

9-6-2020

The Gun Subsidy

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Recommended Citation

Christian Turner & Justin C. Van Orsdol, *The Gun Subsidy*, 68 Buff. L. Rev. 1117 (2020).

Available at: <https://digitalcommons.law.buffalo.edu/buffalolawreview/vol68/iss4/4>

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Buffalo Law Review

VOLUME 68

AUGUST 2020

NUMBER 4

The Gun Subsidy

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ABSTRACT

Despite thousands of gun deaths annually, the United States has failed to reach consensus on any means of addressing the public health crisis that is gun violence. The issue has become politically polarized, constitutionalized, and an object of pessimism and despair. We propose a regulatory system in which gun manufacturers would be strictly liable to a federal fund for deaths caused by their guns, paired with a subsidy that will serve to ensure the availability of guns sufficient to meet the rights the Supreme Court has found in the Second Amendment. While strict liability of this kind can indeed serve its traditional purposes of spreading costs and incentivizing better designs and processes, our primary goal is to alter the political economy around the issue of gun violence more generally. If manufacturers bear an increasing share of the costs created by their products, they will endeavor not only to produce products and advertise them in ways likely to reduce those

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costs but also to advocate for regulations that may do the same. While our proposal may not depolarize the issue entirely, it at least attempts to focus the minds and experience of those who know guns best on effective means of reducing guns' social costs.

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INTRODUCTION¹

Guns are used to kill about 40,000 Americans each year. They are instruments of suicide, of domestic and workplace rage, of robbery, and of spectacular acts of domestic terrorism. This “American carnage,” as the President put it on the occasion of his inauguration,² can indeed stop. While it is unrealistic, in a country of over 300 million people, to believe that we can eliminate all interpersonal violence, it is equally absurd to insist that mass shootings and thousands of gun suicides are as inseparable from our landscape as oxygen.³

The gun violence problem is not one of human nature but of social organization. The minds and experience that could best be directed to reducing gun deaths are instead consumed with fending off any and all gun regulation.⁴ This dynamic has caused extensive damage not only to victims of violence but also to our body politic.⁵ Indeed, the gun debate

1. This essay elaborates on an idea that Joe Miller and one of the authors, Christian Turner, explored on an episode of Oral Argument, that Christian subsequently blogged. *See generally Tug of War*, ORAL ARGUMENT (June 14, 2016), <https://oralargument.org/101>; Christian Turner, *Overcoming Gun Violence*, HYDRATEXT (Feb. 16, 2018), <https://www.hydratext.com/blog/2018/2/16/overcoming-gun-violence>.

2. *See* Walter Shapiro, *Trump Promised to End “American Carnage.” He Has Woefully Failed*, THE GUARDIAN (Aug. 4, 2019), <https://www.theguardian.com/commentisfree/2019/aug/04/trump-promised-end-american-carnage-dayton-el-paso>.

3. The Onion has, characteristically, best captured the collective shrug that follows each mass shooting. *See generally ‘No Way to Prevent This,’ Says Only Nation Where This Regularly Happens*, THE ONION (Feb. 14, 2018, 5:32 PM), <https://www.theonion.com/no-way-to-prevent-this-says-only-nation-where-this-r-1823016659>.

4. *See, e.g.*, Skye Gould & Brennan Weiss, *5 charts that show how powerful the NRA is*, BUS. INSIDER (Feb. 20, 2018, 5:00 PM), <https://www.businessinsider.com/nra-power-lobbying-statistics-gun-control-2017-10> (noting that, for example, the NRA “remains one of the most powerful gun rights lobbies in the United States”).

5. *See* Victor Agbafé, *The Vast Majority of Americans Support Universal Background Checks. Why Doesn’t Congress?*, HARV. KENNEDY SCH., <https://iop.harvard.edu/get-involved/harvard-political-review/vast-majority->

has become so caricatured and, at the same time, so stagnant that it has fostered in too many the insidious belief that our greatest problems are beyond our ability even to address.⁶ From it has grown a cynicism that politics can never be responsive to social problems. The gun debate is a cancer that has spread to other vital issues. The critical step toward progress is to promote a shared store of facts and a shared effort to minimizing social harm.

We propose a first step that centers directly on the political problem. It is not a list of guns to ban or background checks to be performed. Before all else, we must begin rowing in the same direction, and there is a way to accomplish this critical first step: liability. We do not mean liberalizing ordinary private liability, with the attendant lawsuits, discovery, and punitive damage awards. Rather, we propose an unambiguously required and automatic payment by a gun manufacturer to a special fund after one of its guns causes a death. In particular, subject to some details discussed *infra*,⁷ for each person killed by a gun, the gun's manufacturer would pay \$6 million to a federal fund administered by the Centers for Disease Control ("CDC").⁸

Calling for liability rules in response to social harms may hardly seem novel or sufficient.⁹ This reform, though, would

americans-support-universal-background-checks (last visited Jan. 11, 2020) (discussing congressional inaction on universal background checks and the influence of the NRA).

6. See Julia Biswas, *Here's Why America Can't Solve Its Gun Problem*, MEDIUM (Aug. 15, 2019), <https://medium.com/p/3f13c2d88f95/responses/show> ("And that right there is the problem. If twenty dead children aren't going to motivate America to fix its gun policies, then it doesn't matter how many more shootings happen . . .").

7. See *infra* Part III (discussing payment and lower bounding to the fund).

8. The rationale for this figure and other design elements is discussed in Section III.C.1., *infra*. The upshot is that it is obviously a lower bound on the social costs imposed by gun sales but is, at the same time, sufficiently incentivizing to accomplish the goal of reducing gun violence.

9. Making "harm causers" bear the costs of their harm has, in one form or another, been a consistent aim in tort and criminal law. See, e.g., Stephen R. Perry, *The Moral Foundations of Tort Law*, 77 IOWA L. REV. 449, 465 (1992)

not be the end of our effort to stem gun violence, but a necessary beginning that would unlock further rational policymaking. If a substantial portion of the costs of gun violence fell on gun manufacturers, two things would follow. First, and more conventionally, manufacturers' cost-benefit calculations would drive them to manufacture guns less likely to cause deaths that would lead to payment obligations and to increase prices on riskier guns. But we do not advance this proposal as a means to achieve some sort of law and economics ideal of an "efficient" amount of violence. Rather, the second and more important effect would be a *political economic* one, turning gun manufacturers from the fiercest opponents of sensible gun policies into advocates for effective regulations concerning background checks, gun attachments and ammunition, retail sales, and other potentially violence-reducing targets.

There is a bit more to our proposal than this, though. Billing the gun industry for even a modest portion of the social harms it creates would almost surely bankrupt it entirely. A Pigouvian tax would be, as things now stand, a death sentence. Even with the discounting we will propose, the total liability at current levels of gun violence would amount to well over \$200 billion on an industry whose revenues are less than \$20 billion.¹⁰ It is doubtful gun

(noting "Pigou's thesis that the economically appropriate way to deal with an externality is to place the cost, through governmental action of some sort, on *the* party who caused it" (citing Ronald Coase, *The Problem of Social Costs*, 3 J. L. & ECON. 1 (1960)).

10. See Katina Hristova, *What is the Financial Impact Of Gun Violence & Mass Shooting In The US?*, FIN. MONTHLY (Oct. 31, 2017) ("[T]he annual cost of fatal and non-fatal gun violence to the US was \$229 billion . . ."); *Guns & Ammunition Manufacturing Industry in the US—Market Research Report*, IBISWORLD (July 2019), <https://www.ibisworld.com/united-states/market-research-reports/guns-ammunition-manufacturing-industry/> (noting that the gun and ammo manufacturing had total revenues of \$17 billion as of July 2019). The revenue figure here, less than \$20 billion and probably around \$17 billion, represents all U.S. gun manufacturing revenues, including exports and sales to law enforcement and the military, and thus overestimates the revenue attributable to domestic, private sales. Gun imports have generally amounted to fewer than 5,000,000 per year, roughly half of the number annually

manufacturers could raise prices and alter designs and sales to achieve a reduction in liability sufficient to survive in the short term.¹¹

The obvious and normal response to this concern is that imposing liability only reveals a basic economic truth that has existed all along: The industry is not worth its costs. If its customers would refuse to pay prices sufficient to cover all the costs of manufacture, including the cost of violent deaths, then the market in its aggregate voice is telling us not to manufacture guns. One of us favors listening to this voice, but we live in a country in which many do not. Gun-rights activists identify with an interpretation of the Second Amendment they strongly believe requires private gun availability in fact—not just in theory.

This, then, is the second part of our proposal: a Gun Subsidy. The CDC would discount the base, per-death liability payment following a gun death at a rate calculated at regular intervals to permit the continuing manufacture of weapons adequate for self-defense within the meaning of *District of Columbia v. Heller*,¹² while continuing to apply adequate pressure on manufacturers to reduce gun mortality. The amount of this discount is the cost of a gun that the public will bear as a whole and should be explicitly accounted for as a subsidy. It represents the portion of our

manufactured in the U.S., exclusive of exports. We will look a little more closely at these figures, *infra*, but the point here is that there is not nearly enough domestic revenue to cover even an obvious underestimate of guns' social cost. This remains true if one considers not only revenue but total positive economic impact, which may be around \$52 billion. See generally *Firearms in the U.S.—statistics and facts*, STATISTA (Apr. 29, 2019), <https://www.statista.com/topics/1287/firearms-in-the-us/>.

11. Indeed, gun manufacturers are already struggling, having experienced a slump in sales following the election of President Trump and a concomitant drop in anxiety over potential gun regulations or confiscation. See Daniel Trotta, *U.S. Gun Sales Down 6.1 Percent in 2018, Extending 'Trump Slump'*, REUTERS (Jan. 29, 2019, 6:29 PM), <https://www.reuters.com/article/us-usa-guns-sales/u-s-gun-sales-down-6-1-percent-in-2018-extending-trump-slump-idUSKCN1PN346>.

12. 554 U.S. 570, 635 (2008) (holding that the Second Amendment confers a personal right to possess weapons in the home for the purpose of self-defense).

collective valuation of the availability of the *Heller* right that is not reflected in individual acquisitive preferences and, thus, in market pricing.

The combined effect of these provisions, manufacturers' strict liability to a fund and the Gun Subsidy, is to make at least somewhat explicit what is now entirely implicit and, in fact, invisible in its budgetary implications.¹³ Guns cause pain and death even as they bring pleasure to those who enjoy them. Our nation now counts that pain and death as no cost at all when collectively deciding through the market how many and what kinds of guns to manufacture and to whom to distribute them. Just as a gun cannot be made without acquiring and charging for metal and labor, so too its manufacture and sale cannot be severed from the deaths it will cause or from the collective enjoyment of the constitutional right its availability has been deemed to protect. And yet neither of these latter two values is priced, considered, or widely known.

Our primary purpose in this Article is to highlight that a diagnosis of the political problem of gun regulation points the way to a political solution. We give such a solution and outline a possibility for its practical implementation. In the first Part, we describe the mechanics of fund liability. In the second, we summarize its main justifications, adverting to standard tort theory (and the additional benefits of this proposal over private tort suits) and then to liability's more important political-economy consequences. In the third Part, we discuss some details of a possible implementation.

13. See *Pennell v. San Jose*, 485 U.S. 1, 22 (1988) (Scalia, J., concurring) ("The politically attractive feature of regulation is not that it permits wealth transfers to be achieved that could not be achieved otherwise; but rather that it permits them to be achieved 'off budget,' with relative invisibility and thus relative immunity from normal democratic processes."). The same might be said for non-regulation, itself a regulatory choice assigning costs.

I. THE PROPOSAL

Guns are the means by which almost 40,000 Americans die each year. Forty thousand is a useful number as a yardstick of risk in the United States. It is roughly the number of people who die annually in car accidents. It is a little less than the number of people who died from opioid overdoses in 2016. It is about the number of suicides. It is a little more than the total number of all pre-natal and post-natal infant deaths. It is roughly a quarter of all deaths from all accidents. And it is between one and two percent of all deaths. These figures are approximate, but “40,000 deaths” seems to mark the cost of one social problem after another.¹⁴

It is an understatement that Americans have widely varying intuitions and convictions about the costs and benefits of gun ownership. The best evidence concerning the actual costs and benefits of keeping guns in one’s home indicates that it is, all things considered, somewhat risky.¹⁵ That said, we all do many risky things throughout our lives, and if the worst risk guns imposed was a heightened risk of suicide and accidental death,¹⁶ then maybe gun ownership would fall in the same category as smoking or motorcycle riding: things most people believe adults should be able to do if their eyes are open to the dangers.

But guns impose enormous costs that are not born entirely by gun owners and not at all by gun manufacturers. These costs are measured in medical bills, death, and grief. The one thing everyone can agree on is that this level of

14. See Sherry L. Murphy et al., *Deaths: Final Data for 2015*, DEP’T OF HEALTH & HUMAN SERV., CTR. FOR DISEASE CONTROL & PREVENTION, CDC DIV. OF VITAL STAT. (Nov. 27, 2017), https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_06.pdf (“In 2015, 36,252 persons died from injury by firearms in the United States.”).

15. See *generally Suicide*, HARV. INJURY CONTROL RESEARCH CTR., <https://www.hsph.harvard.edu/hicrc/firearms-research/gun-ownership-and-use/> (last visited Nov. 2, 2019) (collecting sources demonstrating the risks and dangers of gun ownership).

16. *Id.* (noting that several studies indicate that there is a strong association with the number of guns, suicides, and accidental deaths).

suffering is horrible and that it would be good to eliminate it. No legitimate voice in the gun debate welcomes gun deaths.

What we tend not to agree on is how to measure the benefits of gun ownership. One of us (Christian) would, if he had no humility about the importance others might attach to guns, ban guns entirely and even confiscate the existing stock without compensation. He believes guns are not even close to being worth their cost, that they make safety-obsessed owners much less safe, and that the fantasies they engender of fending off either bad guys or (even more ludicrously) a tyrannical government are unhealthy. But he does understand that guns have important and unknown-to-him meanings for others, like Justin, and that more careful analysis of the “how maintained” and “what kinds of guns” questions could, possibly, point toward an acceptable regime of private gun ownership.

It is precisely in such a circumstance—large but uncontroversial costs offset by controversial and pluralistically understood benefits—that a tax of some form can decentralize the production and distribution questions in a manner less injurious to the public good. Asymmetrical uncertainty is not an obstacle to good public policy. We need not know “the one right solution” to optimal gun production and distribution to make a boring suggestion that will help us all: If gun manufacturers had to pay the costs of gun deaths, then many good things would begin to happen.

Our proposal:

Automatic Liability to the Gun Safety Fund: Gun manufacturers are required to pay \$6 million for a death caused by a firearm they manufacture.¹⁷ The manufacturer would be liable not to a private party but to a federal fund, which could be called the Gun Safety Fund and be administered by the Centers for

17. This is complicated to some extent by our suggested implementation discussed below. Most notably, we would not find liability at all for deaths resulting from self-defense and would discount the amount owed for a death by suicide to charge, in the aggregate, only for the excess suicides caused by guns. See *infra* Section III.C.3.

Disease Control and Prevention. Liability would be automatic and avoided only when the death is the result of a legitimate use of force by a law enforcement officer or an exercise of justifiable self-defense. Such defenses to payment could be raised in an administrative hearing before the CDC (and appealed from there as any other administrative adjudication). There would be no private plaintiffs' attorneys, no fights over punitive or compensatory damages, comparative negligence, discovery, or any of the usual but often necessary sources of inefficiency in litigation.¹⁸ The form of liability would be closer to a death tax than a tort judgment.

The Gun Subsidy: The CDC will be charged initially with determining an amount that will be refunded to a liable manufacturer following payment. That amount will be what the CDC finds is necessary to preserve the practical availability of guns for those purposes identified in *Heller* as protected by the Second Amendment, erring on the side of over-subsidizing. Every two years, the amount of the subsidy paid as a refund will be reduced by 2%, unless the CDC determines there is a reasonable likelihood that production would fall below the *Heller* baseline described above. The upshot is that after a century the subsidy would be a little more than one-third of its initial amount.¹⁹ The CDC will annually publish and publicize statistics gathered on gun violence and highlight the amount of the year's Gun Subsidy.

The details, of course, matter. For example, we would make the findings of responsible medical examiners concerning which gun caused a death (and whether it did) conclusive for these purposes, and it would be a federal offense for any agent of a firearms manufacturer to attempt to influence such an examiner. We would also discount the payment owed for gun suicides, not because such lives are less valuable but to require payment only for the excess number of successful suicides caused by guns. That is, the

18. See generally Geoffrey P. Miller, *Some Agency Problems in Settlement*, 16 J. LEGAL STUD. 189, 189–90 (1987) (detailing agency issues in settlement, for example, when multiple people share in a claim); William Vickrey, *Automobile Accidents, Tort Law, Externalities, and Insurance: An Economist's Critique*, 33 LAW & CONTEMP. PROBS. 464, 469–70 (1968) (discussing how most economists agreed with Guido Calabresi that the tort system, especially in accident cases, was an inefficient system of accident regulation).

19. The amount of the subsidy will always be initially calculated in 2020 dollars and then converted, with the indexing to be performed by the agency using acceptable methods.

payment would reflect the number of suicides over and above what that number would have been if only alternative methods of suicide were available.²⁰ We would also require a quadrennial determination by the CDC of this figure through the normal informal rulemaking process. These and other details are covered more fully in Part III.

Fund liability is not intended to be a perfect Pigouvian tax. At each point, we have chosen to calculate the liability using lower bounds. The total amount of the payments we propose would be dramatically less, in aggregate, than the cost of actual harms flowing from the use of guns. For one, it would only require payment for deaths and not for injuries, which number more than twice the number of deaths.²¹ And \$6 million is less than what most agencies identify as the monetary value of a human life for cost-benefit analysis purposes.²² But perfect internalization of externalities, a theoretically dubious proposition for reasons well-trodden by Ronald Coase,²³ is not the point. Any significant tax on manufacturers that scales with death will lead manufacturers to take some steps to reduce the tax, both in production and in politics. It is the *direction* of social effort that concerns us most, not accounting.

Even this heavily discounted cost internalization, however, is likely too large for the gun industry to absorb.

20. See, e.g., Matthew Miller et al., *Firearms and Suicide in the United States*, GUN VIOLENCE & MENTAL ILLNESS 31, 31–43 (explaining that more suicides happen in American homes with firearms and that, absent a firearm, most suicide victims would not seek an alternative method of suicide).

21. The CDC estimates that over 100,000 Americans are shot and injured each year—compared to 36,000 deaths. See *Web-based Injury Statistics Query and Reporting System (WISQARS) “Nonfatal Injury Reports,”* CTR. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/injury/wisqars> (last visited Nov. 3, 2019). The CDC warns that its estimates of nonfatal firearm injuries may be “unstable and potentially unreliable.” To increase reliability of the data, a five-year average of the most recently available data (2013 to 2017) was used.

22. See *infra* note 112 and accompanying text.

23. See generally Ronald Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960) (discussing the conceptual problems of internalizing so-called externalities).

Gun manufacturers' total revenues from private sales in the United States is probably around \$17 billion and almost surely less than \$20 billion, with profits of just a billion or two.²⁴ Even if we assume a total discounting of suicide deaths and that payments would be owed for only half of other deaths, say 6,000 of the 40,000-or-so gun deaths, the aggregate payment would be about \$36 billion. Despite low-balling the harms again and again, the industry would not come close to being able to cover the costs it imposes. The Gun Subsidy must, therefore, initially be massive if the industry is to be kept afloat.²⁵ Reducing the subsidy over time, with some degree of certainty, will enable the industry to plan, redesign, alter marketing, work with state governments to implement better laws, and perhaps even to participate in gun buy-backs. The responses are difficult to predict as non-experts, and that is our very point.

24. In 2016, there were about 11.5 million guns manufactured in the United States, excluding those manufactured for the U.S. military, and about 5.1 million guns imported, with only a few hundred thousand exported. *Firearm Commerce in the United States, Annual Statistical Update 2018*, ATF, <https://www.atf.gov/resource-center/docs/undefined/firearmscommercestatisticalupdate20185087-24-18pdf/download>. The average selling price for guns is less than \$1,000. And so, estimates of total revenues of less than \$17 billion and profits around \$1.5 billion seem reasonable. See Ben Popken, *America's Gun Business, By the Numbers*, NBC NEWS (Dec. 3, 2015, 9:28 AM), <https://www.nbcnews.com/storyline/san-bernardino-shooting/americas-gun-business-numbers-n437566>.

25. Indeed, it should not be glossed over that the hidden subsidy we pay *now* is massive. What we are proposing here is to acknowledge it.

II. BENEFITS

A. *Standard Tort Theory*

First, the obvious: If manufacturers must pay for deaths caused by guns they manufacture, at least some of the costs of gun violence, accidents, and excess suicides would be spread over all gun owners rather than born primarily by victims and secondarily by society at large.²⁶ That seems both fair and an appealing political argument in favor of shifting costs.²⁷ Why should victims pay for the downsides of gun ownership? Why should we subsidize gun manufacturers who stand alone in reaping all the profits of their activities but not a very substantial portion of their costs? Higher retail gun prices would result from the automatic liability regime, and these higher prices would reduce the rate of gun ownership, but only rationally so. If you can manufacture a safer gun, it will incur less liability and so can be priced more cheaply. People will therefore be more likely to purchase safer guns.

All this is a traditional sort of argument for strict liability. Put the costs of injury on the entity that could most cheaply avoid or minimize them and you wind up with a system that more optimally balances costs and benefits.²⁸ And so, on this ground, we might be inclined to repeal the

26. GUIDO CALABRESI, *THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* 312 (1970) (discussing a system that “could begin by allocating accident costs to those categories that can avoid accidents most cheaply but are sufficiently broad to spread the costs adequately”).

27. *See, e.g., Escola v. Coca Cola Bottling Co.*, 150 P.2d 436, 441 (Cal. 1944) (Traynor, J., concurring) (“Those who suffer injury from defective products are unprepared to meet its consequences. The cost of an injury and the loss of time or health may be an overwhelming misfortune to the person injured, and a needless one, for the risk of injury can be insured by the manufacturer and distributed among the public as a cost of doing business.”). Traynor’s opinion is famous for both its efficiency and distributive justice arguments for strict liability for injuries arising from manufacturing defects in consumer products.

28. *See CALABRESI, supra* note 26, at 162 (explaining how costs and benefits balance in the context of dock owners and shipowners with respect to accidents).

Protection of Lawful Commerce in Arms Act, which, with some exceptions, shields gun manufacturers and dealers from liability for injuries arising from crimes committed with their products.²⁹

We do not favor that and believe that the automatic CDC payment should be the exclusive form of liability. For one, our proposal would engender more stable expectations on the part of manufacturers, swifter imposition of costs, and greatly reduced administrative costs. All this provides a surer and steadier signal to manufacturers that could prompt manufacturing changes and continued engagement in formulating and encouraging cost-reducing public policies. Moreover, the fund could be used for more general anti-violence purposes and for compensation of victims and their families in a more finely tuned manner than would otherwise be possible in antagonistic private litigation pitting manufacturers against victims, especially given the vicissitudes of private litigation.

This novel form of liability is not designed to achieve the most economically efficient number of gun deaths, as if there were such a thing. We both believe the right number of such deaths is zero. But while there are many possible solutions to reducing gun violence, our nation has thus far eschewed nearly *all* of them. For this reason, we would settle for less than optimal. Our problem is getting anything at all done in the face of powerful incentives to do nothing.³⁰ To do so, we could try to get the gun manufacturers to think differently about their social role. And that, rather than mere cost-consciousness in its role as vendor, is the most important virtue of this proposal.

29. 15 U.S.C. §§ 7901–7903 (2012).

30. In the last two years the NRA, for example, spent “a record \$9.6 million lobbying lawmakers and federal agencies over the last two years . . . up from \$5.9 million the previous two years.” Bill Allison, *NRA Spent Record Amount Lobbying Congress, With Little to Show*, BLOOMBERG (Feb. 5, 2019, 4:00 AM), <https://www.bloomberg.com/news/articles/2019-02-05/nra-spent-record-amount-lobbying-congress-with-little-to-show>.

B. *Political Economy*

The payment regime's most important effect, and one that we hope would have positive spillover effects on other political issues,³¹ would be to make gun manufacturers willing participants in social efforts to stem gun violence. When you are the one who will pay the cost of a bad outcome, you become directly concerned with preventing that outcome. Upton Sinclair warned that "[i]t is difficult to get a man to understand something, when his salary depends on his not understanding it."³² Just as surely, though, you cannot make people ignore a problem when their salaries depends on apprehending it. Liability gives us a chance to flip the prevailing political script and to get those who know these weapons best to think hard about how to stop their being used to kill in large numbers.

Yes, manufacturers would seek to manufacture safer guns and to advertise and market in ways that reduce the risk of death. These are the vendor-specific effects of a tax. But they would also be far more likely to advocate *for* state and federal legal restrictions on gun ownership and sales, background checks, enforcement, and public health research. For the riskiest guns, manufacturers might support or even engage in gun buy-backs. In sum, they would not only take the private steps to reduce costs that are within their control but also public steps to advocate for cost reduction that only legislators and regulators can provide.

Because it is uncertain what the most effective mix of regulation and prohibition might be, especially for those of us unfamiliar with guns and their manufacture, we should

31. See, e.g., Harry Enten, *The U.S. Has Never Been So Polarized on Guns*, FIVETHIRTYEIGHT (Oct. 4, 2017 6:00 AM), <https://fivethirtyeight.com/features/the-u-s-has-never-been-so-polarized-on-guns/> (explaining the recent polarization on gun control in relation to other political issues like the border wall, health care, and global warming).

32. UPTON SINCLAIR, I, CANDIDATE FOR GOVERNOR: AND HOW I GOT LICKED 109 (1994) (internal quotation marks omitted).

align incentives so that those who *do* have such expertise reveal it. To be clear, we should not tax gun deaths because we think that the amount of the tax is what a life is worth. Nor is the purpose of a payment requirement to suggest that a manufacturer's moral duty to the killed and maimed has been discharged with a financial transaction. Rather, the goal is to alter the organization of social forces in such a way that we begin to strive for the same goal, even if we continue to disagree about means. By putting some of the costs of guns back on their manufacturers, there might even arise a new National Rifle Association ("NRA") that is committed to researching and identifying effective regulations. After all, manufacturer lobbies lobby for manufacturers.

There is, we believe, potentially a further benefit of this proposal, though it is harder to quantify. While many of us may not be able to imagine making a living manufacturing assault rifles, people are different. We cannot ignore that people do in fact make these weapons for reasons that some of us may not completely understand and that they do in fact pay nothing for the deaths that result from their work. Internalizing these costs could change the way gunmakers understand their work, perhaps, helping them break free of the ideologically pure and oppositional politics that have corrupted their relationship to the community. Forcing a change in conceiving of the social effects of one's business from "not my concern" to "my job is making sure that never happens" is a laudable goal on virtue ethics grounds.³³ And while forcing payment will in the first instance change incentives, it just might, in the second instance, change minds and attitudes.

33. And this is a bipartisan goal at that. See BRADY UNITED AGAINST GUN VIOLENCE, <https://www.bradyunited.org> (last visited Nov. 3, 2019) (explaining how initiatives such as the Prevent Family Fire Act of 2019 is a step toward curbing gun violence despite the common rhetoric that "it can't be done").

III. IMPLEMENTATION

The core of our proposal is modest cost-shifting of gun deaths to the gun economy, with explicit and publicized subsidies to keep the private gun industry afloat but visibly accountable. Any implementation that accomplishes these twin aims in rough form would be a welcome corrective to the extreme but silent subsidization of private guns that now prevails. In this Part, we lay out one possible pathway for such a regime, putting the CDC in the leading role. *First*, because our approach depends on identifying the manufacturer of a gun that has caused a death, we discuss the practicability of manufacturer identification, steps to take in the face of uncertainty, and incentives that would help to reduce that uncertainty. *Second*, we suggest a mechanism for apportioning liability among manufacturers when it remains uncertain which gun caused a death. Here, we recommend liability be apportioned among all guns in the class of potentially responsible guns according to their proportions of responsibility for those deaths for which responsible guns have been identified. In other words, we suggest proceeding as though gun identifications that *are* made are representative of those that have not. *Third*, we outline the administrative procedure for imposing the liability and setting the important rates used in assessing liability and subsidies.

A. *Gunmaker Identification*

It is one thing to talk theoretically about requiring gun manufacturers to internalize costs, but it is a more complex and nuanced matter to evaluate the feasibility of identifying whose products are used to commit homicides and suicides. Identifying responsible manufacturers under existing laws and regulations will be more difficult than it should be, thanks in no small part to the efforts of the NRA.³⁴ But states

34. See Ali Watkins, *How the N.R.A. Keeps Federal Gun Regulators in Check*, N.Y. TIMES (Feb. 22, 2018), <https://www.nytimes.com/2018/02/22/us/politics>

like New Jersey, California, and Maryland have already demonstrated that information sharing between gun manufacturers and agencies is workable and sufficient to identify the manufacturer of guns used in homicides. We discuss two hurdles in this regard: (1) the capacity to match crime scene evidence to a gun's manufacturer and (2) the mechanism by which such evidence will be made available to the federal program.

1. Identification by Fingerprinting and Class Characteristics.

It is sometimes unknown what manufacture of gun was used to cause a death. While almost never an issue in suicides and accidents, homicide guns are not regularly recovered.³⁵ And so the type of gun used must be inferred from other evidence. We propose a procedure to deal with these uncertainties, pursuing fairness, efficiency, and the promotion of better tools to make the most of crime scene evidence.

First, and most importantly, our proposal does not depend on matching a particular gun or identifying a particular owner or sale. It does not even depend on identifying a make of gun. Rather, we only need to learn from recovered bullets, casings, or other evidence what *manufacturer* was involved. When a gun is not recovered, the gun manufacturer may be identified by matching the evidence a shooting leaves behind, in, for example, bullet fragments and casings, either to a known, particular gun or to a class of potentially responsible guns. While the first of these possibilities, identifying a particular gun, raises alarm bells for some gun enthusiasts, the latter, identifying generic traits, is completely adequate for our purposes.

/trump-atf-nra.html (explaining NRA lobbying efforts “to enact restrictions on how [the ATF] spends money to curtail its ability to regulate firearms and track gun crimes”).

35. Such cases are often called “no-gun crime scenes.” See *infra* note 52 and accompanying text; see also *infra* note 40 and accompanying text.

a. Fingerprinting

There are occasions when the easiest way to identify a missing crime scene gun is to match the residual evidence to a particular, known crime gun. The Bureau of Alcohol, Tobacco, Firearms and Explosives (“ATF”) manages the National Integrated Ballistic Information Network (“NIBIN”).³⁶ NIBIN uses “equipment [that] allows firearms examiners and technicians to acquire analog images of the markings made by a firearm on bullets and cartridge casings.”³⁷ The ATF and some 196 participating agencies continue to grow this database by collecting images of bullets and firearms recovered from criminal investigations. In turn, this helps investigators link recovered firearms to other crimes committed with the particular gun in question.³⁸ NIBIN’s error rate is acceptably low for our purposes, at about 1%.³⁹

The availability of NIBIN will help to identify some guns. But it will only identify a gun from crime scene evidence after that gun has been otherwise recovered. In the case of homicides, the gun recovery rate is probably less than a third and varies widely between jurisdictions.⁴⁰ Moreover, the

36. ATF derives authority to establish NIBIN due to the enabling act, 28 C.F.R. § 0.130 (2015). Additionally, ATF derives authority to engage in activities related to the investigation and suppression of violent crime via 18 U.S.C. § 921 (2004).

37. U.S. DEP’T OF JUST. OFF. OF THE INSPECTOR GEN., BUREAU OF ALCOHOL, TOBACCO, FIREARMS AND EXPLOSIVES’ NAT’L INTEGRATED BALLISTIC INFO. NETWORK PROGRAM, AUDIT REPORT 05-30, at i (2005), <https://oig.justice.gov/reports/ATF/a0530/final.pdf> [hereinafter “ATF AUDIT REPORT”].

38. *Id.* at v–vi.

39. Nancy Ritter, *The Science Behind Firearm and Tool Mark Examination*, NAT’L INST. OF JUST. J., no. 274, Dec. 2014, at 21 (“NIJ’s most recent findings, released in February 2014, established an error rate of less than 1.2 percent . . .”).

40. In 2016, for example, Mississippi reported 587 firearm deaths, but only recovered 97 of the guns used within the following year. See *Stats of the State of Mississippi*, CTR. FOR DISEASE CONTROL, <https://www.cdc.gov/nchs/pressroom/states/mississippi/mississippi.htm> (last visited Apr. 7, 2019); Robin Fitzgerald, *Over 4,000 Guns Were Recovered in Mississippi Last Year. Half Were Used in*

NIBIN system suffers from delays in processing ballistics evidence.⁴¹

But fingerprinting guns on the “back-end,” after they have been recovered, is not the only possibility. There have also been some efforts at “front-end” fingerprinting, designing guns to leave unique marks on the evidence they leave behind. For example, intentional firearm microstamping (“IFM”) is a “technology that leverages a laser-based micromachining process to form optimally located, microscopic ‘intentional structures and marks’ on components within a firearm. Thus when the firearm is fired, these IFM structures transfer an identifying tracking code onto the expended cartridge that is ejected from the firearm.”⁴² So long as a bullet can be recovered from a crime scene, an IFM gun can be identified.

Currently, California is the only state that mandates IFM.⁴³ Unsurprisingly, its law is under attack by gun lobbyists.⁴⁴ The objections to front-end fingerprinting guns parallel those raised against gun registries and other efforts to maintain data on who owns which guns.⁴⁵

Crimes, SUNHERALD (Dec. 3, 2017), <https://www.sunherald.com/news/local/crime/article187747813.html>. Between 2011–2012 Louisiana recovered 29.7% of firearms used in homicides. Megan E. Collins et al., *A Comparative Analysis of Crime Guns*, 3 RUSSELL SAGE FOUND. J. OF SOC. SCI. 96, 106 (2017).

41. Nancy Ritter, *Study Identifies Ways to Improve ATF Ballistic Evidence Program*, NAT’L INST. OF JUST. J., no. 274, Dec. 2014, at 15.

42. See Orest P. Ohar & Todd E. Lizotte, *Extracting Ballistic Forensic Intelligence: Microstamped Firearms Deliver Data for Illegal Firearm Traffic Mapping – Technology*, PROC. OF SPIE, Aug. 28, 2009, at 1.

43. CAL. PENAL CODE § 31910(b)(7) (West 2012).

44. See Matthew Harper, *It’s Time to End ‘Microstamp’ Requirement for Handguns*, L.A. TIMES (Apr. 5, 2018, 12:15 PM), <https://www.latimes.com/socal/daily-pilot/opinion/tn-dpt-me-harper-commentary-20180405-story.html> (discussing a bill to overturn California’s microstamping requirement).

45. Common objections to any form of registration include the high cost of maintaining a registry, that criminals will not register their guns so why should law abiding citizens do so, and the alleged failed registries in countries like Canada and New Zealand. Charles C.W. Cooke, *Against Gun Registration*, NAT’L REV. (Feb. 26, 2013, 9:00 AM), <https://www.nationalreview.com/2013/02/against->

b. Generic Identification

Our proposal does not require a registry of ownership or the ability to identify a particular gun as responsible for a gun death. All that is required is the capability to infer a gun's manufacturer from evidence found on the scene.⁴⁶ There already exist some techniques to identify categories of potentially responsible guns from bullets and casings. We believe more is possible here. Indeed, IFM processes show that it is possible to create individualized fingerprints, and all we would require is a manufacturer-wide fingerprint. Some distinguishing characteristics, though, can already be discerned from evidence created by the existing stock of guns.

“Class characteristics are measurable features of a specimen which indicate a restricted group source” and help scientists determine the type of firearm used (i.e., handgun, rifle, etc.).⁴⁷ In short, “[w]hen bullets . . . are fired or ejected from a firearm, the parts of the firearm that make forcible contact with them create characteristic tool marks called ‘ballistic signatures.’”⁴⁸ These “ballistic signatures” can help

gun-registration-charles-c-w-cooke/. Others fear that any registration data will lead to confiscation and extermination of gun owners. See Jim Eways, QUORA (Jan. 18, 2017), <https://www.quora.com/What-are-the-best-arguments-against-a-U-S-national-gun-registry> (citing gun control efforts in various countries as the cause of mass exterminations of people). To be sure, the consensus is that gun registration is constitutional. See Declan McCullagh, *Sorry, Mandatory Gun Registration Is Constitutional*, CBS NEWS (Aug. 21, 2009, 3:14 PM), <https://www.cbsnews.com/news/sorry-mandatory-gun-registration-is-constitutional/> (detailing the opinions of constitutional scholars and Supreme Court opinions that suggest registration is constitutional).

46. We will relax even this requirement, apportioning liability among potentially responsible manufacturers in the face of residual uncertainty. See *infra* Section III.A.1.c.

47. Vincenzo D. Crawford, *Class, Individual, & Sub-Class Characteristics of Firearm & their Constituents*, ACADEMIA, https://www.academia.edu/12309195/Class_Characteristics_Individual_Characteristics_and_Sub-Class_Characteristics_Of_Firearms_and_their_Constituents (last visited Sept. 29, 2019).

48. John Song et al., *Estimating Error Rates for Firearm Evidence Identifications in Forensic Science*, 284 FORENSIC SCI. INT'L 15, 15 (2018).

“exclude a firearm as a source of a recovered . . . bullet.”⁴⁹ Sub-class characteristics are identifiers “incidental to manufacture” and can help define the precise gun used in a homicide.⁵⁰ For instance, one handgun manufacturer, Hi-Point, uniquely includes rifling that spins bullets in a leftward spiral.⁵¹

There exist several systematic methods for identifying and using class characteristics. The Kennington Matrix System, developed in the 1950s, categorizes evidence based on: (1) manufacturer and type of bullet, (2) chamber marks, (3) extractor mark shape, (4) ejector mark, (5) firing pin impression, and (6) breech face marks. Its digital descendants include a variety of databases, including the General Rifling Characteristic (“GRC”) Database used by the FBI and the Integrated Ballistics Identification System (“IBIS”).⁵² Other research efforts have created user-friendly decision trees from images of spent cartridge cases that may narrow the possible makes and models of a missing crime gun to at most two or three.⁵³

More promising yet is the Congruent Matching Cells Method (“CMC method”), which uses 3D topographical

49. *Id.*

50. ROBERT M. THOMPSON, NAT’L INST. OF JUST., FIREARM IDENTIFICATION IN THE FORENSIC SCIENCE LABORATORY 9 (2010).

51. United States. v. Walton, No. 1:16-CR-145-2-TWT, 2019 WL 188432 (N.D. Ga. Jan. 14, 2019) (statement of Michael Powell); *see also* B. Gil. Horman, *Hi-Point Firearms .45 ACP Pistol & Carbine*, AMERICAN RIFLEMAN (AUG. 21, 2015), <https://www.americanriflesman.org/articles/2015/8/21/hi-point-firearms-45-acp-pistol-carbine/>; COLLABORATIVE TESTING SERVS., INC, FIREARMS EXAMINATION TEST No. 16-526 SUMMARY REPORT 14 (2016), https://cts-forensics.com/reports/3626_Web.pdf.

52. *See, e.g.*, Young Wang, *Class Characteristics Classification of Test Fired Cartridge Cases: A Digital Image Decision Tree Approach to Kennington’s Matrix for Initial Stages of Criminal Investigation*, 6 FORENSIC SCI. & CRIMINAL INVES., Nov. 2017, at 1, 2.

53. *Id.* at 3, 5 (noting that dependent upon the visibility of firing pin drag marks certain firearms can be mistaken for another, but usually between no more than two or three).

images of breech face impressions.⁵⁴ Reference and comparison images of these impressions are divided into a rectangular array of cells and run through an automated search, which compares each cell for similarities and then subjects these comparisons to an algorithm.⁵⁵ Researchers have noted that “the extremely small false positive error rates calculated from the [CMC] models suggest the feasibility of applying the CMC method to a large number of firearms.”⁵⁶ Indeed, the Special Programs Office of the National Institute of Science and Technology is funding research with a long term goal to enable “ballistic examiners [to] input either topographies or optical intensity images into a program that automatically conducts correlations, and generates objective conclusions (declared match for example) and error rate estimates.”⁵⁷

While there is much promise in these new methods, they all involve what we call “back-end categorizations,” meaning they are built from distinguishable class characteristics identified from test firings. Such methods can already helpfully narrow the category of potentially responsible manufacturers, and indeed, expanding efforts at class characterization should be a priority (and one possible use of the fund).

Front-end efforts, however, could dramatically improve manufacturer identification. If guns were designed to imprint markings on bullets and casings that distinguish the manufacturer, the accuracy of our program would be much improved. Unlike the unique fingerprints California’s IFM mandate requires, our purposes would be served by generic stamps that identify only the gun’s manufacturer. Designing

54. Song, *supra* note 48, at 16. The breech face is the part of the firearm that holds a cartridge in the gun’s chamber. When the gun is fired, the cartridge is forcibly pressed against this part, generally making an impression in the cartridge.

55. *Id.*

56. *Id.* at 29.

57. *Id.* at 29–30.

for identification on the front end, as with IFM, would dramatically improve the ability to identify the make of a missing crime gun.

c. Manufacturer-Side Incentives and Mandates to Promote Identification.

The identification problem should be addressed as part of the Gun Subsidy's basic design. We have two recommendations: (1) a specimen approach and (2) a fingerprinting approach, mirroring the back-end and front-end methods described above.

First, we could mandate or encourage all states to enact programs formerly employed in New York and Maryland.⁵⁸ Before repealing their laws due to cost concerns,⁵⁹ both states required all manufacturers that shipped or transported handguns to be sold or rented in the state to be test-fired prior to sale or transfer. Spent casings were provided to firearm dealers, and, once the guns were sold, the dealers would then forward the casings to the state police, which entered the markings into state databases similar to NIBIN.⁶⁰

A version of this model could work nationwide. Unlike the original state laws, our purpose is manufacturer identification, not detection of criminal assailants (though there is no reason our system would prevent identifying the latter). And the costs of processing the ballistic images could be covered by the payments made from the manufacturers to

58. See MD. CODE ANN., PUB. SAFETY § 5-131, *repealed by* Acts 2015, ch. 379, § 1, effective Oct. 1, 2015; *see also* N.Y. GEN. BUS. LAW § 396-ff (repealed 2012).

59. See Eric Cox, *Maryland Scraps Gun 'Fingerprint' Database After 15 Failed Years*, BALTIMORE SUN (Nov. 7, 2015), <http://www.baltimoresun.com/news/maryland/bs-md-bullet-casings-20151107-story.html> (citing that the system cost \$2.4 million and resulted in no crimes solved). The cost-benefit calculus of these programs for our purposes would, obviously, be different. While criminal detection would be a welcome benefit, the purpose of our program is accurate identification of responsible manufacturers. And program cost could be met, in part or whole, by program funds.

60. ATF AUDIT REPORT, *supra* note 37, at xii–xiii.

the fund.

Gun manufacturers would test-fire all firearms prior to shipping them to dealers. Instead of sending the spent casing to the dealer, they would be sent directly to the ATF. The ATF—which already employs firearms experts and technicians—would then record images of the casing into NIBIN and that data could either be furnished directly, or made accessible, to the CDC. This requirement would hardly burden firearm manufacturers. After all, manufacturers already test-fire their products for quality control purposes.⁶¹ This approach also removes some of the burden on the states to process the initial ballistic images by placing the responsibility on gun manufacturers and the federal government.

Second, we could adopt a measure similar to California's IFM law. The law would require all guns produced from a certain date forward to incorporate microstamping technology. Unlike California's law, the Gun Subsidy program requires a stamp specific only to manufacturer, not stamps unique to each firearm. This would obviate the usual arguments against specific identifications of gun owners, the maintenance of registries, and the like.

We propose a valuable inducement for stamping, which could be offered in lieu of an actual mandate or alongside it: a limitation on their exposure to liability for deaths due to pre-IFM guns for which they might otherwise be responsible. We discuss this limitation, and therefore its effectiveness as an incentive, below. For now, it should be obvious that the benefits of microstamping are two-fold, increasing efficiency

61. See GLOCK, <https://eu.glock.com/en/explore-glock/advanced-manufacturing> (last visited Apr. 5, 2019) ("Every single GLOCK pistol is test fired to ensure CIP conformity as well as flawless function and accuracy out of the box."); see also KIMBER, <https://www.kimberamerica.com/faq> (last visited Apr. 5, 2019) (noting the caliber of ammunition used in function testing). A quick internet search of "are guns test-fired at the factory" recovers multiple message boards confirming that most manufacturers do test-fire at least 1–2 rounds before shipping guns to dealers.

and reducing costs.

Microstamping would allow both state and federal agencies the ability quickly to identify manufacturers without the limitations of NIBIN and current ballistic analysis.⁶² Because each stamp is unique to a particular manufacturer, identification would become more or less automatic. While implementing microstamping technology into the manufacturing process might, at least initially, be costly,⁶³ these costs are negligible next to the public subsidy of guns that is now only implicit. And, after all, similar arguments were made by auto manufacturers when airbags and seatbelts were mandated, but, luckily, the auto industry lost those fights.⁶⁴

2. Reporting from Crime Scenes to the CDC.

The Gun Safety Fund can only be administered if state and local law enforcement officials provide data from their investigations. Most law enforcement agencies already attempt to identify the make and model of guns used in murders, and of course recover firearms when possible.⁶⁵ While *Printz v. United States* established that the federal

62. This is not to say that microstamping is foolproof—it is not—but our proposal is not designed to identify every firearm, only to identify as many as possible. See Nick Leghorn, *The Truth About Microstamping*, THE TRUTH ABOUT GUNS (Aug. 29, 2011), <https://www.thetruthaboutguns.com/2011/08/foghorn/the-truth-about-microstamping/> (observing that microstamps can wear down or be filed and that it does not work for revolvers because casings aren't ejected).

63. *California's Microstamping Requirement Bans Sale of Improved Pistols—Dealers Face Shortage of Handguns Approved for Sale*, NRA-ILA (Jan. 23, 2014), <https://www.nraila.org/articles/20140123/californias-microstamping-requirement-bans-sale-of-improved-pistols-dealers-face-shortage-of-handguns-approved-for-sale> (“But while the actual microscopic etching process may itself be cheap, the real cost of incorporating microstamping into the manufacturing process is not.”).

64. See Leo C. Wolinsky, *Big Lobbies Clash in Fight on Seatbelts: Hearings Open Today as California Joins Auto Safety Debate*, L.A. TIMES (Feb. 19, 1985) <https://www.latimes.com/archives/la-xpm-1985-02-19-mn-546-story.html> (noting that automakers opposed the seatbelt and airbag mandate for “nearly a decade as too costly and only marginally effective”).

65. See generally *supra* Section III.A.1.a.

government cannot commandeer state officials to administer a federal regulatory scheme, it did not question federal incentives to participate by conditioning funds.⁶⁶ Thus, we would condition grants from the fund itself, discussed in Section III.D., *infra*, on the local law enforcement's sharing needed data with the CDC, ATF, and other relevant agencies.⁶⁷

Some states have already laid the foundation for just such a reporting system. New Jersey, in particular, has undertaken a number of efforts to combat gun violence.⁶⁸ Of particular interest to our project is the N.J. GUNStat Report,⁶⁹ which aims to “increase public awareness about the effects of gun violence by providing data to the public on gun crimes and the source states from which . . . crime guns are flowing.”⁷⁰

The GUNStat Report is issued monthly and includes data on the number of guns recovered by county and city—listing the type and caliber of gun—among other data.⁷¹

66. 521 U.S. 898 (1997). Our proposal is also consistent with *National Fed'n of Indep. Bus. v. Sebelius*, 567 U.S. 519 (2012), because it lets states choose whether to participate and does not penalize them with the loss of existing funds if they choose not to do so. *See id.* at 585 (“Nothing in our opinion precludes Congress from offering funds . . . and requiring that States accepting such funds comply with the conditions on their use. What Congress is not free to do is to penalize States that choose not to participate in that new program by taking away their existing Medicaid funding.”).

67. *See, e.g.*, *South Dakota v. Dole*, 483 U.S. 203 (1987).

68. *See* Colleen O'Dea, *Interactive Map: Where 'Crime Guns' Have Been Recovered in New Jersey*, N.J. SPOTLIGHT (July 24, 2019), <https://www.njspotlight.com/stories/19/07/23/state-data-provides-sobering-glimpse-of-illegal-guns-in-nj/>.

69. *See* Christian Hetrick, *New Jersey Reports Show Most Guns Used in Crimes Were Purchased in Other States*, OBSERVER (May 8, 2018, 5:30 PM), <https://observer.com/2018/05/new-jersey-releases-gun-violence-reports/> (describing the GUNStat Report's creation by executive order).

70. *Governor Murphy Announces Release of GUNStat Report*, N.J. ST. POLICE (May 8, 2018), <https://www.njsp.org/news/2018/20180508.shtml> (noting that 77% of guns used in crimes in New Jersey comes from other states).

71. *Id.*

These data are collected by local law enforcement officers and are used by the state and the ATF to “investigate straw purchasers and bad faith dealers in other states.”⁷² But the report goes a step further than other data collection programs: *It names gun manufacturers.*⁷³ The purpose of doing so, and of naming crime guns’ states of origin, is to “draw attention to the gun crime statistics and ‘name and shame’ states with lax gun laws”⁷⁴ and to also “wake up [gun] manufacturers.”⁷⁵ This effort is consistent with our purpose to publicize and concretize costs. Our modest shifting of those same costs will do much more to change the behavior of various actors in the gun economy.

We would condition state and local receipt of funds from gun liability payments on the continuing provision by law enforcement of information from homicide, suicide, and accident investigations. The cooperation here would be two-fold. First, local officials would be required to send ballistics information concerning the make of potentially responsible firearms to the CDC. Second, the CDC would need the support of state coroners and medical examiners to participate as witnesses should the gun manufacturers want to challenge any findings in an administrative hearing, about which we provide more details in Section III.C.4., *infra*.⁷⁶

72. *Id.*

73. Including names of firearm manufacturers is a recent expansion starting in 2019. See O’Dea, *supra* note 68.

74. Hetrick, *supra* note 69.

75. *NJ Gov. Murphy Expanding ‘GUNStat’ Program, Which Tracks Guns Used in Crimes*, CBS N.Y. (Mar. 12, 2019, 12:38 PM), <https://newyork.cbslocal.com/2019/03/12/gunstat-gun-tracking/>.

76. Certain states have county, district or parish based medical examiners or coroner systems. The reporting system would require these states to make these officials available as witnesses for hearings. See *Death Investigation Systems*, CTR. FOR DISEASE CONTROL AND PREVENTION, <https://www.cdc.gov/phlp/publications/coroner/death.html> (last visited Apr. 20, 2019) (noting the various state death investigation systems).

B. *Apportionment of Liability*

Once a firearm death has been reported, the next step is to assess liability. Because a substantial portion of firearm deaths are suicides and unintentional killings, administrators can pinpoint the responsible manufacturer most of the time, as firearms are readily recovered in these instances.⁷⁷ Indeed, the CDC reports that roughly 60% of all homicides caused by firearms are from suicides, and another 2.7% are accidental killings and law enforcement shootings.⁷⁸ We now turn to the problem of assigning liability for deaths that cannot be definitively attributed to a single manufacturer.

Given the small, but present, error rates in firearm identification technique discussed above, and even if we both improve back-end identification and establish rigorous front-end standards, our proposal will sometimes require apportioning liability amongst several potentially responsible manufacturers. We consider here two major theories of apportioning liability with respect to firearms: (1) market-share liability and (2) proportional-share liability. We favor market-share liability because it best incentivizes manufacturers to adopt safer guns and stronger identification methods given certain biases in the reporting of firearms by local law enforcement.

77. See Craig Zwerling et al., *The Choice of Weapons in Suicides in Iowa*, 83 AM. J. PUB. HEALTH 1630, 1631 (1993) (noting that in 92.5% of firearm suicides the type of gun was recorded); CDC DEATH CERTIFICATE, <https://www.cdc.gov/nchs/data/dvs/DEATH11-03final-acc.pdf> (last visited Sept. 28, 2019) (Line 43 of the death certificate requires type of gun used). Data may not have been as forthcoming as recently as 30 years ago. See Garen J. Wintemute et al., *The Choice of Weapons in Firearm Suicides*, 78 AM. J. PUB. HEALTH 824, 824 (1988) (observing that noting type of gun used in suicides was around 20%).

78. See *Gun Violence Statistics*, GIFFORDS LAW CTR., <https://lawcenter.giffords.org/facts/gun-violence-statistics/> (last visited Oct. 3, 2019) (citing CTR. FOR DISEASE CONTROL & PREVENTION, *Web-based Injury Statistics Query and Reporting System (WISQARS)*, “*Fatal Injury Reports*,” <https://www.cdc.gov/injury/wisqars>).

1. Market-Share Liability and Proportional-Share Liability.

Market-share liability is a tort theory that allows “plaintiffs who [are] harmed by . . . fungible product[s] and unable to identify the manufacturer who produced the unit that harmed them [to] sue all manufacturers of the product and collect from each of them according to their market share.”⁷⁹ Contemporary market-share liability theory stems from classic tort cases concerning pharmaceuticals and pollutants. In *Sindell v. Abbott Laboratories*,⁸⁰ for example, women who took diethylstilbestrol (“DES”) in the hopes of preventing miscarriages were allowed to collect from all five major manufacturers of the drug because collectively they produced 90% of the DES on the market.⁸¹ The court adopted the market-share liability theory because “all defendants produced a drug from an identical formula and the manufacturer of the DES which caused plaintiff’s injuries [could not] be identified through no fault of plaintiff.”⁸²

While courts have cited a number of reasons to impose market-share liability, “the generic nature of the product,” or fungibility with other products, has been the paramount consideration.⁸³ Asbestos cases are demonstrative. A New York federal court,⁸⁴ for example, “denied application of

79. Logan L. Page, *Write This Down: A Model Market-Share Liability Statute*, 68 DUKE L.J. 1468, 1468 (2019).

80. 607 P.2d 924 (Cal. 1980).

81. *Id.* at 937.

82. *Id.* at 936. *See also* State v. Exxon Mobil Corp., 126 A.3d 266, 297–98 (N.H. 2015) (affirming the trial court’s application of the market-share liability theory where “the State faced an impossible burden of proving which of several . . . gasoline producers caused New Hampshire’s groundwater contamination”).

83. *Id.* at 291–92; *In re Methyl Tertiary Butyl Ether (“MTBE”) Prods. Liab. Litig.*, 379 F. Supp. 2d 348, 376–77 (S.D.N.Y. 2005) (“MTBE-containing gasoline is a fungible product because all brands are interchangeable, and because different concentrations of MTBE in different batches of gasoline do not affect its ability to contaminate groundwater.”).

84. 210 East 86th Street Corp. v. Combustion Eng’g, Inc., 821 F. Supp. 125, 127 (S.D.N.Y. 1993).

market share liability on the grounds that asbestos was not fungible in a manner similar to [pharmaceuticals].”⁸⁵ California, however, worked around the heterogeneity among brake pads with respect to their asbestos content by scaling damages accordingly.⁸⁶

Guns, in contrast to pills or even asbestos, differ widely in their physical characteristics and uses. They are not fungible in the strictest sense. What they do share, however, is a tendency not to remain at the scene of homicides. This fact led Judge Weinstein to recognize the appropriateness of market-share liability against handgun manufacturers in *Hamilton v. Accu-Tek*.⁸⁷ Unlike in DES and asbestos cases, the problem with individual gun-manufacturer liability is not that “guns are physically indistinguishable or functionally interchangeable. Instead, guns pose inherent identification problems because they are uniquely likely to be unavailable after injury has occurred.”⁸⁸ As Weinstein put it:

It is the nature of illegal handgun use that the shooter is likely to dispose of the gun so as to minimize the chances of being caught. Depending upon what is available to law enforcement investigators where the gun is not retrieved, it will be possible only in some instances, and then to varying degrees, to narrow the field of possible handgun manufacturers. On much different facts and for different reasons than those in the DES cases, difficulties in

85. Justine S. Hastings & Michael A. Williams, *Market Share Liability: Lessons from New Hampshire v. Exxon Mobil*, 34 J. ENV. L. & LITIG. 219, 239 (2019).

86. *Wheeler v. Raybestos-Manhattan*, 11 Cal. Rptr. 2d 109, 109–10 (Ct. App. 1992); Hastings & Williams, *supra* note 85, at 240 (“Given equal market shares, a defendant that makes pads with 60% asbestos should pay more in damages than a manufacturer that makes pads with 40% asbestos.”).

87. 935 F. Supp. 1307 (E.D.N.Y. 1996).

88. Allen Rostron, *Beyond Market Share Liability: A Theory of Proportional Share Liability for Nonfungible Products*, 52 UCLA L. REV. 151, 186 (2004). Note that Judge Weinstein went further and suggested that, even if a plaintiff could identify the manufacturer, liability might still be imposed on the entire industry if the theory of the case was that the “underlying cause of the injuries is the unchecked growth of the underground handgun market.” *Hamilton*, 935 F. Supp. at 1331.

defendant identification unique to the product and to manufacturer may arise. The New York Court of Appeals might choose to adopt, for reasons of public policy, a theory of collective liability. Most appropriate might be a form of market share liability that provided for exculpation.⁸⁹

On certification of this issue in *Hamilton*, however, the New York Court of Appeals unanimously rejected this approach, focusing their analysis on fungibility.⁹⁰ The court explained that, “[u]nlike DES, guns are not identical, fungible products” and that “it is often possible to identify the caliber and manufacturer of the handgun that caused injury to a particular plaintiff.”⁹¹ Second, the court argued that market share would not correspond to the amount of risk created by the manufacturers’ “widely-varied conduct” in distributing and selling their guns.⁹²

While our statutory proposal is in no way bound to common law principles, similar considerations bear on questions of collective liability. To make manufacturers liable for gun deaths without any regard to their relative contribution to the problem would run counter to our primary goal of changing their behavior. But Judge Weinstein’s rationale and suggestion would not put us in such a position. Rather, we see three reasonable approaches to the “missing gun” problem: (1) adopting a functional definition of fungibility rather than a formalistic one and using market-share liability as in the DES cases, (2) using a different model of collective liability—proportional liability, or (3) employing a variant market-share approach that is more sensitive to risk generation, as in the brake pad cases.

The first approach seems to us too blunt an instrument. Notably, Judge Weinstein applied raw market-share only to handguns. While the case did not call for a broader class of

89. 935 F. Supp. at 1331.

90. *Hamilton v. Beretta U.S.A. Corp.*, 96 N.Y.2d 222, 240–42 (2001).

91. *Id.* at 240–41.

92. *Id.* at 241.

responsible guns from which to measure market share, the similarity among handguns generally in the risks they create would have gone some way toward sculpting the signal generated by compensation. It is important to our proposal, though, that good manufacturer behavior and positive social efforts result in diminished responsibility. The possibility of “exculpation” that Weinstein suggested could be “most appropriate” points us toward a better option.

If pure market share is the wrong measure, we could perhaps ignore it altogether. An alternative is to impose liability for a gun death in proportion to the deaths a manufacturer’s guns have caused in cases where the responsible gun has been identified. In this spirit, Allen Rostron has proposed using ATF gun trace data to apportion liability.⁹³ He explains that the ATF database “provides reasonable estimates of the extent to which different types of guns are used in crimes” and the “representation of a particular model . . . in the trace database can be dramatically different from its market share measured by sales.”⁹⁴ While the recovery numbers are often similar to the relative sales figures, discrepancies—even wide ones—do exist. Higher sales volumes do not always translate into higher gun recoveries.⁹⁵ Likewise, guns with lower sales can account for a disproportionate amount of violent crime. Consistent with this observation, a Maryland report analyzing gun sales and recoveries from 1990 to 1999, found

93. See Rostron, *supra* note 88, at 190 (“Rather than trying to squeeze guns into a theory that does not fit them, the better approach for plaintiffs in cases involving unidentifiable guns is to exploit the fact that an immense body of data provides a better way to allocate liability among gun makers.”).

94. *Id.* at 192–93 (noting that rifles and shotguns “represent more than one half of all guns sold” yet “account for less than one quarter of traced guns”).

95. CHRISTOPHER S. KOPER, CRIME GUN RISK FACTORS: BUYER, SELLER, FIREARM, AND TRANSACTION CHARACTERISTICS ASSOCIATED WITH GUN TRAFFICKING AND CRIMINAL GUN USE, Report to Nat’l Inst. of Just. 37 (2007) (noting that Colt accounted for 8.6% of all sales but only 3.5% of recovery. And Smith & Wesson comprised 17.9% of sales but only 12.4% of recoveries). Note the recovered guns in this report are not limited solely to homicides or suicides. It also includes: attempted murder, aggravated assault, and armed robbery.

that cheaper models “defined as those retailing for \$150 or less” accounted for 6% of sales but accounted for nearly 20% of recovered guns.⁹⁶

Using current trace data alone to establish proportional liability is not without its problems, however.⁹⁷ We have two reasons to prefer another option. First, trace data is often biased and unrepresentative. “Using recovered guns as a basis for estimating the characteristics of all guns used in crime is analogous to using arrestees as a basis for estimating the characteristics of all criminals.”⁹⁸ “The process by which guns are selected for tracing . . . tend[s] to exaggerate the share of guns characterized by putative trafficking indicators.”⁹⁹ In sum, Keck and Wang identify three major biases in trace data: (1) a preference for tracing newer guns, (2) underrepresentation of in-state origin guns, and (3) overrepresentation of certain types of guns, such as assault weapons.¹⁰⁰ Applying proportional liability would skew incentives in the direction of the bias of the trace data. This would be inconsistent with our goal of more accurately attributing costs to precise manufacturers and improving

96. *Id.* at 5–6. Koper’s data further shows that, for example, Davis Industries accounted for 4.3% of all gun sales for the 1990–1999 period but represented 15.3% of all recoveries. *Id.* at 37.

97. *See id.* at 20 (noting that there are biases among police to trace only particular guns and that guns manufactured before 1968 are essentially untraceable because there were no laws in effect requiring dealers to keep records). Additionally, some courts, at least, cite fungibility concerns with even proportional liability. *See, e.g.,* *City of Boston v. Smith & Wesson Corp.*, No. 1999-02590, 2000 Mass. Super. LEXIS 352 (Mass. Super. Ct. Jan. 30, 2002); *District of Columbia v. Beretta U.S.A. Corp.*, No. Civ.A. 0428-00, 2002 WL 31811717 (D.C. Super. Ct. Dec. 16, 2002), *aff’d in part and rev’d in part on other grounds*, 847 A.2d 1127 (D.C. 2004).

98. Phillip J. Cook & Anthony A. Braga, *Comprehensive Firearms Tracing: Strategic and Investigative Uses of New Data on Firearms Markets*, 43 ARIZ. L. REV. 277, 290 (2001).

99. Gary Kleck & Shun-Yung Kevin Wang, *The Myth of Big-Time Gun Trafficking and the Overinterpretation of Gun Tracing Data*, 56 UCLA L. REV. 1233, 1271 (2009); *see also* Collins et al., *supra* note 40, at 99 (noting that trace studies yield inconsistent findings and have inherent bias).

100. Kleck & Wang, *supra* note 99, at 1272–73.

gun safety across the board.

But even if the data could be acquired in a more representative way, it is more complicated than necessary. Where possible, our proposal has opted for simplicity of administration at every turn. Because generating any signal at all to the public and to manufacturers concerning the costs of guns would be a massive improvement, we have consistently low-balled the assessment and degree of liability. Precision is not required, only basic fairness. And so, we would resort to the data that are far easier to collect and to verify: sales data. Using these simple data could be made fairer and to carry a better signal of relative risk with a few modifications.

For this reason, we would instead employ a variant of market-share-based damages, as was done in the asbestos brake pad cases. Here is what we have in mind: For each gun death, there will be an administrative conclusion concerning the set of potentially responsible guns. The findings of medical examiners would be afforded near-conclusive weight in determining this set. Liability would be apportioned by the relative market share within the set of potentially responsible guns.

In addition to the obvious distinguishing characteristics of the evidence, like bullet caliber, the absence of a gun's class characteristics, including intentional microstamps, could remove a manufacturer from this set. We would go even further and establish that a gun manufactured with reliable, manufacturer-level microstamping will exclude that gun from the set of potentially responsible guns *even if the evidence does not exclude the gun as the possible source of violence*.

This collective liability model creates incentives for gun manufacturers to develop additional class characteristics, intentionally identifying marks, and safety features. And it could be taken further yet. We could reduce liability for (or possibly exclude from liability altogether) manufacturers that employ additional class characteristics and safety

features—like smart gun technologies. And for a manufacturer’s very significant enhancements to safety, we could even remove from potential market-share liability guns that have already been manufactured, leaving the manufacturer liable only for deaths positively determined to be caused by its guns.

We realize that market-share apportionment theory generally is the subject of much criticism.¹⁰¹ But the particular structure we advance here, combined with the fact that it is only used when a responsible gun cannot be positively identified, blunts nearly all of them.

2. National Vaccine Act as a Model.

Administrative apportionment of liability is already a proven concept. The National Vaccine Injury Compensation Program (“VICP”)¹⁰² establishes a “no-fault alternative to the traditional tort system” that “provides compensation to people found to be injured by certain vaccines.”¹⁰³ The program was created, in part, to “achieve optimal prevention against adverse reactions to vaccines”¹⁰⁴ and to compensate victims of vaccine-related injury or death.¹⁰⁵ While our

101. *See, e.g.*, Hamilton, 96 N.Y.2d at 241 (“[A] manufacturer’s share of the national handgun market does not necessarily correspond to the amount of risk created by its alleged tortious conduct. No case has applied the market share theory of liability to such varied conduct and wisely so.”); Timothy D. Lytton, *The Complementary Role in Tort Litigation in Regulating the Gun Industry*, in *SUING THE GUN INDUSTRY* 250, 259 (Timothy D. Lytton ed., 2005) (“[M]arket share liability should be applied with caution” because when “[a]ppplied to gun litigation, [it] would eliminate manufacturers’ incentive to keep sales information and would thereby undercut justification for the doctrine based on the complementary role of tort law.”).

102. National Vaccine Childhood Injury Act of 1986, 42 U.S.C. §§ 300aa-1–34 (2012).

103. *About the National Vaccine Injury Compensation Program*, HEALTH RES. & SERVS. ADM., <https://www.hrsa.gov/vaccine-compensation/about/index.html> (last visited Sept. 22, 2019) [hereinafter *VICP*].

104. 42 U.S.C. § 300aa-1 (2012).

105. *Id.* § 300aa-10; *see also VICP, supra* note 103 (noting three objectives including “establish[ing] and maintain[ing] an accessible and efficient forum for individuals found to be injured by certain vaccines”).

proposal has slightly different aims, the VICP provides a feasible framework from which to administer our program.

When vaccines first came into use, people who experienced side effects had little recourse to compensation from manufacturers.¹⁰⁶ As tort law and theories of product liability evolved, victims began suing manufacturers, so much so that the continued availability of certain vaccines relied on single manufacturers.¹⁰⁷ In response, Congress enacted the VICP to help “stabilize the legal environment for manufacturers, [by] allowing them to limit their liability, better anticipate their legal costs, and reduce barriers to research into new vaccines.”

The U.S. Department of Health and Human Services (“DHHS”) operates the VICP. Each covered vaccine dose is taxed \$0.75, which is collected from vaccine manufacturers by the U.S. Department of the Treasury.¹⁰⁸ Manufacturers pay this excise tax based on the number of doses sold, and so liability is apportioned not based on actual harm imposed but on production and sales.¹⁰⁹ Vaccine tax funds are deposited into an interest-bearing trust account, similar to our proposed Gun Safety Fund.¹¹⁰

106. *Vaccine Injury Compensation Programs*, HISTORY OF VACCINES, <https://www.historyofvaccines.org/content/articles/vaccine-injury-compensation-programs> (last visited Sept. 22, 2019).

107. *Id.* (“[O]nly one U.S. company still manufactured the DPT vaccine . . .”).

108. *National Vaccine Injury Compensation Program*, HEALTH RES. & SERVS. ADM., <https://www.in.gov/isdh/files/VICP.pdf> (last visited Sept. 21, 2019). Vaccines administered prior to the start of tax collection in 1988 were compensated by general tax monies allocated by Congress. *Id.*

109. See Pam Belluck & Reed Abelson, *Vaccine Injury Claims Are Few and Far Between*, N.Y. TIMES (June 18, 2019), <https://www.nytimes.com/2019/06/18/health/vaccine-injury-claims.html>; see also *Vaccines*, INTERNAL REV. SERV., <https://taxmap.irs.gov/taxmap2014/pubs/p510-039.htm> (last visited Oct. 2, 2019) (“The tax is \$.75 per dose of each taxable vaccine. The tax per dose on a vaccine that contains more than one taxable vaccine is \$.75 times the number of taxable vaccines.”). Note the tax is collected when the doses are sold, but if used before being sold they are also taxable. *Id.*

110. See August 2019 Report, Vaccine Injury Trust Fund, <ftp://ftp.publicdebt.treas.gov/dfi/tfmb/dfivi0819.pdf> 2–3 (last visited Oct. 5, 2019).

C. Rate-setting

Our proposal requires a number of figures to be set to determine liabilities imposed and subsidies granted. In particular, there must be a fixed liability per gun death, a suicide discount rate, and a subsidy rate. We propose that the legislation direct the CDC to adopt each of these rates by ordinary notice-and-comment rulemaking, with the following further directives.

1. Administrative Rate-setting Process

Foremost among the rates set by the CDC would be the fee paid by a gun manufacturer for a death from one of its guns. Arriving at a perfectly “accurate” rate is not crucial. Our goal is to create a directed signal, one that we will attenuate massively with subsidies. We have suggested \$6 million as a start, which finds support in current administrative practice. For example, the EPA publishes a mortality risk valuation to produce a measurement called the “value of statistical life” (“VSL”).¹¹¹ Using cost-benefit analysis, the EPA calculated a VSL of \$7.4 million per person in 2006, and in 2016 increased it to \$10 million, all within about 20% of figures used by other agencies.¹¹² Richard Thaler has argued such figures are too high and has calculated a VSL at \$1.5 million.¹¹³ While Thaler’s \$1.5 million and the EPA’s \$10 million VSL differ by nearly an order of magnitude, any figure between them would serve the public purposes of our program. In fact, adopting a lower rate than the \$6 million we suggest would not affect the post-subsidy fees paid by gun manufacturers until far into the

111. See ENVTL. PROTECTION AGENCY, <https://www.epa.gov/environmental-economics/mortality-risk-valuation> (last visited May 26, 2019).

112. Dave Merrill, *No One Values Your Life More Than the Federal Government*, BLOOMBERG (Oct. 19, 2017), <https://www.bloomberg.com/graphics/2017-value-of-life/>. The Department of Agriculture calculates a VSL of \$8.9 million and the Food and Drug Administration calculates a figure of \$9.5 million. *Id.*

113. *Id.*

future, when the rate of subsidy has declined substantially.

An additional reason to think that \$6 million is conservative, in the case of this program, is that this figure is a proxy for social harm but excludes all social costs but death. If liability to the Gun Safety Fund included the costs of the roughly 100,000 nonfatal gun injuries each year,¹¹⁴ the total fees charged pre-subsidy would be high enough so that even aberrantly low VSLs used to price lives lost would result in amounts comparable to what we propose here.

2. Suicide Discounting

Our proposal discounts the amount of liability for suicides. Again, this is not because lives lost to suicide are any less valuable but, rather, because a significant portion of suicides by gun would occur by other methods if guns were unavailable. The social cost of guns includes only those gun suicides that would not have been completed by another method. For this reason, our proposal discounts the payment to the liability fund to reflect only the excess suicides caused by guns.¹¹⁵ The empirical determination and resulting discount rate would be set using the same CDC administrative process that sets the per death liability figure.¹¹⁶

Extending the principle of simplicity that animates much of our proposal, one might be tempted not to include suicides at all, especially given that they are voluntary and that it seems intuitive that substitute methods could always be used.¹¹⁷ This would be a mistake. In 2017, fully half of all

114. See *WISQARS*, *supra* note 21.

115. Adjusting for excess deaths for events such as war is common practice when calculating mortality rates. See, e.g., Michael Spagat & Stijn van Weezel, *Half a Million Excess Deaths in Iraq War: Terms and Conditions May Apply*, RES. & POL., Oct.–Dec. 2017, at 1–2.

116. See *supra* Section III.C.1.

117. By voluntary, we mean only that suicide is an action the victim inflicts on themselves, unlike homicides. We realize suicide victims often face mental health and other serious life issues.

suicides were by gun.¹¹⁸ And the evidence is that many of these deaths would not have occurred but for the availability of guns.¹¹⁹ Guns are not just a method but a necessary, causal fact of many suicides.

Research reveals how our intuitions about suicide might fail. First, suicides are generally the result of impulsive action—not long-planned deeds.¹²⁰ “A startling 24 percent” of suicide survivors said the time between making the decision to commit suicide and making the attempt was less than five minutes.¹²¹ Once the trigger is pulled victims cannot change their minds or be lucky enough not to succeed, whereas many other methods, such as drugs, are more forgiving.¹²² Indeed, nine out of ten suicide survivors do not later die by suicide.¹²³

We do not know whether either changes in gun design or new regulations could decrease the attractiveness, utility, or availability of guns for suicide.¹²⁴ Indeed, that very epistemic

118. See *Suicide Statistics*, AM. FOUND. FOR SUICIDE PREVENTION, <https://afsp.org/about-suicide/suicide-statistics/> (last visited Oct. 27, 2019) (noting firearms accounted for 50.6% of all suicides, followed by suffocation, poisoning, and other methods).

119. See Miller et al., *supra* note 20, at 36–40 (finding gun availability is associated with excess suicide death and that suicide rates are twice as high in high-gun ownership states than in low-gun ownership states).

120. Madeline Drexler, *Guns & Suicide: The Hidden Toll*, HARV. PUB. HEALTH (2016), https://www.hsph.harvard.edu/magazine/magazine_article/guns-suicide/ (“Perhaps the biggest fallacy is that suicides are typically long-planned deeds. . . . [E]mpirical evidence suggests that [victims] act in a moment of brief but heightened vulnerability.”).

121. *Id.*

122. See Matthew Miller et al., *Firearms and Suicide in the United States: Is Risk Independent of Underlying Suicidal Behavior?*, 178 AM. J. EPIDEMIOLOGY 946, 951 (2013) (noting that 90% of all suicide attempts by gun are fatal but only 3% of attempts by drugs or cutting are fatal); see also Matthew J. Spittal et al., *Declines in the Lethality of Suicide Attempts Explain the Decline in Suicide Deaths in Australia*, 7 PLOS ONE 1, 3 (2012) (collecting Australian suicide data from 1994 to 2007 in which the lethality rates by method were: guns (74%), hanging (59%), motor vehicle exhaust (45%), and poisoning (6%)).

123. Drexler, *supra* note 120.

124. See, e.g., Jeffrey W. Swanson et al., *Gun Violence, Mental Illness, And Laws That Prohibit Gun Possession: Evidence from Two Florida Counties*, 35

problem is the impetus to reveal the price paid in lost lives. We do know that more guns lead to more deaths by suicide. As some researchers have noted: “If even 1 in 10 of the approximately 22,000 persons who attempted suicide with firearms in 2010 (the 19,932 who died and the approximately 2,000 who survived) substituted drugs or cutting, there would have been approximately 1,900 fewer suicide deaths.”¹²⁵ Pricing the portion of suicides guns cause will create uniform interest and effort in finding ways to achieve even modest mortality reductions, potentially saving thousands of lives.

3. The Gun Subsidy

Perhaps the most counterintuitive part of our proposal is the massive subsidy for gun manufacturers it creates: the Gun Subsidy. Of course, the point is that we are already paying this subsidy, but its amount is hidden and borne entirely by victims of gun violence. Shifting these costs to gun manufacturers would largely eliminate a massive externality of their chosen production. But doing so would make the production of guns for private markets impossible.¹²⁶

For the purposes of this Article, we assume that would be a step too far under the Supreme Court’s decision in *District of Columbia v. Heller*.¹²⁷ That case established an individual right to use and keep guns for defensive purposes, such as self-defense in one’s home.¹²⁸ The Court there took

HEALTH AFF. 1067, 1071–72 (2016) (finding no significant association between suicide risk and legal disqualification, owing to prior mental health adjudication, from gun possession under a Florida law).

125. Miller et al., *supra* note 122, at 951.

126. See *supra* note 24 and accompanying text.

127. 554 U.S. 570, 635 (2008).

128. *Id.* at 595 (“There seems to us no doubt, on the basis of both text and history, that the Second Amendment conferred an individual right to keep and bear arms.”); *id.* at 616 (“It was plainly the understanding in the post-Civil War Congress that the Second Amendment protected an individual right to use arms for self-defense.”).

pains to note that the right it found had limits:

[N]othing in our opinion should be taken to cast doubt on longstanding prohibitions on the possession of firearms by felons and the mentally ill, or laws forbidding the carrying of firearms in sensitive places such as schools and government buildings, or laws imposing conditions and qualifications on the commercial sale of arms.¹²⁹

The Court further wrote that the right did not extend to “dangerous and unusual weapons,”¹³⁰ suggesting, at least hypothetically, that “weapons that are most useful in military service—M-16 rifles and the like—may be banned.”¹³¹

Nothing in the Court’s opinion would bar states or the federal government from taxing weapons like ordinary products, banning particularly dangerous guns, or imposing liability so long as the practical ability to keep a gun for defensive purposes is preserved.¹³² Making the industry pay its costs is not possible, but we propose they should nonetheless contribute to paying the social costs they create.

To accomplish this, we propose that a portion of each liability payment to the Gun Safety Fund be sent back to the manufacturers as an explicit subsidy. This would not be a wholesale refund, and certain stipulations would apply to receive the subsidy. The Gun Subsidy would be administered by the CDC, and manufacturers would be required to apply

129. *Id.* at 626–27.

130. *Id.* at 627.

131. *Id.*

132. Even if the Court identifies some form of a “right to manufacture” Second-Amendment-eligible guns, a virtue of the Gun Subsidy program is that it preserves manufacturing necessary for the core individual right the Court found in *Heller*. Cody Jacobs has reasoned that “the right to sell and manufacture firearms must be part of the core of the Second Amendment right, since it would be impossible for citizens to keep arms for self-defense in the home without the ability to purchase firearms.” Cody Jacobs, *The Second Amendment & Private Law*, 90 S. CAL. L. REV. 945, 989 (2017). Whatever difficulties such a derivative right might pose to the application to guns of a state’s products liability laws, our administrative proposal builds in a solution.

on an annual basis to receive subsidy funds. To be certified to do so, manufacturers would need to show compliance with the test firing and casings shipment requirements. Increased subsidies, grants, and exclusions from liability for older guns could be provided to manufacturers who choose to adopt gun safety technologies, such as microstamping, bullet buttons, and biometric and RFID technologies or who engage in valuable safety-related research and development.¹³³

The Gun Subsidy then achieves two goals: (1) to keep firearm manufacturers as a whole from going out of business, averting a Second Amendment problem, and (2) to shift resources to manufacturers who seek to solve the gun violence problem rather than those who avoid responsibility. Indeed, the large amount of each subsidy leaves ample room for policy nudges that can further direct manufacturers toward publicly beneficial technologies, marketing, and public participation.

4. Hearings and Challenges

A significant virtue of our proposal is that it channels litigation through an administrative process working with relatively fixed figures and narrow issues. Manufacturers and the public will have the full panoply of rights under the APA to challenge the CDC's rulemaking,¹³⁴ rate setting,¹³⁵ and adjudications.¹³⁶ But these challenges would by design

133. These subsidies would be granted in addition to removal from the market-share liability pool. *See supra* Section III.B.1. This also assumes Congress or state governments do not elect to make these requirements mandatory. *See* CAL. PENAL CODE § 31910(b)(7)(A) (West 2012).

134. *See* 5 U.S.C. § 553(c) (2012) (allowing for public comment on rules).

135. The APA also defines the approval or prescription of rates as a rule, which would be challengeable during the notice-and-comment period. 5 U.S.C. § 551(4) (2012).

136. 5 U.S.C. § 554(a) (2012) (detailing the procedures for adjudication). And the regulations themselves could provide for contests over rates to mirror those of bid protests. *See generally* DAVID H. CARPENTER & MOSHE SCHWARTZ, CONG. RESEARCH SERV., R45080, GOVERNMENT CONTRACT BID PROTESTS: ANALYSIS OF LEGAL PROCESSES AND RECENT DEVELOPMENTS (2018) (outlining the bid protest process). Such protests feature efficient timelines for adjudication. For example,

be limited in scope and expense, especially when viewed in light of two alternatives: the private tort system and gunmaker immunity. The first unleashes all the power and problems of the private market for tort representation, class actions, and jury awards. It is notoriously unpredictable and costly.¹³⁷ While the second option, gunmaker immunity, is more predictable, it is not necessarily cheaper, as leaving losses on victims is both morally condemnable and a classic moral hazard.¹³⁸

Full exposure of manufacturers to state tort law, through repeal of the federal Protection of Lawful Commerce in Arms Act (“PLCAA”),¹³⁹ could indeed change manufacturer behavior, both in commerce and in politics, in ways similar to those that animate the Gun Liability Fund proposal. We are concerned, though, that meaningful repeal is politically fraught and that the costs and benefits of private litigation may not be as productive as the swifter, surer signal we propose.¹⁴⁰ For example, private litigation against firearms manufacturers—in a PLCAA-free world—would likely mirror other mass tort cases, which are often rife with delays and backroom settlements that benefit everyone but plaintiffs.¹⁴¹ Our primary goal of changing the political

agencies typically must resolve bid protests within 35 days after one has been filed. 48 C.F.R. § 33.103(g) (2019).

137. See *infra* note 141.

138. See Allen Rostron, *It’s Time to Repeal the Gun Industry’s Exceptional Legal Immunity*, THE CONVERSATION (Dec. 9, 2015, 6:09 AM), <https://theconversation.com/its-time-to-repeal-the-gun-industrys-exceptional-legal-immunity-51950> (describing California’s regret in “bestowing special immunity on gunmakers” when a gunman killed eight people using “a pair of TEC-9 assault pistols, weapons with a notorious reputation for being designed and marketed in ways that appealed to criminals”).

139. See 15 U.S.C. §§ 7901–7903 (2012).

140. See Lytton, *supra* note 101, at 251 (“[T]ort claims against gun manufacturers can complement legislative efforts to regulate the firearms industry . . . [but] the mass tort features of some of the more recent cases threaten to undermine the legitimacy of the whole enterprise.”).

141. See *generally* ELIZABETH C. BURCH, MASS TORT DEALS: BACKROOM BARGAINING IN MULTIDISTRICT LITIGATION 154–57 (2019) (describing systemic

economy surrounding the gun crisis is best served by liability that follows a gun death with a degree of certainty and regularity approaching taxation, rather than with lengthy rounds of bargaining, jockeying for representation, and controversial judgments concerning legal responsibility and traditional tort principles.

Moreover, if the tort system were able to extract compensation for even a portion of the deaths owing to guns, the industry would not survive.¹⁴² Ordinarily that would be a welcome result, as industries that are more costly than beneficial generally should not exist. Many indeed would welcome that result in this case. But the very fact that non-survival is a likely consequence of even partial exposure to tort law makes non-sporadic and systematic use of tort an unlikely solution in the current political climate.

Our administrative system, in contrast, would be swifter and surer, without giving rise to existential political battles. Once a gun death is either reported to the CDC or discovered by the CDC, the CDC will gather evidence, including reports from cooperating coroners, medical examiners, and law enforcement. If the evidence does not support a conclusion that the shooting was in self-defense or a valid act of law enforcement, it will then determine the set of potentially responsible guns and the corresponding set of potentially responsible manufacturers. The CDC will send those manufacturers notices of liability, where the portion of the per-death liability they bear depends on the relative market share of their guns that fall within the set. The notice shall indicate the total amount of liability, the amount that will be subsidized by the Gun Subsidy, and the total amount due after subsidy.

Manufacturers may choose to contest the CDC's determination or simply to pay. In the former case, there are

issues in mass tort cases including delays in payable claims, confusion over denied claims, and lack of "meaningful access to justice").

142. See *supra* note 24 and accompanying text.

various options for adjudication, and we have no firm view of which would be best. The statute could provide that the CDC would hold a formal adjudication, initially before an administrative law judge (“ALJ”). Arbitration or mediation could also prove to be viable here, because they would reduce expenses to all parties.¹⁴³ The General Accountability Office (“GAO”) already has experience advising parties on likely outcomes for other types of claims, which has the effect of promoting settlement.¹⁴⁴

The statute could also establish multiple fora to challenge enforcement decisions, similar to the procedures used to resolve bid protests.¹⁴⁵ Decisions could first be challenged directly in the CDC or in the GAO. The CDC would be required to resolve these challenges within 35 days of receipt.¹⁴⁶ Manufacturers would then have ten days to file a challenge with the GAO, which would then review the CDC’s decision within 100 days.¹⁴⁷ The decisions of the Agency and of the GAO, as with decisions concerning bid protests, would not be binding. Therefore, manufacturers dissatisfied with a GAO decision could file suit in the Court of Federal Claims (“COFC”) which would render a legally binding decision (at least in terms of findings of fact), reviewable by an Article III court.¹⁴⁸ Unlike the bid protest

143. The Government Accountability Office, for instance, offers alternative dispute resolution for bid protests in contract disputes. The Department of the Navy reports that ADR resulted in a \$3 million savings for fiscal years 2001–04 due to avoiding costs for travel, depositions, experts, and discovery. See ACQUISITION ADR IN THE DON, <https://www.secnv.navy.mil/ADR/Pages/acquisitionadr.aspx> (last visited Feb. 9, 2019).

144. *Id.*

145. See generally CARPENTER & SCHWARTZ, *supra* note 136 (outlining the bid protest process).

146. 48 C.F.R. § 33.103(g) (1997).

147. *Id.* § 33.104(c), (f).

148. Cases from the COFC would be reviewed by the Federal Circuit just like VICP claims. See 42 U.S.C. § 300aa-12f (2000). Note that COFC is an Article I court and must still maintain sufficient adjunct status to Article III courts for constitutional reasons. See *Commodity Futures Trading Comm’n v. Schor*, 478

process, we would suggest that when filing a challenge with the COFC, manufacturers would be required to pay a filing fee to cover court costs. Additionally, if the manufacturer loses, it would compensate the CDC and the GAO for the time and resources expended in making their decisions.¹⁴⁹

We take no strong view on the best provision for enforcement procedures. The key observation is that the Agency's role will be circumscribed and predictable. It will operate under ordinary rulemaking and adjudication procedures. And the potential set of contested issues will be small.

D. *The Gun Safety Fund*

By far the most important use of the monies paid into the Gun Safety Fund is the fact that they are publicly lost to the manufacturers. It is the social-good aligning function of the Fund that justifies its existence. Any uses of the Fund resources that do not themselves create bad consequences, e.g. rent-seekers, would serve that goal. That said, an opportunity would exist to direct money toward the amelioration of the very social losses that occasion manufacturers' payments.

Using funds collected from manufacturers of harmful products is not uncharted territory. In fact, three such funds exist that could serve as models for the use of the gun fund. As discussed in Section III.A., one good use of the fund would be to cover the costs of implementing the reporting system. This portion of the fund could be allocated like the EPA Superfund.¹⁵⁰ The EPA Superfund was established to reimburse the government for the clean-up of contamination and oil spills by the chemical and petroleum industries. Likewise, the Gun Safety Fund could reimburse law

U.S. 833, 834–35 (1986).

149. This would operate similar to appeals from the Patent Trial and Trademark Appeal Board. 35 U.S.C. § 145 (2012).

150. *See generally* 42 U.S.C. § 9601–9675 (2018).

enforcement, medical examiners, and other agencies that participate in investigating shootings and participating with the CDC in establishing responsible guns. It could also cover procurement costs of ballistic data imaging equipment and pay for ALJs or special masters during adjudication. The Gun Safety Fund and Gun Subsidy will be self-funding.

Second, the Gun Safety Fund could, in some circumstances, compensate victims of gun violence. This could work similarly to the National Vaccine Injury Compensation Program established under the National Vaccine Injury Act of 1986 (“Vaccine Act”).¹⁵¹ Under the Vaccine Act, claimants can file petitions for compensation for injuries and death caused from vaccines to the Court of Federal Claims.¹⁵² The Vaccine Act sets monetary caps and uses an injury table.¹⁵³ The Gun Safety Fund would not fully compensate victims in the manner of a wrongful death suit or even the Vaccine Act, but for families affected by gun violence it could assist with lost income and funeral expenses.¹⁵⁴ There exist models in some states, such as Florida, Iowa, and New York, for such compensation plans.¹⁵⁵

Another possibility is to pass on a portion of the liability

151. *See generally* 42 U.S.C. §§ 300aa-34(a)-(b) (2000).

152. *Id.* § 300aa-11(a)(1).

153. *See* Vaccine Injury Table, 42 C.F.R. § 100.3 (2019) (listing vaccines, illnesses, and time periods for first symptom or manifestation onset after vaccine administration); *see also* 42 U.S.C. § 300aa-15(b) (2000) (setting the maximum compensation rate at \$30,000 for vaccines administered before Oct. 1, 1988).

154. *See* Michelle Singletary, *The Enormous Economic Cost of Gun Violence*, WASH. POST (Feb. 22, 2018, 7:26 AM), https://www.washingtonpost.com/news/get-there/wp/2018/02/22/the-enormous-economic-cost-of-gun-violence/?utm_term=.155cf47c8702 (“Researchers conservatively estimate that gun violence costs the American economy . . . \$8.6 billion in direct expenses such as for emergency and medical care.”).

155. *See generally* Elizabeth Van Brocklin, *Gunshot Survivors May be Eligible for Crime Victim Compensation. Here’s Everything You Need to Know to Apply*, THE TRACE (Apr. 11, 2018), <https://www.thetrace.org/2018/04/gunshot-survivors-crime-victims-compensation-how-to/>.

payments to the states and allow them to decide how to spend the money. As with tobacco settlement proceeds, states could then direct the money to state and local programs.¹⁵⁶ Many states decided to use their tobacco money to fund smoking-cessation programs and to provide health care. Somewhat perversely, North Carolina and South Carolina “used some of their funds to support tobacco farmers and producers.”¹⁵⁷ We would recommend restricting the use of funds to combatting or compensating for the harms caused by guns, especially in light of the fact that gun manufacturers would already be receiving a subsidy as described above.

156. *See 15 Years Later, Where Did All the Cigarette Money Go?*, NPR (Oct. 13, 2013, 5:52 PM), <https://www.npr.org/2013/10/13/233449505/15-years-later-where-did-all-the-cigarette-money-go>.

157. Clyde Hughes, *20 Years After Settlement, Billion in Anti-Tobacco Funds Spent Elsewhere*, UPI (Dec. 3, 2018, 2:45 AM), <https://www.upi.com/20-years-after-settlement-billions-in-anti-tobacco-funds-spent-elsewhere/8971543517818/>.

CONCLUSION

A civilization cannot long exist that fails to respond deliberately to urgent social problems. It is a damning indictment of us, and a challenge to our existence as a great democracy, that we did not respond to the mass-murder of twenty first-grade students and six staff members at an elementary school. And the murders have continued. Democracy is hard work, and ours must find a way to ensure that social problems are perceived, that deliberation on them is had, and that efforts to solve them are implemented. The process of perceiving, considering, and responding, after all, is what distinguishes the actions of an intelligent being from the mechanics of a clod of earth.

The proposal here is optimistic. It posits that we can be better collectively if only our decision-making is organized in such a way that we engage with the proper facts and stop treating others as valueless. Perhaps our worst instincts resist the moderating influence of political structures engineered to bring out our best. But it is worth trying to become better.