fire retardant.

TABLE 1: FACTORY A'S COSTS

	No liability	Liability
Spraying	7	7
No spraying	5 ($10\% \times 50\% \times 100$)	6 ($10\% \times 50\% \times 100$) + ($10\% \times 50\% \times 20$)

As illustrated by Example 1, the social harm from Factory A's suboptimal level of care is not represented by the costs to the fire department in rendering its services but, rather, by the exposure of Factory B to the risk of not being rescued. By not spraying a fire retardant, Factory A saves itself 7. This, however, produces an expected harm of 10 ($10\% \times 100$), as in the event of a fire, one of the factories will be harmed. Factory A's behavior, therefore, reduces social welfare by 3 ($10 - 7$).

Ideally, Factory A (like similarly situated property owners) will have efficient incentives to take optimal care if it bears liability for the harm suffered by Factory B rather than for the costs incurred by the fire department (the latter costs will arise regardless of whether Factory A takes care). Only in this way will Factory A internalize the full social costs of a failure to take optimal care, and its incentives will align with the maximization of social welfare. Under such a liability regime, if Factory A fails to take care, its expected liability will be 5 ($10\% \times 50\% \times 100$). Since Factory A will bear its own self-risk of 5 ($10\% \times 50\% \times 100$), it will take care so long as the cost of spraying fire retardant is less than 10 ($5 + 5$), as efficiency requires.

2. Refinements.

a) Strict liability. Instead of a fault-based legal regime, one could imagine a strict liability rule, under which beneficiaries compensate the government for PGS regardless of fault. There could be various reasons against adopting such a legal rule (for example, we do not want innocent victims of crime to compensate the police for its costs in protecting them)—and in fact, no legal system has adopted such a liability regime. But more importantly, it would not cure the inefficiencies described in Part II.A.1: even under a strict liability regime, Factory A would be better off taking no precautions, given the possibility of being rescued by the fire department.

b) Selective rescues. Theoretically, the inefficiency described in the previous Section would be resolved if the fire department would not rescue negligent beneficiaries before it rescues beneficiaries who took proper care. We assume here—quite realistically—that typically it is impossible to implement such a strategy because it is hard to know before committing the rescue whether rescuees are negligent. Such a strategy would also not pass public—and probably judicial—scrutiny; punishing negligent beneficiaries by not rescuing them would often be a disproportionate sanction.

c) Sequential need for services. Our analysis of Example 1, which deals with a simultaneous need for PGS, can be similarly applied to cases of a sequential need for services. In the latter circumstances, providing PGS to negligent beneficiaries leads to a reduction in the quality or quantity of services provided to future beneficiaries. This is due to the limited ability of governmental entities to provide services to all beneficiaries in need, even if beneficiaries pay the costs of their rescue.

More specifically, because governmental services include significant fixed and infrastructure costs, governmental entities' capacity to provide their services is constrained.⁵⁷ A fire station has only a certain number of trucks and crews. Thus, even if negligent beneficiaries were subject to a reimbursement duty—that is, paid the direct or marginal cost of sending a fire truck to save them—

⁵⁷ Fixed and infrastructure costs include investments in construction of fire stations, purchase of equipment, and training of firefighters. Marginal costs include costs such as the water used to extinguish fires. See Cooter and Ulen, *Law and Economics* at 27 (cited in note 52) (distinguishing between fixed and variable costs). In some cases, fixed costs can be the primary mandatory investment in harm prevention. See, for example, Rebecca R. Roberts, et al, *Distribution of Variable vs Fixed Costs of Hospital Care*, 7 JAMA 644, 646–47 (1999) (arguing that the majority of costs in providing hospital services are fixed costs).

the fire station would still not be able to serve an unlimited number of beneficiaries. In a similar vein, hospitals that maintain a fixed number of beds would be constrained by their ability to provide medical treatment to patients, even if the latter shouldered the marginal costs of their treatment. In response to excessive demand, fire stations, hospitals, and other governmental entities would have to lower the quality of their services (for example, send fewer trucks, hospitalize patients for shorter periods) or provide these services selectively (for example, attend to only some calls for rescue, admit fewer patients).

Furthermore, even if governmental entities could provide their services with no limitations, the cost of providing these services typically increases with the number of beneficiaries. Beneficiaries who enjoy the public service raise the cost of providing it to subsequent beneficiaries, thereby giving rise to the same externality problem we have identified in Example 1.⁵⁸ To make beneficiaries internalize the full cost of the public service they consume, liability should be imposed for the full social cost of their consumption. This cost is either the harm caused to subsequent beneficiaries who received inferior services, or the increase in the cost of providing adequate services to those subsequent beneficiaries. Therefore, under a reimbursement regime that obliges beneficiaries to pay just for direct or marginal costs, potential beneficiaries also in the sequential setting would excessively rely on PGS and take suboptimal care.⁵⁹

d) Liability for average cost. Charging negligent beneficiaries the government's *average* (rather than marginal) cost does not resolve the inefficiencies. To see this, consider a public service the government can supply at an increasing cost, such that providing it to the first and second beneficiaries entails a respective cost of 1 and 5 (for an average cost of 3). Suppose that each beneficiary can avoid consuming the public service by using her own resources. Specifically, the first beneficiary can do so at a cost

⁵⁸ Consider, for example, the provision of medical treatment. A surgeon can treat (sequentially) several patients a day. However, beyond a certain number of patients, the hospital must pay the surgeon for overtime (and as she gets tired, the surgeon is also more likely to harm patients). The earlier patients thus increase the cost of providing service to later patients. Under a reimbursement regime, the early patients only partly internalize the cost of their benefit.

⁵⁹ An extensive literature in economics and political science debates the question of "how big the government should be"—that is, the question of determining optimal government spending and optimal taxation. For a recent overview and discussion of this literature, see generally Jon Bakija, et al, *How Big Should Our Government Be?* (California 2016). As our analysis suggests, however, even with optimal governmental spending and taxation, maximization of social welfare mandates optimal PGS liability rules.

of 3.5 and the second beneficiary at a cost of 4.5. Socially, it is desirable that only the second beneficiary consume the public service and that the first beneficiary use her own resources, for a total cost of 4.5 (1 + 3.5). However, under a regime in which beneficiaries must each pay 3 (the average cost), both would consume the public service (for a total cost of 6). Charging the first beneficiary the average cost fails to make her internalize the rise in the cost of providing the service to the second beneficiary.

e) Implementing full ex post internalization. Let us consider whether full internalization of social costs by a negligent beneficiary is a feasible option. The answer seems to be no, at least in most cases. In practice, it is hard to imagine a legal regime in which Factory B in Example 1 could sue Factory A for the latter's failure to take optimal precautions. One reason is that the cost of information necessary to bring such a claim would tend to be prohibitively high. In this example, there are only two factories, and under the stated circumstances, only Factory A should take precautionary measures. In reality, there are many factories involved—many different property owners—with different costs of care and different expected harms. Therefore, it is difficult to identify a specific property owner whose failure to take proper care makes her liable for the harm to another property owner. But even if this information hurdle could be resolved (or if liability had been strict), it would be a daunting task for courts to measure the externalities created by each and every negligent (or even nonnegligent) property owner and impose liability accordingly. In particular, how would a court assess the harm caused to society—or any individual victim—by one specific property owner who failed to take care and thereby “consumed” scarce public resources at the expense of others? Often, the externalities are remote, indirect, and difficult to trace back to any specific beneficiary. Similar difficulties would arise in the cases where the need for services is sequential rather than simultaneous.

f) An alternative ex post internalization rule? Instead of imposing liability for the *actual* full social costs, liability could be imposed for the *average* full social costs. Such a rule would result in a schedule of recovery amounts that takes into account all possible parameters needed to calculate the average social costs—including costs borne by third parties—emanating from a beneficiary's failure to take care. In cases represented by Example 1, parameters considered in calculating the average social costs are the day of the week and specific hour at which the fire erupted, the equipment and manpower available to the fire department at

the relevant times, the population density and property values in the area, and other factors. Under such a liability rule, there would be no need to prove actual harm or to establish a causal relationship between the failure to take care and any materialized harm. Producing a schedule of recovery for average social costs is not cost free; yet it may be preferable to a liability rule that is based on actual social cost, or to the rule of reimbursement of costs.

* * *

In the next Section, we turn to the effect of allowing recovery for public expenditures on the incentives of governmental entities, which in turn distort beneficiaries' incentives. These effects have been completely overlooked thus far by legal writers.

B. Incentives of Governmental Entities

As Example 1 demonstrates, allowing governmental entities to claim recovery for the costs of public services rendered to negligent beneficiaries does not eliminate the latter's incentives to take suboptimal care. To create such incentives, liability should cover all social costs, including costs to third parties. In this Section, however, we show that rendering beneficiaries *ex post* liable for such costs could actually *expand* the range of cases in which they benefit from careless behavior. The reason for this is that under a liability regime, governmental entities would provide PGS discriminatorily: the wealthy would receive more and better services than the poor because of their better ability to pay compensation.⁶⁰ We analyze below the incentive structure of governmental entities with or without beneficiary liability for PGS and the expected responses of potential beneficiaries under each regime. First, however, we will bring support for our claim that governmental entities are in general influenced in their decision-making by the availability of a monetary reward. We argue that PGS providers are no exception.

⁶⁰ Earlier scholarship suggested a related bias in the provision of governmental services. According to some studies and reports, cities sometimes allocate their resources in a way that favors wealthier residents, and emergency-services providers tend to respond more slowly, if at all, to calls for help from poor residents. One reason is that wealthier residents have more political power and, therefore, satisfying them is more important to elected officials. See Alexandra Natapoff, *Underenforcement*, 75 *Fordham L Rev* 1715, 1724–27, 1729–30 (2006) (addressing lack of criminal enforcement and government services in urban areas). Our analysis shows that this bias will be stronger and very general in scope if residents are made liable for PGS.

1. The government and monetary incentives.

Because governmental entities are not profit oriented, they are ostensibly indifferent to monetary incentives. Yet a growing body of research shows that the availability of financial rewards or existence of financial liability influences the behavior of governmental entities.

In a recent study, Professors Michael Frakes and Melissa Wasserman examined the interplay between monetary incentives and patterns of patent issuance by the Patent and Trademark Office (PTO).⁶¹ The study took advantage of the research opportunity that presented itself in the funding reform the PTO underwent in the early 1990s. Prior to the reform, funding for the PTO came directly from Congress. In 1991, however, Congress switched to a funding scheme whereby the PTO was required to fund its own budget through user fees, rather than receiving direct financial support.⁶²

Analyzing large data before and after 1991, Frakes and Wasserman investigated the effect of the funding reform on the PTO's patent decisions.⁶³ Their findings indicate a significant change in the patterns of patent grants. After the reform, the PTO increased the rate at which patents were granted for technologies most likely to yield renewal fees—the type of fee that is most profitable for the PTO.⁶⁴ At the same time, patent applications filed by large firms, which are known to renew their patents and therefore pay the fees, were being approved at substantially higher rates.⁶⁵

Frakes and Wasserman's study looked at how introducing monetary incentives influenced the behavior of one particular government agency. Another recent study, conducted by Professors Margaret Lemos and Max Minzner, takes a broader look at the significance of financial incentives.⁶⁶ Lemos and Minzner

⁶¹ See generally Michael D. Frakes and Melissa F. Wasserman, *Does Agency Funding Affect Decisionmaking?: An Empirical Assessment of the PTO's Granting Patterns*, 66 Vand L Rev 67 (2013).

⁶² See id at 76–80 (presenting the changes in the PTO's funding system).

⁶³ Id at 92–96.

⁶⁴ See id at 101–07 (discussing these findings). See also id at 88–89 (discussing the high profitability of renewal fees compared to other fee types from the PTO's standpoint).

⁶⁵ Frakes and Wasserman, 66 Vand L Rev at 107–09 (cited in note 61) (analyzing data before and after 1991 and showing the increase in approval of patent applications to patent applicants who are large entities).

⁶⁶ See Margaret H. Lemos and Max Minzner, *For-Profit Public Enforcement*, 127 Harv L Rev 853, 895–912 (2014).

demonstrated the reliance of an array of federal and state agencies on enforcement measures imposing monetary sanctions.⁶⁷ Agencies at both the federal and state levels show a great appetite for monetary sanctions, although evidence suggests that the effectiveness of such sanctions might well be lower than nonmonetary sanctions.⁶⁸ Like Frakes and Wasserman, Lemos and Minzner attribute this phenomenon to public enforcers' need to supplement perpetually shrinking funding.⁶⁹ However, one of Lemos and Minzner's key findings was that even if public enforcers cannot "eat what they kill" and must hand over all their collected funds to the general treasury, their use of monetary sanctions remains extensive. Lemos and Minzner show that these public enforcers derive two benefits from devoting enforcement resources to imposing monetary sanctions. First, dollars are quantifiable. A governmental agency seeking to influence public perception can present its achievements straightforwardly by pointing to the large amounts it has collected.⁷⁰ Second, and even more critically, agencies use the money raised through sanctions as an important bargaining chip when negotiating their budgets with the executive branch.⁷¹

The studies conducted by Frakes and Wasserman, and Lemos and Minzner, may appear to be of limited applicability in one important respect: they focus on governmental entities whose responsibilities do not concern the provision of vital services. Indeed, it can be argued that when human lives are at stake, governmental entities consider how to best perform their public duties and disregard private gains. Yet studies comparing public hospitals' treatment of insured and noninsured patients, including patients in critical condition, have shown that financial incentives play an important role in the hospitals' treatment decisions.

Specifically, in a number of studies, researchers found that public hospitals are more reluctant to admit uninsured patients who are unable to cover the costs of their medical treatment; moreover, they tend to hospitalize such patients for shorter periods of time and provide them with fewer and lower-quality

⁶⁷ See *id.* at 863–86 (providing numerous examples of the imposition of monetary sanctions by public enforcers).

⁶⁸ See *id.* at 895.

⁶⁹ See *id.* at 871–72 (demonstrating the dependence of resource-constrained public enforcers on the proceeds obtained through imposition of monetary sanctions).

⁷⁰ See Lemos and Minzner, 127 *Harv L Rev* at 875–86 (cited in note 66) (elaborating on public enforcers' reputational incentives).

⁷¹ See *id.* at 873–75 (showing the efforts of public enforcers to publicize their ability to self-finance their activities as a bargaining strategy).

treatments than insured patients.⁷² This bias against uninsured patients translates into reduced chances of recovery and higher mortality rates. One influential study, for example, found that the average hospital stay of uninsured patients is significantly shorter (by 12 to 38 percent) than insured patients' stays in cases in which the attending doctors have high discretion regarding the optimal treatment.⁷³ In addition, controlling for various variables, this same study found that hospitals' bias against uninsured patients increases the latter's risk for in-hospital death, for many demographics, by 20 to 220 percent.⁷⁴

Police and incarceration practices are similarly shaped by financial incentives. An illuminating example is Professor Aurélie Ouss's recent investigation of the implications of the California legislature's decision to raise the fees paid by local counties for imprisoning juvenile offenders in the state incarceration system.⁷⁵ Although this reform made no changes to the substantive law of juvenile criminal liability, it did, nonetheless, lead to a significant drop in the rate of incarceration of young offenders and a corresponding rise in the resort to probation.⁷⁶ Other scholars have similarly shown that police departments facing budget cuts often respond by increasing the enforcement of offences that offer particularly high returns on the enforcement investments.⁷⁷ Financially challenged police departments, for instance, have been found to increase the ticketing of drivers for speeding, because low enforcement costs yield high proceeds.⁷⁸

⁷² For reviews of the literature, see Bryan A. Liang, *Access to Health Care in the United States: A Symposium Overview and Commentary*, 22 J Legal Med 211, 212–13 (2001) (listing studies showing that hospitals tend to give better care to insured patients); Barak D. Richman, *Behavioral Economics and Health Policy: Understanding Medicaid's Failure*, 90 Cornell L Rev 705, 715–16 (2005) (same).

⁷³ Jack Hadley, Earl P. Steinberg, and Judith Feder, *Comparison of Uninsured and Privately Insured Hospital Patients: Condition on Admission, Resource Use, and Outcome*, 265 JAMA 374, 377 (1991).

⁷⁴ *Id.* at 378.

⁷⁵ Aurélie Ouss, *Incentive Structures and Criminal Justice* § 2, *4–6 (working paper, 2017), archived at <https://perma.cc/V95J-UC8N>.

⁷⁶ See *id.* § 4, *10–13 (showing a drop of approximately 50 percent likelihood of being sent into juvenile imprisonment while finding no corresponding drop in the imprisonment of adult offenders).

⁷⁷ For a recent analysis of the prevalence of monetary payments in the criminal justice context and their effect on the law enforcement incentives of various actors, see Wayne A. Logan and Ronald F. Wright, *Mercenary Criminal Justice*, 2014 U Ill L Rev 1175, 1185–96 (showing the broadening scope of payments that public entities may collect from offenders before, during, and after trial and their potential biasing effect).

⁷⁸ See, for example, Thomas A. Garrett and Gary A. Wagner, *Red Ink in the Rearview Mirror: Local Fiscal Conditions and the Issuance of Traffic Tickets*, 52 J L & Econ 71, 83–88 (2010) (analyzing data and showing that ticketing increases in volume along with budgetary

The empirical literature on forfeiture laws also exposes the interplay between financial incentives and law enforcement efforts. Scholars investigating the effects of forfeiture laws have shown that the adoption of forfeiture as a viable enforcement measure has led enforcement agencies to adjust their behavior. Rather than focusing on lowering crime levels, police forces often direct their enforcement tactics at maximizing the value of the forfeited property.⁷⁹

The forfeiture literature also suggests that whether the police are allowed to keep offenders' property is of limited significance. State laws differ in their rules on the allocation of forfeiture proceeds. While several states permit enforcement agencies to keep the proceeds, others require them to remit some or even all of the amount to the general treasury or to a designated public purpose such as education or compensation of crime victims.⁸⁰ Looking at the rates of forfeiture activities across states, researchers have found no significant difference between jurisdictions in which the police are not permitted to retain forfeited property and jurisdictions that allow it.⁸¹ This further corroborates Lemos and Minzner's findings regarding the broad effects of financial rewards even when the monetary benefits are channeled into the general public funds.

stress). See also Logan and Wright, 2014 U Ill L Rev at 1194 (cited in note 77) and text accompanying notes 146–51 (examples of when police and prosecutors enforce offenses involving high monetary penalties to increase revenues).

⁷⁹ See, for example, Eric Moores, *Reforming the Civil Asset Forfeiture Reform Act*, 51 Ariz L Rev 777, 786–90 (2009) (discussing evidence showing the influence of forfeiture laws on law enforcement agencies' behavior). This state of affairs is perhaps not surprising given the findings of a recent survey showing that nearly 40 percent of police agencies see forfeiture proceeds as necessary to police operations. See Marian R. Williams, et al, *Policing for Profit: The Abuse of Civil Asset Forfeiture* 12 (Institute for Justice 2010). See also Jefferson E. Holcomb, et al, *Civil Asset Forfeiture Laws and Equitable Sharing Activity by the Police*, 17 Crimin & Pub Pol 101, 112–17 (2018) (providing empirical evidence showing state police departments' strategic use of federal forfeiture laws to maximize their gains).

⁸⁰ For a review of the differences between the various states, see Marian R. Williams, *Civil Asset Forfeiture: Where Does the Money Go?*, 27 Crim Just Rev 321, 323–27 (2002).

⁸¹ See John L. Worrall and Tomislav V. Kovandzic, *Is Policing for Profit? Answers from Asset Forfeiture*, 7 Crimin & Pub Pol 219, 232–33 (2008) (finding similar rates of forfeiture activities across jurisdictions with different allocation rules of forfeiture proceeds). But see Brent D. Mast, Bruce L. Benson, and David W. Rasmussen, *Entrepreneurial Police and Drug Enforcement Policy*, 104 Pub Choice 285, 294–98 (2000) (finding greater forfeiture activities in jurisdictions that allow police to keep proceeds). Mast, Benson, and Rasmussen's study was limited, however, to drug-related forfeiture activities, which makes its analysis vulnerable to a possible substitution effect regarding police enforcement of different offences. By contrast, Worrall and Kovandzic's study examined all forfeiture activities.

2. Perverse incentives under a liability regime.

Under a no-liability regime, governmental entities have no direct stake in how public services are allocated among potential beneficiaries.⁸² Under a recovery regime, in contrast, this allocation determines their prospects of collecting compensation. Specifically, governmental entities (and officials) increase their likelihood of recovery by favoring deep-pocket beneficiaries over beneficiaries who are less likely to have the means to pay. As we have noted, this is particularly so as insurance policies do not cover payments required for services provided by governmental agencies.⁸³ These payments often reach thousands of dollars (and considerably more in large-scale harm cases), making the prospects of collecting compensation from beneficiaries hinge on their individual wealth.⁸⁴

Arguably, in those cases in which providers of PGS rescue property, favoring rich beneficiaries over poor beneficiaries increases welfare. Regardless of whether this argument is convincing, the concern we stress here is that the preference to provide more services to the rich is independent of the value of the property saved. Thus, even if expected harm is the same for both rich and poor, the rich will be better served. And even if the expected harm of rich beneficiaries is greater, under the view that this could be a legitimate concern, the investment in the rich would be excessively high: not only would the greater expected harm count in determining the allocation between rich and poor beneficiaries, but so would the higher likelihood of collecting compensation from the rich.

A similar concern is that given the right to sue negligent beneficiaries, governmental entities might ironically prefer to provide services to negligent individuals over beneficiaries who took proper care, since the former but not the latter would pay for the services. Yet this concern is less troubling than the concern regarding favoring of the rich. It is much harder for a governmental entity, *before* providing its services, to identify which beneficiaries are negligent. Typically, whether a beneficiary is at fault can be verified only *after* providing the services to her. For this

⁸² They might, however, try to save costs by preferring a cheap rescue to a costlier one, even if efficiency requires otherwise.

⁸³ See text accompanying note 56.

⁸⁴ See, for example, Ed Barnes, *Accident Victims Increasingly Being Hit Again—with 'Crash Taxes'* (Fox News, Sept 7, 2010), archived at <https://perma.cc/8UMN-2FQP> ("The bills can be huge. A simple response to an accident usually costs just less than \$500, but the bottom line can quickly soar.").

reason, the rest of our analysis is focused on the risk of discriminating against the poor, rather than against the nonnegligent beneficiary.

Note that as we suggested in the previous Section, studies indicate that even if it is the general treasury and not the relevant governmental entity that will receive the compensation payment, the latter's incentives to improve the chances of the collection of compensation will persist. Arguably, there could be ways to disentangle the incentives to collect damages on the one hand, and the incentives to provide PGS on the other; for example, by allowing third parties unrelated to the government—such as nongovernmental funds or charities—to collect damages from negligent beneficiaries. However, this approach might result in implementation difficulties, stemming from the fact that those third parties would lack the information necessary to bring suits, while the relevant governmental entity would lack incentives to collect such information. In other words, either the governmental entity has an interest in the collection of damages, and then has incentives to favor the rich; or it has no interest in such collection, and then it has no incentives to enable the collection of damages in the first place.

The risk that providers of PGS under a reimbursement regime will discriminate against the poor can manifest in different ways. *First*, when they have to provide PGS simultaneously and cannot provide services to all beneficiaries at once, they are likely to provide the services to the rich rather than to the poor if they are able to distinguish between the two. *Second*, providers of PGS are likely to allocate more resources to the wealthy than to the poor, even before the immediate need in PGS arises. For example, fire departments would post more trucks to rich neighborhoods than to poor ones. *Third*, since PGS can often be provided in various qualities, per each case of provision the rich would be provided with better-quality PGS than the poor.

The difference in the allocation of PGS under liability and no-liability regimes also affects beneficiaries' care incentives. Under a no-liability regime, all potential beneficiaries have equal chances of benefiting from the public investment in harm prevention (although different expected harms might affect those chances). In contrast, under a regime that permits recovery claims, deep-pocket beneficiaries have greater chances of receiving governmental services. Anticipating this, potential beneficiaries with greater resources will reduce their private investment in

harm prevention and increase their reliance on public investment. This is both inefficient and unjust. Example 2, below, illustrates why. This example assumes the same facts as Example 1, except that Factory A can spray a fire retardant at a cost of 4 (compared to 7 in Example 1).

Example 2. Two factories are operating in the same industrial area. There is a 10 percent annual risk that a fire will break out due to natural causes. If this happens and no precautions have been taken, each factory will suffer a loss of 100. Factory A can spray a fire retardant at an annual cost of 4, which would save Factory A from the fire but would not affect the probability of its occurrence. Factory B, by contrast, cannot take any efficient precautions. If a fire erupts, the local fire station can send its fire trucks to put out the fire at a cost of 20. However, the trucks' water tanks are sufficient to save only one of the factories. *Factory A is a subsidiary of a worldwide chain, while Factory B is a small business.*

As in Example 1, social welfare is maximized when Factory A takes care and sprays fire retardant and when a fire erupts, the local fire force rescues Factory B. Consider first Factory A's incentives under a regime in which governmental entities *cannot* claim recovery and therefore have no stake in which factory is saved. Recall from our analysis of Example 1 that Factory A's expected harm when it takes no care is 5. Because in Example 2 the cost of spraying a fire retardant is now only 4, Factory A does not benefit from relying on the public investment in harm prevention. Although fire suppression services are free of charge, because they are only probabilistically provided, Factory A is better off taking precautionary measures at its own private expense. Thus, in contrast to Example 1, a no-liability regime yields the efficient outcome.

But Factory A's care incentives could change under a regime allowing reimbursement claims. Given Factory A's deep pockets, the fire station may prefer to save it, rather than Factory B, in the event of fire, even though their expected harms are the same. Such a bias would reduce Factory A's costs of taking no care. In the extreme situation in which governmental entities strictly favor deep-pocket beneficiaries, Factory A would be rescued with certainty. Its expected cost of no care in this case would be only 2 ($10\% \times 20$), lower than the cost of spraying a fire retardant. Paradoxically, then, a reimbursement regime makes wealthy beneficiaries better off. Although they must now pay to be rescued, the increase in the cost of taking no care is more than offset by the increase in their likelihood of being rescued.

The distortive effect of a reimbursement regime on beneficiaries' optimal care incentives is not, in fact, contingent on strict bias on the part of governmental entities. Even a moderate bias in favor of deep-pocket beneficiaries could erode their incentives. Suppose, for example, that the prospects of claiming recovery lead governmental entities to allocate their services slightly in favor of deep-pocket beneficiaries, so that Factory A's chances of being rescued are 80 percent and Factory B's chances are 20 percent. As Table 2 shows, in this case as well, Factory A is incentivized to refrain from taking the precautionary measures.

TABLE 2: FACTORY A'S COSTS

	No liability	Liability
Spraying	4	4
No spraying	5 (10% × 50% × 100)	3.6 (10% × 20% × 100) + (10% × 80% × 20)

Yet the tendency of governmental entities to save the rich might have an upside in some circumstances. Imagine a different example, in which (as in Example 2) Factory A has deep pockets and Factory B does not. But here, assume (in the converse of Example 1) that it is Factory B (the non-deep-pocket beneficiary) rather than Factory A (the deep-pocket beneficiary) that can take care at a cost of 7, while Factory A can do nothing (or its costs of care are higher than Factory B's costs of care). If in the event of a fire, the fire station will choose randomly which factory to rescue—as is the case under a no-reimbursement regime—Factory B will avoid taking care ($7 > 5$), just as Factory A will opt to not take care in the original version of Example 1. However, if instead the fire station has a stake in rescuing Factory A (the deep-pocket beneficiary)—as is likely to occur under a reimbursement regime—Factory B, realizing in advance that it will not be rescued in the event of a fire, will take care measures at a cost of 7, as entailed by efficiency.

Let's now generalize our claim: a reimbursement regime has an inverse effect on beneficiaries' incentives because it dilutes the incentives of rich beneficiaries to take precautions while strengthening the care incentives of poor beneficiaries. From an efficiency perspective, the implications of this effect depend on the circumstances. It is socially desirable when poor beneficiaries are the

cheapest cost avoiders (in particular when they would avoid taking optimal care under a no-reimbursement regime) but inefficient when rich beneficiaries could prevent harm at the lowest cost (in particular when they would take optimal care under a no-reimbursement regime).

In sum, as we explained in Part II.A, providing beneficiaries with efficient incentives *in all circumstances* requires charging them for the full social costs of their failure to take optimal care, including the harm done to others who were deprived of PGS, or who received a lower quality PGS, because of the beneficiaries' failure to take proper precautions. Imposing a reimbursement duty for only the direct costs of the public services rendered would induce beneficiaries to take suboptimal care. Furthermore, any liability borne by beneficiaries toward government entities could skew the latter's incentives, encouraging them to provide more, or better-quality, services to deep-pocket beneficiaries. Depending on the circumstances, this could have either desirable or undesirable efficiency implications. The question, then, is which legal regime is better: Reimbursement or no-reimbursement of PGS costs? Our answer, as we show below, is that the latter regime is typically preferable to the former.

C. Reimbursement Versus No-Reimbursement

The justification for a no-reimbursement regime rests on both efficiency and distributive justice considerations. In a nutshell, the efficiency argument is that a significant dilution of the incentives of the wealthy to take care (which is the outcome under a reimbursement regime) is more detrimental than a moderate dilution of the incentives of everyone to take care (which is the outcome under a no-reimbursement regime). The distributive justice argument is self-evident: a reimbursement regime, which incentivizes governmental entities to provide more and better PGS to the wealthy at the expense of the poor, will further disadvantage society's already disadvantaged groups.

1. Efficiency.

Examples 1 and 2 and their variations demonstrate that the choice between a reimbursement regime and a no-reimbursement regime is a choice between creating weak incentives for the wealthy alongside strong incentives for the poor to take care, and creating moderate incentives for everyone to take care. As we have seen, sometimes one set of effects is more desirable than the other, and sometimes the opposite is true.

But the examples discussed above are binary care cases: each factory can take either full care or no care at all. In many real-life cases, by contrast, care is a continuum of precautionary choices rather than a binary choice.⁸⁵ Thus, each factory could choose from among many levels of precautions (for example, spraying cheap, more expensive, or very expensive fire retardants, installing fire extinguishers of varying quality); each level yields a different level of risk reduction. When precautions are on a continuum, efficiency mandates taking care up to the point at which the marginal costs of precautions equal the marginal risk reduction.⁸⁶

With a continuum of precautions, it would be unlikely for efficiency to require that some property owners take no precaution at all while others take the highest level of precaution. Realistically, with a continuum of precautions, each property owner should take some level of precaution, thereby reducing risks but not eliminating them altogether. This entails that all property owners are subject to a certain risk of harm. A reimbursement regime, as we have explained, reduces dramatically the incentives of the wealthy to take precautions, whereas a no-reimbursement regime preserves their incentives, together with the poor's incentives, to take some precautions. Under the latter regime, all property owners know that given the government's limited resources, they cannot be certain that it will provide them with PGS when needed, and they will therefore all take precautions.⁸⁷

Admittedly, as explained, a no-reimbursement regime would encourage beneficiaries to ignore the government's costs of providing PGS in conducting their affairs since they would not be liable for those costs. Recall that this is the main concern voiced by opponents of such a rule. But as we have shown, reimbursement would be insufficient to induce beneficiaries to take optimal care. Furthermore, a reimbursement rule would create a substantial risk of discriminatory provision of PGS in favor of the wealthy at the expense of the poor. This would be both inefficient and, as we explain in the next Section, unjust.

⁸⁵ See Cooter and Ulen, *Law and Economics* at 196–97 (cited in note 52) (distinguishing between binary and continuous precautions).

⁸⁶ See *id.* at 200–01 (defining the efficient level of precautions).

⁸⁷ Under standard assumptions, the first dollar invested in precautions produces more risk-reduction than the second dollar, and so on. See *id.* at 23 (discussing the idea of declining marginal benefits). Therefore, it is better that all residents take some precautions than that some take optimal precautions and others take none at all.

2. Distributive justice.

Under a reimbursement regime, the poor would be forced to bear high costs of care. Furthermore, since they would often be unable to completely reduce their risks by taking precautions, their losses would also be high compared to those incurred by the wealthy.

The tendency of injurers to prefer to inflict harm on poor rather than wealthy victims and to take lower levels of care toward the poor is a notorious and widespread phenomenon.⁸⁸ It is not only, or even primarily, because the wealthy can be expected to suffer more severe property damage than the poor, but because the wealthy, in the event of bodily injury, can be expected to recover much higher damages for lost wages than the poor. Indeed, the fact that damages for bodily injury are largely composed of lost wages means that the lives and limbs of the poor are worth less than those of the wealthy, at least for injurers.⁸⁹

This familiar distributive justice concern is not, however, the concern we are analyzing here. Whereas the usual concern relates to injurers (defendants) and their choice of victims (plaintiffs),⁹⁰ we are considering how the “victim” (the government) strategically chooses its “injurers” (defendants, who are the property owners in our examples). Note that in both cases, what underlies the regressive consequences of the legal rules is the fact that either the victim (in the common case) or the injurer (in our case) is poor. In our analysis, however, being poor is simply a proxy for a higher likelihood of being judgment proof or hard to collect damages from. In other words, when all potential beneficiaries are *sufficiently* rich, the government’s tendency to discriminate among them in providing PGS might disappear. In contrast, the inclination of injurers to impose risks on the poor rather than the rich persists as long as there are wage disparities among potential victims: even when all potential victims are wealthy (high-income earners), injurers will prefer to impose risks on the less wealthy among them (lower-income earners).

⁸⁸ See Richard L. Abel, *A Critique of Torts*, 37 UCLA L Rev 785, 798–801, 809–10 (1990) (“[T]ort liability necessarily translates unequal recoveries . . . into unequal exposure to risk. An entrepreneur in a competitive market must spend less to protect those who are less likely to claim or who will recover lower damage awards—poor, unemployed, young, old, or inadequately educated individuals, racial minorities, noncitizens, and women.”). See also Ariel Porat, *Misalignments in Tort Law*, 121 Yale L J 82, 97–107 (2011) (arguing that since lost income is a major component in damages awards for bodily injury, injurers take less care toward the poor).

⁸⁹ See Porat, 121 Yale L J at 97–107 (cited in note 88).

⁹⁰ As well as taking low levels of care toward the poor.

Another difference between the two cases relates to the ability of injurers (in the common case) and victims (in our case) to distinguish between the wealthy and the poor. In many accidental harm cases, injurers cannot distinguish in advance between the rich and the poor and therefore take the same level of care toward all victims. In our case, however, governmental entities typically have accurate information regarding beneficiaries' wealth, which means that if they want to discriminate against the poor, they are very often able to do so. In addition, in our case, as opposed to the common case, it is the government that is discriminating amongst citizens by depriving the poor of equal protection and assistance. This is a far more disturbing discrimination than when individuals discriminate through tort law and can be expected to be more strongly resisted and condemned by citizens.⁹¹

3. The case of full internalization.

So far, the analysis has focused on a reimbursement-of-costs rule and compared it to a no-liability rule. But as we have already mentioned, liability could theoretically be imposed for all (actual) social costs, including harms to third parties. While this rule is hard to implement in most cases, it is interesting to consider whether, and to what extent, the discrimination effect described above persists under such a rule.

If we assume that rich beneficiaries always pay for the full social costs of their faulty behavior, then they have adequate incentives to take efficient care, and ideally, never to be negligent. In contrast, since poor beneficiaries expect to pay less than the full social costs—either on account of being judgment proof, or because they expect underenforcement of the collection of damages from them—they may sometimes choose to be negligent. If this is so, counterintuitively, governmental entities would prefer to provide services to the poor rather than to the rich; while from the poor they might collect damages (even if not in full), they would never collect damages from the rich who (hypothetically) are never negligent. While such an outcome has progressive distributive consequences (the poor are prioritized over the rich), it results in inefficiencies; namely, while the rich have strong incentives to take care, the incentives of the poor are weak. The poor

⁹¹ See Guido Calabresi, *The Future of Law and Economics* 24–29 (Yale 2016) (discussing the costs borne by citizens when certain resources (“merit goods”) are allocated according to the existing wealth distribution in society and labeling them “external moral costs”).

would not only discount their future damages because of the collection hurdles that the PGS provider would face. They would also consume more PGS even when they—and not the rich—are the cheapest cost avoiders, and even when their expected harm is smaller than that of the rich.

In reality, rich and poor is not a dichotomy but a spectrum. Therefore, among those beneficiaries who are expected to be at least sometimes negligent, there are richer and poorer individuals. The provider of services might therefore balance its preference to provide PGS to those who are more likely to be negligent (the poorer) and its preference to provide PGS to those from whom collection of damages is easier (the rich). The question of where the line would be drawn is context dependent. However, we have no reason to assume it would be drawn at the optimal point.

D. Limitations

The argument against a reimbursement regime assumed that the poor and the wealthy are *ex ante* distinguishable from one another and that wealth is a good proxy for being able to reimburse the government for its costs. We further assumed that under such a regime, the government tends to prefer the wealthy to the poor in rendering its services and that this inefficiently undermines the incentives of the wealthy to take proper care, thereby imposing an excessive burden of care and losses on the poor. We will now relax these assumptions and see how it affects our conclusions.

1. It is hard to distinguish the rich from the poor.

While in some circumstances governmental entities might easily distinguish the rich from the poor when rendering PGS, in other cases, this could be tricky. In the latter instances, the risk of discriminating against the poor does not arise under a reimbursement regime. To illustrate, a local fire department can typically tell whether a potential rescuee is rich or poor either in advance by the location of the residence to where firefighters are dispatched or by appearance, at the time of rescue, when the firefighters arrive and see the rescuee's home. The former indicator of wealth is a more effective mechanism for discriminating than the latter under a reimbursement regime, for when a neighborhood is a good proxy for the wealth of its residents, fire departments might allocate more resources to wealthier neighborhoods. In contrast, discrimination is less likely to be based on what firefighters see when they arrive at the site of the fire; they can be

less expected to deliberately prefer assisting the wealthy simply because the wealthy are more likely to be able to pay them compensation in the event of injury (although this is not a completely implausible scenario).⁹² Firefighters might, however, be less inclined to assist a poor victim when it is only the victim's property that is at risk of harm. Anticipating the possibility of severe physical injuries, firefighters may be particularly reluctant to take risks to extinguish a fire that threatens property alone if the owners are incapable of compensating them for their harm.⁹³

The same distinction applies to emergency roadside assistance services, such as providing first aid to victims of car accidents. Under a reimbursement regime, public authorities might allocate such resources more generously to wealthy neighborhoods, assuming this to be a good proxy for the wealth of the potential victims. If, however, this is not a good proxy, discrimination becomes a low risk.

Public hospitals are another possible example of this phenomenon. Hospital administrators are often well aware of patients' ability or inability to pay for medical services.⁹⁴ Responding to needs of finding additional sources of income, hospitals increasingly engage in practices aimed at identifying wealthy patients

⁹² For extreme examples in which firefighters refused to assist residents after discovering that the latter hadn't paid their firefighting subscription fees (fees paid by residents of remote areas to nearby municipalities for firefighting services), see Meena Hartenstein, *Firefighters Let House Burn in Rural Tennessee Because Homeowner Didn't Pay \$75 Fee* (NY Daily News, Oct 6, 2010), archived at <https://perma.cc/R8E2-6YG3>; *Firefighters Let Home Burn After Owners Didn't Pay \$75 Protection Fee—Again* (US News, Dec 7, 2011), archived at <https://perma.cc/H8XV-E4WM>. For a similar case involving a refusal to provide police services to a town due to an unpaid debt to the sheriff's office, see *No Pay, No Police* (NBC Chicago, Oct 5, 2010), archived at <https://perma.cc/K2PK-KGWE>.

⁹³ Although public officials are covered by workers' compensation, the coverage is limited. See Dobbs, *Law of Torts* at § 503 (cited in note 38) (describing the architecture of workers' compensation, including employers' limited liability). Suing negligent property owners would thus allow public officials to collect full compensation for their harm.

⁹⁴ See Lewis R. Goldfrank, *The Public Hospital*, 24 *Fordham Urban L J* 703, 707 (1997) ("All other hospital departments [except the emergency department] permit discrimination by payer class; diversion, delay, and denial of care for those with marginal finances is legally acceptable."); David A. Ansell and Robert L. Schiff, *Patient Dumping: Status, Implications, and Policy Recommendations*, 257 *JAMA* 1500, 1501 (1987) (reporting a Chicago hospital's practice of placing a yellow sticker on the charts of patients who are not covered by private insurance or Medicaid as a reminder to avoid admitting them). Despite efforts to combat discrimination against indigent patients, "dumping" and other discriminatory practices still occur in hospitals. See generally, for example, Will Jay Pirkey, *A Shameful Practice: Despite Enactment of the Emergency Medical Treatment & Active Labor Act in 1986, Violations of Patient Dumping Continue to Represent a Serious Hazard in the City of Los Angeles*, 39 *LA Law* 20 (2016) (discussing recent cases of dumping of indigent patients in Los Angeles). See also text accompanying notes 147–49.

and providing them with better-quality services.⁹⁵ Under a PGS reimbursement regime, they might find ways to admit patients who are better able to pay for their medical bills. In some cases, the potential (ultimate) payees of the hospital bills are the wrongdoers who cause injury to the patients.⁹⁶ Hospitals might thus tend to admit patients whose injuries were caused by deep-pocket wrongdoers (such as tobacco companies or drug manufacturers) more than patients injured by less wealthy wrongdoers or due to nonwrongful causes.⁹⁷

2. No risk of undercompensation and availability of insurance.

Under a reimbursement regime, the government's motivation to discriminate against the poor in providing PGS arises only when there is a difference in the relative ability of the poor and the wealthy to reimburse the governmental entity for its costs. Consequently, if all potential PGS beneficiaries have enough resources to cover those costs, it makes no difference to the governmental entity who is richer and who is poorer: so long as there is no risk of undercompensation, the service provider can be expected to ignore the wealth of the individuals in need of PGS. Ironically, when all individuals are too poor, the governmental entity will also not be inclined to discriminate in providing PGS.

⁹⁵ See, for example, *Is There Harm in Hospitals Targeting Rich Patients for Donations?* (NBC News, June 28, 2019), archived at <https://perma.cc/7HXH-8XZN> (describing nonprofit hospitals' contracting with market data firms to screen patients' wealth to gauge their propensity to donate); Shoa L. Clarke, *How Hospitals Coddle the Rich* (NY Times, Oct 26, 2015), archived at <https://perma.cc/JSW4-87CC> (criticizing hospitals' practices of "marking" wealthy patients—for example by giving them blankets with a unique color—and providing them with better-quality services as a strategy for raising revenues).

⁹⁶ Although hospitals cannot sue injurers, nearly all states allow them to place a lien on any recovery amounts patients may receive from third parties that caused the patients' injuries. Admitting patients who were injured by deep-pocket injurers can, therefore, ensure hospitals' recovery of their costs. See generally Alaina N. Stout, *Statutory Liens for Health Care Providers: The Effectiveness of Laws Allowing Providers to Assert Liens on Settlements or Judgments from Third Party Tortfeasors*, 18 Health L 10 (2006) (analyzing state statutes). Whether hospitals benefit from applying such a strategy depends on their ability to predetermine injurers' wealth. While hospitals might find it hard to uncover such information, they can approach third parties that would conduct this inquiry. As noted, hospitals already contract with data firms to find similar information about patients.

⁹⁷ However, at times, deep-pocket wrongdoers can be stubborn litigants. See Robert L. Rabin, *The Tobacco Litigation: A Tentative Assessment*, 51 DePaul L Rev 331, 357 (2001) ("For four decades, Big Tobacco used its enormous resources to beat down every effort by litigants to secure compensation.").

If all or most individuals are insured against risks prevented or mitigated through PGS, and the insurance policies cover reimbursement costs, then the risk of discriminating against the poor again diminishes. As noted above, existing insurance policies usually do not cover payments required by governmental entities.⁹⁸ But suppose that insurance policies covering such payments were offered in the market. Would poor beneficiaries buy them? Arguably yes, since such coverage would increase their chances to be served by the relevant governmental entities. But such an effect would only materialize if, before the PGS is provided, they could signal to the providers of the PGS that they have such insurance—which typically would be hard to do. Therefore, we expect that many poor beneficiaries would not buy insurance even if it were offered in the market. They would find it more profitable to avoid insurance premiums, hoping not to bear the full costs of PGS if provided to them. This raises the question of whether mandatory insurance could be a solution to the discrimination problem. The next Section discusses this possibility.⁹⁹

3. Cases in which the government cannot discriminate in providing PGS.

With certain PGS activities, there is less of a likelihood that the government will discriminate between the wealthy and the poor. For example, it is unlikely that park rangers will discriminate between wealthy and poor hikers who have gotten lost when the rescue efforts are sequential—that is, undertaken whenever the need arises—as opposed to simultaneous efforts, when discrimination is a possibility.¹⁰⁰ To the extent that the rangers themselves can distinguish between hikers, a reimbursement regime could affect their incentives given that the wealthier hikers would more likely be able to compensate the rangers in the event of their injury during a rescue operation. As in the case of firefighters, when a hiker's life is at risk, it seems unlikely that

⁹⁸ See text accompanying note 56. Note that with insurance, citizens will still have incentives to reduce risks since in a competitive insurance market, premiums are responsive to risk reduction by the insured. See Omri Ben-Shahar and Kyle D. Logue, *Outsourcing Regulation: How Insurance Reduces Moral Hazard*, 111 Mich L Rev 197, 205–08 (2012) (explaining how adjusting premiums incentivizes the insured to take care).

⁹⁹ See text accompanying notes 123–24.

¹⁰⁰ However, even with sequential rescues, discrimination is possible. For example, if the rangers know that the hiker is wealthy, they might use a helicopter to evacuate him, but if he is poor, only an ambulance. In addition, the park authorities might invest more equipment and manpower in rescue efforts where wealthier hikers tend to travel than the areas the less wealthy frequent.

rangers will be influenced by the hiker's wealth in carrying out their assistance efforts. When the urgency of the rescue is less severe, however, financial considerations might play a greater role and impact the level of risk rangers take.

In other situations, there might be supervision of how the relevant governmental entity allocates its services. When the governmental activities are transparent and subject to public or judicial scrutiny, the risk of discrimination in providing the PGS diminishes.

4. Other potential limitations.

While we argue that providers of PGS might discriminate against the poor since they expect to collect more damages from the rich, a counterargument might be that collection from the rich is sometimes harder than from the poor because the former are more capable of defending themselves in lawsuits.¹⁰¹ If this is so, it is hard—if not impossible—to tell whether the providers of PGS would be better off with a suit for recovery against the rich or the poor. While this argument might be right in some contexts, it is wrong in others. Legal proceedings to recover for PGS are often simple and straightforward, and the rich have no clear advantage over the poor in defending themselves in such proceedings. Moreover, as we have shown, it is precisely because the rich are more likely to pay that governmental entities favor them over poor beneficiaries. A rich beneficiary would thus prefer to avoid a reputation of being someone who escapes reimbursing the government. Such a reputation would reduce her chances of receiving governmental services in the future.

A second argument, from the opposite direction, is that the new reason for discrimination in providing PGS that this Article exposes contributes only marginally to the overall discrimination against the poor in providing those services. We believe there is no reason to assume that a rule imposing liability for reimbursement of costs adds to existing discrimination only marginally. On the contrary, if such discrimination takes place regardless of the liability rule, legislatures and courts should be extra cautious not to adopt legal rules that provide even stronger incentives to the government to discriminate against the poor.

¹⁰¹ See text accompanying note 97.

E. Summary

We have developed two central claims in this Part of the Article. *First*, even if we assume that PGS are provided on a nondiscriminatory basis, requiring negligent beneficiaries to reimburse the governmental service provider for its direct costs does not incentivize them to take optimal care. We have demonstrated that such an incentive would also be produced if negligent beneficiaries were made to internalize the *entirety* of the social harm caused by their failure to take care, including the harm to third parties who were deprived of or received inferior PGS as a result of the beneficiaries' consumption of those services. *Second*, we claimed that under a reimbursement regime, there would be a likelihood that PGS would often be provided discriminatorily, whereby the wealthy would receive these services even when they are the cheapest cost avoiders, while the poor would not receive PGS even when the governmental entity is the cheapest cost avoider.

Our tentative conclusion is that with certain exceptions, it would be desirable to retain the common law rules and not allow governmental entities and officials to recover their PGS costs. Although these rules are not socially optimal, their outcomes are more efficient and just than those yielded by a reimbursement regime. In the next Part, we develop other solutions, which are often preferable to both the no-liability and reimbursement-of-cost rules.

III. OTHER SOLUTIONS

This Part will develop four liability rules, including the already-discussed ex post internalization rule, each with its own information requirements and enforcement costs. These rules create efficient incentives for potential beneficiaries to take care while contending with the concern about fair allocation of PGS. Each rule has unique advantages in certain circumstances, and our policy recommendation is, therefore, that each rule be applied in the appropriate category of cases. We first present the four rules and then compare their relative advantages.

A. Four Liability Rules

1. Ex post internalization.

The ex post internalization rule is the most common rule in tort law. This rule imposes liability on the negligent injurer for all foreseeable harms caused by his negligent behavior and thereby

forces him to internalize those harms.¹⁰² Under the Hand formula, which is often applied by courts to define negligence, the injurer is negligent when the costs of precautions (B) he failed to take would have been lower than the expected harm (PL, where P stands for the probability of harm and L for its magnitude) that those precautions would have prevented.¹⁰³ The ex post internalization liability rule creates efficient incentives for injurers to take care.¹⁰⁴

To apply the ex post internalization rule, courts need rough estimates about available precautions (B), the probability that the harm would materialize (P), and relatively accurate information about the size of the harm (L). To determine the injurer's liability, the court compares the estimated B and PL (the expected harm). If B is lower than PL, the injurer's negligence is established, and the court then determines the damages to be awarded to the plaintiff according to the actual harm (L). If we apply this rule to PGS cases, a negligent PGS beneficiary will bear liability for the entirety of the social harm caused by his failure to take care.

It would not necessarily be difficult for courts to estimate whether the beneficiary was negligent because such an assessment only requires that the court know whether, in Hand Formula terms, $B < PL$. To illustrate, in *District of Columbia v Air Florida, Inc.*,¹⁰⁵ a leading PGS case, the defendant-airline was sued by the plaintiff for various public expenditures it had incurred following the crash of the defendant's aircraft.¹⁰⁶ The crash may have been caused by the airline's failure to adequately de-ice

¹⁰² However, certain types of harms are not compensated and certain types of plaintiffs cannot recover for reasons related to proximate cause or duty of care that mandate no compensation. See Restatement (Third) of Torts §§ 7, 29 (2010).

¹⁰³ The Hand formula was first articulated in *United States v Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir 1947), and later adopted by the courts as well as the Restatement of Torts. See Restatement (Third) of Torts: Liability for Physical & Emotional Harm § 3, cmt e (2010) (suggesting that negligence can be ascertained by a "risk-benefit test," where the benefit is the advantage that the actor gains if she refrains from taking precautions, which is a balancing approach that is substantially similar to the Hand formula); Richard Epstein, *Torts* 129 (Aspen 1999) ("In . . . appellate discussions, the modern tendency is to resort quickly to the general cost-benefit Hand formula.").

¹⁰⁴ More accurately, they take precautions up to the point where marginal costs equal marginal expected harm. See Cooter and Ulen, *Law and Economics* at 200–01, 205–07 (cited in note 52).

¹⁰⁵ 750 F.2d 1077 (DC Cir 1984).

¹⁰⁶ *Id.* at 1078. The claim against the airline for recovery of the costs of rescue services was dismissed. *Id.* at 1086.

the wings of the airplane before takeoff, which was clearly required in light of the harsh weather conditions.¹⁰⁷ Thus, the defendant's negligence was evident. In other cases, regulators could set standards of care for potential beneficiaries,¹⁰⁸ and a failure to comply with those standards would constitute negligence per se.

The main informational problem, however, would be the estimation of the harm actually caused to third parties by the beneficiary's suboptimal care. As we have already explained, it is hard to imagine that private individuals would be able to sue for such harms; courts would likely deem the harms too remote and difficult to trace back to any particular beneficiary's insufficient care.¹⁰⁹ The same barriers would arise if plaintiffs were governmental entities (assuming they could bring such claims on behalf of the public).¹¹⁰ A possible solution to this is for regulators to set the average social harm caused by negligent PGS beneficiaries for predefined circumstances and impose liability accordingly.¹¹¹

Let us now assume that implementing the ex post internalization rule is feasible. But is it desirable? This is where the risk of discrimination amongst individuals requiring PGS based on wealth arises. Full internalization distorts the governmental incentives to provide PGS.¹¹² Note that due to a "feedback-loop" effect, even modest governmental discrimination might have substantial impact. A marginal transfer of resources from PGS providers in poor neighborhoods to PGS providers in rich neighborhoods will result in a marginal increase in the difference in property prices between rich and poor neighborhoods. This will result in a marginal increase in neighborhood segregation by

¹⁰⁷ National Transportation Safety Board, *Aircraft Accident Report* *57–58 (Jan 13, 1982), archived at <https://perma.cc/3B7Q-6Y8B> (discussing improper de-icing procedures on Air Florida Flight 90, but withholding judgment as to whether this caused the crash).

¹⁰⁸ See, for example, Occupational Safety and Health Act of 1970, Pub L No 91-596, 84 Stat 1590, codified at 29 USC §§ 651 et seq (setting general standards for workplace safety); Federal Motor Vehicle Safety Standards, 49 CFR § 571.101–571.500 (2011) (setting safety standards for automobiles); Federal Aviation Regulations (FAR), 14 CFR § 91 (1989) (prescribing detailed requirements for aviators, aircraft manufacturers, repair stations, and others involved in air carriage and general aviation).

¹⁰⁹ See Part II.A.2.e.

¹¹⁰ Several federal environmental statutes, for example, allow appointed governmental entities to act on behalf of the public as trustees of the natural resources. The trustees are authorized to sue on behalf of the public, to collect compensation from responsible parties, and to oversee the process of repairing damaged natural resources. See, for example, CERCLA, 42 USC § 9607(f); Clean Water Act, 33 USC § 1321(f)(5); Oil Pollution Act, 33 USC § 2706(b)–(c).

¹¹¹ See Part II.A.2.d. Statutorily fixed-amount damages already exist in other contexts, for example, with respect to copyright infringements. See 17 USC §§ 412, 504(c)(1).

¹¹² See Part II.C.3.

wealth, which will, in turn, result in a marginal increase in the government's incentive to transfer additional resources from PGS providers in poor neighborhoods to PGS providers in rich neighborhoods, and so on. Consequently, rich beneficiaries' incentives to take care might be significantly eroded.

2. Ex post disgorgement.

Under the ex post disgorgement rule,¹¹³ the negligent injurer is liable in the amount of the efficient precautions he failed to take, divided by the probability of injury being caused by this omission. In the Hand formula's terms, under this rule, the negligent injurer's liability is B/P . Since this rule imposes the minimum ex post liability necessary for deterrence, it is sensitive to the problem of underenforcement: enforcement that is even slightly lower than 100 percent would not provide injurers with sufficient incentives to take care. Thus, to contend with this reality, liability should be raised to attain the desired deterrent effect.

Let's consider how such a liability rule could be applied to PGS cases and its potential advantages over the ex post internalization rule. Under this rule, a PGS beneficiary who took insufficient care should be liable not for the harm suffered by third parties or for the costs borne by the PGS provider, but for her untaken precautions divided by the probability that the PGS would be provided to her. Thus, if a property owner failed to take precautions of \$100 to prevent a fire in her house and there was a 1 percent probability of a fire breaking out that would require PGS, her liability, in the event of a fire, would be $\$100 / 0.01 = \$10,000$. This is the case even if the harm to third parties (who were deprived of PGS because of the property owner's failure to take care) is, say, \$1 million.¹¹⁴ As noted, if enforcement of liability is less than 100 percent, liability should be adjusted to above \$10,000. Yet in many PGS cases, enforcement can be expected to be close to 100 percent because the governmental entities know the beneficiaries' identity and can claim compensation.

There is a twofold advantage to the ex post disgorgement rule. First, in contrast to the ex post internalization rule, its application does not require the availability of accurate information

¹¹³ See generally Robert Cooter and Ariel Porat, *Disgorgement Damages for Accidents*, 44 *J Legal Stud* 249 (2015) (developing and analyzing this rule).

¹¹⁴ In this example, we assume that in the event of a fire, the beneficiary would be rescued with certainty. If the probability of rescue is less than 100 percent, liability under the ex post disgorgement rule could be reduced to account for the beneficiary's self-risk.

as to the harm caused to third parties (L). Rather, it requires information about the magnitude of untaken precautions (B)¹¹⁵ and about the probability (P) that PGS will be provided.¹¹⁶ When this information is available, which is typical of many situations, applying the ex post disgorgement rule might be a far more realistic option in practice than applying the ex post internalization rule.

Second, the ex post disgorgement rule would usually result in lower, sometimes much lower, damages to be paid to the governmental entity than the ex post internalization rule.¹¹⁷ To illustrate with our numerical example, liability under the disgorgement rule would yield \$10,000 in damages whereas the internalization rule would yield \$1 million! Moreover, liability under the ex post disgorgement rule would often yield lower damages than the damages the negligent beneficiary would be liable for under the (much-endorsed) rule of reimbursement of costs. This is an advantage of the utmost importance because in many circumstances, it might outweigh the concern that liability would induce governmental entities to discriminate against the poor. Liability of \$10,000 rather than \$1 million or even \$100,000 would mean that many more property owners would be able to cover their liability. This would dramatically diminish governmental entities' incentive to discriminate in providing PGS.¹¹⁸

3. Ex ante internalization and mandatory insurance.

A third rule that could be applicable in PGS situations is ex ante internalization. This rule imposes liability on injurers for the wrongful risk they create regardless of whether harm materialized or not. The amount of their liability is the expected harm that they negligently failed to reduce (PL).¹¹⁹

¹¹⁵ However, to know the exact measure of B when it is continuous, we need to know PL.

¹¹⁶ The court would also need to roughly estimate PL in order to determine whether the PGS beneficiary was negligent (that is, whether $B < PL$).

¹¹⁷ Note that damages under the disgorgement rule will be equal to or less than damages under the internalization rule even if B is continuous. See Cooter and Porat, 44 *J Legal Stud* at 256–64 (cited in note 113).

¹¹⁸ Note that all beneficiaries who expect to bear liability under this rule will take efficient care, and eventually PGS will be provided either to those for whom taking care (or taking more care) is inefficient or to those who expect not to bear liability (in full or in part) for PGS.

¹¹⁹ For a detailed discussion regarding risk-based liability, see Ariel Porat and Alex Stein, *Tort Liability Under Uncertainty* 120–29 (Oxford 2001); Christopher H. Schroeder, *Corrective Justice and Liability for Increasing Risks*, 37 *UCLA L Rev* 439, 462–69 (1990); Christopher H. Schroeder, *Corrective Justice, Liability for Risks, and Tort Law*, 38 *UCLA L Rev* 143, 152–60 (1990).

This rule resembles a Pigouvian tax rule rather than tort liability.¹²⁰ It is rarely applied because its costs of enforcement are usually prohibitively high, requiring the imposition of liability whenever the injurer negligently creates a risk. In order to apply the rule, courts must be able to estimate the magnitude of PL.

Could this rule be applied to PGS cases? Sometimes yes. What is typical of many PGS cases is that precautions need to be taken just a few times and sometimes only once.¹²¹ In such circumstances, enforcement costs would not be prohibitively high. Assuming information about the magnitude of the risk is available, the ex ante internalization rule could be optimal in these cases. To illustrate, imagine that a property owner failed to spend \$100 on annual precautionary measures against fire, thereby exposing others to 1 percent probability of suffering \$1 million in harm. If the property owner bears liability of $0.01 \times \$1 \text{ million} = \$10,000$, she will internalize the risk created by her negligence and have the exact same incentives as the ex post internalization rule to take care. Note that even if enforcement is less than 100 percent, as long as it is higher than 1 percent, the property owner in our example will take efficient precautions of \$100 ($1\% \times \$10,000$).

This ex ante rule has two important advantages over its ex post counterpart. First, many property owners would be able to bear the typically low ex ante liability it would impose. Second and more importantly, under this rule, there would be no discrimination whatsoever in the allocation of public resources, since beneficiaries would bear no liability following the provision of the PGS.¹²² The main concern this rule raises, however, is that once liability is imposed ex ante, beneficiaries have no further incentive to take care when necessary, knowing that PGS will be provided to them at no additional cost. This concern is less troubling

¹²⁰ See Jonathan S. Masur and Eric A. Posner, *Toward a Pigouvian State*, 164 U Pa L Rev 93, 100–04 (2015) (discussing the economics of Pigouvian taxes).

¹²¹ In other cases, the failure to take precautions could be the result of a lapse of attention. See Robert Cooter and Ariel Porat, *Getting Incentives Right—Improving Torts, Contracts, and Restitution* 61–66 (Princeton 2014) (explaining that many accidents are caused by lapses of attention and suggesting how to legally handle them). In such instances, ex post disgorgement might be the best rule. See text accompanying notes 139–40.

¹²² Another advantage of the ex ante rule over its ex post counterpart is that it might have a stronger deterrent effect. Individuals tend to respond more strongly to an increase in the likelihood of being sanctioned than to a corresponding rise in the level of sanction. Since ex ante rules are more likely to be enforced (because they don't depend upon harm occurrence), they impose more certain sanctions than the ex post rules. See Daniel S. Nagin and Greg Pogarsky, *Integrating Celerity, Impulsivity, and Extralegal Sanction Threats into a Model of General Deterrence: Theory and Evidence*, 39 Crimin 865, 883–84 (2001) (finding that the certainty of punishment is more deterring than the severity of the punishment).

when, after precautions have been taken and liability imposed, there is no further need for costly precautions.

A different version of the ex ante internalization rule, with similar incentivizing effects, would be mandatory insurance. Under such a regime, while liability would be imposed ex post for the full social harm caused by the PGS beneficiaries' negligence, compensation would actually be paid by insurance companies. Beneficiaries, in turn, would have to pay the insurance companies premiums in correlation with their expected liability. The insurance companies would then have incentive to monitor beneficiaries to determine whether they are taking adequate precautions and would adjust insurance premiums accordingly.¹²³ Note, however, that under this legal regime, courts should be able to verify the actual social harm caused by a beneficiary's failure to take care, which is often difficult to do.¹²⁴ One option could be to institute mandatory insurance only for actual PGS expenditures. Although beneficiaries' incentives would not be optimal, as we have shown in Part II.A, such a regime might be better than no-liability or ex post liability (with no mandatory insurance).

4. Ex ante disgorgement.

Finally, disgorgement remedies could also be applied ex ante rather than ex post. Under current unjust enrichment law, wrongdoers are obliged to disgorge their profits from intentional wrongdoing if those profits have been gained at the plaintiff's expense, even if she suffered no harm.¹²⁵ It would be only one step further to allow the victims in our case, governmental entities, to recover damages from PGS beneficiaries in the amount of their untaken precautions when the latter's negligence exposed third parties to a risk of harm.¹²⁶ There is, however, one important limitation to the ex ante disgorgement rule: as with ex ante internalization, enforcement costs could be prohibitively high since the rule requires the imposition of liability whenever an injurer behaves negligently, regardless of whether any harm materialized.

¹²³ See text accompanying note 98.

¹²⁴ See text accompanying note 109.

¹²⁵ See Restatement (Third) of Restitution and Unjust Enrichment § 44(1) (2011) ("A person who obtains a benefit by conscious interference with a claimant's legally protected interests . . . is liable in restitution as necessary to prevent unjust enrichment, unless competing legal objectives make such liability inappropriate.")

¹²⁶ But see Douglas Laycock, *Modern American Remedies: Cases and Materials* 598–99 (Aspen 3d ed 2002) ("Negligence rarely produces profits, and when it does, the law does not seem to think that negligence is sufficiently wrongful to require disgorgement of those profits.")

Nevertheless, ex ante disgorgement could still be a plausible solution for certain PGS cases. As we have explained above,¹²⁷ in many cases involving the provision of PGS, potential beneficiaries need to take precautions just once or only a few times. In such cases, enforcement costs will likely be reasonable, although the concern regarding imperfect enforcement arises. Thus, if the level of enforcement is lower than 100 percent, liability should be increased to compensate for underenforcement. While underenforcement is less troubling with the ex post disgorgement rule (the governmental entity knows to whom it provided PGS), it should be taken into more serious account with ex ante disgorgement.

If we return to the example of the property owner who failed to take precautions of \$100 against fire, thereby creating a risk to others of \$1 million, under the ex ante disgorgement rule, she would be liable for only \$100 (or slightly more). Just like the ex post disgorgement rule, this liability rule yields the minimal deterrence necessary for inducing optimal care.¹²⁸ The only information necessary to apply this rule is the cost of untaken precautions (B). There is no need to know the probability of fire and rescue (P) or the potential loss (L), but only their rough estimates, in order to determine whether a property owner was negligent.¹²⁹ If we assume that the level of enforcement is less than 100 percent—say, 80 percent—liability should be adjusted to \$125 (or a bit more) to maintain the property owner's optimal incentives ($100 / 0.8 = 125$).

The ex ante disgorgement rule has similar advantages to those of the ex ante internalization rule. First, under this rule, damages would often be low, meaning that most people would be able to pay out their liability for negligent behavior. This would ensure that potential beneficiaries have efficient incentives to take precautions in the first place. Second, governmental entities would not discriminate among beneficiaries because there would be no liability following the provision of PGS.

¹²⁷ See text accompanying note 121.

¹²⁸ We assume that the beneficiary bears no self-risk of not being rescued. Otherwise, liability could be further reduced to account for that self-risk. See note 114 and accompanying text.

¹²⁹ But to know the exact measure of B when it is continuous, we need to know PL.

* * *

In practice, while ex post liability is the more common tort rule,¹³⁰ ex ante liability is also adopted by lawmakers. One example is the Colorado statute that grants tax benefits to property owners who invest in “wildfire mitigation measures.”¹³¹ Although framed as a tax benefit, this arrangement in effect raises the costs for property owners whose faulty behavior increases the risk of fire. Consistent with our analysis, the tax benefits are mostly for expenses related to safety measures that require a one-time (yearly) investment, such as the “establishment of fuel breaks” and creation of “defensible space around structures,” and thus involve low enforcement costs.¹³² Whether this legislation should be characterized as ex ante internalization or ex ante disgorgement depends on whether the rate of the tax benefits corresponds to the consequential reduction in the expected harm (internalization) or to property owners’ cost of care (disgorgement). The legislation’s central feature is that it renders negligent property owners liable irrespective of whether fire erupts and PGS are provided. Using such ex ante rules, as noted, enables the legislator to set liability at the lowest level that will still create efficient incentives for potential beneficiaries to take care. Furthermore, as we have shown, such incentive schemes eliminate the risk of discriminatory allocation of PGS by governmental agencies.

The table below summarizes the differences among the four rules and highlights their relative advantages.¹³³

¹³⁰ See text accompanying notes 102–03.

¹³¹ Colo Rev Stat § 39-22-104(4)(n5)(I)(A). See also Colorado Department of Revenue, *Income 65: Wildlife Mitigation Measures Subtraction*, archived at <https://perma.cc/2BCA-3JSH> (public notice of benefits available under the statute).

¹³² Colo Rev Stat § 39-22-104(4)(n5)(III)(D).

¹³³ Omitted from the table are the two regimes that were discussed in Part II, namely, the rules of “no-liability” and “reimbursement-of-costs.” As noted, these regimes suffer from major problems: “no-liability” subsidizes negligent behavior; “reimbursement-of-costs” induces governmental discrimination while failing to ensure full internalization by injurers. These problems are eliminated or substantially attenuated under the remaining four rules.

TABLE 3: SUMMARY

	Ex post internali- zation	Ex post disgorge- ment	Ex ante internali- zation	Ex ante disgorge- ment
Liability	L	B/P	PL	B
Information costs	highest	moderate	moderate	lowest
Amount of damages	highest	high	low	lowest
Incentivizes discrimination	more	less	no	no
Enforcement costs	low	low	high	high

The next Section examines how these rules can be applied to some common categories of PGS.

B. Applications

This Section illustrates how the four liability rules we have discussed could be applied to common types of PGS. To avoid repetition, we will not consider again firefighting services. As our analysis has implied, with fire departments, ex ante rules—primarily the ex ante disgorgement rule—might be preferable to any of the ex post rules.¹³⁴

1. Police services.

Consider the following example:

Example 3. A resident fails to take reasonable precautions to protect her home from burglars, and eventually a break-in takes place. Police officers arrive in time to stop the burglary, and the resident suffers no harm. Unfortunately, two police officers are injured during the operation. Moreover, the police department also suffers property damage and economic losses. Should the resident be liable for the harm to the police officers and police department and, if so, in what amount?

¹³⁴ However, if the beneficiary's fault is the result of a lapse of attention, the ex post disgorgement rule might be preferable. See text accompanying notes 139–40.

In most jurisdictions, there is no liability in cases represented by Example 3.¹³⁵ Although the risk of discriminatory treatment by the police implies that no-liability is better than liability for actual costs or for the entire social harm (the reimbursement of costs and ex post internalization rules, respectively), the ex post disgorgement rule could be the best solution in such circumstances. Under this latter rule, the resident would be liable for his untaken precautions, say, for failing to install a better lock on the windows at a cost of \$50 divided by the probability of a burglary, say, 0.01, for a total of \$5,000.¹³⁶ Alternatively, if ex post disgorgement yields liability that is beyond the means of many residents, one of the ex ante rules could be considered. Ex ante internalization would impose liability for the expected social harm of burglary, which could be hard to measure, whereas ex ante disgorgement (with appropriate adjustment to compensate for underenforcement¹³⁷) could be much easier to implement.¹³⁸

But ex ante rules cannot be applied in all police services cases. Suppose that in Example 3, the need for police assistance arises not as the result of an intentional failure to take precautions but rather due to the owner's inadvertent failure to take precautions or a lapse of attention. In such cases, precautions would typically be low in cost, and ex ante liability is usually not a realistic solution. Liability would usually amount to only a few dollars; the costs of enforcing the liability would exceed the amount of the liability itself;¹³⁹ and the threat of bearing liability of a few dollars would hardly affect beneficiaries' level of attention lapses.¹⁴⁰ Conversely, the ex post internalization rule, which could

¹³⁵ See Lytton, 76 Tulane L Rev at 770–71 (cited in note 9) (explaining that under current law, most types of law enforcement expenditures are unrecoverable). Nevertheless, some statutes now permit such recovery in specific circumstances. See, for example, *State v Lewis*, 711 A2d 669, 673–74 (Vt 1998) (requiring the defendant, who had been convicted of escape, to reimburse the Department of Corrections for extradition expenses); *State v Dillon*, 637 P2d 602, 608–09 (Or 1981) (ordering the defendant to pay restitution to the local police department for damages to a patrol car caused during a car chase); *State v Hernandez*, 822 P2d 1011, 1013–14 (Idaho App 1991) (ordering the defendant to reimburse law enforcement agencies for the amount expended to investigate his narcotics violations).

¹³⁶ Regarding the possible relevance of an owner's self-risk, see note 114.

¹³⁷ See Part III.A.2 and text accompanying notes 120, 121, 129.

¹³⁸ The ex ante rules also require that the police charge negligent residents irrespective of whether a burglary occurred.

¹³⁹ But that by itself is not necessarily a good reason for the police not to enforce the law: in their enforcement decisions the police are expected to consider not only the payments they collect ex ante but also (at least) the costs they save ex post once citizens are efficiently incentivized to take precautions.

¹⁴⁰ See Cooter and Porat, *Getting Incentives Right* at 61–66 (cited in note 121) (discussing lapses of attention as primary causes of accidents).

affect beneficiaries' level of lapses, could also result in discriminatory treatment by the police. The latter risk would be less acute with ex post disgorgement: since in cases of lapses of attention the costs of care are typically low (relative to the expected harm), ex post disgorgement would result in much lower liability than ex post internalization. At the same time, the ex post disgorgement rule would yield much higher damages than the ex ante disgorgement rule, and therefore enforcement costs would often be low enough to justify its application.

Thus, if a homeowner inadvertently leaves his front door unlocked, thereby "inviting" a burglar in, the costs of care would be very low and the probability of burglary quite high. Therefore, the B/P would yield a modest amount (but not below enforcement costs) that almost anyone could pay. Under such circumstances, the risk of discriminatory allocation of police assistance would be minor, and liability might positively affect individuals' attention-lapse levels.

2. Park rangers and rescue squads.

Consider the following example:

Example 4. A hiker in the Grand Canyon negligently loses his way. Park rangers rescue him using a helicopter. The costs of rescue amount to \$100,000. Should the hiker bear these costs or pay any other amount to the park rangers?

In this example, ex post internalization or even simple reimbursement of costs might be more than what the average hiker can afford. Therefore, with such liability, rangers might consider a hiker's wealth in deciding whether (or to what extent) they will provide her with costly services.¹⁴¹ The ex post disgorgement rule could be a better alternative: If the costs for hikers to take precautions are low, liability under this rule might be for a relatively low amount that the majority of hikers could afford to pay. As a result, the risk of the rangers' discriminating in allocating their services diminishes. Suppose that a certain piece of equipment that costs \$50 would help hikers not lose their way and that without this equipment, their probability of getting lost and in need of rescue is 1 percent. In these circumstances, an ex post disgorgement rule, whereby hikers pay $50 / 0.01 = \$5,000$ for the rescue

¹⁴¹ The risk here might be less severe than the risk in other types of PGS. First, it would not always be possible for the rangers to know whether hikers are wealthy or poor. Second, when hikers' lives are at stake, the risk of discrimination might be lower. See Part II.D.3.

efforts, could work well or at least better than a reimbursement of costs rule or ex post internalization rule.

If many hikers cannot afford to pay the liability that an ex post disgorgement rule would yield, either of the ex ante rules could be applied. Liability for the expected social harm (PL), that is, ex ante internalization, and liability in an amount just slightly above the costs of precautions (B), that is, ex ante disgorgement (\$50 in Example 4), are typically both affordable for hikers and would eliminate the risk of discrimination. Ex ante internalization would be equivalent to mandatory insurance, namely, hikers who fail to take care are liable for the expected social harm of their omission and are motivated to take efficient care from the outset to reduce this liability. However, the implementation of this rule also requires information, which might be hard to obtain. An ex ante disgorgement rule would require hikers to pay for the cost of (or slightly more than) the efficient precautions they did not take. The information about this cost is often easier to acquire. Thus, under this rule, hikers would have optimal incentives to take care.¹⁴²

As explained, both of the ex ante rules could mean high enforcement costs, as liability is imposed regardless of whether harm materializes. In Example 4, the ex ante rules mandate imposing liability on hikers who fail to invest \$50 in the necessary equipment, irrespective of whether they actually get lost and need to be rescued. The ex ante rules would, therefore, be particularly suitable if the liability is easily enforced. In Example 4, this could be accomplished by charging higher park admission fees for hikers who opt to go without the precautionary equipment.

3. Environmental hazards.

Legal regimes such as the Comprehensive Environmental Response, Compensation, and Liability Act of 1980¹⁴³ (CERCLA), which render liable current and previous owners of contaminated properties, as well as other involved parties, considerably mitigate the risk of biased provision of pollution-neutralization services by governmental agencies.¹⁴⁴ Because it is likely that at least

¹⁴² Note that paying B, say, for the value of the unpurchased equipment, is not equivalent to an obligation to purchase it as a precondition for permission to hike.

¹⁴³ Pub L No 96-510, 94 Stat 2767, codified as amended at 42 USC § 9601 et seq.

¹⁴⁴ CERCLA imposes liability on parties who fall into one of the following categories: (1) current owners and operators of the hazardous waste vessel or facility; (2) any person who owned or operated the vessel or facility at the time of the disposal; (3) any person who

one of the beneficiaries or the combination of several of them can pay the cleanup costs, the government has little at stake in how its pollution-neutralization efforts are allocated among polluters.

Yet requiring polluters to reimburse the government only for its cleanup costs might be insufficient to induce them to take optimal care. Because the government may consequently avoid assisting other polluters, those who benefited from the consumption of public resources should be liable for the harm incurred by those other polluters in being denied the pollution-neutralization services. This is the result obtained under the *ex post* internalization rule. Assuming the government has the necessary information to apply the rule, polluters would be induced to take optimal care, and the government would be able to fully recover its costs when polluters are negligent. Alternatively, when information is limited, the *ex post* disgorgement rule could instead be applied to produce optimal care incentives.

Not all environmental harms fall under the scope of CERCLA and similar legislation. When CERCLA does not apply, there can be a real risk of preferring deep-pocket defendants, which intensifies as the government's costs are higher. Governmental agencies may prefer to direct their cleanup efforts to polluters that are likely to be able to pay compensation, while forcing other polluters to privately eliminate environmental hazards for which they are responsible. This, in turn, could induce deep-pocket defendants to rely on publicly funded services and avoid efficiently investing in safety measures that would reduce or eliminate risks to the environment.

Since the expected harm to third parties could be high, along with the costs of the untaken precautions, an *ex post* liability rule could lead to biased treatment by the government. This concern, as already noted, does not arise under either *ex ante* internalization or *ex ante* disgorgement rules. Policymakers have in fact employed Pigouvian taxes in various environmental contexts.¹⁴⁵ As our analysis shows, when a risk of discrimination exists, such taxes and similar *ex ante* incentives have significant advantages over the *ex post* liability and reimbursement of costs rules.

generated the hazardous waste disposed of at the facility; and (4) any person who accepts or accepted to transport the hazardous substances. 42 USC § 9607(a).

¹⁴⁵ See Masur and Posner, 164 *U Pa L Rev* at 104–08 (cited in note 120) (discussing the relatively extensive use of Pigouvian taxes in the environmental context).

4. Medical care and treatment.

Hospitals are obligated by law to provide medical treatment to patients in need of urgent care. Under the 1986 Emergency Medical Treatment and Active Labor Act¹⁴⁶ (EMTALA), hospitals must do so irrespective of patients' ability to pay for their treatment costs.¹⁴⁷ Nevertheless, as noted, hospitals employ various tactics to limit the resources they spend on "uncovered" patients to reduce the financial burden of treating them.¹⁴⁸ There are two possible sources from which a hospital can recoup patients' treatment costs. First, if a patient is insured, the hospital's expenses are reimbursed by the insurer. Second, if an uninsured or underinsured patient was harmed by a deep-pocket injurer, the hospital can claim compensation from the damages that the injurer will be required to pay the patient.¹⁴⁹

Our analysis suggests that liability regimes that induce hospitals to favor patients harmed by deep-pocket injurers are objectionable not only for violating EMTALA rules against discrimination in admitting and treating patients, but also for supplying deep-pocket injurers with an undesirable subsidy. Knowing that their victims are likely to be hospitalized and properly treated, deep-pocket injurers can avoid taking efficient precautions that would prevent the harm from occurring in the first place. Whenever a hospital billing is lower than the cost of taking efficient precautions, an injurer's savings from taking suboptimal care would more than offset reimbursing the hospital. Yet injurers' low care levels result in harm to other patients as well, as this leads to a depletion of hospital resources: a bed occupied by a patient

¹⁴⁶ Pub L No 99-272, 100 Stat 82, codified at 42 USC § 1395dd.

¹⁴⁷ See generally 42 USC § 1395dd. For more information about EMTALA, see Melissa K. Stull, *Construction and Application of Emergency Medical Treatment and Active Labor Act*, 104 ALR Fed 166 (1991). The law was enacted as part of the Comprehensive Omnibus Budget Reconciliation Act of 1986 (COBRA) in response to a national epidemic of "patient dumping." See Andrew Jay McClurg, *Your Money or Your Life: Interpreting the Federal Act Against Patient Dumping*, 24 Wake Forest L Rev 173, 174–82 (1989); Henna K. Pithia, *Patient Dumping: The Cobra That Never Struck*, 24 S Cal Rev L & Soc Just 109, 119–22 (2014).

¹⁴⁸ See text accompanying note 94.

¹⁴⁹ See text accompanying note 97. Even with regard to patients who have medical insurance, seeking recovery from their injurers enables hospitals to increase revenues. This is so as charging injurers allows hospitals "to collect their full, chargemaster rates rather than settle for insurer-contracted payments that represent a fraction of those prices." Tara Bannow, *Hospitals and Patients' Attorneys Spar over Lien Practices* (Modern Healthcare, May 25, 2019), archived at <https://perma.cc/5SFY-5HKU>.

injured by a deep-pocket injurer means one less bed for other patients in need of medical treatment.¹⁵⁰

What liability rule would optimally incentivize all injurers? Unfortunately, none of the rules we have discussed here offer an efficient solution. Information as well as enforcement costs would often be prohibitively high under all four rules. Because injurers are heterogeneous (the precautions they fail to take vary in cost), it would be nearly impossible to apply either of the disgorgement rules. Similarly, because the social harm caused by injurers' suboptimal care could vary greatly from case to case, both of the internalization rules are probably impractical.

That is not to say, however, that the law is incapable of improving injurers' incentives in such situations. As we explained above,¹⁵¹ governmental entities prominently avoid discriminating in providing PGS when all potential beneficiaries are insured for reimbursement costs. In medical care cases, then, as the number of patients with healthcare insurance increases and treatment discrimination by hospitals becomes less likely, deep-pocket injurers (knowing that hospitals no longer prefer their victims over other patients) will be incentivized to take efficient care. Thus, legislation like the 2010 Affordable Care Act¹⁵² (ACA), which makes healthcare insurance more broadly accessible, significantly reduces the scope of the problem.¹⁵³

With regard to the amount that injurers should pay hospitals, given the obstacles to applying each of the four rules, a reimbursement of costs rule seems optimal. First, as we have just explained, as the number of insured patients increases, the risk that deep-pocket injurers will take suboptimal care drops. Accordingly, the main disadvantage of the rule is eliminated. Second, as opposed to the other three rules, enforcement and information costs under a reimbursement rule are low. Injurers pay only when victims are hospitalized, and the damages are in the amount of the actual hospitalization costs.

¹⁵⁰ See Part II.A.2.c.

¹⁵¹ See text accompanying note 98.

¹⁵² Pub L No 111-148, 124 Stat 119 (2010), codified as amended in various sections of Title 42.

¹⁵³ Studies show that following the recent healthcare reform, the percentage of uninsured adults decreased from 17.1 percent in the fourth quarter of 2013 to 11 percent in the first quarter of 2016. See, for example, Stephanie Marken, *U.S. Uninsured Rate at 11.0%, Lowest in Eight-Year Trend* (Gallup, Apr 7, 2016), archived at <https://perma.cc/U94C-5M33>. However, the percentage of uninsured adults has been creeping back up in recent years—to 13.7 percent in the fourth quarter of 2018. See Dan Witters, *U.S. Uninsured Rate Rises to Four-Year High* (Gallup, Jan 23, 2019), archived at <https://perma.cc/NXC8-XJPB>.

5. Summary.

Given the above analysis, we offer the following policy recommendations:

1. When the risk of discrimination is low and calculating the social harm is easy, an ex post internalization rule will result in optimal care incentives along with low enforcement costs. In cases in which the risk of discrimination is significant (and it often is), the other liability rules will be preferable.
2. When the cost of the relevant untaken precautions is low, ex post disgorgement is often the preferable rule. It eliminates, or at least greatly diminishes, the risk of discrimination and entails low enforcement costs. This rule is also most suitable when a lapse of attention is the source of the beneficiary's faulty behavior.
3. When the cost of the untaken precautions is high, ex ante disgorgement is often the preferable rule. Information for applying this rule is usually readily available, and a risk of discriminatory provision of PGS does not arise.
4. When the costs of the untaken precautions run across a spectrum—some low and some high—both forms of disgorgement rules might be unfeasible, in which case ex ante internalization is often the optimal rule (with the exception of cases in which enforcement is prohibitively costly).
5. With respect to medical care and treatment cases, with the Affordable Care Act's boost to the rate of healthcare insurance, the risk of biased treatment is diminishing, making the standard reimbursement of costs rule generally preferable given its low enforcement and information costs.

As this summary suggests, in many cases, the choice boils down to one of two rules, either ex post disgorgement or ex ante disgorgement. The rule depends on whether the cost of the untaken precautions is low or high and whether the need for PGS has been triggered by a lapse of attention on the part of the beneficiary. "Low" and "high" are, of course, relative terms, and legislators could either explicitly define them (by setting rules) or

leave them to the courts' and enforcers' discretion (by setting standards).¹⁵⁴

CONCLUSION

The current debate over compensating governmental entities and officials for losses incurred during the provision of PGS focuses on two alternatives: reimbursement of the costs incurred by the governmental entity and no liability at all.

As we have demonstrated, in order to create optimal care incentives for PGS beneficiaries, they should be held liable for the full amount of harm caused by their negligent failure to take care, including harm to third parties. We have also explained that even liability for only reimbursement of costs creates a substantial risk that governmental entities will provide PGS in a discriminatory manner. Our tentative conclusion is that when this risk arises, no liability is better than liability from both efficiency and distributive justice perspectives. We also emphasized that in certain circumstances, discrimination is not a real concern and reimbursement of costs is, therefore, generally better than no liability.

However, as we have shown, four other liability rules could provide beneficiaries with efficient incentives to take care. These rules differ in their informational requirements and enforcement costs; they could either substantially reduce (ex post disgorgement) or completely eliminate (ex ante internalization and ex ante disgorgement) any incentive for governmental PGS providers to discriminate among beneficiaries in allocating their services. We suggest that lawmakers give these rules serious consideration—in particular the ex post and ex ante disgorgement rules—for application in PGS cases in which preferential treatment of a particular group of beneficiaries is a significant concern. More specifically, we recommend applying the ex ante disgorgement rule in cases in which the costs of the precautions that beneficiaries fail to take are high and the ex post disgorgement rule when the costs of untaken precautions are low or the failure to take precautions was due to a lapse of attention. For cases of urgent medical treatment, we conclude that the reimbursement of costs rule is most suitable because the risk of discrimination is becoming less and less acute and given that applying either of the internalization and disgorgement rules requires costly information.

¹⁵⁴ See generally Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 *Duke L J* 557 (1992) (comparing the benefits and costs of rules from standards in accessibility and implementation).

Although we have focused on efficient prevention and mitigation of harm, our analysis applies to other contexts involving the provision of governmental assistance. Consider, for example, governmental bailouts of financial institutions following an economic meltdown. Our analysis suggests that when the government can save only some of the numerous banks in need of a bailout, the social cost of saving one bank is not the nominal amount of the bailout, but rather the losses resulting from letting other banks that could benefit from a bailout become insolvent. In addition, obligating banks to reimburse the bailout costs could affect the government's preference of certain banks to save, namely, those that are more likely to be able to pay back, or pay more quickly, these costs. However, predicting the government's assistance, these banks might refrain from taking efficient measures (such as choosing other investment portfolios) that could allow them to survive the meltdown. Therefore, a no-reimbursement rule in such cases could increase, rather than decrease, social welfare. An even better alternative would be to apply either of the disgorgement and internalization rules to optimally incentivize banks to take care.

As this example implies, the discussion in this Article can serve as a general framework for analyzing the implications of putting a price tag on governmental services. While in many cases such a price tag is just and efficient, the socially optimal price may be higher (if collected *ex post*) or lower (if collected *ex ante*) than the government's costs in providing these services. Furthermore, as we saw, in some instances, a price tag may do more harm than good.