

No. 23-55805

**IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

VIRGINIA DUNCAN, ET AL.,
Plaintiffs and Appellees,

V.

ROB BONTA, IN HIS OFFICIAL CAPACITY AS
ATTORNEY GENERAL OF THE STATE OF CALIFORNIA,
Defendant and Appellant.

**On Appeal from the United States District Court
for the Southern District of California**
No. 3:17-cv-01017-BEN-JLB
The Honorable Roger T. Benitez, Judge

**APPELLANT’S EXCERPTS OF RECORD
VOLUME 8 of 17**

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9 IN THE UNITED STATES DISTRICT COURT
10 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
11 CIVIL DIVISION
12

13 **VIRGINIA DUNCAN, RICHARD**
14 **LEWIS, PATRICK LOVETTE,**
15 **DAVID MARGUGLIO,**
16 **CHRISTOPHER WADDELL, and**
CALIFORNIA RIFLE & PISTOL
ASSOCIATION, INC., a California
corporation,

17 Plaintiffs,

18 v.

19 **ROB BONTA, in his official capacity as**
20 **Attorney General of the State of**
21 **California; and DOES 1-10,**

22 Defendants.
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Case No. 17-cv-1017-BEN-JLB

SUPPLEMENTAL
DECLARATION OF JOHN J.
DONOHUE

Courtroom: 5A
Judge: Hon. Roger T. Benitez
Action Filed: May 17, 2017

1 **SUPPLEMENTAL DECLARATION OF JOHN J. DONOHUE**

2 I, John J. Donohue, declare under penalty of perjury that the following is true
3 and correct:

4 1. I previously submitted a declaration in support of the Attorney
5 General's Opposition to Plaintiffs' Motion for Preliminary, which was filed with
6 this Court on June 5, 2017 ("2017 Declaration" hereinafter), and an expert rebuttal
7 report filed with this Court on April 9, 2018 ("2018 Report, hereinafter").¹ I make
8 this supplemental declaration in support of Defendants' Supplemental Brief in
9 Response to the Court's Order of September 26, 2022.

10 2. This declaration is based on my own personal knowledge and
11 experience, and if I am called to testify as a witness, I could and would testify
12 competently to the truth of the matters discussed in this declaration.

13 3. I have been retained by the California Department of Justice to render
14 expert opinions in this case. I am being compensated at a rate of \$850 per hour.

15 **BACKGROUND AND QUALIFICATIONS**

16 4. I am the C. Wendell and Edith M. Carlsmith Professor of Law at
17 Stanford Law School. A true and correct copy of my current curriculum vitae is
18 attached as **Exhibit A** to this declaration.

19 5. Since submitting my 2017 Declaration in this matter, I have provided
20 additional testimony as an expert witness. I filed an expert declaration in *Chambers*
21 *v. City of Boulder*, Case No. 2018CV30581, in the District Court of Boulder
22 County in September 2020, involving a challenge to the City of Boulder's
23 restrictions on assault weapons.

24 6. At the request of the United States Department of Justice, I filed an
25 expert declaration in July 2020 and testified at trial in April 2021 in a case arising
26

27 _____
28 ¹ My 2018 Report was marked as Exhibit 2 to the Declaration of John Echeverria and filed in this matter at Docket Number 53-4.

1 out of the Sutherland Springs mass shooting that killed 26 in November 2017:
2 *Holcombe, et al. v. United States*, Case No. 5:18-CV-555-XR (W.D. Tex.). On
3 December 9, 2020, I submitted an expert report on behalf of the City of San
4 Francisco in a wrongful conviction lawsuit, *Caldwell v. City of San Francisco*, Case
5 No. 12-cv-1892 DMR, United States District Court, Northern District of California,
6 Oakland Division.

7 7. I was the main author of the Brief of Amici Curiae Social Scientists
8 and Public Health Researchers in Support of Respondents, which was submitted to
9 the United States Supreme Court on September 21, 2021 in *New York State Rifle &*
10 *Pistol Association v. Bruen*, Case No. 20-843.

11 8. On January 24, 2022, I submitted an expert declaration in *Worth v.*
12 *Harrington*, a lawsuit in the District of Minnesota (Case No. 21-cv-1348)
13 challenging how Minnesota regulates the concealed carry of firearms by individuals
14 aged 18 to 20. I was deposed in this case on March 28, 2022.

15 9. On May 31, 2022, I submitted an expert declaration in *Meyer v. Raoul*,
16 a lawsuit in the Southern District of Illinois (Case No. 21-cv-518-SMY)
17 challenging how Illinois regulates the concealed carry of firearms by individuals
18 aged 18 to 20.

19 10. On September 14, 2022, I submitted an expert declaration in
20 *Viramontes v. The County of Cook*, a lawsuit in the Northern District of Illinois
21 (Case No. 1:21-cv-04595) challenging the Blair Holt Assault Weapons Ban enacted
22 by Cook County, Illinois in 2006.

23 11. On October 13, 2022, I submitted an expert declaration in *Miller v.*
24 *Bonta*, a lawsuit in the Southern District of California (Case No. 3:19-cv-01537-
25 BEN-JLB) challenging how California regulates the assault weapons.
26
27
28

OPINIONS

I. THE GROWING PROBLEM OF PUBLIC MASS SHOOTING IN THE UNITED STATES

12. I have been asked by the California Department of Justice to update the opinions expressed in my 2017 Declaration with currently available information. I continue to stand by the opinions and conclusions expressed in my 2017 Declaration, as well as those in my 2018 Report.

13. At the time of my 2017 Declaration, I stressed that the problem of active shooter incidents, which had been on the rise, would only be getting worse if significant action was not taken to address it. Sadly, my predictions based on the growing lethality of weaponry in the United States have been fulfilled. As bad as the active shooter problem looked in 2018, it is considerably worse today, as seen in the same FBI active shooter data now extended through 2021 in Figure 1. While 2017 was the peak of active shooter incidents at 30 up until that point, last year the number more than doubled to 61.

14. The ominous and steep upward trend in the FBI data charting the growth in active shooter incidents is unmistakable. Not surprisingly, the number of mass shootings clearly is higher following the termination of the federal assault weapons ban in 2004. In that year, the FBI counted 4 active shooter incidents in which 14 died. Since then, the mayhem has accelerated so much that in 2021 the FBI counted 61 active shooter incidents killing 103.²

² FBI, “Active Shooter Incidents in the United States in 2021,” <https://www.fbi.gov/file-repository/active-shooter-incidents-in-the-us-2021-052422.pdf/view>.

Figure 1



15. Since my 2017 Declaration, the United States has experienced numerous, devastating mass shootings, including the March 22, 2021 shooting at King Soopers supermarket in Boulder, Colorado (10 killed); the May 26, 2021 shooting in San Jose, California (9 killed); the May 14, 2022 shooting in Buffalo, New York (10 killed); the May 24, 2022 shooting at Robb Elementary in Uvalde, Texas (19 children and 2 adults killed); and the July 4, 2022 shooting at a Fourth of July parade in Highland Park, Illinois (7 killed). These figures do not reflect the countless people injured, both physically and emotionally, and the devastation inflicted on the communities in which they occurred.

16. Tellingly, the recent 18-year-old Buffalo shooter, who killed 10 using the same weapon as the Sandy Hook shooter—a Bushmaster XM-15 semiautomatic rifle with a high-capacity magazine—had written, “I am well aware that my actions

1 will effectively ruin my life. If I'm not killed during the attack, I will go to prison
2 for an inevitable life sentence.”³

3 17. Both the February 2018 mass killing at Parkland High School and the
4 May 2022 mass killing in Uvalde, Texas – where police delayed entering the school
5 during a shooting – vividly underscored how police responses to violence are
6 impaired when the officers are confronted by a shooter armed with an assault rifle
7 and high-capacity magazines.

8 18. Decades of research has shown that there is a considerable variation in
9 the survivability of assault depending on the instrumentality employed. A seminal
10 1972 study by UC Berkeley Professor Frank Zimring found “that the outcome of
11 gun assaults had a large random element, and that the power of the firearm was one
12 systematic factor influencing the likelihood that an individual with a gunshot injury
13 would survive.”⁴

14 19. A meticulous study by Anthony Braga and Phil Cook in 2018 has
15 powerfully confirmed this instrumentality effect. Braga and Cook examined the
16 files of 511 gunshot victims kept by the Boston Police Department and found that
17 survivability from gunshot wounds varied considerably based on attributes of the
18 weapon and ammunition that generated the wound. Specifically, the death rate
19 from handgun assault injuries increased substantially as the caliber of the firearm
20 increased—even though the caliber was not correlated with observable indicators of
21 the intent and determination to kill by the shooter. The shooter's use of a medium

22
23 ³ Ashley Parker, Tyler Pager, and Colby Itkowitz, [“From Sandy Hook to Buffalo and Uvalde: Ten years of failure on gun control,”](#) *Washington Post*, May
24 22, 2022; Jesse McKinley, Jonah E. Bromwich, Andy Newman and Chelsia Rose
25 Marcius, [“Buffalo Suspect Planned Attack for Months, Online Posts Reveal,”](#) *The*
26 *New York Times*, May 16, 2022; Craig Whitlock, David Willman, and Alex Horton,
27 [“Massacre Suspect Said He Modified Bushmaster Rifle to Hold More Ammunition,”](#) *Washington Post*, May 15, 2022.

28 ⁴ The description of the Zimring study comes from Braga and Cook (2018),
infra, note 5.

1 caliber handgun (.38, .380, and 9 mm) more than doubled the odds that the
2 wounded victim would die compared to small caliber handguns (.22, .25, and .32).
3 Large caliber handguns (.357 magnum, or greater) more than doubled the odds of
4 death compared to medium caliber handguns.

5 20. The authors conclude that:

6 The results here support the view that the intrinsic power and lethality of
7 the weapon had a direct effect on the likelihood that a victim of a
8 criminal shooting died. For Boston, in the period studied here, simply
9 replacing larger-caliber guns with small-caliber guns with no change in
10 location or number of wounds would have reduced the gun homicide rate
by 39.5 percent. It is plausible that larger reductions would be associated
with replacing all types of guns with knives or clubs (p.8, Braga and
Cook 2018).⁵

11 21. Of course, the conclusion of the Braga and Cook study—that
12 switching to less deadly firearm options could reduce firearm deaths—applies
13 directly to bans on assault weapons and high-capacity magazines. The greater the
14 lethality of the weapon, the more killed and injured in active shooter incidents.
15 This was clearly illustrated in a study for the *Journal of the American Medical*
16 *Association* that examined deaths and injuries documented in the FBI Active
17 Shooter Database from 2000-2017.⁶ The authors found that deaths and injuries
18 were substantially higher for the 61 active shooter incidents using a semiautomatic
19 rifle versus the 187 episodes using some other firearm. Specifically, in the
20 incidents in which the shooter employed a semi-automatic rifle the average number
21 killed or wounded was 9.72 versus only 5.47 killed or wounded when other
22 firearms were used. (Note that the authors excluded the horrific Las Vegas

23
24 ⁵ Anthony A. Braga and Philip J. Cook, “The Association of Firearm Caliber
25 with Likelihood of Death from Gunshot Injury in Criminal Assaults,” *JAMA*
Network Open. 2018; 1(3):e180833. doi:10.1001/jamanetworkopen.2018.0833,
26 <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2688536>.

27 ⁶ Elzerie de Jager, et al., “Lethality of Civilian Active Shooter Incidents With
28 and Without Semiautomatic Rifles in the United States,” *JAMA*.
2018;320(10):1034-1035. doi:10.1001/jama.2018.11009,
<https://jamanetwork.com/journals/jama/fullarticle/2702134>.

1 shooting from the numbers above, since that case was so extreme, with 60 killed
2 and almost 500 wounded—all with semi-automatic rifles.)

3 22. This instrumentality effect was further demonstrated in an article I
4 authored with Phil Cook since my 2017 Declaration, demonstrating that the federal
5 assault weapons ban—which banned both new semi-automatic assault rifles with
6 certain features that made them attractive to mass shooters *and* new ammunition
7 magazines that could hold more than ten rounds—suppressed deaths in public mass
8 shootings.⁷ Figure 2 below shows that the deaths that occurred from these public
9 mass shootings over the period from 1985-2019 in five year increments. The
10 Figure highlights that by the second half of the ten-year existence of the federal
11 assault weapons ban (1999-2004), fatalities from public mass shootings using
12 banned weaponry had virtually been cut in half (falling from 30 down to 16).
13 Conversely, there was no decline in public mass shooting deaths over this period
14 with non-banned weaponry.

15 23. After the federal ban lapsed in 2004, the deaths from public mass
16 shootings using the previously banned weaponry rose sharply: rising from 16 in the
17 last five years of the federal ban to 271 in the five-year span from 2015-2019—with
18 the latter figure 17 times as high as the former. Meanwhile, there was relatively
19 little movement in public mass shooting deaths using the less-lethal weaponry
20 (neither an assault weapon nor a high-capacity magazine). Indeed, as the Figure 2
21 illustrates, there was roughly the same number of deaths from less lethal weaponry
22 in the five-years prior to the federal assault weapons ban (1990-1994) as there was
23 from 2015-2019—specifically 83 in the pre-ban period and 81 in the final period.

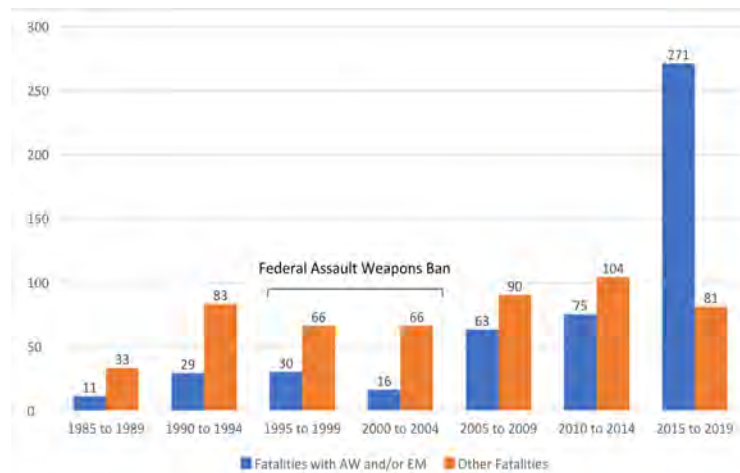
24 24. Figure 2 also highlights that while there was a roughly comparable
25 *number of incidents* of public mass shootings that used either the most lethal
26

27 ⁷ Phil Cook and John Donohue, “Regulating Assault Weapons and Large-
28 Capacity Magazines for Ammunition,” *JAMA*. 2022; 328(12):1191-1192,
<https://jamanetwork.com/journals/jama/fullarticle/2796675>.

(previously federally banned) weaponry or less lethal firearms not subject to the federal ban, the incidents involving assault weapons and/or high-capacity magazines were far more lethal. Specifically, the 18 public mass shootings conducted with the most lethal weapons killed 271 (roughly 15 deaths per episode), while the 14 public mass shootings with the less lethal firearms killed 81 (about 5.8 deaths per episode).

Figure 2

Victim Counts for Mass Public Shootings in the United States, 1985 - 2019
Using Assault Weapons and/or High-Capacity Magazines versus Other Firearms



in the last five year period, the 18 incidents with the more lethal weapons were far more deadly than the 14 incidents with the less lethal firearms.

25. One of the unfortunate consequences of the continuing advances in the lethality and power of modern firearms is that without appropriate government action the dangers posed by civilian weaponry will continue to outpace any legitimate crime-reducing benefit that firearms might provide. The lesson of the November 2017 massacre at the Sutherland Springs Baptist Church in Texas highlights the growing dangers. The killer in that case used an AR-15 that was modified to include a laser scope and features that could allow large capacity magazines to be more quickly reloaded to maintain a relentless barrage. The killer

1 stood outside the church and fired straight through the walls of the church as he
2 strafed along at just above the top of the levels of the church pews, allowing him to
3 shoot 254 shots from **outside** the church in a matter of minutes on his way to killing
4 26 men, women, and children. No portable weapon in civilian hands at the time of
5 the adoption of the Second Amendment could possibly generate this degree of
6 destruction. The evident social harms will only grow as gun technology increases
7 firearm lethality.

8 26. My 2017 Declaration explained that the increase in gun massacre
9 incidents and fatalities closely tracks the growth in the U.S. of assault weapons
10 sales, the removal of potential liability on the part of gun merchants, and intense
11 advertising of the militarized upgrades, from high-capacity magazines to flash
12 suppressors and other tactical accessories, which has only continued since my
13 declaration. Research published following the mass shootings in Buffalo, New
14 York and Uvalde, Texas killing a total of 31 in May 2022 further confirms these
15 findings.⁸ Specifically, an analysis of mass shooting data by a group of injury
16 epidemiologists and trauma surgeons reached the following conclusion:

17 We calculated that the risk of a person in the U.S. dying in a mass
18 shooting was 70% lower during the period in which the assault weapons
19 ban was active. The proportion of overall gun homicides resulting from
20 mass shootings was also down, with nine fewer mass-shooting-related
21 fatalities per 10,000 shooting deaths.⁹

22 **II. INTERNATIONAL EFFORTS TO ADDRESS ASSAULT WEAPONS AND MASS** 23 **SHOOTINGS**

24 27. I noted in my 2017 Declaration that Australia had banned assault
25 weapons back in 1996. In 2019, New Zealand followed the Australian lead after a

26 ⁸ Klein, Michael, 2022, Did the assault weapons ban of 1994 bring down
27 mass shootings? Here's what the data tells us, *The Conversation*, June 8, 2022,
<https://theconversation.com/did-the-assault-weapons-ban-of-1994-bring-down-mass-shootings-heres-what-the-data-tells-us-184430>.

28 ⁹ *Id.*

1 horrific mass murder with an assault rifle,¹⁰ and Canada just announced in May
 2 2022 its plans for a similar gun buyback for its current stock of assault weapons
 3 after its own horrendous mass shooting prompted the enactment of a ban on assault
 4 weapons in 2020.¹¹ Tellingly, in announcing an array of stringent gun safety
 5 measures, Canadian Prime Minister Justin Trudeau showed that he has learned from
 6 the lamentable experience of mass killings in the United States: “We need only look
 7 south of the border to know that if we do not take action, firmly and rapidly, it gets
 8 worse and worse and more difficult to counter.”

9 **III. THREATS TO CIVIL PEACE AND TO DEMOCRACY ITSELF**

10 28. There is also a larger issue at stake with the proliferation of assault
 11 weapons and high-capacity magazines: their capacity to facilitate political violence
 12 and threaten American democracy. The concern is heightened by the sharp rise in
 13 the percentage of Americans who think that violence against the government could
 14 be appropriate, which doubled from 16 percent in 2010 to 34 percent in 2021 (over
 15 40 percent of Republicans and independents and 23 percent of Democrats agreed).¹²

17 ¹⁰ Associated Press, “New Zealanders hand in 50,000 guns after assault
 18 weapon ban,” Dec. 21, 2019, <https://www.nbcnews.com/news/world/new-zealanders-hand-50-000-guns-after-assault-weapon-ban-n1106081> (“The
 19 government banned the most lethal types of semi-automatic weapons less than a
 20 month after a lone gunman in March [2019] killed 51 worshippers at two
 21 Christchurch mosques. The police then launched a six-month program to buy the
 22 newly banned weapons from owners.”).

23 ¹¹ The Prime Minister also announced that magazine size would be restricted
 24 to five rounds in long guns. Justin Trudeau, “Further strengthening our gun control
 25 laws,” (May 30, 2022), <https://pm.gc.ca/en/news/news-releases/2022/05/30/further-strengthening-our-gun-control-laws>; Amanda Coletta, “Canada vows to ‘freeze’
 26 handgun sales, buy back assault-style weapons,” *The Washington Post* (May 30,
 27 2022)(“[T]he government banned 1,500 makes and models of “military-style
 28 assault weapons” in 2020, after a gunman posing as a police officer charged across
 rural Nova Scotia, killing 22 people, including a Royal Canadian Mounted Police
 officer, in the country’s deadliest mass shooting.”).

¹² Meryl Kornfield and Mariana Alfaro, “1 in 3 Americans say violence
 against government can be justified, citing fears of political schism, pandemic,”
Washington Post, January 1, 2022,
<https://www.washingtonpost.com/politics/2022/01/01/1-3-americans-say-violence-against-government-can-be-justified-citing-fears-political-schism-pandemic/>.

29. The extent and severity of these concerns have been clarified by the events surrounding the “Stop the Steal” rally of January 6, 2021, which I have written elsewhere has provided new insight into the dangers of such weaponry and the utter folly of many of the claims of the gun lobby:

Consider the gun lobby protestation that “Gun control simply doesn’t work.” Imagine for a moment what that rally would have looked like in Houston, Texas, or some other “gun-friendly” jurisdiction. Without Washington, DC’s profoundly wise firearm restrictions [including its assault weapons ban], a very large number of the rioters would have been marching on the U.S. Capitol armed with assault rifles equipped with high-capacity magazines and other highly lethal weapons. When the mob storming the Capitol spun out of control, guns would have been flashing everywhere, and it is not hard to imagine that bullets would have been cutting down scores or even hundreds of victims. Those who remember the 1970 Kent State massacre understand that once the bullets start flying in a riotous atmosphere, the consequences quickly turn lethal and dire....

The pernicious Proud Boys leader Enrique Tarrio [now under indictment for seditious conspiracy],¹³ who had planned to address the crowd before the U.S. Capitol riot, was thankfully taken off the streets two days earlier when he was arrested for tearing down a Black Lives Matter banner on a Washington, DC, church and lighting it on fire. At the time of his arrest, Tarrio was carrying two high-capacity magazines festooned with the Proud Boys logo. Washington, DC’s wise prohibition on such unnecessary accoutrements to lethal weaponry managed to keep one conspiring criminal away from the U.S. Capitol on January 6, and thousands of others, knowing of Washington, DC’s strict gun laws, were dissuaded from carrying weapons because of these laws.

[Moreover, the claim that assault weapons could protect American democracy is fanciful.] First, the thought that private gun owners could stand up to the modern U.S. military if it backed a tyrannical federal government is absurd. There is no circumstance in which private citizens in modern America could promote democracy by using assault weapons to kill government employees to show their disapproval of what they perceive to be a “tyrannical” government. Second, the idea that gun owners can be expected to *oppose* rather than support the tyrant was dealt a fatal blow by the violence at the U.S. Capitol.¹⁴

¹³ Spencer Hsu, “Proud Boys leader Tarrio, 4 top lieutenants charged with seditious conspiracy in widening Jan 6 case”, *Washington Post*, June 6, 2022, <https://www.washingtonpost.com/dc-md-va/2022/06/06/tarrio-proud-boys-seditious-conspiracy/>.

¹⁴ John Donohue, “Will the Supreme Court Avoid Further Self-Inflicted Second Amendment Wounds?” Brennan Center for Justice (June 2021), https://www.brennancenter.org/sites/default/files/2021-06/Donohue_final.pdf.

1 **CONCLUSION**

2 30. As discussed in my 2017 Declaration, the problem of mass shootings
3 in the United States is growing worse and is exacerbated by the ready availability of
4 assault weapons and high-capacity magazines. These weapons are far more likely
5 to be used for criminal purposes and to be employed in an effort to thwart American
6 democracy than to protect the Republic. Additional information gathered since my
7 declaration only serves to reinforce those opinions.

8 Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the
9 laws of the United States of America that the foregoing is true and correct.

10 Executed on November 8, 2022, at Stanford, California.

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13 _____
14 John J. Donohue III
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EXHIBIT A

JOHN J. DONOHUE III

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Stanford, CA 94305

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E-mail: jjd@stanford.edu

Web pages:

http://works.bepress.com/john_donohue/

<https://law.stanford.edu/directory/john-j-donohue-iii/>

EMPLOYMENT

Full-time Positions

- Stanford Law School, C. Wendell and Edith M. Carlsmith Professor of Law, September 2010 to the present.
- Yale Law School, Leighton Homer Surbeck Professor of Law, July 2004 to August 2010.
- Stanford Law School, Professor of Law, September 1995 to June 2004.
 - William H. Neukom Professor of Law, February 2002 – June 2004.
 - John A. Wilson Distinguished Faculty Scholar, March 1997 – January 2002.
 - Academic Associate Dean for Research, since July 2001 – July 2003.
 - Stanford University Fellow, September 2001 – May 2003.
- Northwestern University School of Law:
 - Class of 1967 James B. Haddad Professor of Law, September 1994-August 1995
 - Harry B. Reese Teaching Professor, 1994-1995
 - Professor of Law, May 1991-September 1994
 - Associate Professor, May 1989-May 1991
 - Assistant Professor, September 1986-May 1989.
- Research Fellow, American Bar Foundation, September 1986-August 1995.
- Associate Attorney, Covington & Burling, Washington, D.C., October 1978-July 1981 (including last six months as Attorney, Neighborhood Legal Services)
- Law Clerk to Chief Justice T. Emmet Clarie, U.S. District Court, Hartford, Connecticut, September 1977-August 1978.

Temporary Appointments

- Affiliated Research Professor, American Bar Foundation, September 2020 – August 2025.
- Visiting Professor, Tel Aviv University School of Law, May 2022.
- Lecturer on the Economics of Crime, Bogota Summer School in Economics, Universidad del Rosario, Bogota, Colombia, June 2020.
- Visiting Professor, Bocconi University, Milan, Italy, October- November 2012, April 2014, and June 2015.
- 2011 Faculty Scholar in Residence, University of Denver Sturm College of Law, April 21-22, 2011.

- Visiting Fellow, The Milton Friedman Institute for Research in Economics, University of Chicago, October 2009.
- Schmidheiny Visiting Professor of Law and Economics, St. Gallen University, November – December, 2007.
- Visiting Lecturer in Law and Economics, Gerzensee Study Center, Switzerland, June 2007.
- Visiting Professor, Tel Aviv University School of Law, May 2007.
- Herbert Smith Visitor to the Law Faculty, University of Cambridge, England, February 2006.
- Visiting Professor, Harvard Law School, January 2003.
- Fellow, Center for Advanced Studies in the Behavioral Sciences, Stanford, California, Academic year 2000-01.
- Visiting Professor, Yale Law School, Fall, 1999.
- Professor, Center for the Study of American Law in China, Renmin University Law School, Beijing, July 1998.
- Visiting Professor of Law and Economics, University of Virginia, January 1997.
- Lecturer, Toin University School of Law, Yokohama, Japan, May-June 1996.
- Cornell Law School, Distinguished Visiting Fellow in Law and Economics, April 8-12, 1996 and September 25-29, 2000
- Visiting Professor, University of Chicago Law School, January 1992-June 1992.
- Visiting Professor of Law and Economics, University of Virginia Law School, January 1990-May 1990.
- Fellow, Yale Law School Program in Civil Liability, July 1985-August 1986.
- Private Practice (part-time), New Haven, Connecticut, September 1981-August 1986.
- Instructor in Economics, Yale College, September 1983-August 1985.
- Summer Associate, Donovan Leisure Newton & Irvine, New York, Summer 1982.
- Summer Associate, Perkins, Coie, Stone, Olsen & Williams, Seattle, Washington, Summer 1976.
- Research Assistant, Prof. Laurence Lynn, Kennedy School of Government, Harvard University, Summer 1975.
- LSAT Tutor, Stanley Kaplan Education Center, Boston, Massachusetts; Research Assistant, Prof. Philip Heymann, Harvard Law School; Research Assistant, Prof. Gordon Chase, Harvard School of Public Health. (During Law School).

EDUCATION

Yale University, 1981-1986

- University Fellow in Economics; M.A. 1982, M. Phil. 1984, Ph.D. 1986.
 - Dissertation: "A Continuous-Time Stochastic Model of Job Mobility: A Comparison of Male-Female Hazard Rates of Young Workers." Awarded with Distinction by Yale.
 - Winner of the Michael E. Borus Award for best social science dissertation in the last three years making substantial use of the National Longitudinal Surveys--awarded by the Center for Human Research at Ohio State University on October 24, 1988.
- National Research Service Award, National Institute of Health.
- Member, Graduate Executive Committee; Graduate Affiliate, Jonathan Edwards College.

Harvard Law School, 1974-1977 (J.D.)

- Graduated Cum Laude.

- Activities: Law Clerk (Volunteer) for Judge John Forte, Appellate Division of the District Court of Central Middlesex; Civil Rights, Civil Liberties Law Review; Intra-mural Athletics; Clinical Placement (Third Year): (a) First Semester: Massachusetts Advocacy Center; (b) Second Semester: Massachusetts Attorney General's Office--Civil Rights and Consumer Protection Divisions. Drafted comments for the Massachusetts Attorney General on the proposed U.S. Department of Justice settlement of its case against Bechtel Corporation's adherence to the Arab Boycott of Israeli companies.

Hamilton College, 1970-1974 (B.A.)

- Departmental Honors in both Economics and Mathematics
 - Phi Beta Kappa (Junior Year)
- Graduated fourth in class with the following academic awards:
 - Brockway Prize (Highest GPA Freshman Year)
 - Edwin Huntington Memorial Mathematical Scholarship
 - Fayerweather Prize Scholarship
 - Oren Root Prize Scholarship in Mathematics
- President, Root-Jessup Public Affairs Council.

PUBLICATIONS

Books and Edited Volumes:

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- "Godfrey v. Georgia: Creative Federalism, the Eighth Amendment, and the Evolving Law of Death," 30 Catholic University Law Review 13 (1980).
- "Criminal Code Revision--Contempt of Court and Related Offenses," Hearings before the Subcommittee on Criminal Justice of the House Judiciary Committee, July 18, 1979, at 1087.

Blog Posts:

- "Packed and Loaded: Stanford's John Donohue on Supreme Court's Guns Decision," *Stanford Law School Legal Aggregate Blog* (Jun. 24, 2022), https://law.stanford.edu/2022/06/24/packed-and-loaded-stanfords-john-donohue-on-supreme-courts-guns-decision/?utm_source=june302022&utm_medium=mc&utm_campaign=law%40stanford&utm_content=Stanford-law-news.

- "Guns, Mass Shootings, and the Law in the U.S.," *Stanford Law School Legal Aggregate Blog* (Dec. 10, 2021), <https://law.stanford.edu/2021/12/10/stanfords-john-donohue-on-guns-mass-shootings-and-the-law-in-the-u-s/>.
- "Stanford's John Donohue on One Tragic Week, Two Mass Shootings, and the Uniquely American Gun Problem," *Stanford Law School Legal Aggregate Blog* (March 25, 2021), <https://law.stanford.edu/2021/03/25/stanfords-john-donohue-on-one-tragic-week-with-two-mass-shootings-and-the-uniquely-american-gun-problem>.
- "Open Carry Laws, Guns on Capitol Hill, and a Police Force Outgunned by Militias," *Stanford Law School Legal Aggregate Blog* (January 19, 2021), <https://law.stanford.edu/2021/01/19/open-carry-laws-guns-on-capitol-hill-and-a-police-force-outgunned-by-militias/>.
- "Remembering Justice Ginsburg," *Stanford Law School Legal Aggregate Blog* (September 19, 2020), <https://law.stanford.edu/2020/09/19/stanford-laws-john-donohue-remembers-justice-ginsburg/>.
- "The Assault Weapon Ban Saved Lives," (with Theodora Boulouta), *Stanford Law School Legal Aggregate Blog*, October 15, 2019, <https://stanford.io/2MWNsrV>.
- "Stanford Law's John Donohue on Mass Shootings and Gun Regulation in the U.S.," *Stanford Law School Legal Aggregate Blog*, August 6, 2019, <https://law.stanford.edu/2019/08/06/stanford-laws-john-donohue-on-mass-shootings-and-gun-regulation-in-the-u-s/>.
- "Stanford Law Faculty Remember Justice Stevens," *Stanford Law School Legal Aggregate Blog*, July 18, 2019, <https://law.stanford.edu/2019/07/18/stanford-law-faculty-remember-justice-stevens/>.
- "Arming Teachers Is Not a Good Option," *Scientific American*, February 28, 2018, <https://blogs.scientificamerican.com/observations/arming-teachers-is-not-a-good-option/>.
- "Another Mass Shooting: An Update on U.S. Gun Laws," *Stanford Law School Legal Aggregate Blog*, February 18, 2018, <https://law.stanford.edu/2018/02/18/another-mass-shooting-qa-us-gun-laws/>.
- "Orlando to Las Vegas: Guns, Law, and Mass Shootings in the U.S.," *Stanford Law School Legal Aggregate Blog*, October 3, 2017, <https://law.stanford.edu/2017/10/03/orlando-to-las-vegas-guns-and-law/>.
- "*Moore v. Texas* and the Pathologies that Still Mar Capital Punishment in the U.S.," *Stanford Law School Legal Aggregate Blog*, March 29, 2017, <https://law.stanford.edu/2017/03/29/moore-v-texas-and-the-pathologies-that-mar-capital-punishment-in-the-u-s/>.
- "Trump and Gun Policy," *Stanford Law School Legal Aggregate Blog*, November 12, 2016, <http://stanford.io/2eoWnna>.
- "Facts Do Not Support Claim That Guns Make Us Safer" *Stanford Law School Legal Aggregate Blog*, October 12, 2015, <https://law.stanford.edu/2015/10/12/professor-john-donohue-facts-do-not-support-claim-that-guns-make-us-safer/>.
- "When will America wake up to gun violence?" *CNN.com*, July 20, 2012, <http://www.cnn.com/2012/07/20/opinion/donohue-gun-control/index.html>.
- "It Takes Laws to Control the Bad Guys," *The New York Times -- Room For Debate*: <http://www.nytimes.com/roomfordebate/2011/01/11/more-guns-less-crime> (January 11, 2011).
- "Have 'Woman-Protective' Studies Resolved the Abortion Debate? Don't Bet on It," <http://balkin.blogspot.com/2008/09/have-woman-protective-studies-resolved.html> (September 2008).
- "Dodging the Death Penalty Bullet On Child Rape," <http://balkin.blogspot.com/2008/07/dodging-death-penalty-bullet-on-child.html> (July 2008).

- “Why I'd Stick With Yale Clerks-- Some Econometric Ruminations,” <http://balkin.blogspot.com/2008/04/why-id-stick-with-yale-clerks-some.html> (April 2008).

WORKSHOPS AND ADDRESSES:

- “Can We Get Strong Gun Safety Legislation Passed?” Vi Seminar, **Palo Alto, CA**, July 18, 2022.
- Panelist, “Inside the Brain of the Mass Shooter and the Impact of Their Criminal Behavior,” Symposium on “The Law and Neuroscience of Mass Shootings,” held virtually at Fordham Law School, November 1, 2022.
- “*Bruen*, Permissive Gun Carrying, Constitutional Law, and Violent Crime,” Faculty Workshop, **Stanford Law School**, July 13, 2022.
- “Effectiveness of Permissive Gun Laws: Carry Laws, Stand Your Ground,” Annals Authors’ Conference, **University of Connecticut**, Hartford, April 7, 2022.
- “Permissive Gun Carrying Laws and Violent Crime,” ETH, Zurich, April 6, 2022; Law and Economics Workshop, **Tel Aviv University School of Law**, May 11, 2022.
- “Guns and Crime in American Life and Law,” **University of Zurich**, April 5, 2022.
- “Do Permissive Gun Carrying Laws Increase Violent Crime?” Applied Webinar at the **Sao Paulo School of Economics**, November 17, 2021.
- “Mass Shootings, Gun Laws and the Evolution of the Second Amendment – Where Do We Go from Here?” Minnesota Continuing Legal Education Webcast, November 2, 2021.
- Discussant of Richard Berk, “Firearm Sales in California Through the Myopic Vision of an Interrupted Time Series Causal Analysis,” Online Causal Inference Seminar, **Stanford University**, April 6, 2021.
- “The Impact of Legalized Abortion on Crime over the Last Two Decades,” American Law and Economics Association Meetings, **NYU School of Law**, May 18, 2019; Department of Economics, **University of California, Irvine**, October 13, 2020; **Harvard Kennedy School** Program in Inequality and Social Policy, March 22, 2021; Crime Seminar, **Northwestern Law School**, March 3, 2022.
- Discussant of Chika Okafor, “Prosecutor Politics: The Impact of Election Cycles on Criminal Sentencing in the Era of Rising Incarceration,” **Harvard Kennedy School** Program in Inequality and Social Policy, March 22, 2021.
- “Guns and Crime,” Economic Analysis of Crime course, **Bocconi University**, Dept. of Social and Political Sciences, March 8, 2021.
- Discussant, “How the Massachusetts assault weapons ban enforcement notice changed firearm sales,” Firearms and Policy session, **Assoc. for Public Policy Analysis and Management (APPAM) Virtual Fall Research Conference**, November 12, 2020.
- “We Must Confront the Threats to America’s Democracy,” Idaho Law Review Election Law Symposium, **University of Idaho College of Law**, October 20, 2020.
- “The Impact of Legalized Abortion on Crime over the Last Two Decades,” Department of Economics, **University of California, Irvine**, October 13, 2020.
- “The Death Penalty: Informing Policy Through Empirical Research,” Program in Criminal Law and Policy, **University of Arizona College of Law**, October 6, 2020.
- Discussant, “Mandatory Retirement Improved Performance on State Supreme Courts,” Law and Economics Session, **NBER Summer Institute**, July 22, 2020.

- Discussant, "Measuring Racial Discrimination in Bail Decisions," Crime Session, **NBER Summer Institute**, July 15, 2020.
- "Guns and Empirical Evidence in Second Amendment Litigation," **Columbia Law School**, March 24, 2020; **Yale Law School**, March 25, 2020 (Zoom Presentation).
- Panelist, "Guns, Schools, and Adolescents: A Disaster Waiting to Happen," Psychiatry Grand Rounds, Sapp Center for Science Teaching and Learning, **Stanford University School of Medicine**, February 20, 2020.
- "The Power of Data to Change Hearts, Minds, and Public Policy," Law and Policy Lab, **Stanford Law School**, February 13, 2020.
- "The Move to 'Guns Everywhere'," Inaugural Cooter-Rubinfeld Lecture, **University of California, Berkeley, Law School**, February 6, 2020.
- "The Swerve: A Legal and Empirical Evaluation of the Move to 'Guns Everywhere,'" Law and Economic Studies Workshop, **Columbia Law School**, September 23, 2019; Conference on Gun Rights and Regulations Outside the Home, **Duke Law School**, September 27, 2019.
- "Evidence to Guide Gun-related Public Policy," Conference on Gun Violence Epidemic, **Stanford Medical School**, September 16, 2019; Lecturer, Physicians and Social Responsibility Course, **Stanford Medical School**, October 7, 2019; Lecturer, Data Science Course, **Department of Statistics, Stanford University**, November 1, 2019.
- "The Legal and Political Battle over Gun Policy in America," **Hamilton College**, June 7, 2019.
- "Impact of Right to Carry Laws on Violent Crime," Public Policy colloquium, **Stanford Economics Department**, January 22, 2018; SPILS Methods Workshop, **Stanford Law School**, January 25, 2018; Quantlaw, **University of Arizona Law School**, March 2, 2018; Stanford/Berkeley Causal Inference Conference, **Stanford Graduate School of Business**, April 23, 2019; **Baldy Center/Law School Distinguished Speaker Series**, University at Buffalo School of Law, May 3, 2019; Conference on "Synthetic Controls and Related Methods," **Institute for Data, Systems, and Society, MIT**, May 21, 2019.
- "Guns, Abortion, and the Death Penalty: Informing Policy Through Empirical Research," Politics and Public Policy Lecture Series, **Stanford University**, April 1, 2019.
- "Dangers of Guns Carried Outside the Home for Protection," **GVPedia Conference**, Denver, Colorado, April 6, 2019.
- "Understanding California's Red Flag Law: How to Remove Guns from People Who Are a Threat to Themselves or Others," **Stanford Law School**, February 12, 2019.
- "Guns and Crime: Current Empirical and Legal Debates," **Fellowship Forum**, January 22, 2019.
- "Gun Policy in America at a Critical Juncture," SAFE, **Stanford Medical School**, September 17, 2018.
- "Empirical Evaluation of Law and Policy: The Battle for Truth," **Woodside Rotary Club**, September 12, 2018.
- "Discussing America's Second Amendment," **San Jose Museum of Quilts & Textiles**, July 15, 2018.
- "The Legal Battle to End the Death Penalty in Connecticut," **Law School of the University of Reggio Calabria, Italy**, June 15, 2018.
- Panelist, "Newtown and Gun Violence in the US, Humanity is Indivisible Series, **Stanford University**, May 31, 2018.
- "Gun Policy In California and the US," Human Rights Seminar; **Stanford Medical School**, May 29, 2018.

- "Gun Policy in the Wake of Parkland," Sigma Alpha Epsilon Leadership Speaker Series, **Stanford Law School**, March 13, 2018; Stanford in Government event, Haas Center, **Stanford University**, April 20, 2018.
- Panelist, Town Hall Meeting on Gun Violence with Congresswoman Jackie Speier, **Burlingame High School**, April 14, 2018.
- Moderator, In Studio Conversation with Berkeley Law School Dean Erwin Chemerinsky: "Defining the Limits of Free Speech," **Palo Alto League of Women's Voters**, March 27, 2018. <https://youtu.be/cqHEIAVoTLY>
- "More than Thoughts & Prayers," **American Constitution Society** and the **Federalist Society, U.C. Hastings School of Law**, March 14, 2018.
- Panelist, "Addressing Gun Violence," **American Constitution Society**, Stanford Law School, March 8, 2018.
- Panelist, "Public Carry: Defending Against Efforts to Expand Carry Laws," **National Gun Violence Prevention Meeting**, Washington, D.C., October 18, 2017.
- "Keynote Presentation: Right-to-Carry Laws and Violent Crime," Second Amendment Litigation & Jurisprudence Conference, **The Law Center to Prevent Gun Violence**, October 16, 2017.
- "The Latest Evidence on Abortion Legalization and Crime," Conference on Empirical Legal Studies, **Cornell University**, October 13, 2017.
- "Comey, Trump, and the Puzzling Pattern of Crime in 2015 and Beyond," **University of Texas School of Law and Economics Seminar**, April 24, 2017, Faculty Workshop, **UC Davis School of Law**, April 10, 2017; Law and Social Science Seminar, **Texas A&M University School of Law**, March 6, 2017; Quantlaw, **University of Arizona Law School**, February 17, 2017.
- Debate with Kent Scheidegger on Capital Punishment, Philosophy of Punishment Seminar, **JFK University School of Law**, March 18, 2017.
- "The Evidence on Guns and Gun Laws," **Federal Bar Council Program on Guns and Gun Laws -- Rancho Mirage**, California, February 23, 2017.
- "Guns, Crime and Race in America," Stanford's Center for Population Health Sciences, **Stanford Medical School**, October 17, 2016.
- "Evaluating the Death Penalty," Forum on California Propositions 62 and 66, **Stanford Law School**, September 14, 2016.
- "Empirical Analysis and the Fate of Capital Punishment," Colloquium, Presley Center for Crime and Justice Studies; **University of California, Riverside**, October 24, 2016.
- "Gun Violence and Mental Illness," Department of Psychiatry, **Stanford University**, August 25, 2016.
- "The Battle Over Gun Policy In America," Physicians and Social Responsibility" seminar; **Stanford Medical School**, October 3, 2016; **Bioethics Committee of the San Mateo County Medical Association**, April 27, 2016; **The League of Women Voters of Palo Alto**, April 19, 2016; Human Rights and Health Seminar, **Stanford University**, April 12, 2016; Bechtel International Center, **Stanford University**, February 23, 2016; Stanford in Government Seminar, Haas Center, **Stanford University**, February 2, 2016.
- American Economic Association Continuing Education Course "The Economics of Crime" (with Jens Ludwig), **AEA Annual Meeting**, San Francisco, January 5-7, 2016.
- "Race and Arbitrariness in the Connecticut Death Penalty," **University of Connecticut School of Law**, Nov. 20, 2015.

- *"Connecticut v. Santiago and the Demise of the Connecticut Death Penalty,"* Faculty Workshop, **Stanford Law School**, August 19, 2015.
- *"Do Handguns Make Us Safer? A State-Level Synthetic Controls Analysis of Right-to-Carry Laws,"* Second Amendment Conference, **Covington and Burling, New York**, May 14, 2015; **NBER Summer Institute**, Cambridge, MA, July 23, 2015; Faculty Workshop, **Stanford Law School**, November 11, 2015.
- *"U.S. Criminal Justice Under Siege : Will Becker or Beccaria Prevail?"* Faculty Seminar, **Bocconi University School of Law, Milan, Italy**, June 18, 2015.
- *"Can You Believe Econometric Evaluations of Law, Policy, and Medicine?"* **Stanford Law School**, Legal Theory Workshop, March 1, 2007; Faculty Workshop, **Tel Aviv University School of Law**, May 14, 2007; Faculty Workshop, **University of Haifa Law School**, May 16, 2007; Law and Economics Workshop, **Georgetown Law School**, September 19, 2007; Law and Economics Workshop, **St. Gallen Law School**, Switzerland, November 29, 2007; and Yale Law School, February 25, 2008; Law and Economics Workshop, **Swiss Institute of Technology**, Zurich, Switzerland, May 21, 2008; Faculty Workshop, **University of Virginia Law School**, October 24, 2008; Plenary Session, Latin American and Caribbean Law and Economics Association, **Universitat Pompeu Fabra (Barcelona)**, June 15, 2009; **Google, Milan, Italy**, June 8, 2015.
- Commentator: *"Throw Away the Jail or Throw Away The Key? The Effect of Punishment on Recidivism and Social Cost,"* by Miguel F. P. de Figueiredo, American Law and Economics Association Meetings, **Columbia Law School**, May 15, 2015.
- *"Broken Windows, Stop and Frisk, and Ferguson,"* 2015 Justice Collaboratory Conference: Policing Post-Ferguson, **Yale Law School**, April 17, 2015.
- *"Assessing the Development and Future of Empirical Legal Studies,"* **Stanford Law School** course on Modern American Legal Thought, February 25, 2015.
- Commentator: *"Payday Lending Restrictions and Crimes in the Neighborhood,"* by Yilan Xu, 9th Annual Conference on Empirical Legal Studies, **Boalt Hall**, Berkeley, CA, November 7, 2014.
- *"An Empirical Evaluation of the Connecticut Death Penalty Since 1973: Are There Unconstitutional Race, Gender and Geographic Disparities?"* Faculty Workshop, **Economics Department, Rice University**, Houston, TX, Feb. 18, 2014; Law and Economics Workshop, **University of Virginia Law School**, September 11, 2014; Faculty Colloquium, **University of San Diego School of Law**, October 3, 2014.
- *"What's Happening to the Death Penalty? A Look at the Battle in Connecticut,"* **Hamilton College**, Clinton, New York, June 6, 2014.
- Panel Member, Research Methods Workshop, Conference for Junior Researchers on Law and Society, **Stanford Law School**, May 15, 2014.
- *"Logit v. OLS: A Matter of Life and Death,"* Annual Meeting of the American Law and Economics Association, **University of Chicago**, May 9, 2014.
- *"Guns: Law, Policy, Econometrics,"* Second Amendment Litigation and Jurisprudence Conference, **Jenner & Block**, Chicago, May 8, 2014.
- *"The Impact of Antidiscrimination Law: The View 50 Years after the Civil Rights Act of 1964,"* **Renaissance Weekend**, Liguna Niguel, CA, Feb. 15, 2014.
- *"Concealed Carry and Stand Your Ground Law,"* **Renaissance Weekend**, Liguna Niguel, CA, Feb. 15, 2014.
- *"Reducing Gun Violence,"* Forum on Gun Violence Reduction, **Mountainview City Hall**, Mountainview, CA, Feb. 8, 2014.

- "Gun Policy Debate," **C-SPAN**. National Cable Satellite Corporation, Jan. 16, 2014. <<http://www.c-span.org/video/?317256-1/GunPoli>>.
- "Trial and Decision in the Connecticut Death Penalty Litigation," Faculty Workshop, **Stanford Law School**, November 20, 2013.
- "Rethinking America's Illegal Drug Policy," Law and Economics Workshop, **Harvard Law School**, April 20, 2010; NBER Conference, "Economical Crime Control," **Boalt Hall**, Berkeley, CA, January 16, 2010; **NBER Summer Institute** Pre-Conference "Economical Crime Control," July 23, 2009; **Whitney Center** Lecture Series, Hamden, CT, October 5, 2009; Law and Economics Workshop, **University of Chicago Law School**, October 13, 2009; Seminar for Spanish Law Professors, **Harvard Law School**, October 23, 2009; The Criminal Law Society, **Stanford Law School**, March 31, 2011, **University of Denver Sturm College of Law**, April 21, 2011; Law and Economics Workshop, **Boalt Hall**, Berkeley, CA, October 17, 2011; Shaking the Foundations Conference, **Stanford Law School**, November 2, 2013.
- "The Challenge to the Connecticut Death Penalty," **Yale Law School**, Death Penalty Clinic, November 5, 2007; Graduate Student Seminar, November 11, 2009; Stanford Program in International Legal Studies Seminar, **Stanford Law School**, Nov. 11, 2010; Faculty Workshop, **Stanford Law School**, June 8, 2011; Faculty workshop, **Duke Law School**, April 13, 2012; Program on Public Policy, **Stanford University**, May 2, 2012; Annual Meeting of the American Law and Economics Association, **Vanderbilt Law School**, Nashville, TN, May 18, 2013; Faculty Workshop, **University of Arizona Law School**, October 17, 2013; 8th Annual Conference on Empirical Legal Studies, **University of Pennsylvania Law School**, October 26, 2013.
- Commentator: "How to Lie with Rape Statistics" by Corey Rayburn Yung, 8th Annual Conference on Empirical Legal Studies, **University of Pennsylvania Law School**, October 2013.
- "An Empirical Look at Gun Violence in the U.S." **University of Arizona Law School**, October 17, 2013
- Discussant, "Sex Offender Registration and Plea Bargaining," **NBER Labor Summer Institute**, Cambridge, MA, July 25, 2013.
- "What Works in the War Against Crime?" **Renaissance Weekend**, Jackson Hole, Wyoming, July 5, 2013.
- Seminar Presentation, "Statistics and the Streets – Curbing Crime, Realities of the Death Penalty, and Successes in Public Safety," **Renaissance Weekend**, Jackson Hole, Wyoming, July 5, 2013.
- Flashes of Genius (Glimpses of Extra-ordinarily Novel Thinking) -- "Stemming Gun Violence," **Renaissance Weekend**, Jackson Hole, Wyoming, July 5, 2013.
- "Can Laws Reduce Crime?" Safe Oakland Speakers Series, Holy Names University, Oakland, CA, May 1, 2013, <http://www.ustream.tv/channel/safe-oakland-speaker-series>
- Presentation on "The Death Penalty in America" on a panel on "human rights and criminal justice systems in the world," Science for Peace conference at Bocconi University in Milan, Italy, November 15, 2012. <http://www.fondazioneveronesi.it/scienceforpeace2012/>
- Seminar Presentation, "America's Criminal Justice System," **Renaissance Weekend**, Santa Monica, CA., Feb. 19, 2012.
- "Statistical Inference, Regression Analysis and Common Mistakes in Empirical Research," SPILLS Fellow's Workshop, **Stanford Law School**, February 2, 2012.
- "New Evidence in the 'More Guns, Less Crime' Debate: A Synthetic Controls Approach," Conference on Empirical Legal Studies, **Northwestern Law School**, November 4, 2011.

- "Drug Legalization and its Alternatives," *Lessons from the Economics of Crime: What Works in Reducing Offending?* **CESifo Venice Summer Institute Workshop**, July 22, 2011.
- "Incapacitating Addictions: Drug Policy and American Criminal Justice," in Rethinking the War on Drugs through the US-Mexico Prism," **Yale Center for the Study of Globalization**, May 12, 2011.
- Plenary Session: Flashes of Genius (Glimpses of Extra-ordinarily Novel Thinking) -- "Has Legalized Abortion Reduced Crime?" **Renaissance Weekend**, Liguna Niguel, CA., Feb. 18, 2011.
- "An Evidence-Based Look at the More Guns, Less Crime Theory (after Tucson)" The American Constitution Society for Law and Policy (ACS), **Stanford Law School**, January 25, 2011; **Renaissance Weekend**, Liguna Niguel, CA., Feb. 19, 2011; "Faculty Forum" at the External Relations Office, **Stanford Law School**, April 5, 2011.
- "Empirical Evaluation of Law: The Dream and the Nightmare," SPILS Fellows Lecture, **Stanford Law School**, January 15, 2015; Legal Studies Workshop, **Stanford Law School**, Feb. 7, 2011; **Renaissance Weekend**, Liguna Niguel, CA., Feb. 20, 2011; **University of Denver Sturm College of Law**, April 22, 2011; Presidential Address, Annual Meeting of the American Law and Economics Association, **Columbia University**, May 20, 2011.
- Death Sentencing in Connecticut," **American Society of Criminology Annual Meeting**, San Francisco, Nov. 17, 2010.
- "The Impact of Right to Carry Laws and the NRC Report: Lessons for the Empirical Evaluation of Law and Policy," Conference on Empirical Legal Studies, **Yale Law School**, Nov. 6, 2010.
- Comment on Bushway and Gelbach, "Testing for Racial Discrimination in Bail Setting Using Nonparametric Estimation of a Parametric Model," Conference on Empirical Legal Studies, **Yale Law School**, Nov. 6, 2010.
- Commentator, "A Test of Racial Bias in Capital Sentencing," **NBER Political Economy Program Meeting**, April 23, 2010.
- "The (Lack of a) Deterrent Effect of Capital Punishment," Faculty Workshop, **University of Chicago Economics Department**, October 21, 2009.
- Keynote Address, "The Evolution of Econometric Evaluation of Crime and Deterrence," 1st Paris& Bonn Workshop on Law and Economics: The Empirics of Crime and Deterrence, **University of Paris Ouest Nanterre**, September 24, 2009.
- Comment on Cook, Ludwig, and Samaha, "Gun Control after *Heller*: Litigating Against Regulation," NBER Regulation and Litigation Conference, **The Boulders**, Carefree, Arizona, September 11, 2009.
- "Impact of the Death Penalty on Murder in the US," Faculty Workshop, Law School, **Universitat Pompeu Fabra (Barcelona)**, June 18, 2009.
- Comment on Joanna Shepherd's "The Politics of Judicial Opposition," Journal of Institutional and Theoretical Economics Conference, **Kloster Eberbach, Germany**, June 12, 2009.
- "The Great American Crime Drop of the '90s: Some Thoughts on Abortion Legalization, Guns, Prisons, and the Death Penalty," **Hamilton College**, Clinton, NY, June 5, 2009.
- "The Impact of the ADA on the Employment and Earnings of the Disabled," **American Law and Economics Association Meetings**, University of San Diego, May 15, 2009.
- "Crime and Punishment in the United States," **Eastern State Penitentiary, Yale Alumni Event**, Philadelphia, PA, April 26, 2009.

- “Measuring Culpability in Death Penalty Cases,” Conference on Applications of Economic Analysis in Law, **Fuqua School of Business, Duke University**, April 18, 2009.
- “Autopsy of a Financial Crisis,” Workshop on New International Rules and Bodies for Regulating Financial Markets, **State University of Milan**, March 23, 2009.
- “Yet Another Refutation of the More Guns, Less Crime Hypothesis – With Some Help From Moody and Marvell, Law and Economics Workshop, **NYU Law School**, March 10, 2009.
- Intelligence-Squared Debate: “Guns Reduce Crime,” **Rockefeller University**, New York, October 28, 2008.
- “The D.C. Handgun Controls: Did the Supreme Court’s Decision Make the City Safer?” Debate, **The Contemporary Club of Albemarle**, Charlottesville, VA, October 23, 2008.
- “Evaluating the Empirical Claims of the Woman-Protective Anti-Abortion Movement,” Panel on The Facts of the Matter: Science, Public Health, and Counseling, Yale Conference on the Future of Sexual and Reproductive Rights, **Yale Law School**, October 11, 2008.
- “Empirical Evaluation of Gun Policy,” **Harvard Law School**, October 9, 2008.
- “Assessing the Relative Benefits of Incarceration: The Overall Change Over the Previous Decades and the Benefits on the Margin,” **Russell Sage Foundation**, New York, May 3, 2007; Law and Economics Workshop, **Tel Aviv University School of Law**, May 28, 2008.
- Death Penalty Debate with Orin Kerr, Bloggingheads, April 11, 2008.
- “Evaluating Connecticut’s Death Penalty Regime,” Faculty Public Interest Conversation, **Yale Law School**, April 9, 2008.
- “The Death Penalty in Connecticut and the United States,” **The Whitney Center**, Hamden, CT, November 5, 2007; Seminar on Advanced Criminal Law: Criminal Sentencing and the Death Penalty, **Fordham Law School**, April 8, 2008; Law and Economics Workshop, **Swiss Institute of Technology**, Zurich, Switzerland, May 20, 2008.
- Radio Interview, “The Death of Capital Punishment?” Morning Edition: Where We Live. WNPR. Connecticut, March 10, 2008.
- Comment on Thomas Dee’s “Born to Be Mild: Motorcycle Helmets and Traffic Safety,” **American Economics Association Meetings**, New Orleans, Louisiana, January 4, 2008.
- “The Empirical Revolution in Law and Policy: Jubilation and Tribulation,” **Keynote Address, Conference on Empirical Legal Studies, NYU Law School**, November 9, 2007.
- “The Optimal Rate of Incarceration,” **Harvard Law School**, October 26, 2007.
- “Empirical Evaluation of Law: The Impact on U.S Crime Rates of Incarceration, the Death Penalty, Guns, and Abortion,” Law and Economics Workshop, **St. Gallen Law School, Switzerland**, June 25, 2007.
- Comment on Eric Baumer’s “A Comprehensive Assessment of the Contemporary Crime Trends Puzzle,” Committee on Law and Justice Workshop on Understanding Crime Trends, **National Academy of Sciences**, Washington, D.C., April 25, 2007.
- Comment on Bernard Harcourt, Third Annual Criminal Justice Roundtable Conference, **Yale Law School**, “Rethinking the Incarceration Revolution Part II: State Level Analysis,” April 14, 2006.
- “Corporate Governance in America: The Disney Case,” **Catholic University Law School**, Milan, Italy, March 19, 2007.

- “The U.S Tort System,” (Latin American) Linkages Program, **Yale Law School**, February 13, 2007.
- Panel Member, “Guns and Violence in the U.S.,” **Yale University, International Center**, January 24, 2007.
- “Economic Models of Crime and Punishment,” Punishment: The U.S. Record: A Social Research Conference at **The New School**, New York City, Nov. 30, 2006
- Comment on Baldus et al, “Equal Justice and the Death Penalty: The Experience fo the United States Armed Forces, Conference on Empirical Legal Studies, **University of Texas Law, School**, Austin, Texas, October 27, 2006.
- “Empirical Evaluation of Law: The Promise and the Peril,” **Harvard Law School**, October 26, 2006.
- “Estimating the Impact of the Death Penalty on Murder,” Law and Economics Workshop, **Harvard Law School**, September 12, 2006; Conference on Empirical Legal Studies, **University of Texas Law School**, October 28, 2006; Joint Workshop, Maryland Population Research Center and School of Public Policy, **University of Maryland**, March 9, 2007.
- “Why Are Auto Fatalities Dropping so Sharply?” **Faculty Workshop, Wharton**, Philadelphia, PA, April 19, 2006.
- “The Law of Racial Profiling,” Law and Economic Perspectives on Profiling Workshop, **Northwestern University Department of Economics**, April 7, 2006.
- “Landmines and Goldmines: Why It’s Hard to Find Truth and Easy To Peddle Falsehood in Empirical Evaluation of Law and Policy,” **Rosenthal Lectures, Northwestern University School of Law**, April 4-6, 2006.
- “The Impact of Legalized Abortion on Crime,” **American Enterprise Institute**, March 28, 2006.
- “The Impact of Damage Caps on Malpractice Claims: Randomization Inference with Difference-in-Differences,” **Conference on Medical Malpractice, The Rand Corporation**, March 11, 2006.
- “Powerful Evidence the Death Penalty Deters?” **Leighton Homer Surbeck Chair Lecture, Yale Law School**, March 7, 2006.
- “Uses and Abuses of Empirical Evidence in the Death Penalty Debate,” Faculty Workshop, **University of Connecticut Law School**, October 18, 2005; Faculty Workshop, **UCLA Law School**, February 3, 2006; Law and Economics Workshop, **Stanford Law School**, February 16, 2006; ; Law Faculty, **University of Cambridge, Cambridge, England**, February 28, 2006; **University of Illinois College of Law**, Law and Economics Workshop, March 2, 2006; Faculty Workshop, **Florida State University Law School**, March 30, 2006; **ALEA**, Berkeley, CA May 6, 2006; **University of Chicago Law School**, Law and Economics Workshop, May 9, 2006.
- “Is Gun Control Illiberal?” Federalist Society Debate with Dan Kahan at Yale Law School, January 31, 2006.
- “Witness to Deception: An Insider’s Look at the Disney Trial,” **2005-2006 Distinguished Lecture, Boston University School of Law**, November 10, 2005; Center for the Study of Corporate Law, **Yale Law School**, November 3, 2005; **Law Offices of Herbert Smith, London, England**, February 23, 2006; Law Faculty, **University of Cambridge, Cambridge, England**, February 27, 2006.
- “Understanding the Surprising Fall in Crime in the 1990s,” **Rotary Club**, Orange, CT, August 5, 2005; Faculty Workshop, **Yale School of Management**, September 21, 2005.
- Panel Member, “The Board’s Role in Corporate Strategy,” The Yale Global Governance Forum, **Yale School of Management**, September 8, 2005.
- “Crime and Abortion,” **Museo de la Cuidad de Mexico**, Mexico City, October 20, 2003.

- “Allocating Resources towards Social Problems and Away From Incarceration as a Means of Reducing Crime,” **MacArthur Foundation Research Network on Adolescent Development and Juvenile Justice**, San Francisco, CA, February 28, 2003.
- “Shooting Down the More Guns, Less Crime Hypothesis,” **Stanford Law School**, Law and Economics Seminar, January 28, 2003; Faculty Workshop, Center for the Study of Law and Society, **Boalt Hall**, University of California, Berkeley, Feb. 24, 2003; Development Workshop, **Stanford Law School**, April 25, 2003; Faculty Workshop, **Stanford Law School**, July 2, 2003; Law and Public Affairs Program Workshop, **Princeton University**, September 29, 2003; Stanford Alumni Weekend, **Stanford University**, October 17, 2003; Faculty Workshop, **CIDE**, Mexico City, October 20, 2003.
- “The Impact of Legalized Abortion on Teen Childbearing,” **NBER Labor Summer Institute**, Cambridge, MA, July 30, 2002.
- “Do Concealed Handgun Laws Reduce Crime?” Faculty Workshop, **Stanford Law School**, October 4, 2000; First-Year Orientation, **Stanford Law School**, September 5, 2001; Faculty Workshop, **Harvard Law School**, April 26, 2002; Faculty Workshop, **Columbia Law School**, April 29, 2002.
- “The Evolution of Employment Discrimination Law in the 1990s: An Empirical Investigation,” Fellows Workshop, American Bar Foundation, February 11, 2002.
- “The Role of Discounting in Evaluating Social Programs Impacting on Future Generations: Comment on Arrow and Revesz,” Colloquium on Distributive Justice, **Stanford Law School**, Oct. 18, 2001.
- “The Impact of Wrongful Discharge Laws,” **NBER Labor Summer Institute**, Cambridge, MA, July 30, 2001; Labor and Employment Seminar, **NYU Law School**, October 16, 2001; Faculty Workshop, **Stanford Law School**, September 18, 2002; **Yale Law School**, January, 2004.
- “Racial Profiling: Defining the Problem, Understanding the Cause, Finding the Solution,” **American Society of Criminology Conference**, San Francisco, CA, November 15, 2000.
- “Institutional Architecture for Building Private Markets,” Conference on “Latin America and The New Economy” at **Diego Portales University** in Santiago, Chile, October 26, 2000.
- “The History and Current Status of Employment Discrimination Law in the United States,” Unicapital School of Law, (Centro Universitario Capital), Sao Paulo, Brazil, March 10, 2000.
- “Corporate Governance in Developing Countries: Opportunities and Dangers,” Conference on Neoliberal Policies for Development: Analysis and Criticism,” University of Sao Paulo Law School, March 13, 2000
- “Legalized Abortion and Crime,” Law and Economics Workshop, **University of Pennsylvania Law School**, September 21, 1999; Faculty Workshop, **Yale Law School**, September 27, 1999; **John Jay College of Criminal Justice**, October 7, 1999; Faculty Workshop, **Quinnipiac Law School**, October 13, 1999; Faculty Workshop, **University of Connecticut Law School**, October 19, 1999; **University of Virginia Law School**, October 25, 1999; Faculty Workshop, **Baruch College**, November 9, 1999; MacArthur Foundation Social Interactions and Economic Inequality Network Meeting, **Brookings Institution**, December 4, 1999; Faculty Workshop, **NYU Law School**, January 21, 2000; Faculty Workshop, **University of San Diego Law School**, February 18, 2000; Public Economics Workshop, Department of Economics, **Stanford University**, April 28, 2000; Law and Economics Workshop, **University of California at Berkeley Law School**, September 18, 2000; Faculty Workshop, **Cornell Law School**, September 26, 2000; OB-GYN Grand Rounds, **Stanford Medical School**, October 2, 2000; **Center for Advanced Studies in the Behavioral Sciences**, October 11, 2000; Faculty Workshop, **Graduate School of Business**, February 5, 2002.
- Panel member, Session on Executive Compensation, Director's College, **Stanford Law School**, March 23, 1999.

- “Exploring the Link Between Legalization of Abortion in the 1970s and Falling Crime in the 1990s,” Law and Economics Workshop, **Harvard Law School**, March 16, 1999; Law and Economics Workshop, **University of Chicago Law School**, April 27, 1999; Faculty Workshop, **Stanford Law School**, June 30, 1999.
- “Is the Increasing Reliance on Incarceration a Cost-Effective Strategy of Fighting Crime?” Faculty Workshop, **University of Wisconsin School of Social Science**, February 19, 1999.
- “What Do We Know About Options Compensation?” Institutional Investors Forum, **Stanford Law School**, May 29, 1998.
- Commentator on Orlando Patterson’s presentation on “The Ordeal of Integration,” **Stanford Economics Department**, May 20, 1998.
- “Understanding The Time Path of Crime,” Presentation at Conference on Why is Crime Decreasing? **Northwestern University School of Law**, March 28, 1998; Faculty Workshop, **Stanford Law School**, September 16, 1998; Faculty Workshop, **University of Michigan Law School**, February 18, 1999.
- Commentator, Conference on Public and Private Penalties, the **University of Chicago Law School**, Dec. 13-14, 1997.
- “Some Thoughts on Affirmative Action,” Presentation at a conference on Rethinking Equality in the Global Society, **Washington University School of Law**, November 10, 1997.
- Commentator on Chris Jencks’ Presentation on Welfare Policy, **Stanford Economics Department**, October 8, 1997.
- “The Impact of Race on Policing, Arrest Patterns, and Crime,” Faculty Workshop, **Stanford Law School**, September 10, 1997; Law and Economics Workshop, **University of Southern California Law School**, October 23, 1997; Law and Economics Workshop, **Columbia University Law School**, November 24, 1997; Law and Economics Workshop, Haas School of Business, **University of California at Berkeley**, February 19, 1998; Annual Meeting of the American Law and Economics Association, **University of California at Berkeley**, May 8, 1998; Conference on the Economics of Law Enforcement, **Harvard Law School**, October 17, 1998.
- “Crime in America: Understanding Trends, Evaluating Policy,” **Stanford Sierra Camp**, August 1997.
- “Executive Compensation: What Do We Know?” TIAA-CREF Committees on Corporate Governance and Social Responsibility, Center for Economic Policy Research, **Stanford University**, June 27, 1997; NASDAQ Director’s Day, **Stanford University**, June 30, 1997.
- Panel Chair, Criminal Law (Theory), Criminal Law (Empirical), and Labor/Discrimination/Family Law, American Law and Economics Association, **University of Toronto Law School**, May 9-10, 1997.
- Commentator, “Diversity in Law School Hiring,” **Stanford Law School**, February 25, 1997.
- Keynote Speaker, “The Optimal Rate of Crime,” 11th Annual Conference, **The Oklahoma Academy for State Goals**, Tulsa, Oklahoma, May 7, 1996.
- Panel member, Session on Executive Compensation, Director’s College, **Stanford Law School**, March 28-29, 1996.
- “The Power of Law: Can Law Make a Difference in Improving the Position of Women and Minorities in the Labor Market?” The Fellows of the **American Bar Foundation**, Baltimore, Maryland, February 3, 1996.
- “Public Action, Private Choice and Philanthropy: Understanding the Sources of Improvement in Black Schooling Quality in Georgia, 1911-1960,” **Stanford Faculty Workshop**, January 24, 1996; Faculty Workshop, **University of Virginia Law School**, January 22, 1997; **National Bureau of Economic Research**, Cambridge, Massachusetts, Labor Studies Conference, April 3, 1998.

- Commentator, "The Effect of Increased Incarceration on Crime," Meetings of the **American Economics Association**, San Francisco, January 6, 1996.
- Commentator, Symposium on Labor Law, **University of Texas Law School**, November 10-11, 1995.
- Panel Member, Symposium on Criminal Justice, **Stanford Law School**, October 6-7, 1995.
- Commentator, "The Litigious Plaintiff Hypothesis," Industrial and Labor Relations Conference, **Cornell University**, May 19, 1995.
- Commentator on Keith Hylton's, "Fee Shifting and Predictability of Law," Faculty Workshop, **Northwestern University School of Law**, February 27, 1995.
- "The Selection of Employment Discrimination Disputes for Litigation: Using Business Cycle Effects to Test the Priest/Klein Hypothesis," **Stanford University**, Law and Economics Seminars, October 31, 1994.
- "Is the United States at the Optimal Rate of Crime?" Faculty Workshop, **Indiana University School of Law**, Indianapolis, November 18, 1993; Faculty Workshop, **Northwestern University School of Law**, April 18, 1994; Law and Economics Workshop, **Stanford Law School**, April 28, 1994; Meetings of the American Law and Economics Association, **Stanford Law School**, May 13, 1994; **American Bar Foundation**, September 7, 1994; Faculty Workshop, **DePaul Law School**, September 21, 1994; Law and Economics Workshop, **University of Chicago Law School**, October 11, 1994; Faculty Seminar, **Stanford Law School**, October 31, 1994; Law and Economics Luncheon, **Stanford Law School**, November 1, 1994; Faculty Seminar Workshop, **University of Illinois College of Law**, Champaign, November 22, 1994; Law and Economics Workshop, **Harvard Law School**, November 29, 1994; School Alumni Luncheon, Chicago Club, December 13, 1994; **Northwestern Law School**; Law and Economics Workshop, **Yale Law School**, February 1, 1996; Faculty Workshop, **Cornell Law School**, April 10, 1996; Faculty Workshop, **Tokyo University Law School**, June 4, 1996; Panel on "The Economics of Crime," **Western Economics Association** Meeting, San Francisco, July 1, 1996.
- "The Broad Path of Law and Economics," Chair Ceremony, **Northwestern University School of Law**, September 30, 1994.
- Commentator on Paul Robinson's "A Failure of Moral Conviction," **Northwestern University School of Law**, September 20, 1994.
- "The Do's of Diversity, The Don'ts of Discrimination," Kellogg School of Business, **Northwestern University**, May 17, 1994.
- "Does Law Matter in the Realm of Discrimination?" **Law and Society Summer Institute**, Pala Mesa Lodge, Fallbrook, California, June 25, 1993.
- Commentator, "The Double Minority: Race and Sex Interactions in the Job Market," Society for the Advancement of Socio-Economics, **New School for Social Research**, March 28, 1993.
- "The Effects of Joint and Several Liability on Settlement Rates: Mathematical Symmetries and Meta-Issues in the Analysis of Rational Litigant Behavior," Economic Analysis of Civil Procedure, **University of Virginia School of Law**, March 26, 1993.
- Debate with Richard Epstein on Employment Discrimination Law, **Chicago Federalist Society**, February 23, 1993.
- Panel Chair, "Optimal Sanctions and Legal Rules in Tort and Criminal Law," Meetings of Annual Association of Law and Economics, **Yale Law School**, May 15, 1992.
- Panel Member, "The Law and Economics of Employment at Will," **The Institute For Humane Studies**, Fairfax, Virginia, March 27, 1992.

- "The Efficacy of Title VII," Debate with Professor Richard Epstein, **University of Chicago Law School**, February 26, 1992.
- Moderator, "Using Testers to Demonstrate Racial Discrimination," **University of Chicago Law School**, February 13, 1992.
- "Law & Macroeconomics: The Effect of the Business Cycle on Employment Discrimination Litigation," Law and Society Workshop, **Indiana University**, November 6, 1991; Faculty Workshop, **University of North Carolina Law School**, Chapel Hill, November 8, 1991; Faculty Workshop, **Northwestern University School of Law**, December 11, 1991; Law and
- Economics Conference, **Duquesne Law School**, March 14, 1992; **University of Chicago Law School**, April 2, 1992.
- Panel Chair and Commentator, "New Perspectives on Law and Economics," **Society for the Advancement of Socioeconomics**, Stockholm, June 17, 1991; **Law and Society Meetings**, Amsterdam, June 29, 1991.
- Panel Chair, "Regulation of International Capital Markets," **Law and Society Meetings**, Amsterdam, June 27, 1991.
- Panel Chair, "The Law and Economics of Discrimination," American Association of Law and Economics, **University of Illinois Law School**, May 24, 1991.
- "The Economics of Employment Discrimination Law," **Industrial Relations Research Association**, Chicago, Illinois, March 4, 1991.
- "Does Current Employment Discrimination Law Help or Hinder Minority Economic Empowerment?" Debate with Professor Richard Epstein, The Federalist Society, **Northwestern Law School**, February 26, 1991.
- Panel Member, "The Law and Economics of Employment Discrimination," **AALS Annual Meeting**, Washington, D.C., January 6, 1991.
- "Re-Evaluating Federal Civil Rights Policy," Conference on the Law and Economics of Racial Discrimination in Employment, **Georgetown University Law Center**, November 30, 1990.
- "Opting for the British Rule," Faculty Seminar, **Northwestern Law School**, September 11, 1990; Faculty Seminar, **University of Virginia Law School**, September 14, 1990; Law and Economics Seminar, **University of Michigan Law School**, October 18, 1990; Faculty Workshop, **NYU Law School**, November 14, 1990; Faculty Workshop, **University of Florida Law School**, March 18, 1991.
- "The Effects of Fee Shifting on the Settlement Rate: Theoretical Observations on Costs, Conflicts, and Contingency Fees," at the **Yale Law School Conference "Modern Civil Procedure: Issues in Controversy,"** June 16, 1990.
- "Studying the Iceberg From Its Tip?: An Analysis of the Differences Between Published and Unpublished Employment Discrimination Cases," **Law and Society Meetings**, Berkeley, California, May 31, 1990.
- Panel Discussion on Tort Reform, **University of Pennsylvania Law School**, April 27, 1990.
- Panel Discussion of "The Role of Government in Closing the Socio-Economic Gap for Minorities," at the Federalist Society National Symposium on "The Future of Civil Rights Law," **Stanford Law School**, March 16, 1990.
- "Continuous versus Episodic Change: The Impact of Affirmative Action and Civil Rights Policy on the Economic Status of Blacks," **University of Virginia Economics Department**, February 15, 1990; **Princeton University Department of Economics**, February 21, 1990 (with James Heckman); Law & Economics Workshop, **University of Toronto Law School**, October 8, 1991.

- "Sex Discrimination in the Workplace: An Economic Perspective," Fellows Seminar, **American Bar Foundation**, October 16, 1989.
- "The Changing Nature of Employment Discrimination Litigation," Law and Economics Workshop, **Columbia Law School**, March 23, 1989; Faculty Seminar, **University of Virginia Law School**, March 24, 1989; Law and Economics Workshop, **University of Chicago**, April 25, 1989; **Law & Society Meeting**; Madison, Wisconsin, June 8, 1989; Labor Economics Workshop, **University of Illinois**, Chicago, November 1, 1989; Law & Economics Workshop, **University of Pennsylvania Law School**, November 9, 1989; Law and Economics Seminar, **University of California at Berkeley**, October 4, 1990; Law and Social Science Workshop, **Northwestern University**, February 3, 1991; Law and Economics Seminar, **Stanford Law School**, March 21, 1991; Faculty Workshop, **Cornell Law School**, April 3, 1991; Visiting Committee, **Northwestern Law School**, April 5, 1991.
- "Law & Economics: The Third Phase," The Association of General Counsel, **Northwestern University School of Law**, October 14, 1988.
- "Employment Discrimination Litigation," **Northwestern Law School** Alumni Monthly Loop Luncheon. **Chicago Bar Association**, May 31, 1988.
- "The Morality of the Death Penalty." A debate with Ernest Van Den Haag. **Northwestern University School of Law**, April 19, 1988.
- "Models of Deregulation of International Capital Markets." A presentation with David Van Zandt, Faculty Seminar, **Northwestern University School of Law**, April 1, 1988; Visiting Committee, May 5, 1988.
- "Is Title VII Efficient?" A debate with Judge Richard Posner, Faculty Seminar, **Northwestern University School of Law**, November 20, 1987.
- "The Senate's Role in Confirming Supreme Court Nominees: The Historical Record," **Northwestern University School of Law**, September 22, 1987.
- "Diverting the Coasean River: Incentive Schemes to Reduce Unemployment Spells," **Yale Law School** Civil Liability Workshop, March 30, 1987; Faculty Seminar, **Northwestern University School of Law**, March 18, 1987; **University of Southern California Law Center**, May 1, 1987; and Seminar in Law and Politics, Department of Political Science, **Northwestern University**, May 8, 1987; Labor Workshop, Department of Economics, **Northwestern University**, October 27, 1987; **AALS Annual Meeting**, New Orleans, January 7, 1989.
- "Women in the Labor Market--Are Things Getting Better or Worse?" **Hamilton College**, February 23, 1987.
- "The Changing Relative Quit Rates of Young Male and Female Workers," **Hamilton-Colgate Joint Faculty Economics Seminar**, February 23, 1987.
- "Living on Borrowed Money and Time--U.S. Fiscal Policy and the Prospect of Explosive Public Debt," **Orange Rotary Club**, February 22, 1985.
- "Capital Punishment in the Eighties," **Hamilton College**, April 6, 1981.
- "Terms and Conditions of Sale Under the Uniform Commercial Code," Executive Sales Conference, **National Machine Tool Builders' Association**, May 12, 1980.

AWARDS

- **47th Tikkun Olam Award**, The Haiti Jewish Refugee Legacy Project, February 2014, "Awarded for incredibly significant work that explores and inspires the search for justice and taking serious, correct and timely action." Tikkun Olam is a Hebrew phrase that means 'repairing the world.'
<https://haitiholocaustsurvivors.wordpress.com/guest-posts/47th-tikkun-olam-award-to-professor-john-j-donohue-iii/>

PROFESSIONAL ACTIVITIES

- Member, Stanford Law School academic reading group evaluating the criminal law opinions of U.S. Supreme Court nominee Judge Ketanji Brown Jackson for the ABA Standing Committee on the Federal Judiciary, March 2022.
- Member, USF Institute for Nonviolence and Social Justice Leadership Council, University of San Francisco, June 2021 – present.
- Member, Criminal Justice Expert Panel, @CJExpertPanel, providing information on the relevance of criminal justice research to current events, beginning April 2021.
- Statistical Consultant to the Fairness Committee of the 9th Circuit Court of Appeals investigating issues of sentencing disparities by race, ethnicity, and gender in federal criminal sentencing, March 2018 – March 2020.
- Legal Scholarship Network Advisory Board Member, SSRN.
- Member, Committee on Law and Justice, National Research Council, October 2011 – December 2018.
- Fellow of the Society for Empirical Legal Studies, 2015 - present.
- Member, International Advisory Council, Economic Order Study Center, Federal University of San Paolo, Brazil.
- Co-Editor (with Steven Shavell), American Law and Economics Review, May 2006 – August 2012.
- President, American Law and Economics Association, May 2011 – May 2012.
- Co-President, Society for Empirical Legal Studies, November 2011 - August 2012. Member, Board of Directors from November 2011 - November 2014.
- Testified before the Connecticut Legislature in Support of Senate Bill 1035 and House Bill 6425 (A Bill to Eliminate the Death Penalty), March 7, 2011; Testified again before the Connecticut Judiciary Committee on March 14, 2012.
- Member of the Special Committee on ALI Young Scholars Medal, October 2009 – February 2011.
- Vice-President/President Elect, American Law and Economics Association, June 2010 – May 2011.
- Secretary-Treasurer, American Law and Economics Association, June 2009 – May 2010.
- Board of Advisors, Yale Law School Center for the Study of Corporate Law, July 2004 – August 2010.
- Evaluated the Connecticut death penalty system: “Capital Punishment in Connecticut, 1973-2007: A Comprehensive Evaluation from 4600 murders to One Execution,” http://works.bepress.com/john_donohue/137/.
- Member, Panel on Methods for Assessing Discrimination, National Academy of Sciences, September 2001 – June 2004. Resulting Publication: National Research Council, Measuring Racial Discrimination (2004), <http://www.nap.edu/catalog/10887.html>.
- Member, National Science Foundation Review Panel, Law and Social Sciences, September, 1999 – April 2001.
- Editorial Board, Journal of Empirical Legal Studies, July 2003 – present.
- Editorial Board, International Review of Law and Economics, October 1999 – present.
- Editorial Board, Law and Social Inquiry, February 2000 – present.

- Board of Editors, American Law and Economics Review, August 1998 – April 2013.
- Consultant, Planning Meeting on Measuring the Crime Control Effectiveness of Criminal Justice Sanctions, National Academy of Sciences, Washington, D.C., June 11, 1998.
- Member, Board of Directors, American Law and Economics Association, June 1994-May 1997. Member, ALEA Nominating Committee, July 1995-May 1996. Member, Program Committee, July 1996-May 1998 and July 2000 – May 2002.
- Statistical Consultant, 7th Circuit Court of Appeals Settlement Conference Project (December, 1994).
- Testified before U.S. Senate Labor Committee on evaluating the Job Corps, October 4, 1994.
- Assisted the American Bar Association Standing Committee on the Federal Judiciary in evaluating the qualifications of Ruth Bader Ginsburg (June 1993) and David Souter (June, 1990).
- Chair, AALS Section on Law and Economics, January 1990-January 1991.
- Economic Consultant to Federal Courts Study Committee. Analyzing the role of the federal courts and projected caseload for Judge Richard Posner's subcommittee. February 1989-March 1990.
- Member, 1990 AALS Scholarly Papers Committee.
- Member, Advisory Board, Corporate Counsel Center, Northwestern University School of Law. Since December 1987.
- Associate Editor, Law and Social Inquiry. Summer 1987-December 1989.
- Interviewed Administrative Law Judge candidates for U.S. Office of Personnel Management. Chicago, Illinois. May 23, 1988.
- Member, Congressman Bruce Morrison's Military Academy Selection Committee. Fall 1983.
- 1982 Candidate for Democratic Nomination, Connecticut State Senate, 14th District (Milford, Orange, West Haven).

PRO BONO LEGAL WORK

- Co-wrote amicus brief for the United States Supreme Court for "Social Scientists and Public Health Researchers in Support of Respondents" in *New York State Rifle & Pistol Association v. Bruen*, which discusses the evidence that right-to-carry laws increase violent crime in the brief, September 21, 2021.
- Co-wrote amicus brief for the United States Supreme Court for "Public Health Researchers and Social Scientists in Support of Respondents" in *New York State Rifle & Pistol Association v. City of New York*, which quotes my article *Right-to-Carry Laws and Violent Crime* in the brief, August 12, 2019.
- Co-wrote amicus brief for the 9th Circuit Court of Appeals for "Empirical Scholars Concerning Deterrence and the Death Penalty In Support of Petitioner/Appellee," *Jones v. Davis*, No. 09 Cv. 2158 CJC, which discusses the lack of deterrence of the death penalty, March 6, 2015.
- Death Penalty case: Heath v. Alabama. Fall 1986-Fall 1989.
- Wrote brief opposing death sentence in Navy spy case. Court ruled in favor of defendant John A. Walker on September 13, 1985.
- Staff Attorney, Neighborhood Legal Services, January-July 1981.
- Appealed sentence of death for Georgia defendant to the United States Supreme Court. Sentence vacated on May 27, 1980. Baker v. Georgia.

- Court-appointed representation of indigent criminal defendant in District of Columbia Superior Court, February-July 1980.

RESEARCH GRANTS

- Stanford University Research Fund, January 1997 and January 1998.
- The National Science Foundation (project with James Heckman), December 1992; (project with Steve Levitt), July 1997.
- Fund for Labor Relations Studies, University of Michigan Law School, March 1988.

BAR ADMISSIONS

- Connecticut - October 1977; District of Columbia - March 1978 (Currently Inactive Status); United States Supreme Court - November 3, 1980; U.S. District Court for the District of Connecticut – February 14, 1978.

PROFESSIONAL and HONORARY ASSOCIATIONS

- American Academy of Arts and Sciences (since April 2009).
- Research Associate, National Bureau of Economic Research (since October 1996) – in Law and Economics and Labor Studies.
- Stanford Center for Racial Justice – August 2020 to present.
- American Law Institute (since September 29, 2010).
- Member, Fellows of the Society for Empirical Legal Studies (since October 2015).
- American Bar Association
- American Economic Association
- American Law and Economics Association

PERSONAL

- Born: January 30, 1953.

1 ROB BONTA
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2 MARK R. BECKINGTON
Supervising Deputy Attorney General
3 ROBERT L. MEYERHOFF
Deputy Attorney General
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E-mail: Robert.Meyerhoff@doj.ca.gov
7 *Attorneys for Defendant Rob Bonta in his*
official capacity as Attorney General of the
8 *State of California*

9 IN THE UNITED STATES DISTRICT COURT
10 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
11 CIVIL DIVISION
12

13 **VIRGINIA DUNCAN, RICHARD**
14 **LEWIS, PATRICK LOVETTE,**
15 **DAVID MARGUGLIO,**
16 **CHRISTOPHER WADDELL, and**
CALIFORNIA RIFLE & PISTOL
ASSOCIATION, INC., a California
corporation,

17 Plaintiffs,

18 v.

19 **ROB BONTA, in his official capacity as**
20 **Attorney General of the State of**
21 **California; and DOES 1-10,**

22 Defendants.
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27
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Case No. 3:17-cv-01017-BEN-JLB

SUPPLEMENTAL
DECLARATION OF LOUIS
KLAREVAS

Courtroom: 5A
Judge: Hon. Roger T. Benitez
Action Filed: May 17, 2017

1 **SUPPLEMENTAL DECLARATION OF LOUIS KLAREVAS**

2 I, Louis Klarevas, declare under penalty of perjury that the following is true
3 and correct:

4 1. I previously submitted a Revised Expert Report, which was
5 incorporated into the record as Exhibit 3 of the Declaration of Deputy Attorney
6 General John D. Echeverria in Support of Defendants' Opposition to Plaintiffs'
7 Motion for Summary Judgment or, Alternatively, Partial Summary Judgment, filed
8 with this Court on April 9, 2018 ("2018 Report" hereinafter).¹ I make this
9 supplemental declaration in support of Defendants' Supplemental Brief in
10 Response to the Court's Order of September 26, 2022.

11 2. This declaration is based on my own personal knowledge and
12 experience, and if I am called to testify as a witness, I could and would testify
13 competently to the truth of the matters discussed in this declaration.

14 3. I have been retained by the California Department of Justice to render
15 expert opinions in this case. I am being compensated at a rate of \$600 per hour for
16 testimony (in deposition and in court) and \$480 per hour for all other services.

17 **BACKGROUND AND QUALIFICATIONS**

18 4. In addition to my background and qualifications summarized in my
19 2018 Report, I have subsequently submitted declarations under oath in the
20 following cases: *Miller v. Bonta*, Case No. 3:19-cv-01537-BEN-JLB, Southern
21 District of California; *Jones v. Bonta*, Case No. 19-cv-01226-L-AHG, Southern
22 District of California; and *Nguyen v. Bonta*, Case No. 20-cv-02470-WQH-MDD,
23 Southern District of California. *Miller* involves a challenge to California's
24 regulation of assault weapons. *Jones* involves a challenge to California's regulation
25 of firearm sales to individuals 18 to 20 years old. *Nguyen* involves a challenge to
26 California's regulation limiting the sale of certain firearms to one purchase per
27

28 _____
¹ My 2018 Revised Expert Report can be found at Dkt. 53-4 at 87-132.

1 month. While I was never deposed in *Miller and Jones*, I was deposed in *Nguyen* and testified under oath in court in *Miller*.

5. In 2021, I was also retained by the Government of Canada in the following cases which involved challenges to Canada's regulation of certain categories of firearms: *Parker and K.K.S. Tactical Supplies Ltd. v. Attorney General of Canada*, Federal Court, Court File No.: T-569-20; *Canadian Coalition for Firearm Rights, et al. v. Attorney General of Canada*, Federal Court, Court File No.: T-577-20; *Hipwell v. Attorney General of Canada*, Federal Court, Court File No.: T-581-20; *Doherty, et al. v. Attorney General of Canada*, Federal Court, Court File No.: T-677-20; *Generoux, et al. v. Attorney General of Canada*, Federal Court, Court File No.: T-735-20; and *Eichenberg, et al. v. Attorney General of Canada*, Federal Court, Court File No.: T-905-20. I testified under oath in a consolidated court proceeding involving all six cases in the Federal Court of Canada.

6. A true and correct copy of my current curriculum vitae is attached as **Exhibit A** to this declaration.

OPINIONS

I. THE RELATIONSHIP BETWEEN MASS SHOOTINGS, LARGE-CAPACITY MAGAZINE USE, AND LEGAL RESTRICTIONS ON LARGE-CAPACITY MAGAZINES (LCMS)

7. I have been asked by the California Department of Justice to supplement the opinions expressed in my 2018 Report with currently available information. In my 2018 Report, based on the review of relevant data and the analyses performed in my 2018 Report, I opined:

(1) gun massacres presently pose the deadliest threat to the safety and security of American society, and the problem is growing; (2) gun massacres involving large-capacity magazines, on average, have resulted in a greater loss of life than similar incidents that did not involve large-capacity magazines; and (3) jurisdictions where bans on the possession of large-capacity magazines were in effect experienced fewer gun massacres, per capita, than jurisdictions where such bans were not in effect.²

² 2018 Report, at 4.

1 The primary conclusion of my 2018 Report was that “restrictions on LCMs have
2 the potential to significantly reduce the number of lives lost in mass shootings.”³ I
3 continue to stand by the opinions and conclusions expressed in my 2018 Report.

4 8. Furthermore, in the four-and-a-half-year time period following my
5 2018 Report being filed with this Court, I have continued to analyze gun massacres
6 resulting in six or more fatalities (also known as “high-fatality mass shootings” in
7 the academic literature), including the relationship between LCM use and high-
8 fatality mass shootings rates.⁴ My research indicates that, with regard to gun
9 massacres, the aforementioned patterns identified in my 2018 Report continue to
10 hold. Nothing has changed since 2018 to alter my conclusions.

11 9. Based on this recent research, it is still my opinion that, in terms of
12 gun massacres, restrictions on LCMs have the potential to significantly reduce the
13 frequency and lethality of mass shooting violence. As I stated in my 2018 Report,
14 “While imposing constraints on LCMs will not result in the prevention of all future
15 mass shootings, the data suggest that denying rampage gunmen access to LCMs
16 will result in a significant number of lives being saved.”⁵ I remain steadfast in this
17 conclusion.

18 **II. DOUBLE-DIGIT-FATALITY MASS SHOOTINGS IN AMERICAN HISTORY**

19 10. I have also been asked to examine the historical occurrence and
20 distribution of mass shootings resulting in 10 or more victims killed since 1776 (see
21 Table 1 and Fig. 1). A lengthy search uncovered several informative findings.⁶ In

22 ³ Ibid.

23 ⁴ See, Louis Klarevas, et al. *The Effect of Large-Capacity Magazine Bans on*
24 *High-Fatality Mass Shootings, 1990-2007*, 109 Am. J. of Pub. Health 1754 (2019),
25 available at <https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2019.305311>
26 (last accessed November 6, 2022).

27 ⁵ 2018 Report, at 17.

28 ⁶ I searched for firearm-related “murders,” using variations of the term,
(continued...)

1 terms of the origins of this form of extreme gun violence, there is no known
2 occurrence of a mass shooting resulting in double-digit fatalities at any point in
3 time during the 173-year period between the nation's founding in 1776 and 1948.
4 The first known mass shooting resulting in 10 or more deaths occurs in 1949. In
5 other words, for 70 percent of its 247-year existence as a nation, the United States
6 did not experience a mass shooting resulting in double-digit fatalities.⁷ After the
7 first such incident in 1949, 17 years pass until a similar mass shooting occurs in
8 1966. The third such mass shooting then occurs 9 years later, in 1975. And the
9 fourth such incident occurs 7 years after, in 1982. Basically, the first few mass
10 shootings resulting in 10 or more deaths did not occur until the post-World War II
11 era, and they occurred with relative infrequency, although the temporal gap
12 between these first four incidents shrank with each event (Table 1 and Fig. 2).⁸

13 11. The distribution of double-digit-fatality mass shootings changes in the
14 early 1980s, when five such events take place in a span of five years (Table 1 and
15 Fig. 2). This timeframe also reflects the first time that assault weapons with LCMs
16 are used to perpetrate mass shootings resulting in 10 or more deaths: the 1982
17 Wilkes-Barre, PA, massacre (involving an AR-15 rifle and resulting in 13 deaths)
18 and the 1984 San Ysidro, CA, massacre (involving an Uzi pistol and resulting in 21
19 deaths). But this cluster of incidents is followed by a 20-year period in which only
20 2 double-digit-fatality mass shootings occur (Fig. 2). This period of time from

21 setting a minimum fatality threshold of 10 in the Newspaper Archive online
22 newspaper repository, available at www.newspaperarchive.com (last accessed
23 Oct. 2, 2022). The Newspaper Archive contains local and major metropolitan
24 newspapers dating back to 1607. Incidents of large-scale, inter-group violence such
25 as mob violence, rioting, combat or battle skirmishes, and attacks initiated by
authorities acting in their official capacity were excluded.

26 ⁷ Using the Constitution's effective date of 1789 as the starting point would
27 lead to the conclusion that, for 68 percent of its 234-year existence as a nation, the
United States did not experience a mass shooting resulting in double-digit fatalities.

28 ⁸ Figs. 1-2 are reproduced in larger form as **Exhibit B** of this Declaration.

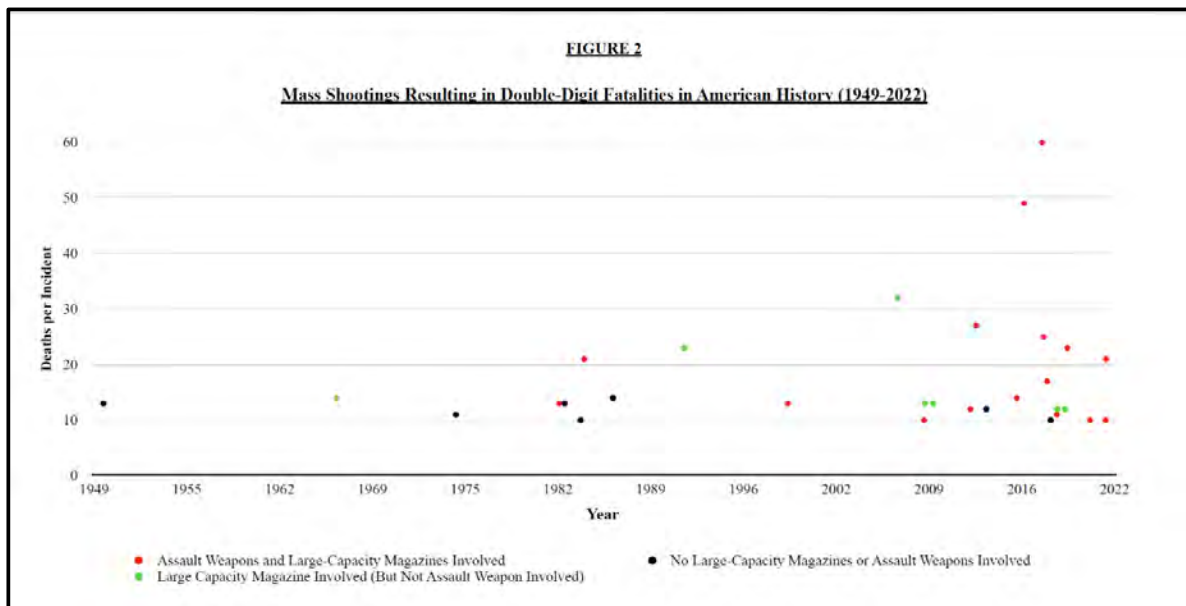
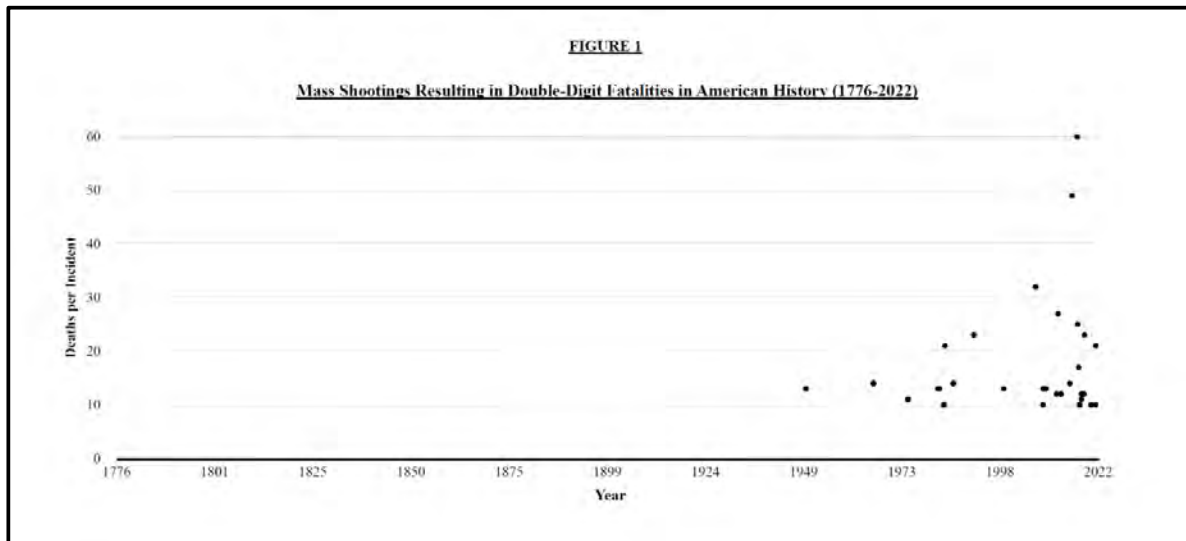
1 1987-2007 correlates with two important pieces of federal firearms legislation: the
 2 1986 Firearm Owners Protection Act and the 1994 Federal Assault Weapons Ban.

3
 4 **Table 1**

5 **Mass Shootings Resulting in Double-Digit Fatalities in U.S. History, 1776-2022**

	Date	Location	Deaths	Involved Assault Weapon(s)	Involved Large- Capacity Magazine(s)
1	9/6/1949	Camden, NE	13	N	N
2	8/1/1966	Austin, TX	14	N	Y
3	3/30/1975	Hamilton, OH	11	N	N
4	9/25/1982	Wilkes-Barre, PA	13	Y	Y
5	2/18/1983	Seattle, WA	13	N	N
6	4/15/1984	Brooklyn, NY	10	N	N
7	7/18/1984	San Ysidro, CA	21	Y	Y
8	8/20/1986	Edmond, OK	14	N	N
9	10/16/1991	Killeen, TX	23	N	Y
10	4/20/1999	Littleton, CO	13	Y	Y
11	4/16/2007	Blacksburg, VA	32	N	Y
12	3/10/2009	Geneva County, AL	10	Y	Y
13	4/3/2009	Binghamton, NY	13	N	Y
14	11/5/2009	Fort Hood, TX	13	N	Y
15	7/20/2012	Aurora, CO	12	Y	Y
16	12/14/2012	Newtown, CT	27	Y	Y
17	9/16/2013	Washington, DC	12	N	N
18	12/2/2015	San Bernardino, CA	14	Y	Y
19	6/12/2016	Orlando, FL	49	Y	Y
20	10/1/2017	Las Vegas, NV	60	Y	Y
21	11/5/2017	Sutherland Springs, TX	25	Y	Y
22	2/14/2018	Parkland, FL	17	Y	Y
23	5/18/2018	Santa Fe	10	N	N
24	10/27/2018	Pittsburgh, PA	11	Y	Y
25	11/7/2018	Thousand Oaks, CA	12	N	Y
26	5/31/2019	Virginia Beach, VA	12	N	Y
27	8/3/2019	El Paso, TX	23	Y	Y
28	3/22/2021	Boulder, CO	10	Y	Y
	5/14/2022	Buffalo, NY	10	Y	Y
	5/24/2022	Uvalde, TX	21	Y	Y

25 Note: Death tolls do not include perpetrators. An incident was coded as involving an assault
 26 weapon if at least one of the firearms discharged was defined as an assault weapon in (1) the 1994
 27 federal Assault Weapons Ban; (2) the statutes of the state where the gun massacre occurred; or (3)
 28 a legal or judicial declaration issued by a state official. An incident was coded as involving a
 large-capacity magazine if at least one of the firearms discharged was armed with a detachable
 ammunition-feeding device holding more than 10 bullets.



12. It is well-documented in the academic literature that, after the Assault Weapons Ban expired in 2004, mass shooting violence increased substantially.⁹

⁹ See, for example, Louis Klarevas, *Rampage Nation: Securing America from Mass Shootings* (2016), at 238-245, 348-50 (attached as **Exhibit C**); Louis Klarevas, et al., *supra* note 4 (attached as **Exhibit D**); Charles DiMaggio, et al., *Changes in US Mass Shooting Deaths Associated with the 1994-2004 Federal Assault Weapons Ban: Analysis of Open-Source Data*, 86 *Journal of Trauma and Acute Care Surgery* 11 (2019) (attached as **Exhibit E**); Lori Post, et al., *Impact of* (continued...)

1 Mass shootings that resulted in 10 or more deaths were no exception, following the
2 same pattern. In the 56 years from 1949 through 2004, there were a total of 10
3 mass shootings resulting in double-digit fatalities. In the 18 years since 2004, there
4 have been 20 double-digit-fatality mass shootings. In other words, the average rate
5 of occurrence has increased over six-fold (Table 1 and Fig. 2).

6 13. The other pattern that stands out from the historical plotting of the data
7 is that 100 percent of mass shootings resulting in more than 14 deaths involved
8 LCMs holding more than 10 bullets. As with the analyses of gun massacres
9 discussed in the previous section, death tolls in double-digit-fatality mass shootings
10 are related to the use of LCMs—a firearms technology that, in terms of mass
11 shootings, serves as a force multiplier (Table 1 and Fig. 2).

12 **III. THE AVAILABILITY OF LCMs IN THE U.S. CIVILIAN FIREARM** 13 **MARKETPLACE**

14 14. I have, furthermore, been asked to perform a decade-by-decade
15 analysis of the civilian firearms market in the United States for purposes of
16 identifying how many current makes and models of firearms (handguns and long
17 guns) were sold with factory-issue magazines having a capacity greater than 10
18 rounds of ammunition.¹⁰ The information is drawn from *Gun Digest*, which since
19 its 1955 edition has systematically published this data in what is now known as the
20 *Gun Digest* GUNDEX.¹¹ The objective of this evaluation is to identify the

21 _____
22 *Firearm Surveillance on Gun Control Policy: Regression Discontinuity Analysis*, 7
23 *JMIR Public Health and Surveillance* (2021) (attached as **Exhibit F**); and Philip J.
24 Cook and John J. Donohue, “Regulating Assault Weapons and Large-Capacity
25 Magazines for Ammunition,” 328 *JAMA*, September 27, 2022 (attached as **Exhibit**
26 **G**).

27 ¹⁰ Air, pellet, and BB guns have been excluded from this analysis in Section
28 III of this Declaration.

¹¹ GUNDEX is a registered trademark of *Gun Digest*. While *Gun Digest* has
provided information on guns available for purchase in the United States since the
(continued...)

1 percentage of factory-issue firearms sold with LCMs in the American marketplace
2 that were available from the mid-1950s until the mid-1990s.

3 15. As mentioned above, in 1994, Congress enacted the federal assault
4 weapons ban, which prohibited the manufacture, transfer, or possession of *new*
5 LCMs that were not legally in circulation prior to the ban taking effect. As such,
6 after the ban took effect on September 13, 1994, firearms sold in the civilian
7 marketplace were not sold with new magazines holding more than 10 rounds of
8 ammunition. Therefore, additional analysis beyond the mid-1990s is unnecessary,
9 as the peak of LCM prevalence prior to nationwide restriction of such ammunition-
10 feeding devices would have presumably been 1994, immediately prior to the ban's
11 effect. For purposes of this analysis, data is drawn from the 1955, 1965, 1975,
12 1985, and 1995 editions of the GUNDEX. These editions, respectively, reflect
13 market availability of firearms in 1954, 1964, 1974, 1984, and 1994.¹²
14

15 _____
16 publication of its first edition in 1944, it was not until the 1955 edition that *Gun*
17 *Digest* began presenting this information in a quasi-systematic fashion, including
18 make, model, and estimated price (at the time of publication). *Gun Digest* first
19 referenced its catalog as the GUNDEX in its 1984 edition. Prior to that, it was
20 referred to as the *Gun Digest* "Complete Compact Catalog." Describing to the
21 Complete Compact Catalog in its 1980 edition, *Gun Digest* wrote: "Its all-inclusive
22 nature provides, if you look at a lot of them, a history of firearms availability in the
23 United States. It covers virtually all firearms available to U.S. shooters, whether
24 manufactured in the United States or elsewhere, or marketed by United States firms
25 or others, and whether the arm is rimfire, centerfire, muzzleloader, rifle, handgun,
26 shotgun." *Gun Digest, 34th Anniversary, 1980 Deluxe Edition* (1979), at 288
27 (attached as **Exhibit H**).
28

24 ¹² The 1995 *Gun Digest*, which contains the 1995 GUNDEX, was published
25 in 1994. Despite being in the 1995 edition, the 1995 GUNDEX predominantly
26 captures guns available in the marketplace in 1994. The same pattern holds for all
27 *Gun Digest* GUNDEXs—they reflect the firearms available in the American
28 marketplace in the year of publication (not the year of the *Gun Digest*'s annual
edition, which is the year appearing on the cover). Again, every annual *Gun Digest*
is published in the year prior to the edition listed on the cover.

16. Table 2 shows the number of firearms, current at-the-time, being sold with factory-issue magazines holding more than 10 rounds of ammunition at mid-decade, between 1955 and 1995. According to *Gun Digest*, in 1954, only two firearms were sold in the United States with factory-issue LCMs. By 1994, this number had reached 152 firearms available in the civilian marketplace. As a share of all firearms available in the American marketplace in the decades prior to the federal assault weapons ban taking effect, the range ran from a low of approximately 1-percent in the 1950s and 1960s to a high of approximately 7-percent of all firearms sold with factory-issue large-capacity magazines in the 1990s (immediately prior to the federal ban imposing prohibitions on such LCMs).

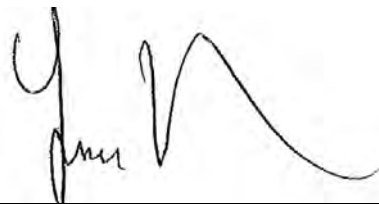
Table 2
Number and Share of Factory-Issue Guns Sold with LCMs in U.S., 1955-1995

	Number of Factory-Issue Firearms Sold with LCMs	Number of Firearms Available in Civilian Market	Factory-Issue Firearms Sold with LCMs as a Share of All Available Firearms in Marketplace
1955	2	301	1%
1965	3	510	1%
1975	14	834	2%
1985	69	1,270	5%
1995	152	2,108	7%

Sources: *Gun Digest*, 1955; *Gun Digest*, 1965; *Gun Digest*, 1975; *Gun Digest*, 1985; and *Gun Digest*, 1995.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on November 10, 2022, at Nassau County, New York.



Louis Klarevas

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EXHIBIT A

Louis J. Klarevas
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Education

Ph.D. International Relations, 1999
School of International Service
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Author

Rampage Nation: Securing America from Mass Shootings

Current Positions

Research Professor, Teachers College, Columbia University, New York, NY, 2018-Present

Faculty Affiliate, Media and Social Change Lab (MASCLab), Teachers College, Columbia University, New York, NY, 2019-Present

Professional Experience

Academic Experience (Presented in Academic Years)

Associate Lecturer, Department of Global Affairs, University of Massachusetts – Boston, Boston, MA, 2015-2020

Senior Fulbright Scholar (Security Studies), Department of European and International Studies, University of Macedonia, Thessaloniki, Greece, 2011-2012

Founder and Coordinator, Graduate Transnational Security Program, Center for Global Affairs, New York University, New York, NY, 2009-2011

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Clinical Faculty, Center for Global Affairs, New York University, New York, NY, 2006-2011

Adjunct Professor, Center for Global Affairs, New York University, New York, NY, 2004-2006

Assistant Professor of Political Science, City University of New York – College of Staten Island, Staten Island, NY, 2003-2006

Associate Fellow, European Institute, London School of Economics and Political Science, London, England, UK, 2003-2004

Defense Analysis Research Fellow, London School of Economics and Political Science, London, England, UK, 2002-2004

Visiting Assistant Professor of Political Science and International Affairs, George Washington University, Washington, DC, 1999-2002

Adjunct Professor of Political Science, George Washington University, Washington, DC, 1998-1999

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Dean's Scholar, School of International Service, American University, Washington, DC, 1989-1992

Professional Experience (Presented in Calendar Years)

Expert for Cook County, Illinois, *Viramontes v. County of Cook*, United States District Court for Northern District of Illinois, Case Number 21-cv-04595, Chicago, IL, 2022-

Expert for Government of Canada, *Parker and K.K.S. Tactical Supplies Ltd. v. Attorney General of Canada*, Federal Court, Court File No.: T-569-20, 2021-

Expert for Government of Canada, *Canadian Coalition for Firearm Rights, et al. v. Attorney General of Canada*, Federal Court, Court File No.: T-577-20, 2021-

Expert for Government of Canada, *Hipwell v. Attorney General of Canada*, Federal Court, Court File No.: T-581-20, 2021-

Expert for Government of Canada, *Doherty, et al. v. Attorney General of Canada*, Federal Court, Court File No.: T-677-20, 2021-

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Expert for Plaintiffs, *Ward et al. v. Academy Sports + Outdoor*, District Court Bexar County, Texas, 224th Judicial District, Cause Number 2017CI23341, Bexar County, TX, 2019-

Expert for State of California, *Duncan v. Becerra*, United States District Court for Southern District of California, Case Number 17-cv-1017-BEN-JLB, San Diego, CA, 2017-

Expert for State of California, *Wiese v. Becerra*, United States District Court for Eastern District of California, Case Number 17-cv-00903-WBS-KJN, Sacramento, CA, 2017-

Expert for State of Colorado, *Rocky Mountain Gun Owners v. Hickenlooper*, District Court for County and City of Denver, Colorado, Case Number 2013CV33879, Denver, CO, 2016-2017

Consultant, National Joint Terrorism Task Force, Federal Bureau of Investigation, Washington, DC, 2015

Writer, Prometheus Books, Amherst, NY, 2012-2015

Consultant, United States Institute of Peace, Washington, DC, 2005, 2008-2009

Research Associate, United States Institute of Peace, Washington, DC, 1992-1998

Faculty Advisor, National Youth Leadership Forum, Washington, DC, 1992

Courses Taught

Graduate

Counter-Terrorism and Homeland Security
International Political Economy
International Politics in a Post-Cold War Era
International Security
Machinery and Politics of American Foreign Policy
Role of the United States in World Affairs
Security Policy
Theories of International Politics
Transnational Security
Transnational Terrorism
United States Foreign Policy

Undergraduate

American Government and Politics
European-Atlantic Relations
International Political Economy
International Relations
Transnational Terrorism
United States Foreign Policy

Scholarship

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“The Idiot Jihadist Next Door,” December 1, 2011

“Locked Up Abroad,” October 4, 2011

Commentaries for *The New Republic* – www.tnr.com/users/louis-klarevas

“What the U.N. Can Do To Stop Getting Attacked by Terrorists,” September 2, 2011

“Is It Completely Nuts That the British Police Don’t Carry Guns? Maybe Not,” August 13, 2011

“How Obama Could Have Stayed the Execution of Humberto Leal Garcia,” July 13, 2011

“After Osama bin Laden: Will His Death Hasten Al Qaeda’s Demise?” May 2, 2011

“Libya’s Stranger Soldiers: How To Go After Qaddafi’s Mercenaries,” February 28, 2011

“Closing the Gap: How To Reform U.S. Gun Laws To Prevent Another Tucson,” January 13, 2011

“Easy Target,” June 13, 2010

“Death Be Not Proud,” October 27, 2003 (correspondence)

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“Human Trafficking and the Child Protection Compact Act of 2009,” *Writ* (FindLaw.com), July 15, 2009 (co-authored with Christine Buckley)

“Can the Justice Department Prosecute Reporters Who Publish Leaked Classified Information? Interpreting the Espionage Act,” *Writ* (FindLaw.com), June 9, 2006

“Will the Precedent Set by the Indictment in a Pentagon Leak Case Spell Trouble for Those Who Leaked Valerie Plame's Identity to the Press?” *Writ* (FindLaw.com), August 15, 2005

“Jailing Judith Miller: Why the Media Shouldn’t Be So Quick to Defend Her, and Why a Number of These Defenses Are Troubling,” *Writ* (FindLaw.com), July 8, 2005

“The Supreme Court Dismisses the Controversial Consular Rights Case: A Blessing in Disguise for International Law Advocates?” *Writ* (FindLaw.com), June 6, 2005 (co-authored with Howard S. Schiffman)

“The Decision Dismissing the Lawsuit against Vice President Dick Cheney,” *Writ* (FindLaw.com), May 17, 2005

“The Supreme Court Considers the Rights of Foreign Citizens Arrested in the United States,” *Writ* (FindLaw.com), March 21, 2005 (co-authored with Howard S. Schiffman)

Presentations and Addresses

In addition to the presentations listed below, I have made close to one hundred media appearances, book events, and educational presentations (beyond lectures for my own classes)

“Mass Shootings: What We Know, What We Don’t Know, and Why It All Matters,” keynote presentation to be delivered at the Columbia University Center for Injury Science and Prevention Annual Symposium, virtual meeting, May 2020

“K-12 School Environmental Responses to Gun Violence: Gaps in the Evidence,” paper presented at Society for Advancement of Violence and Injury Research Annual Meeting, virtual meeting, April 2020 (co-authored with Sonali Rajan, Joseph Erardi, Justin Heinze, and Charles Branas)

“Active School Shootings,” Post-Performance Talkback following Presentation of *17 Minutes*, Barrow Theater, New York, January 29, 2020 (co-delivered with Sonali Rajan)

“Addressing Mass Shootings in Public Health: Lessons from Security Studies,” Teachers College, Columbia University, November 25, 2019

“Rampage Nation: Securing America from Mass Shootings,” Swarthmore College, October 24, 2019

“Rampage Nation: Securing America from Mass Shootings,” University of Pennsylvania, February 9, 2018

“Treating Mass Shootings for What They Really Are: Threats to American Security,” Framingham State University, October 26, 2017

“Book Talk: Rampage Nation,” Teachers College, Columbia University, October 17, 2017

Participant, Roundtable on Assault Weapons and Large-Capacity Magazines, Annual Conference on Second Amendment Litigation and Jurisprudence, Law Center to Prevent Gun Violence, October 16, 2017

“Protecting the Homeland: Tracking Patterns and Trends in Domestic Terrorism,” address delivered to the annual meeting of the National Joint Terrorism Task Force, June 2015

“Sovereign Accountability: Creating a Better World by Going after Bad Political Leaders,” address delivered to the Daniel H. Inouye Asia-Pacific Center for Security Studies, November 2013

“Game Theory and Political Theater,” address delivered at the School of Drama, State Theater of Northern Greece, May 2012

“Holding Heads of State Accountable for Gross Human Rights Abuses and Acts of Aggression,” presentation delivered at the Michael and Kitty Dukakis Center for Public and Humanitarian Service, American College of Thessaloniki, May 2012

Chairperson, Cultural Enrichment Seminar, Fulbright Foundation – Southern Europe, April 2012

Participant, Roundtable on “Did the Intertubes Topple Hosni?” Zócalo Public Square, February 2011

Chairperson, Panel on Democracy and Terrorism, annual meeting of the International Security Studies Section of the International Studies Association, October 2010

“Trends in Terrorism Within the American Homeland Since 9/11,” paper to be presented at the annual meeting of the International Security Studies Section of the International Studies Association, October 2010

Panelist, “In and Of the World,” Panel on Global Affairs in the 21st Century, Center for Global Affairs, New York University, March 2010

Moderator, “Primacy, Perils, and Players: What Does the Future Hold for American Security?” Panel of Faculty Symposium on Global Challenges Facing the Obama Administration, Center for Global Affairs, New York University, March 2009

“Europe’s Broken Border: The Problem of Illegal Immigration, Smuggling and Trafficking via Greece and the Implications for Western Security,” presentation delivered at the Center for Global Affairs, New York University, February 2009

“The Dangers of Democratization: Implications for Southeast Europe,” address delivered at the University of Athens, Athens, Greece, May 2008

Participant, “U.S. National Intelligence: The Iran National Intelligence Estimate,” Council on Foreign Relations, New York, April 2008

Moderator, First Friday Lunch Series, “Intelligence in the Post-9/11 World: An Off-the-Record Conversation with Dr. Joseph Helman (U.S. Senior National Intelligence Service),” Center for Global Affairs, New York University, March 2008

Participant, “U.S. National Intelligence: Progress and Challenges,” Council on Foreign Relations, New York, March 2008

Moderator, First Friday Lunch Series, “Public Diplomacy: The Steel Backbone of America’s Soft Power: An Off-the-Record Conversation with Dr. Judith Baroody (U.S. Department of State),” Center for Global Affairs, New York University, October 2007

“The Problems and Challenges of Democratization: Implications for Latin America,” presentation delivered at the Argentinean Center for the Study of Strategic and International Relations Third Conference on the International Relations of South America (IBERAM III), Buenos Aires, Argentina, September 2007

“The Importance of Higher Education to the Hellenic-American Community,” keynote address to the annual Pan-Icarian Youth Convention, New York, May 2007

Moderator, First Friday Lunch Series, Panel Spotighting Graduate Theses and Capstone Projects, Center for Global Affairs, New York University, April 2007

Convener, U.S. Department of State Foreign Officials Delegation Working Group on the Kurds and Turkey, March 2007

“Soft Power and International Law in a Globalizing Latin America,” round-table presentation delivered at the Argentinean Center for the Study of Strategic and International Relations Twelfth Conference of Students and Graduates of International Relations in the Southern Cone (CONOSUR XII), Buenos Aires, Argentina, November 2006

Moderator, First Friday Lunch Series, “From Berkeley to Baghdad to the Beltway: An Off-the-Record Conversation with Dr. Catherine Dale (U.S. Department of Defense),” Center for Global Affairs, New York University, November 2006

Chairperson, Roundtable on Presidential Privilege and Power Reconsidered in a Post-9/11 Era, American Political Science Association Annual Meeting, September 2006

“Constitutional Controversies,” round-table presentation delivered at City University of New York-College of Staten Island, September 2005

“The Future of the Cyprus Conflict,” address to be delivered at City University of New York College of Staten Island, April 2005

“The 2004 Election and the Future of American Foreign Policy,” address delivered at City University of New York College of Staten Island, December 2004

“One Culprit for the 9/11 Attacks: Political Realism,” address delivered at City University of New York-College of Staten Island, September 2004

“Were the Eagle and the Phoenix Birds of a Feather? The United States and the 1967 Greek Coup,” address delivered at London School of Economics, November 2003

“Beware of Europeans Bearing Gifts? Cypriot Accession to the EU and the Prospects for Peace,” address delivered at Conference on Mediterranean Stability, Security, and Cooperation, Austrian Defense Ministry, Vienna, Austria, October 2003

Co-Chair, Panel on Ideational and Strategic Aspects of Greek International Relations, London School of Economics Symposium on Modern Greece, London, June 2003

“Greece between Old and New Europe,” address delivered at London School of Economics, June 2003

Co-Chair, Panel on International Regimes and Genocide, International Association of Genocide Scholars Annual Meeting, Galway, Ireland, June 2003

“American Cooperation with International Tribunals,” paper presented at the International Association of Genocide Scholars Annual Meeting, Galway, Ireland, June 2003

“Is the Unipolar Moment Fading?” address delivered at London School of Economics, May 2003

“Cyprus, Turkey, and the European Union,” address delivered at London School of Economics, February 2003

“Bridging the Greek-Turkish Divide,” address delivered at Northwestern University, May 1998

“The CNN Effect: Fact or Fiction?” address delivered at Catholic University, April 1998

“The Current Political Situation in Cyprus,” address delivered at AMIDEAST, July 1997

“Making the Peace Happen in Cyprus,” presentation delivered at the U.S. Institute of Peace in July 1997

“The CNN Effect: The Impact of the Media during Diplomatic Crises and Complex Emergencies,” a series of presentations delivered in Cyprus (including at Ledra Palace), May 1997

“Are Policy-Makers Misreading the Public? American Public Opinion on the United Nations,” paper presented at the International Studies Association Annual Meeting, Toronto, Canada, March 1997 (with Shoon Murray)

“The Political and Diplomatic Consequences of Greece’s Recent National Elections,” presentation delivered at the National Foreign Affairs Training Center, Arlington, VA, September 1996

“Prospects for Greek-Turkish Reconciliation,” presentation delivered at the U.S. Institute of Peace Conference on Greek-Turkish Relations, Washington, D.C., June, 1996 (with Theodore A. Couloubis)

“Greek-Turkish Reconciliation,” paper presented at the Karamanlis Foundation and Fletcher School of Diplomacy Joint Conference on The Greek-U.S. Relationship and the Future of Southeastern Europe, Washington, D.C., May, 1996 (with Theodore A. Couloubis)

“The Path toward Peace in the Eastern Mediterranean and the Balkans in the Post-Cold War Era,” paper presented at the International Studies Association Annual Meeting, San Diego, CA, March, 1996 (with Theodore A. Couloubis)

“Peace Operations: The View from the Public,” paper presented at the International Studies Association Annual Meeting, San Diego, CA, March, 1996

Chairperson, Roundtable on Peace Operations, International Security Section of the International Studies Association Annual Meeting, Rosslyn, VA, October, 1995

“Chaos and Complexity in International Politics: Epistemological Implications,” paper presented at the International Studies Association Annual Meeting, Washington, D.C., March, 1994

“At What Cost? American Mass Public Opinion and the Use of Force Abroad,” paper presented at the International Studies Association Annual Meeting, Washington, D.C., March, 1994 (with Daniel B. O'Connor)

“American Mass Public Opinion and the Use of Force Abroad,” presentation delivered at the United States Institute of Peace, Washington, D.C., February, 1994 (with Daniel B. O'Connor)

“For a Good Cause: American Mass Public Opinion and the Use of Force Abroad,” paper presented at the Annual Meeting of the Foreign Policy Analysis/Midwest Section of the International Studies Association, Chicago, IL, October, 1993 (with Daniel B. O'Connor)

“American International Narcotics Control Policy: A Critical Evaluation,” presentation delivered at the American University Drug Policy Forum, Washington, D.C., November, 1991

“American National Security in the Post-Cold War Era: Social Defense, the War on Drugs, and the Department of Justice,” paper presented at the Association of Professional Schools of International Affairs Conference, Denver, CO, February, 1991

Referee for Grant Organizations, Peer-Reviewed Journals, and Book Publishers

National Science Foundation, Division of Social and Economic Sciences

American Journal of Public Health

American Political Science Review

British Medical Journal (BMJ)

Comparative Political Studies

Injury Epidemiology

Journal of Public and International Affairs

Millennium

Political Behavior

Presidential Studies Quarterly

Victims & Offenders

Violence and Victims

Brill Publishers

Johns Hopkins University Press

Routledge

Service to University, Profession, and Community

Member, Regional Gun Violence Research Consortium, Nelson A. Rockefeller Institute of Government, State University of New York, 2022-

Founding Member, Scientific Union for the Reduction of Gun Violence (SURGE), Columbia University, 2019-

Contributing Lecturer, Johns Hopkins University, Massive Open Online Course on Evidence-Based Gun Violence Research, Funded by David and Lucile Packard Foundation, 2019

Member, Group of Gun Violence Experts, *New York Times* Upshot Survey, 2017

Member, Guns on Campus Assessment Group, Johns Hopkins University and Association of American Universities, 2016

Member, Fulbright Selection Committee, Fulbright Foundation, Athens, Greece, 2012

Faculty Advisor, Global Affairs Graduate Society, New York University, 2009-2011

Founder and Coordinator, Graduate Transnational Security Studies, Center for Global Affairs, New York University, 2009-2011

Organizer, Annual Faculty Symposium, Center for Global Affairs, New York University, 2009

Member, Faculty Search Committees, Center for Global Affairs, New York University, 2007-2009

Member, Graduate Program Director Search Committee, Center for Global Affairs, New York University, 2008-2009

Developer, Transnational Security Studies, Center for Global Affairs, New York University, 2007-2009

Participant, Council on Foreign Relations Special Series on National Intelligence, New York, 2008

Member, Graduate Certificate Curriculum Committee, Center for Global Affairs, New York University, 2008

Member, Faculty Affairs Committee, New York University, 2006-2008

Member, Curriculum Review Committee, Center for Global Affairs, New York University, 2006-2008

Member, Overseas Study Committee, Center for Global Affairs, New York University, 2006-2007

Participant, New York Academic Delegation to Israel, Sponsored by American-Israel Friendship League, 2006

Member, Science, Letters, and Society Curriculum Committee, City University of New York-College of Staten Island, 2006

Member, Graduate Studies Committee, City University of New York-College of Staten Island, 2005-2006

Member, Summer Research Grant Selection Committee, City University of New York-College of Staten Island, 2005

Director, College of Staten Island Association, 2004-2005

Member of Investment Committee, College of Staten Island Association, 2004-2005

Member of Insurance Committee, College of Staten Island Association, 2004-2005

Member, International Studies Advisory Committee, City University of New York-College of Staten Island, 2004-2006

Faculty Advisor, Pi Sigma Alpha National Political Science Honor Society, City University of New York-College of Staten Island, 2004-2006

Participant, World on Wednesday Seminar Series, City University of New York-College of Staten Island, 2004-2005

Participant, American Democracy Project, City University of New York-College of Staten Island, 2004

Participant, Philosophy Forum, City University of New York-College of Staten Island, 2004

Commencement Liaison, City University of New York-College of Staten Island, 2004

Member of Scholarship Committee, Foundation of Pan-Icarian Brotherhood, 2003-2005, 2009

Scholarship Chairman, Foundation of Pan-Icarian Brotherhood, 2001-2003

Faculty Advisor to the Kosmos Hellenic Society, George Washington University, 2001-2002

Member of University of Pennsylvania's Alumni Application Screening Committee, 2000-2002

Participant in U.S. Department of State's International Speakers Program, 1997

Participant in Yale University's United Nations Project, 1996-1997

Member of Editorial Advisory Board, *Journal of Public and International Affairs*, Woodrow Wilson School of Public and International Affairs, Princeton University, 1991-1993

Voting Graduate Student Member, School of International Service Rank and Tenure Committee, American University, 1990-1992

Member of School of International Service Graduate Student Council, American University, 1990-1992

Teaching Assistant for the Several Courses (World Politics, Beyond Sovereignty, Between Peace and War, Soviet-American Security Relations, and Organizational Theory) at School of International Service Graduate Student Council, American University, 1989-1992

Representative for American University at the Annual Meeting of the Association of Professional Schools of International Affairs, Denver, Colorado, 1991

Affiliations, Associations, and Organizations (Past and Present)

Academy of Political Science (APS)

American Political Science Association (APSA)

Anderson Society of American University

Carnegie Council Global Ethics Network

Columbia University Scientific Union for the Reduction of Gun Violence (SURGE)

Firearm Safety among Children and Teens (FACTS)

International Political Science Association (IPSA)

International Studies Association (ISA)

New York Screenwriters Collective

Pan-Icarian Brotherhood

Pi Sigma Alpha

Regional Gun Violence Research Consortium

Society for Advancement of Violence and Injury Research (SAVIR)

United States Department of State Alumni Network

United States Institute of Peace Alumni Association

University of Pennsylvania Alumni Association

Grants, Honors, and Awards

Co-Investigator, A Nationwide Case-Control Study of Firearm Violence Prevention Tactics and Policies in K-12 School, National Institutes of Health, 2021-2024 (Charles Branas and Sonali Rajan MPIs)

Senior Fulbright Fellowship, 2012

Professional Staff Congress Research Grantee, City University of New York, 2004-2005

Research Assistance Award (Two Times), City University of New York-College of Staten Island, 2004

Summer Research Fellowship, City University of New York-College of Staten Island, 2004

European Institute Associate Fellowship, London School of Economics, 2003-2004

Hellenic Observatory Defense Analysis Research Fellowship, London School of Economics, 2002-2003

United States Institute of Peace Certificate of Meritorious Service, 1996

National Science Foundation Dissertation Research Grant, 1995 (declined)

Alexander George Award for Best Graduate Student Paper, Runner-Up, Foreign Policy Analysis Section, International Studies Association, 1994

Dean's Scholar Fellowship, School of International Service, American University, 1989-1992

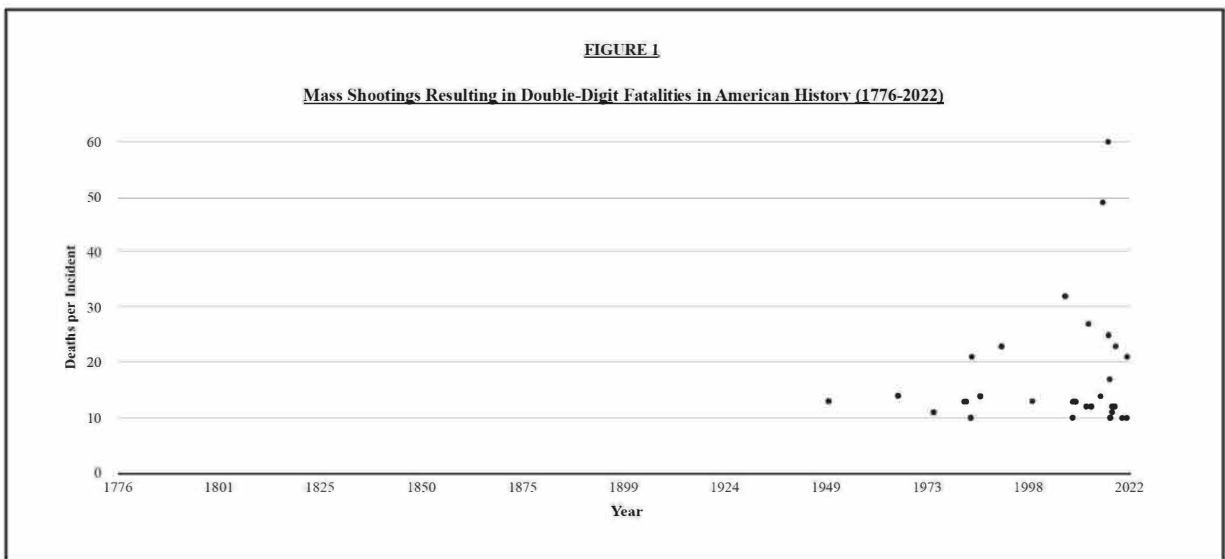
Graduate Research and Teaching Assistantship, School of International Service, American University, 1989-1992

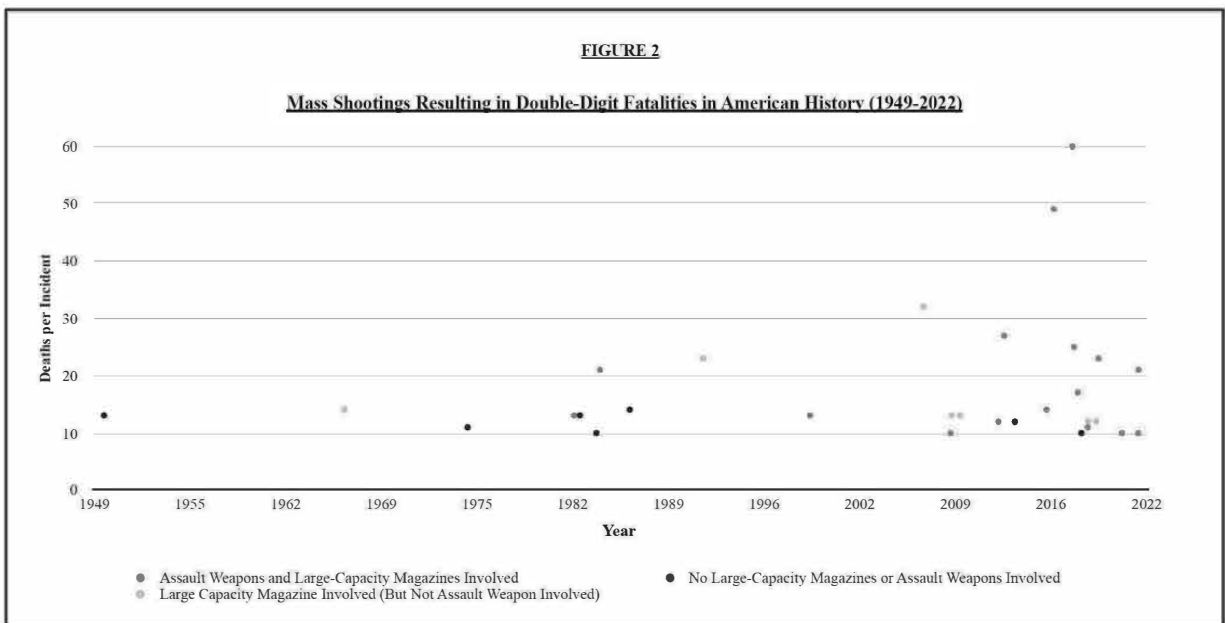
American Hellenic Educational Progressive Association (AHEPA) College Scholarship, 1986

Political Science Student of the Year, Wilkes-Barre Area School District, 1986

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EXHIBIT B






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EXHIBIT C

LOUIS KLAREVAS
RAMPAGE NATION
SECURING AMERICA FROM MASS SHOOTINGS

 **Prometheus Books**
59 John Glenn Drive
Amherst, New York 14228

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in a class all by itself. No other advanced, Western democracy experiences the magnitude of gun violence that presently afflicts American society.²⁸ This is particularly true when it comes to mass shootings.²⁹

★ ★ ★

The United States does little to regulate firearms, especially at the federal level.³⁰ While it goes to great lengths to restrict access to WMDs and IEDs, the same can't be said for its efforts to keep firearms out of the hands of high-risk individuals. Indeed, the American experience with gun control nationwide is so limited that it can actually be chronicled in a few bullet points:

- The National Firearms Act of 1934: Heavily regulated machine guns, short-barrel rifles and shotguns, and silencers.
- The Federal Firearms Act of 1938: Established a federal licensing system to regulate manufacturers, importers, and dealers of firearms.
- The Omnibus Crime Control and Safe Streets Act of 1968: Prohibited anyone under twenty-one years of age from purchasing a handgun.
- The Gun Control Act of 1968: Required that all interstate firearms transfers or sales be made through a federally licensed firearms dealer and prohibited certain categories of people—felons (indicted or convicted), fugitives, drug abusers, mentally ill persons (as determined by adjudication), illegal aliens, dishonorably discharged servicemen, US-citizenship renouncers, and domestic abusers—from possessing firearms.³¹
- The Firearm Owners Protection Act of 1986: Barred the purchase or transfer of automatic weapons without government approval.
- The Undetectable Firearms Act of 1988: Required that all firearms have at least 3.7 oz. of metal that can be detected by a metal detector.
- The Gun-Free School Zones Act of 1990: Criminalized possession or discharge of a firearm in a school zone.
- The Brady Handgun Violence Prevention Act of 1993: Required

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that anyone attempting to purchase a firearm from a federally licensed dealer pass a background check.³²

- The Federal Assault Weapons Ban of 1994: Banned the sale and possession of semiautomatic assault weapons and extended-capacity magazines not grandfathered prior to the enactment of the law.³³

Of all of these measures, the National Firearms Act of 1934 and the Assault Weapons Ban of 1994 (AWB) were the only ones instituted primarily in an effort to reduce the carnage of mass shootings. The former was passed in response to a series of bloody gangland executions, including the infamous 1929 St. Valentine's Day massacre in Chicago.³⁴ While there are still machine guns in circulation, the National Firearm Act, in conjunction with the Firearm Owners Protection Act of 1986, sharply cut the availability of machine guns, which likely explains the complete elimination of massacres perpetrated with such automatic-fire weapons.

Like the National Firearms Act, the AWB was introduced following several high-profile mass shootings in the early 1990s: the Luby's restaurant, 101 California Street office complex, and Long Island Railroad train car massacres.³⁵ Signed into law by President Bill Clinton, the AWB went into effect on September 13, 1994. At the insistence of the gun-rights lobby, however, the bill contained a ten-year sunset provision. As Congress never renewed the ban, it automatically expired on September 13, 2004.

The decade the law was in effect nonetheless resulted in a unique experiment, allowing us to discern what impact, if any, the ban had on gun violence in general and mass shootings in particular. As to the former, the academic consensus seems to be that the AWB had a minimal impact on reducing violent crime.³⁶ This hardly comes as a surprise. After all, most crimes don't involve assault weapons. The real test should be: Did it succeed in its intended purpose of reducing rampage violence? The answer is a resounding yes.

Let's take a closer look.

The best way to assess the impact of something is to conduct what, in social science, we commonly refer to as a time-series analysis. Basically, that's a fancy name for a before-and-after test. Figures 7.1

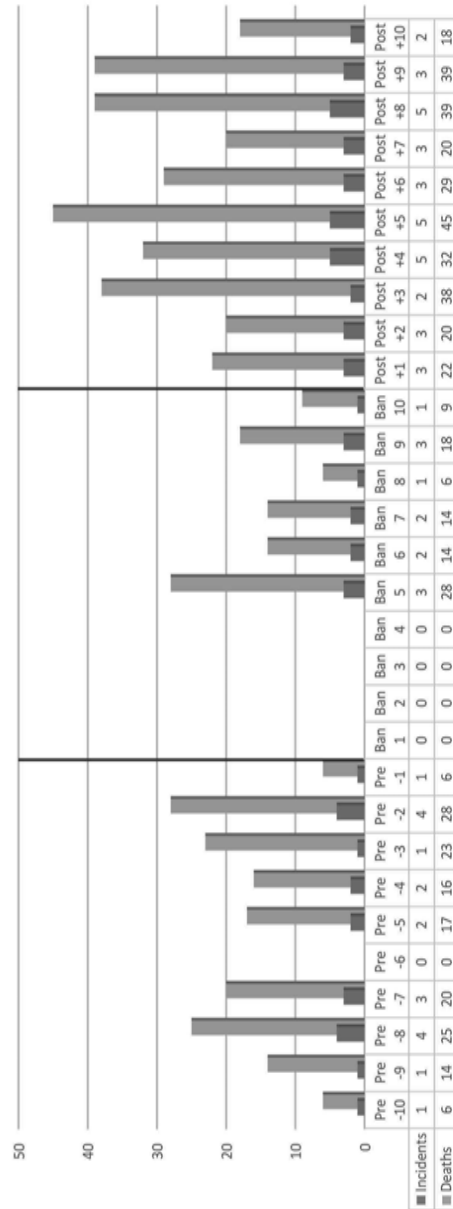


Fig. 7.1. Gun Massacres Before, During, and After the Assault Weapons Ban of 1994.

Note: The lines in the graph demarcate the start and end points of the Assault Weapons Ban, which was in effect from September 13, 1994, through September 12, 2004. The data are drawn from Table 3.2.

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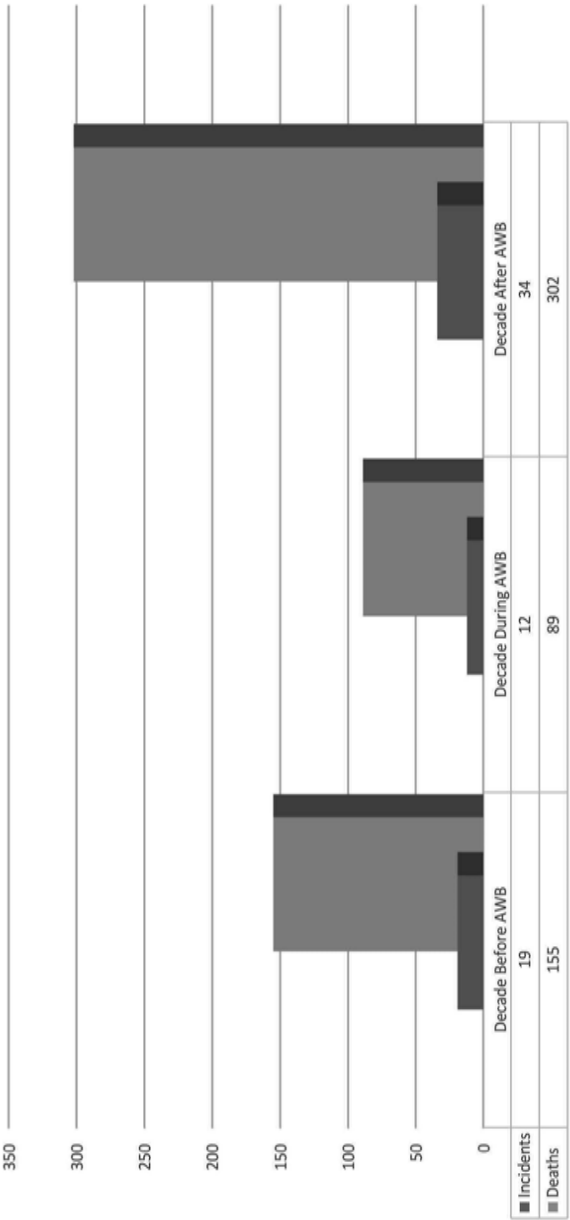


Fig. 7.2. Gun Massacres by Decade Before, During, and After the Assault Weapons Ban of 1994.
Note: The Assault Weapons Ban was in effect from September 13, 1994, through September 12, 2004.
The data are drawn from Table 3.2.

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and 7.2 provide a look at the before-and-after pictures. In the decade prior to the enactment of the AWB, the United States experienced nineteen gun massacres that resulted in 155 cumulative deaths, for an average death toll of 8.2 fatalities per incident. During the ten-year period that the AWB was in effect, the numbers declined substantially, with only twelve gun massacres, resulting in eighty-nine deaths, for an average of 7.4 fatalities per incident.³⁷ What's particularly astounding about this time period is that during the first four and a half years of the ban, there wasn't a single gun massacre in the United States. Not one. This is unprecedented in modern American history.³⁸ Since 1966, the longest streaks without a gun massacre prior to era of the AWB were two instances of consecutive years (1969–1970 and 1979–1980).³⁹ Then, all of a sudden, from September 1994 to April 1999, the country experienced a long calm. As further evidence of the AWB's effectiveness, once it expired, rampages returned with a vengeance. In the ten years after the ban, the number of gun massacres nearly tripled to thirty-four incidents, sending the total number of deaths skyrocketing to 302, for an average of 8.9 fatalities per incident.⁴⁰ These numbers paint a clear picture: America's experiment, while short-lived, was also extremely successful.⁴¹

ZEROING OUT GUN MASSACRES

The biggest takeaway from America's experience with a ban on assault weapons and extended-capacity magazines is that gun-control legislation can save lives. But is there a way to get to zero? Is there a way to eliminate gun massacres once and for all? For that, we have to look overseas for insights.

One of the biggest obstacles to successful gun control is the ability to transport firearms across open, contiguous borders. In the United States, it's a problem that allows guns to flow freely from states with lax laws into states with strict laws. A common complaint frequently leveled by elected officials in places like California, Illinois, Maryland, New York, and Massachusetts is that people just need to drive across a state line and they can readily obtain firearms that they can then easily—if perhaps illegally—bring back into their jurisdictions.⁴² That

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EXHIBIT D

The Effect of Large-Capacity Magazine Bans on High-Fatality Mass Shootings, 1990–2017

Louis Klarevas, PhD, Andrew Conner, BS, David Hemenway, PhD

Objectives. To evaluate the effect of large-capacity magazine (LCM) bans on the frequency and lethality of high-fatality mass shootings in the United States.

Methods. We analyzed state panel data of high-fatality mass shootings from 1990 to 2017. We first assessed the relationship between LCM bans overall, and then federal and state bans separately, on (1) the occurrence of high-fatality mass shootings (logit regression) and (2) the deaths resulting from such incidents (negative binomial analysis). We controlled for 10 independent variables, used state fixed effects with a continuous variable for year, and accounted for clustering.

Results. Between 1990 and 2017, there were 69 high-fatality mass shootings. Attacks involving LCMs resulted in a 62% higher mean average death toll. The incidence of high-fatality mass shootings in non-LCM ban states was more than double the rate in LCM ban states; the annual number of deaths was more than 3 times higher. In multivariate analyses, states without an LCM ban experienced significantly more high-fatality mass shootings and a higher death rate from such incidents.

Conclusions. LCM bans appear to reduce both the incidence of, and number of people killed in, high-fatality mass shootings. (*Am J Public Health.* 2019;109:1754–1761. doi: 10.2105/AJPH.2019.305311)

The recent spate of gun massacres in the United States has re-energized the debate over how to prevent such tragedies.¹ A common response to high-profile acts of gun violence is the promotion of tighter gun legislation, and there is some evidence that laws imposing tighter restrictions on access to firearms have been associated with lower levels of mass shootings.² One proposal that has received renewed interest involves restricting the possession of large-capacity magazines (LCMs).^{3–5} This raises an important question: what has been the impact of LCM bans on high-fatality mass shootings?

In an attempt to arrest an uptick in mass shooting violence in the early 1990s, Congress in 1994 enacted the federal assault weapons ban, which, among other things, restricted ownership of certain ammunition-feeding devices.^{6,7} The law, which contained a sunset provision, was allowed to expire a decade later. Pursuant to that ban (18 USC §921(a) [1994]; repealed), it was illegal to possess LCMs—defined as any ammunition-feeding device holding more

than 10 bullets—unless the magazines were manufactured before the enactment of the ban. LCM restrictions are arguably the most important component of assault weapons bans because they also apply to semiautomatic firearms without military-style features.^{8,9}

Beginning with New Jersey in 1990, some states implemented their own regulations on LCMs. Today, 9 states and the District of Columbia restrict the possession of LCMs. The bans vary along many dimensions, including maximum bullet capacity of permissible magazines, grandfathering of existing LCMs, and applicable firearms. Moreover, overlaps sometimes exist between assault weapons bans and LCM bans, but not in all states. For example, California instituted a ban

on assault weapons in 1989, but LCMs remained unregulated in the state until 1994, when the federal ban went into effect. In 2000, California's own statewide ban on LCMs took effect as a safeguard in the event the federal ban expired, which happened in 2004.^{10,11}

LCMs provide a distinct advantage to active shooters intent on murdering numerous people: they increase the number of rounds that can be fired at potential victims before having to pause to reload or switch weapons. Evidence shows that victims struck by multiple rounds are more likely to die, with 2 studies finding that, when compared with the fatality rates of gunshot wound victims who were hit by only a single bullet, the fatality rates of those victims hit by more than 1 bullet were more than 60% higher.^{12,13} Being able to strike human targets with more than 1 bullet increases shooters' chances of killing their victims. Analyses of gunshot wound victims at level I trauma centers have suggested that this multiple-impact capability is often attributable to the use of LCMs.^{14,15}

In addition, LCMs provide active shooters with extended cover.¹⁶ During an attack, perpetrators are either firing their guns or not firing their guns. While gunmen are firing, it is extremely difficult for those in the line of fire to take successful defensive maneuvers. But if gunmen run out of bullets, there are lulls in the shootings, as the perpetrators are forced to pause their attacks to reload or change weapons. These pauses provide opportunities for people to intervene and disrupt a shooting. Alternatively, they provide individuals in

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harm's way with a chance to flee or hide. Legislative endeavors that restrict access to LCMs are implemented with the express objective of reducing an active shooter's multiple-impact capability and extended cover.¹⁰

Although mass shootings have received extensive study, there has been little scholarly analysis of LCM bans.^{17–24} The studies undertaken that have broached the subject of ammunition capacity have primarily concentrated on the effect of LCM bans on violent crimes other than mass shootings or on the impact of the assault weapons bans on mass shootings.^{25–27}

Evidence suggests that firearms equipped with LCMs are involved in a disproportionate share of mass shootings.^{10,20,28} Proponents of LCM bans believe that without LCMs, fewer people will be killed in a mass shooting, other things equal. In turn, fewer shootings will cross the threshold required to be classified as what we call a “high-fatality mass shooting” (≥ 6 victims shot to death). If LCM bans are effective, we should expect to find that high-fatality mass shootings occur at a lower incidence rate when LCM bans are in place, and fewer people are killed in such attacks. But have LCM bans actually saved lives in practice? To our knowledge, the impact of LCM bans has never been systematically assessed. This study fills that void.

METHODS

Mass shootings have been defined in a variety of ways, with some analyses setting the casualty threshold as low as 2 people wounded or killed and others requiring a minimum of 7 gunshot victims.^{18,22,29} We focused on high-fatality mass shootings—the deadliest and most disturbing of such incidents—which are defined as intentional crimes of gun violence with 6 or more victims shot to death, not including the perpetrators.^{20,30,31} After an exhaustive search, we identified 69 such incidents in the United States between 1990 and 2017. We then discerned whether each high-fatality mass shooting involved a LCM—unless otherwise stated, defined consistent with the 1994 federal ban as a detachable ammunition-feeding device capable of holding more than 10 bullets. (See Table 1 for a list of incidents and for additional details on

the search and identification strategy we employed.)

The first state to enact an LCM ban was New Jersey in 1990. Since then, another 8 states and the District of Columbia have enacted LCM bans (Table A, available as a supplement to the online version of this article at <http://www.ajph.org>).¹⁰ With no LCM bans in effect before 1990, a priori we chose that year to begin our analysis to avoid inflating the impact of the bans. Our data set extends 28 years, from 1990 through 2017. As a secondary analysis, we used a 13-year data set, beginning in 2005, the first full year after the federal assault weapons ban expired.

Our primary outcome measures were the incidence of high-fatality mass shootings and the number of victims killed. We distinguished between high-fatality mass shootings occurring with and without a ban in effect. Because the federal ban was in effect nationwide from September 13, 1994, through September 12, 2004, we coded every state as being under an LCM ban during that 10-year timeframe.

Our interest was in the effect of LCM bans. We ran regression analyses to determine if any relationship between LCM bans and high-fatality mass shootings can be explained by other factors. In our state-year panel multivariate analyses, the outcome variables were (1) whether an LCM-involved high-fatality mass shooting occurred, (2) whether any high-fatality mass shooting occurred, (3) the number of fatalities in an LCM-involved high-fatality mass shooting, and (4) the number of fatalities in any high-fatality mass shooting. Our analyses first combined and then separated federal and state LCM bans.

Consistent with the suggestions and practices of the literature on firearm homicides and mass shootings, our explanatory variables are population density; proportion of population aged 19 to 24 years, aged 25 to 34 years, that is Black, and with a college degree; real per-capita median income; unemployment rate; and per-capita prison population.^{2,26,27,32} We also added a variable for percentage of households with a firearm. All regression models controlled for total state population. When the dependent variable reflected occurrences of incidents (ordered choice data), we used logit regression; we ran probit regression as a sensitivity analysis. We had multiple observations for individual

states. To control for this, we utilized cluster-robust standard errors to account for the clustering of observations. When the dependent variable reflected deaths (count data), we used negative binomial regression; Gius used a Poisson regression, and we used that approach as a sensitivity analysis.²⁶ We included state fixed effects. We used a continuous variable for year because the rate of high-fatality mass shootings has increased over time. For purposes of sensitivity analysis, we also replaced the linear yearly trend with a quadratic function. We performed multivariate statistical analyses by using Stata/IC version 15.1 (StataCorp LP, College Station, TX).

Population data came from the US Census Bureau, unemployment data came from the Bureau of Labor Statistics, and imprisonment data came from the Bureau of Justice Statistics. The percentage of households with a firearm was a validated proxy (the percentage of suicides that are firearm suicides) derived from Centers for Disease Control and Prevention National Vital Statistics Data.³³

RESULTS

Between 1990 and 2017, there were 69 high-fatality mass shootings (≥ 6 victims shot to death) in the United States. Of these, 44 (64%) involved LCMs, 16 did not (23%), and for 9 (13%) we could not determine whether LCMs were used (Table 1). The mean number of victims killed in the 44 LCM-involved high-fatality mass shootings was 11.8; including the unknowns resulted in that average falling to 11.0 (not shown). The mean number of victims killed in high-fatality mass shootings in which the perpetrator did not use an LCM was 7.3 (Table B, available as a supplement to the online version of this article at <http://www.ajph.org>); including the unknowns resulted in that average falling to 7.1 (not shown). When we excluded unknown cases, the data indicated that utilizing LCMs in high-fatality mass shootings resulted in a 62% increase in the mean death toll.

Data sets of mass shooting fatalities by their nature involve truncated data, with the mode generally being the baseline number of fatalities required to be included in the data set (6 fatalities in the current study). Our data

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TABLE 1—High-Fatality Mass Shootings in the United States, 1990–2017

Incident	Date	City	State	LCM	Deaths, No.	State LCM Ban	Federal Assault Weapons Ban
1	Jun 18, 1990	Jacksonville	FL	Y	9	N	N
2	Jan 26, 1991	Chimayo	NM	N	7	N	N
3	Aug 9, 1991	Waddell	AZ	N	9	N	N
4	Oct 16, 1991	Killeen	TX	Y	23	N	N
5	Nov 7, 1992	Morro Bay and Paso Robles	CA	N	6	N	N
6	Jan 8, 1993	Palatine	IL	N	7	N	N
7	May 16, 1993	Fresno	CA	Y	7	N	N
8	Jul 1, 1993	San Francisco	CA	Y	8	N	N
9	Dec 7, 1993	Garden City	NY	Y	6	N	N
10	Apr 20, 1999	Littleton	CO	Y	13	Y	Y
11	Jul 12, 1999	Atlanta	GA	U	6	Y	Y
12	Jul 29, 1999	Atlanta	GA	Y	9	Y	Y
13	Sep 15, 1999	Fort Worth	TX	Y	7	Y	Y
14	Nov 2, 1999	Honolulu	HI	Y	7	Y	Y
15	Dec 26, 2000	Wakefield	MA	Y	7	Y	Y
16	Dec 28, 2000	Philadelphia	PA	Y	7	Y	Y
17	Aug 26, 2002	Rutledge	AL	N	6	Y	Y
18	Jan 15, 2003	Edinburg	TX	U	6	Y	Y
19	Jul 8, 2003	Meridian	MS	N	6	Y	Y
20	Aug 27, 2003	Chicago	IL	N	6	Y	Y
21	Mar 12, 2004	Fresno	CA	N	9	Y	Y
22	Nov 21, 2004	Birchwood	WI	Y	6	N	N
23	Mar 12, 2005	Brookfield	WI	Y	7	N	N
24	Mar 21, 2005	Red Lake	MN	Y	9	N	N
25	Jan 30, 2006	Goleta	CA	Y	7	Y	N
26	Mar 25, 2006	Seattle	WA	Y	6	N	N
27	Jun 1, 2006	Indianapolis	IN	Y	7	N	N
28	Dec 16, 2006	Kansas City	KS	N	6	N	N
29	Apr 16, 2007	Blacksburg	VA	Y	32	N	N
30	Oct 7, 2007	Crandon	WI	Y	6	N	N
31	Dec 5, 2007	Omaha	NE	Y	8	N	N
32	Dec 24, 2007	Carnation	WA	U	6	N	N
33	Feb 7, 2008	Kirkwood	MO	Y	6	N	N
34	Sep 2, 2008	Alger	WA	U	6	N	N
35	Dec 24, 2008	Covina	CA	Y	8	Y	N
36	Jan 27, 2009	Los Angeles	CA	N	6	Y	N
37	Mar 10, 2009	Kinston, Samson, and Geneva	AL	Y	10	N	N
38	Mar 29, 2009	Carthage	NC	N	8	N	N
39	Apr 3, 2009	Binghamton	NY	Y	13	Y	N
40	Nov 5, 2009	Fort Hood	TX	Y	13	N	N
41	Jan 19, 2010	Appomattox	VA	Y	8	N	N

Continued

TABLE 1—Continued

Incident	Date	City	State	LCM	Deaths, No.	State LCM Ban	Federal Assault Weapons Ban
42	Aug 3, 2010	Manchester	CT	Y	8	N	N
43	Jan 8, 2011	Tucson	AZ	Y	6	N	N
44	Jul 7, 2011	Grand Rapids	MI	Y	7	N	N
45	Aug 7, 2011	Copley Township	OH	N	7	N	N
46	Oct 12, 2011	Seal Beach	CA	N	8	Y	N
47	Dec 25, 2011	Grapevine	TX	N	6	N	N
48	Apr 2, 2012	Oakland	CA	N	7	Y	N
49	Jul 20, 2012	Aurora	CO	Y	12	N	N
50	Aug 5, 2012	Oak Creek	WI	Y	6	N	N
51	Sep 27, 2012	Minneapolis	MN	Y	6	N	N
52	Dec 14, 2012	Newtown	CT	Y	27	N	N
53	Jul 26, 2013	Hialeah	FL	Y	6	N	N
54	Sep 16, 2013	Washington	DC	N	12	Y	N
55	Jul 9, 2014	Spring	TX	Y	6	N	N
56	Sep 18, 2014	Bell	FL	U	7	N	N
57	Feb 26, 2015	Tyrone	MO	U	7	N	N
58	May 17, 2015	Waco	TX	Y	9	N	N
59	Jun 17, 2015	Charleston	SC	Y	9	N	N
60	Aug 8, 2015	Houston	TX	U	8	N	N
61	Oct 1, 2015	Roseburg	OR	Y	9	N	N
62	Dec 2, 2015	San Bernardino	CA	Y	14	Y	N
63	Feb 21, 2016	Kalamazoo	MI	Y	6	N	N
64	Apr 22, 2016	Piketon	OH	U	8	N	N
65	Jun 12, 2016	Orlando	FL	Y	49	N	N
66	May 27, 2017	Brookhaven	MS	U	8	N	N
67	Sep 10, 2017	Plano	TX	Y	8	N	N
68	Oct 1, 2017	Las Vegas	NV	Y	58	N	N
69	Nov 5, 2017	Sutherland Springs	TX	Y	25	N	N

Note. LCM = large-capacity magazine; N = no; U = unknown; Y = yes. From September 13, 1994, until and including September 12, 2004, each and every state, including the District of Columbia, was subject to a ban on LCMs pursuant to the federal assault weapons ban. To collect the data in Table 1, we searched the following news media resources for every shooting that resulted in 6 or more fatalities: America's Historical Newspapers, EBSCO, Factiva, Gannett Newsstand, Google News Archive, Lexis-Nexis, Newspaper Archive, Newspaper Source Plus, Newspapers.com, Newswires, ProQuest Historical Newspapers, and ProQuest Newsstand. We also reviewed mass shooting data sets maintained by *Mother Jones*, the *New York Times*, and *USA Today*. In addition to news media sources, we reviewed reports on mass shootings produced by think tank, policy advocacy, and governmental organizations, including the US Federal Bureau of Investigation Supplementary Homicide Reports, the crowdsourced Mass Shooting Tracker, and the open-source databases maintained by the Gun Violence Archive and the Stanford University Geospatial Center. Finally, when it was relevant, we also reviewed court records as well as police, forensic, and autopsy reports. As a general rule, when government sources were available, they were preferred over other sources. Furthermore, when media sources conflicted on the number of casualties or the weaponry involved, the later sources were privileged (as later reporting is often more accurate).

set of high-fatality mass shootings was no exception. As such, the median average number of fatalities for each subset of incidents—those involving and those not involving LCMs—was necessarily lower than the mean average. Nevertheless, like the mean average, the median average was higher when LCMs were employed—a median

average of 8 fatalities per incident compared with 7 fatalities per incident for attacks not involving LCMs.

For the 60 incidents in which it was known if an LCM was used, in 44 the perpetrator used an LCM. Of the 44 incidents in which the perpetrators used LCMs, 77% (34/44) were in nonban states. In the 16 incidents in

which the perpetrators did not use LCMs, 50% (8/16) were in nonban states (Table B, available as a supplement to the online version of this article at <http://www.ajph.org>). Stated differently, in nonban states, 81% (34/42) of high-fatality mass shooting perpetrators used LCMs; in LCM-ban states, only 55% (10/18) used LCMs.

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The rate of high-fatality mass shootings increased considerably after September 2004 (when the federal assault weapons ban expired). In the 10 years the federal ban was in effect, there were 12 high-fatality mass shootings and 89 deaths (an average of 1.2 incidents and 8.9 deaths per year). Since then, through 2017, there have been 48 high-fatality mass shootings and 527 deaths (an average of 3.6 incidents and 39.6 deaths per year in these 13.3 years).

Of the 69 high-fatality mass shootings from 1990 to 2017, 49 occurred in states without an LCM ban in effect at the time and 20 in states with a ban in effect at the time. The annual incidence rate for high-fatality mass shootings in states without an LCM ban was 11.7 per billion population; the annual incidence rate for high-fatality mass shootings in states with an LCM ban was 5.1 per billion population. In that 28-year period, the rate of high-fatality mass shootings per capita was 2.3 times higher in states without an LCM ban (Table 2).

Non-LCM ban states had not only more incidents but also more deaths per incident (10.9 vs 8.2). The average annual number of high-fatality mass shooting deaths per billion population in the non-LCM ban states was

127.4. In the LCM ban states, it was 41.6 (Table 2).

For the time period beginning with the first full calendar year following the expiration of the federal assault weapons ban (January 1, 2005–December 31, 2017), there were 47 high-fatality mass shootings in the United States. Of these, 39 occurred in states where an LCM ban was not in effect, and 8 occurred in LCM ban locations. The annual incidence rate for high-fatality mass shootings in states without an LCM ban was 13.2 per billion population; for states with an LCM ban, it was 7.4 per billion population (Table 2). During this period, non-LCM ban states had not only more incidents but also more deaths per incident (11.4 vs 9.4). In terms of high-fatality mass shooting deaths per billion population, the annual number of deaths in the non-LCM ban states was 150.6; in the LCM ban states it was 69.2 (Table 2).

When we limited the analysis solely to high-fatality mass shootings that definitely involved LCMs, the differences between ban and nonban states became larger. For example, for the entire period of 1990 to 2017, of the 44 high-fatality mass shootings that involved LCMs, the annual incidence rate for LCM-involved high-fatality mass shootings

in nonban states was 8.1 per billion population; in LCM-ban states it was 2.5 per billion population. The annual rate of high-fatality mass shooting deaths in the non-LCM ban states was 102.1 per billion population; in the LCM ban states it was 23.3. In terms of LCM-involved high-fatality mass shootings, we also found comparable wide differences in incidence and fatality rates between ban and nonban states for the post-federal assault weapons ban period (2005–2017; Table 2).

We found largely similar results in the multivariate analyses (1990–2017). States that did not ban LCMs were significantly more likely to experience LCM-involved high-fatality mass shootings as well as more likely to experience any high-fatality mass shootings (regardless of whether an LCM was involved). States that did not ban LCMs also experienced significantly more deaths from high-fatality mass shootings, operationalized as the absolute number of fatalities (Table 3).

When the LCM bans were separated into federal and state bans, both remained significantly related to the incidence of LCM-involved high-fatality mass shooting events and to the number of LCM-involved high-fatality mass shooting deaths. The associations between federal and state bans and

TABLE 2—High-Fatality Mass Shootings (≥ 6 Victims Shot to Death) by Whether LCM Bans Were in Effect: United States, 1990–2017

	Average Annual Population, No. (Millions)	Total Incidents, No.	Annual Incidents per Billion Population, No.	Total Deaths, No.	Annual Deaths per Billion Population, No.	Deaths per Incident, No.
All high-fatality mass shootings, 1990–2017 (28 y)						
Non-LCM ban states	149.7	49	11.7	534	127.4	10.9
LCM ban states	140.7	20	5.1	164	41.6	8.2
All high-fatality mass shootings, 2005–2017 (13 y)						
Non-LCM ban states	227.8	39	13.2	446	150.6	11.4
LCM ban states	83.4	8	7.4	75	69.2	9.4
LCM-involved high-fatality mass shootings, 1990–2017 (28 y)						
Non-LCM ban states	149.7	34	8.1	428	102.1	12.6
LCM ban states	140.7	10	2.5	92	23.3	9.2
LCM-involved high-fatality mass shootings, 2005–2017 (13 y)						
Non-LCM ban states	227.8	28	9.5	369	124.6	13.2
LCM ban states	83.4	4	3.7	42	38.7	10.5
Non-LCM high-fatality mass shootings, 1990–2017 (28 y)						
Non-LCM ban states	149.7	8	1.9	56	13.4	7.0
LCM ban states	140.7	8	2.0	60	15.2	7.5

Note. LCM = large-capacity magazine.

TABLE 3—Multivariate Results of the Relationship Between LCM Bans and High-Fatality Mass Shootings (≥ 6 Victims Shot to Death), 1990–2017 Combined Federal and State Large Capacity Magazine Bans: United States

	LCM-Involved High-Fatality Mass Shootings, b (95% CI)		All High-Fatality Mass Shootings, b (95% CI)	
	Incidents ^a	No. Deaths ^b	Incidents ^a	No. Deaths ^b
All LCM bans (federal and state)	-2.217 (-3.493, -0.940)	-5.912 (-9.261, -2.563)	-1.283 (-2.147, -0.420)	-3.660 (-5.695, -1.624)
Population density	-0.011 (-0.052, 0.031)	0.013 (-0.068, 0.095)	0.001 (-0.003, 0.006)	0.011 (-0.005, 0.026)
% aged 19–24 y	-0.480 (-1.689, 0.730)	-2.496 (-5.893, 0.901)	0.283 (-0.599, 1.164)	-0.585 (-2.666, 1.495)
% aged 25–34 y	-0.801 (-1.512, -0.089)	-2.390 (-4.391, -0.388)	-0.337 (-0.871, 0.197)	-1.114 (-2.463, 0.235)
% Black	-0.227 (-1.062, 0.607)	-0.654 (-2.831, 1.522)	-0.163 (-0.703, 0.377)	-0.261 (-1.391, 0.870)
% with a bachelor's degree or higher	-0.009 (-0.492, 0.474)	-0.469 (-1.590, 0.652)	0.143 (-0.214, 0.501)	0.183 (-0.715, 1.081)
Percentage of households with a firearm (proxy)	-0.047 (-0.195, 0.101)	-0.147 (-0.546, 0.251)	-0.020 (-0.131, 0.091)	-0.084 (-0.368, 0.200)
Median household income	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Unemployment rate	-0.072 (-0.293, 0.149)	-0.476 (-1.081, 0.129)	0.041 (-0.135, 0.216)	-0.182 (-0.628, 0.263)
Imprisonment rate (per 100 000 population)	-0.006 (-0.012, 0.001)	-0.007 (-0.017, 0.004)	-0.001 (-0.006, 0.003)	-0.003 (-0.012, 0.007)
Total population	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Pseudo R^2	0.31	0.16	0.26	0.11

Note. CI = confidence interval; LCM = large-capacity magazine. There were a total of 1428 observations in state-years (51 jurisdictions—all 50 states plus Washington, DC—over a 28-year period). Mean variance inflation factor = 3.49.

^aLogit regression.

^bNegative binomial regression.

the overall incidence of all high-fatality mass shootings as well as the total number of victims in these events remained strongly negative but was only sometimes statistically significant (Table 4).

In terms of sensitivity analyses, using probit instead of logit gave us similar results (not shown). When the outcome variable was the number of high-fatality mass shooting deaths, we obtained largely similar results concerning the association between LCM bans and the outcome variables, regardless of whether we used Poisson or negative binominal regression (not shown). Moreover, replacing the linear yearly trend with a quadratic function did not change the major results of the analyses (not shown). Variance inflation factors for all the independent variables never exceeded 10.0, with the variance inflation factor for LCM ban variables always being less than 2.0, indicating that there were no significant multicollinearity issues (Tables 3 and 4).

DISCUSSION

In the United States, LCMs are disproportionately used in high-fatality mass shootings (incidents in which ≥ 6 victims are shot to death). In at least 64% of the incidents

since 1990, perpetrators used LCMs. (For 23%, we determined that they did not involve LCMs, and a determination could not be made for the remaining 13%.) Previous research has shown that LCM firearms are used in a high share of mass murders (typically defined as ≥ 4 homicides) and murders of police.⁹

We could not find reliable estimates of LCM firearms in the US gun stock. However, it is likely much lower than 64%, given that commonly owned firearms such as revolvers, bolt-action rifles, and shotguns are not typically designed to be LCM-capable. During the decade the federal assault weapons ban was in effect, no firearms were legally manufactured with LCMs for sale in the United States. In the postban era, semiautomatic firearms, especially pistols, are often sold with factory-issue LCMs, but firearms that are not semiautomatic are not sold with such magazines.

Why do we find LCMs so prominent among high-fatality mass shootings? We suspect there are 2 main reasons. The first is that perpetrators probably deliberately select LCMs because they facilitate the ability to fire many rounds without having to stop to reload. The second reason is that the ability of shooters to kill many victims—especially the 6 victims required to be included in our data set—may be reduced if LCMs are not

available. In other words, the first explanation is that shooters perceive LCMs to be more effective at killing many people; the second explanation is that LCMs are indeed more effective at killing many people.

High-fatality mass shootings are not common, even in the United States. Between 1990 and 2017, there has been an average of 2.5 incidents per year, with an average of 25 people killed annually in such attacks. However, the number of incidents and the number of people killed per incident have been increasing since the end of the federal assault weapons ban.

In our study, we found that bans on LCMs were associated with both lower incidence of high-fatality mass shootings and lower fatality tolls per incident. The difference in incidence and overall number of fatalities between states, with and without bans, was even greater for LCM-involved high-fatality mass shootings.

The multivariate results are largely consistent with these bivariate associations. When we controlled for 10 independent variables often associated with overall crime rates, as well as state and year effects, states with LCM bans had lower rates of high-fatality mass shootings and fewer high-fatality mass shooting deaths. When we investigated federal and state bans separately in the multiple

TABLE 4—Multivariate Results of the Relationship Between Large Caliber Magazine Bans and High-Fatality Mass Shootings (≥ 6 Victims Shot to Death), 1990–2017 Separate Federal and State Large Caliber Magazine Bans: United States

	LCM-Involved High-Fatality Mass Shootings, b (95% CI)		All High-Fatality Mass Shootings, b (95% CI)	
	Incidents ^a	No. Deaths ^b	Incidents ^a	No. Deaths ^b
Federal LCM ban	–1.434 (–2.622, –0.245)	–3.571 (–7.103, –0.038)	–0.895 (–1.806, 0.016)	–2.570 (–4.902, –0.238)
State LCM bans	–2.603 (–4.895, –0.311)	–8.048 (–15.172, –0.925)	–1.277 (–2.977, 0.422)	–3.082 (–7.227, 1.064)
Population density	–0.012 (–0.055, 0.030)	–0.001 (–0.085, 0.083)	0.001 (–0.003, 0.006)	0.009 (–0.007, 0.024)
% aged 19–24 y	–0.311 (–1.499, 0.878)	–2.589 (–6.057, 0.879)	0.342 (–0.551, 1.236)	–0.531 (–2.759, 1.698)
% aged 25–34 y	–0.812 (–1.532, –0.093)	–2.660 (–4.848, –0.471)	–0.323 (–0.864, 0.217)	–0.848 (–2.236, 0.539)
% Black	–0.229 (–1.101, 0.643)	–0.770 (–3.232, 1.693)	–0.150 (–0.698, 0.398)	–0.154 (–1.321, 1.013)
% with a bachelor's degree or higher	–0.031 (–0.447, 0.509)	–0.479 (–1.577, 0.618)	0.156 (–0.199, 0.511)	0.269 (–0.567, 1.106)
Percentage of households with a firearm (proxy)	–0.055 (–0.210, 0.101)	–0.227 (–0.651, 0.196)	–0.019 (–0.133, 0.094)	–0.107 (–0.399, 0.186)
Median household income	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Unemployment rate	–0.061 (–0.284, 0.162)	–0.420 (–1.041, 0.201)	0.046 (–0.132, 0.224)	–0.157 (–0.619, 0.305)
Imprisonment rate (per 100 000 population)	–0.006 (–0.013, 0.000)	–0.012 (–0.026, 0.002)	–0.002 (–0.007, 0.003)	–0.003 (–0.014, 0.007)
Total population	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Pseudo R^2	0.30	0.15	0.26	0.11

Note. CI = confidence interval; LCM = large-capacity magazine. There were a total of 1428 observations in state-years (51 jurisdictions—all 50 states plus Washington, DC—over a 28-year period). Mean variance inflation factor = 3.45.

^aLogit regression.

^bNegative binomial regression.

regressions, both were significantly associated with the incidence of LCM-involved high-fatality mass shootings as well as the number of victims in LCM-involved attacks. The relationship between these bans, considered separately, and all high-fatality mass shooting incidence and deaths is often not statistically significant, although this may be attributable to lack of statistical power (number of observations) to find a statistically significant effect.

Our analysis provides answers to 4 important questions:

1. How often are LCMs used in high-fatality mass shootings? At minimum, 64% of high-fatality mass shootings perpetrated between 1990 and 2017 involved LCMs.
2. Are more people killed when LCMs are used? Yes, and the difference in our data set is substantial and statistically significant (11.8 vs 7.3). We should add that our results likely underestimate the difference because we have a truncated sample (we only examined incidents with at least 6 victim fatalities), compounded by the fact that the number of homicide incidents fell as the number of victims increased.
3. Do states with LCM bans experience high-fatality mass shootings involving LCMs at a lower rate and a lower fatality

count than those states with no such bans in effect? Yes. In fact, the effect is more pronounced for high-fatality mass shootings involving LCMs than for those not involving LCMs.

4. Do states with LCM bans experience high-fatality mass shootings (regardless of whether they involve LCMs) at a lower rate and a lower fatality count than states with no such bans in effect? Yes.

Limitations

Our study had various limitations. First, although we carefully searched for every high-fatality mass shooting, it is possible that we might have missed some. Nevertheless, we suspect that this is unlikely, because it would mean that others who compiled lists have also missed the same ones, for we checked our list against multiple sources.

Second, our definition of a high-fatality mass shooting is a shooting that results in 6 or more fatal victims. A different threshold criterion (e.g., 6 or more people shot; 5 or more victims killed), might lead to somewhat different results. We expect that as the number of victims in a shooting increases, the likelihood that the perpetrator used an LCM

also increases. Indeed, of the 13 high-fatality mass shootings with 10 or more fatalities in our data set, 12 (92%) involved an LCM.

Third, although many high-fatality mass shootings tend to be highly publicized, in 13% of the incidents we reviewed, we could not determine whether an LCM was used. As a sensitivity analysis, we assessed the assumptions that all of the unknown cases first did, and then did not, involve LCMs. Neither assumption appreciably changed our main results (not shown).

Fourth, as a general rule, clustering standard errors is most appropriate when there is a large number of treated units. Although during the decade of the federal assault weapons bans all 50 states plus the District of Columbia regulated LCMs, during the remaining time periods under examination, only 8 jurisdictions regulated LCMs. As a result, there is the possibility that the standard errors were underestimated in our analyses.³⁴

Fifth, there were only 69 events that met our criterion for a “high-fatality mass shooting.” Although 69 is a horrific number of incidents, for statistical purposes, it is a relatively small number and limits the power to detect significant associations. For example, we did not have the statistical power (and thus did not even try) to determine whether

different aspects of the various LCM laws might have differential effects on the incidence of high-fatality mass shootings. Moreover, because of suboptimal statistical power, there is also the possibility that the magnitude of the effects detected was overestimated.³⁵

Public Health Implications

LCMs increase the ability to fire large numbers of bullets without having to pause to reload. Any measure that can force a pause in an active shooting—creating opportunities for those in the line of fire to flee, take cover, or physically confront a gunman—offers a possibility of reducing the number of victims in such an attack. To put it in different terms, if the only firearms available were 18th-century muskets, it is doubtful that mass shootings would be the social problem they are today.

The impact of individual state firearm laws is reduced by the fact that guns often move across state lines—occasionally purchased in locales with more permissive laws and taken to states with more restrictive laws. This is partly why efforts aimed at reducing the frequency and lethality of mass shootings must necessarily be multifaceted and multidisciplinary. Legal restrictions on firearms are merely a part of this broader, public health approach. That being said, the theory behind reducing the availability of LCMs to reduce the number of victims in mass shootings makes sense, and our empirical results, consistent with much of the limited literature on mass shootings, suggest that LCM bans have been effective in saving lives. **AJPH**

CONTRIBUTORS

L. Klarevas and D. Hemenway designed the study, collected the data, and contributed equally to all parts of the study. A. Conner ran the statistical analyses and helped construct the tables that report the results of the multivariate analyses. All authors approved the final article as submitted.

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CONFLICTS OF INTEREST

L. Klarevas has, in the past 2 years, served as an expert to the states of Colorado and California in civil litigation that involved the constitutionality of state restrictions on large-capacity magazines. The authors have no additional conflicts of interest to report.

HUMAN PARTICIPANT PROTECTION

No protocol approval was needed because no human participants were involved in this study.

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EXHIBIT E

AAST 2018 PODIUM PAPER

Changes in US mass shooting deaths associated with the 1994–2004 federal assault weapons ban: Analysis of open-source data

Charles DiMaggio, PhD, MPH, Jacob Avraham, MD, Cherisse Berry, MD, Marko Bukur, MD, Justin Feldman, ScD, Michael Klein, MD, Noor Shah, MD, Manish Tandon, MD, and Spiros Frangos, MD, MPH, New York, New York

AAST Continuing Medical Education Article

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Exhibit E_Klarevas
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BACKGROUND:	A federal assault weapons ban has been proposed as a way to reduce mass shootings in the United States. The Federal Assault Weapons Ban of 1994 made the manufacture and civilian use of a defined set of automatic and semiautomatic weapons and large capacity magazines illegal. The ban expired in 2004. The period from 1994 to 2004 serves as a single-arm pre-post observational study to assess the effectiveness of this policy intervention.
METHODS:	Mass shooting data for 1981 to 2017 were obtained from three well-documented, referenced, and open-source sets of data, based on media reports. We calculated the yearly rates of mass shooting fatalities as a proportion of total firearm homicide deaths and per US population. We compared the 1994 to 2004 federal ban period to non-ban periods, using simple linear regression models for rates and a Poisson model for counts with a year variable to control for trend. The relative effects of the ban period were estimated with odds ratios.
RESULTS:	Assault rifles accounted for 430 or 85.8% of the total 501 mass-shooting fatalities reported (95% confidence interval, 82.8–88.9) in 44 mass-shooting incidents. Mass shootings in the United States accounted for an increasing proportion of all firearm-related homicides (coefficient for year, 0.7; $p = 0.0003$), with increment in year alone capturing over a third of the overall variance in the data (adjusted $R^2 = 0.3$). In a linear regression model controlling for yearly trend, the federal ban period was associated with a statistically significant 9 fewer mass shooting related deaths per 10,000 firearm homicides ($p = 0.03$). Mass-shooting fatalities were 70% less likely to occur during the federal ban period (relative rate, 0.30; 95% confidence interval, 0.22–0.39).
CONCLUSION:	Mass-shooting related homicides in the United States were reduced during the years of the federal assault weapons ban of 1994 to 2004. (<i>J Trauma Acute Care Surg.</i> 2019;86: 11–19. Copyright © 2018 American Association for the Surgery of Trauma.)
LEVEL OF EVIDENCE:	Observational, level II/IV.
KEY WORDS:	Firearms; mass-shootings; assault weapons; epidemiology.

Increases in firearm-related injuries, particularly mass-shooting related fatalities, in the United States have contributed to a polarizing and sometimes contentious debate over gun ownership and limiting weapons characterized as assault weapons.^{1,2} Despite the increasing sense that there is an epidemic of indiscriminate firearm violence in our schools and public spaces, there is a paucity of public health evidence on the topic. Among a number of recommendations, a federal Assault Weapons Ban (AWB) has been proposed as a way to prevent and control mass shootings in the United States. In this article, we assess evidence for the effectiveness of such a ban in preventing or controlling mass-shooting homicides in the United States.

While mass shootings occur in other industrialized nations, the United States is particularly prone to these crimes. In a recent 30-year period, the United States had double the number of mass-shooting incidents than the next 24 industrialized nations combined.³ Any public perception of recent increases in the number of these events is borne out by analysis of available data.⁴ By one measure, there have been more deaths due to mass shootings in the United States in the past 18 years than in the entire 20th century.⁵ While there is some debate about the role of mental illness in mass shootings,^{6–8} many high-profile recent mass shootings (Aurora, CO; Roseburg, OR; San Bernadino, CA; Newtown, CT; Orlando; Las Vegas; Sutherland Springs, TX) have been characterized by the use of semiautomatic assault rifles,⁹ leading some to advocate for restrictions on the manufacture and sale of these weapons.

While survey results indicate that researchers in criminology, law and public health rank an assault weapons ban as one of the most effective measures to prevent mass shootings, and that 67% of the US general population support such a ban,¹⁰ the existing evidence on banning assault weapons is scant and sometimes contradictory. Most evidence is related to the Federal AWB of 1994, which made illegal the manufacture and use by civilians of a defined set of automatic and semiautomatic weapons and large capacity magazines. Formally known as “The Public Safety and Recreational Firearms Use Protection Act”, the AWB was part of the broader “Violent Crime Control and Law Enforcement Act of 1994. The ban lasted 10 years, expiring in 2004 when the US Congress declined to renew it.

In a study soon following the implementation of the 1994 ban, researchers reported a 55% decrease in the recovery of assault weapons by the Baltimore City Police in the first 6 months of 1995, indicating a statistically significant 29 fewer such firearms in the population.¹¹ In a 2009 study based on ICD9 external cause of injury codes for patients younger than 18 years in the United States, 11 states with assault and large-capacity magazine bans, as well as other firearm laws, were compared with 33 states without such restrictions. The incidence of firearm injuries per 1,000 total traumatic injuries was significantly lower in states with restrictive laws, 2.2 compared with 5.9.¹² In contrast, a comprehensive 2001 evaluation of the AWB itself concluded that there was “no evidence of reductions in multiple-victim gun homicides or multiple-gunshot wound victimizations”. The authors cautioned their results should be “interpreted cautiously” because of the short period since the ban’s inception, and that future assessments were warranted.¹³ More recent studies, while not primarily addressing the US Federal AWB have found results generally consistent with its effectiveness in preventing mass-shooting fatalities.^{14,15}

We believe sufficient time has passed and enough data have accumulated to treat the period from 1994 to 2004 as a naturalistic pre-post observational comparison period for the association of the AWB with changes in mass-shootings in the United States. Because there is no authoritative source or registry, or even a widely agreed upon definition for these incidents, we obtained data from three open source references and restricted our analyses to only those incidents confirmed by all three sources. We assess evidence for the potential effectiveness of such a ban in preventing and controlling mass-shooting homicides in the United States. We hypothesized that the implementation of the Federal AWB contributed to a reduction in mass shooting deaths as measured by the number and rate of mass shooting fatalities before, during, and after the federal AWB.

METHODS

Mass incident shooting data were obtained from three independent, well-documented and referenced online sources: Mother Jones Magazine, the Los Angeles Times and Stanford

University.^{16–18} These sources have each been the basis for a number of previous studies.^{19–26} Data from the three online open-source references were combined. Analyses were restricted to incidents reported by all three sources. Entries were further restricted to those for which four or more fatalities (not including the shooter) were reported, which meets the strictest definition of mass shootings as defined by the Federal Bureau of Investigation.^{27,28} Yearly homicide data were obtained from the US Centers for Disease Control and Prevention Web-based Injury Statistics Query and Reporting System (WISQARS) an online database of fatal and nonfatal injury.²⁹ Because 2017 data were not yet available in the WISQARS system, data for firearm-related homicide data for that year were obtained from a separate online source.³⁰

A variable was created to indicate the 1994 to 2004 period as the federal ban period. We attempted to identify incidents involving assault weapons. An assault weapon has been defined as semiautomatic rifle that incorporates military-style features such as pistol grips, folding stocks, and high-capacity detachable magazines.³¹ In this study, assault weapons were identified using the text search terms “AK,” “AR,” “MCX,” “assault,” “assault,” or “semiautomatic” in a text field for weapon details. These terms were based on descriptions of the federal assault ban legislative language.³² The total number of mass shooting fatalities and injuries were aggregated by year and merged with the yearly firearm homicide data.

The rate of mass shooting fatalities per 10,000 firearm homicide deaths was calculated. For the years covered by the data sources, we calculated (1) the total and yearly number of mass-shooting incidents that met the strictest criteria and were confirmed by all three sources, (2) the number of all weapon (assault and nonassault weapons) mass-shooting fatalities, and (3) the case-fatality ratio of all-weapon mass-shooting fatalities per 100 total mass-shooting fatalities and injuries. The yearly case-fatality ratio was plotted with overlying Loess line for trend and standard error limits. We also plotted the yearly rate of mass shooting fatalities per 10,000 firearm-related homicides with an overlying simple linear model with year as the predictor for (1) the total period, and (2) for preban, ban, and postban periods.

We evaluated assumptions of normality and linearity of the data using graphical methods such as density plots and Q-Q normal plots as well as summary statistics. We tested the hypothesis that the federal ban period was associated with a decrease in the number and rate of mass-shooting fatalities in the United States with a multiple linear regression model, with total homicide-based mass-shooting fatality rate as the outcome variable, a dichotomous indicator variable for the federal ban period as the predictor variable, and year as a control variable for trend over time. We calculated the relative risk of mass shooting fatalities during the federal ban period compared to nonban periods by using the “epitab” function of the R “epitools” package. This estimate is based on the ratio of the fatality rate during the ban period divided by the fatality rate during the nonban period. All results are presented with two-sided *p* values with a significance level of 0.05 and/or 95% confidence intervals (CI). We conducted subgroup analysis with data restricted to incidents in which an assault-type weapon was explicitly noted.

We conducted analyses to test the sensitivity of our results to the choice of denominator with linear regression models controlling

for trend with yearly rates based on (1) CDC WISQARS homicide data ending in 2016, (2) extrapolated CDC WISQARS homicide data for 2017, and (3) population denominator-based rates. We tested the robustness of our underlying modeling assumptions with an alternate mixed-effects generalized linear model of yearly mass shooting fatality counts with an observation-level random effect to account for overdispersion.

The study was determined to be exempt as nonidentifiable data. The study data and analytic code are available for download at <http://www.injuryepi.org/styled-2/>.

RESULTS

The three data sources listed incidents ranging in number from 51 (LA Times) to 335 (Stanford) and in dates from 1966 (Stanford) to 2018 (LA Times). There were a total of 51 reported cases of mass shootings between 1981 and 2017 confirmed by all three sources. Forty-four of these incidents met the strictest criteria for mass shootings (4 or more killed), totaling 501 all-weapon fatalities. In total 1,460 persons were injured or killed over the 37-year period, for a total case-fatality ratio of 34.3% (95% CI, 31.9–36.8). The overall rate of mass shooting fatalities per 10,000 firearm-related homicides was 10.2 (95% CI, 9.4–11.2). There was an increase in the all-weapon yearly number of mass-shooting fatalities in the United States during the study period, (Fig. 1) and evidence of a decrease in case fatality in the post-2010 period (Fig. 2). Incidents in which weapons were characterized as assault rifles accounted for 430 or 85.8% of mass-shooting fatalities (95% CI, 82.8–88.9). Weapons characterized as assault rifles accounted for *all* mass-shooting fatalities in 15 (62.5%) of the 24 (95% CI, 42.6–78.9) years for which a mass-shooting incident was reported, accounting for a total of 230 fatalities in those years.

Between 1981 and 2017, mass shootings in the United States accounted for an increasing proportion of all firearm-related homicides, with increment in year accounting for nearly 32% of the overall variance in the data. During the years in which the AWB was in effect, this slope decreased, with an increase in the slope of yearly mass-shooting homicides in the postban period

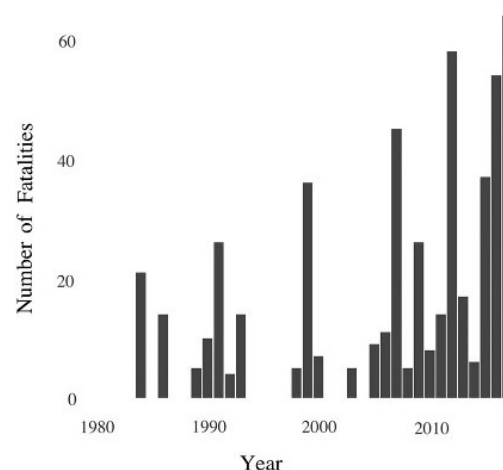


Figure 1. Mass shooting deaths, United States 1981–2017.

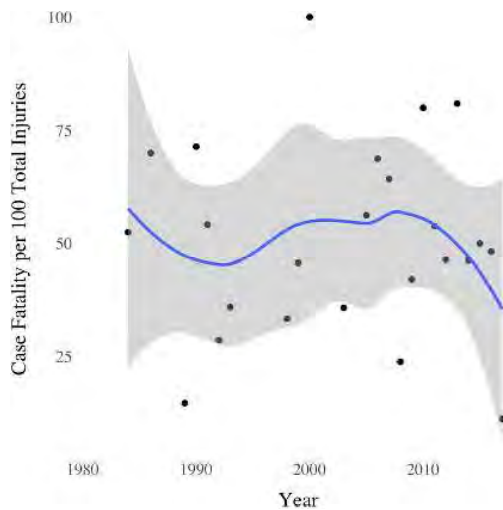


Figure 2. Case fatality per 100 total mass-shooting injuries with loess smoothing line for trend and standard error bounds. United States 1981–2017.

(Fig. 3). A similar pattern was evident in data restricted to those incidents characterized as involving assault weapons (Fig. 4).

In a linear regression model controlling for yearly trend, the federal ban period was associated with a statistically significant 9 fewer mass shooting–related deaths per 10,000 firearm homicides per year (Table 1). The model indicated that year and federal ban period alone accounted for nearly 40% of all the variation in the data (adjusted $R^2 = 0.37$). A subanalysis

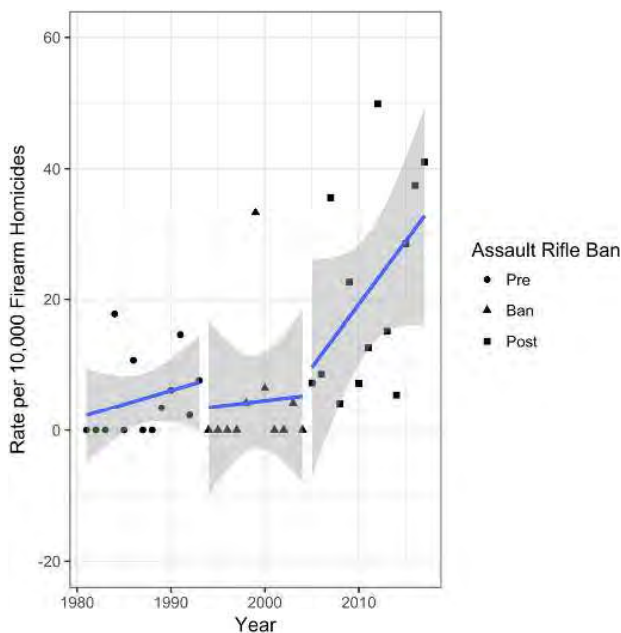


Figure 3. Mass shooting deaths per 10,000 firearm-related homicides with linear trends for preban, ban, and postban periods. United States 1981–2017.

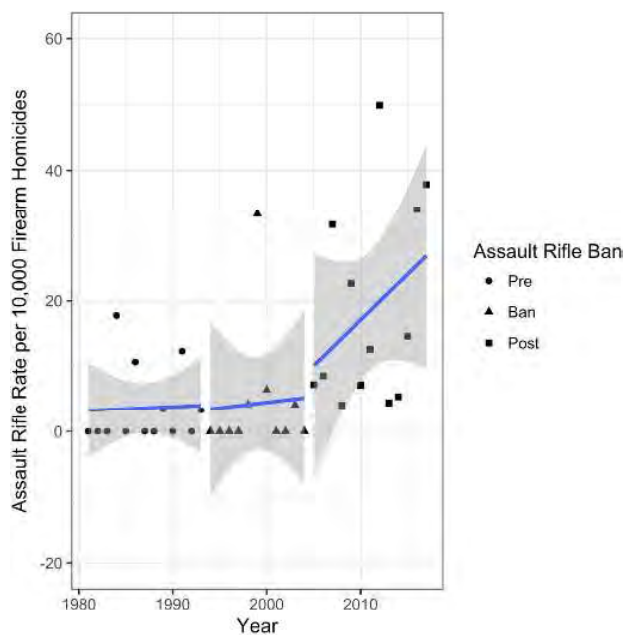


Figure 4. Mass-shooting shooting deaths per 10,000 firearm-related homicides restricted to incidents involving assault weapons with linear trends for preban, ban, and postban periods. United States 1981–2017.

restricted to just those incidents characterized by the use of an assault weapon indicated that seven preventable deaths during the ban period were due to assault weapons alone (Table 2).

The risk of mass shooting fatalities during the federal ban period was 53 per 140,515 total firearm homicides compared with 448 per 348,528 during the nonban periods, for a risk ratio of 0.30 (95% CI, 0.22–0.39). The calculated risk ratio for the association of the federal ban period with mass-shooting fatalities as a proportion of all firearm-related homicides was 0.29 (95% CI, 0.22–0.29), indicating that mass shooting fatalities were 70% less likely to occur during the federal ban period.

The results of our sensitivity analyses were consistent with our main analyses for total mass shooting fatalities. In a linear regression analysis controlling for yearly trend and restricted to the period ending in 2016 using just CDC WISQARS homicide data as the denominator, the effect of ban period was associated with a statistically significant eight fewer mass shooting related deaths per 10,000 firearm homicides per year (coefficient for ban period, 8.0; $p = 0.05$). In a similar model using extrapolated CDC WISQARS homicide data for 2017 instead of Online Gun Violence Archive data as the denominator, the effect of ban

TABLE 1. Linear Regression Effect of 1994–2004 Federal Assault Weapon Ban on Mass-Shooting Deaths per 10,000 Firearm Homicides, United States, 1981–2017

Variable	Estimate	Std. Error	t	p
(Intercept)	−1409.4	333.0	−4.2	0.0002
Year	0.7	0.2	4.3	0.0001
Ban Period	−8.6	3.9	−2.2	0.03

TABLE 2. Linear Regression Effect of 1994–2004 Federal Assault Weapon Ban on Mass-Shooting Deaths Characterized by Use of Assault Weapon per 10,000 Firearm Homicides, United States, 1981–2017

Variable	Estimate	Std. Error	<i>t</i>	<i>p</i>
(Intercept)	−1219.7	333.9	−3.7	0.0009
Year	0.6	0.2	3.7	0.0008
Ban	−6.7	3.9	−1.7	0.09

period was associated with a statistically significant 9 fewer mass shooting related deaths per 10,000 firearm homicides per year (coefficient for ban period, 8.6; $p = 0.03$). A model based on the total yearly US population as the denominator, the effect of ban period was associated with a statistically significant 0.4 fewer mass shooting related deaths per 10,000,000 population (coefficient for ban period, 0.4; $p = 0.02$).

The results of a mixed-effects generalized linear Poisson model of yearly mass shooting fatality counts with an observation-level random effect to account for overdispersion were very similar whether the offset variable was the number of total firearm deaths or the population size. In either case, the assault weapons ban period was associated with an approximately 85% reduction in mass shooting fatalities (Table 3).

DISCUSSION

Recently, 75% of members of the American College of Surgeons Committee on Trauma endorsed restrictions to “civilian access to assault rifles (magazine fed, semiautomatic, i.e., AR-15),”³³ and 76% of the Board of Governors were in favor of a limit to “... civilian access to ammunition designed for military or law enforcement use (that is, armor piercing, large magazine capacity).”³⁴ In 2015, the American College of Surgeons joined seven of the largest most prestigious professional health organizations in the United States and the American Bar Association to call for “restricting the manufacture and sale of military-style assault weapons and large-capacity magazines for civilian use.”³⁵ This analysis adds evidence to support these recommendations.

No observational epidemiologic study can answer the question whether the 1994 US federal assault ban was causally related to preventing mass-shooting homicides. However, this study adds to the evidence by narrowly focusing our question on the potential effect of a national assault weapon ban on mass shootings as measured through the lens of case fatality. While the data are amenable to a number of additional analyses, such as stratification by location (e.g. school vs. nonschool) or by characterization of large-capacity magazines versus non large-capacity magazine, we chose to focus only on year of occurrence and total number of fatalities. In this way, we relied on the least subjective aspects of the published reports. We believe our results support the conclusion that the ban period was associated with fewer overall mass-shooting homicides. These results are also consistent with a similar study of the effect of a 1996 ban on assault type weapons in Australia after which mass-shooting fatalities dropped to zero.³⁶

While the absolute effects of our regression analyses appears modest (7 to 9 fewer deaths per 10,000 firearm-homicides),

it must be interpreted in the context of the overall number of such fatalities, which ranges from none to 60 in any given year in our data. However, if our linear regression estimate of 9 fewer mass shooting-related deaths per 10,000 homicides is correct, an assault weapons ban would have prevented 314 of the 448 or 70% of the mass shooting deaths during the nonban periods under study. Notably, this estimate is roughly consistent with our odds ratio estimate and Poisson model results.

Our results add to the documentation that mass shooting-related homicides are indeed increasing, most rapidly in the postban period, and that these incidents are frequently associated with weapons characterized as assault rifles by the language of the 1994 AWB. We did not find an increase in the case fatality ratio of mass-shooting deaths to mass-shooting injuries. This might at first seem counterintuitive and paradoxical. The destructive effect of these weapons is unequivocal. They are engineered to cause maximum tissue damage rapidly to the greatest number of targets. However, it may be that the use of these kinds of weapons results in indiscriminate injury with additional rounds more likely to injure more people increasing the denominator in a case-fatality ratio. By contrast, the use of nonassault weapons may result in more precise targeting of victims. It is also possible that improvements in trauma care are driving down case fatality.³⁷ Also, it is worth noting that in absolute terms, there were many more fatalities outside the ban period and that survivable injury comes with its own physical, emotional, and economic costs, which have been estimated at US \$32,237 per hospital admission.³⁸

Despite US federal funding restrictions on firearm-related research dating to 1996,^{39,40} there is a small but growing number of analyses of mass shooting violence in the United States. Many articles have focused on the mental health aspects of these incidents,^{41–43} or on social effects like increased firearm acquisition following mass shootings.^{44,45} However, fewer studies have taken a strictly public health or clinical approach. Among these, an autopsy-based study of the incidence and severity of mass-shooting casualties concluded the wound patterns differed sufficiently from combat injuries to require new management strategies, indicating there is much to be learned from a systematic epidemiological perspective.⁴⁶ Recently, there have been calls to remove such funding restrictions from both academics and elected officials from across the political spectrum.^{47,48}

Our choice of data and analytic approach may reasonably be debated. We chose to base our analyses on the yearly rate of mass shooting fatalities per 10,000 overall firearm homicides. This is not a population-based risk estimate, but is in fact a risk as commonly used in the epidemiologic literature which is essentially a probability statement, that is, the number of events

TABLE 3. Exponentiated Coefficients Generalized Linear Poisson Model

Variable	Homicide Offset		Population Offset	
	Estimate	95% CI	Estimate	95% CI
Year	0.6	0.2	3.7	0.0008
Ban	−6.7	3.9	−1.7	0.09

Effect of 1994–2004 federal assault weapon ban on mass-shooting death counts. United States, 1981–20017.

that occurred over the number of times that event could occur. It is the risk of a homicide occurring as a result of a mass shooting. It may be considered a strong assumption to build mass shooting death rates based on the overall firearm homicide rate. The demographics of most homicide victims may differ appreciably from those of mass shooting victims. We selected this approach from among a number of imperfect potential denominators, believing that basing the rates on the number of firearm-homicides partly controls for secular trends in overall homicides and firearm availability. Our sensitivity analyses indicate that our results were robust to most any choice of denominator. We chose linear regression as our primary model because it was straightforward, accessible to most readers, accounted for linear trends in the data, and returned results in the metric in which we were most interested, that is, changes in the rate of fatalities. Our comparative Poisson model results were essentially consistent with the primary model.

These analyses are subject to a number of additional limitations and caveats, primary among which is that there is no authoritative source of data on mass shooting, and any one source may be biased and incomplete. It was for this reason that we chose to combine three independent sources of data, each with its own strengths and weaknesses, and base our analyses only on those numbers that were verified by all three sources. We further restricted our analyses to only the number of fatalities and the year in which the incident occurred, and to the strictest definition of mass shootings as defined by the Federal Bureau of Investigation.^{27,28} Even with this approach, the data remain imprecise and subject to differing definitions. We attempted to compensate for this by framing our questions as precisely as possible, following the advice of the scientist and statistician John Tukey to pursue, "... an approximate answer to the right question ...(rather) than the exact answer to the wrong question..."

In this study, we failed to falsify the hypothesis that the AWB was associated with a decrease in mass shooting fatalities in the United States. However, it is important to note that our model did not include important and potentially confounding factors like state-level and local differences in assault weapon laws following the sun downing of the federal AWB. Additional analyses including such variables and using approaches like propensity score matching and regression discontinuity⁴⁹ with data further aggregated to state and local levels are necessary to test the strength and consistency of our results.

Federally referenced denominator data were not available for the last year of the study. We chose to use data from the Online Gun Violence Archive to account for firearm homicide in 2017. This resource is a nonpartisan not-for-profit group founded and maintained by a retired computer systems analyst and gun advocate.⁵⁰ The alternative would have been to extrapolate from the CDC data, but the 15,593 firearm-related homicides reported by the Online Gun Violence Archive in 2017 was more consistent with the 14,415 reported by CDC in 2016 compared with the 11,599 predicted by an extrapolation and returned more conservative estimates of the increased rate of recent mass shootings. We note there were many years in which the number of mass-shooting fatalities is listed as zero. There were, in fact, fatalities and incidents in those years that could meet a definition of mass shooting, but they were not reported by all three sources, or did not meet the strict criteria we set for this analysis.

An assault weapon ban is not a panacea, nor do our analyses indicate that an assault weapon ban will result in fewer overall firearm-related homicides. It is important to recognize that suicides make up the majority of firearm-related deaths in the United States, accounting for 60.7% of 36,252 deaths from firearms in 2015.⁵¹ However, while this is a critically important issue in its own right, suicides differ fundamentally from mass-shootings, and are unlikely to be affected by an assault weapons ban. Also, compared with the 501 mass-shooting fatalities we counted, there were 489,043 firearm-related homicides in the United States. Public health efforts should be directed at reducing all gun violence and must be multipronged, including targeted initiatives to address mental illness and reducing access to weapons in those with a propensity for violence. However, taken in the context of the increase in mass shootings in the United States, these results support the conclusion that the federal AWB of 1994 to 2004 was effective in reducing mass shooting-related homicides in the United States, and we believe our results support a re-institution of the 1994 federal assault weapons ban as a way to prevent and control mass shooting fatalities in the United States.

DISCLOSURE

The authors have no conflicts of interest to declare.
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DISCUSSION

Ernest E. "Gene" Moore, MD (Denver, Colorado): Thank you, Dr. Rotondo and Dr. Reilly. Can I please have the discussion video. [sounds of a gun shooting]. Well, that is the AR15 rifle. Literally, 30 potential lethal shots delivered within 10 seconds. Is this safe to have in our society?

I congratulate Dr. DiMaggio and his colleagues from NYU for their superb presentation on a very timely issue. The AAST has had a long-term interest in reducing gun violence in the United States, and has recently published our 14-point approach. Access to assault rifles is one of them. At a reductionist level, mass shootings are the net result of (1) a deranged person intending to kill random individuals in a populated area, and (2) the use of an assault rifle. Since we seem to be unable to identify

the active shooter preemptively, we are left with the alternative solution of eliminating the weapon.

The presentation today provides evidence that a federal assault weapon ban can reduce mass shootings. According to our recent national trauma surgeon surveys, three-fourths of us in the audience, including me, would like to believe the analysis; but I think we need to consider some of the potential limitations.

Many of these issues relate to the fact that research support for gun violence control in the United States remains frustratingly suppressed and fundamentally inadequate. The general lack of information, low quality of data, and need to merge data sets from diverse sources – medical, coroner, police, legal, and behavioral – compounded by scarce funding and public controversy, undermine research to inform policy and enlighten the public. The fact that you had to compare three open-access databases to be certain that the reported mass shootings occurred underscores this deficiency.

Furthermore, there is no definition of a mass shooting, although you employed perhaps the most acceptable at the moment – the FBI's definition. Could you explain for us the rationale for this definition?

You present an analysis of 44 events with four or more deaths, including the shooter, from 1981 to 2017 – a 36-year period; whereas, others suggest a much higher incidence, such as Klaveras, who reported 69 shootings of six or more over the past 27 years.

Identifying all known mass shootings per year during a study period would be useful to appreciate the overall trends, as your data somewhat understates the magnitude of mass shootings in the United States.

You employed the Gun Violence Archive to estimate homicides in 2017. Why did you not use this source for mass shootings? The Archive has reported an alarming 261 mass shootings – defined as six or more shot – thus far in 2018. Nonetheless, in the sample you studied, assault rifles accounted for greater than 85 percent of the fatalities, and this is the key issue.

You have evaluated the impact of the federal assault rifle ban by analyzing the rate of mass shootings per 10,000 firearm homicide deaths per year to adjust for confounders. This would assume that the factors influencing mass shootings are the same as those for homicides, which seems very unlikely. You have indicated that you analyzed mass-shooting fatalities per population per year; perhaps you could elaborate more about this analysis.

Another confounder as acknowledged in the presentation is the impact of individual state limitations on magazine capacity. The first state to enforce these limitations was New Jersey in 1990, and now at least eight states and Washington, D.C., have these restrictions in effect. How can we distinguish the effects of this policy? And could this be a potential bridge to ultimately reestablish a national assault rifle ban?

You have also calculated the case fatality of all weapons in mass shootings per 100 total shootings, finding a decrease since 2010. While you conjecture this may be due to indiscriminate injury from assault rifles or possibly attributed to better trauma care, I am uncertain how this is relevant to the issue of banning assault rifles. The Las Vegas shooting is a cogent example of how these data may be misleading.

Finally, there is the issue of so-called falsification that could be addressed by examining other causes of trauma mortality during this time period.

In sum, this study adds to overwhelming evidence that assault rifles are an essential component in the dramatic escalation of mass shootings in the United States. While the scientific data to support a federal ban on civilian assault rifles is imperfect due to inadequate research support, I submit collectively the existing information argues strongly for enactment of this measure, and compliment the authors for their timely contribution.

Sheldon H. Teperman, MD (Bronx, New York): Dr. DiMaggio, your home institution, Bellevue, plays a seminal role in the trauma center safety of our nation.

In fact, right now, your trauma medical director is not present with us, but he is at home on guard for the U.N. General Assembly. But in New York, we don't see long-gun injuries. New York has the Safe Act, and there is an assault weapons ban. So why is it so important to America's trauma center – Bellevue – that we see a national ban on assault rifles?

Charles E. Lucas, MD (Detroit, Michigan): Thank you for your nice presentation. How many of these incidents occurred in an inner-city environment, where most of the victims that we treat have received multiple wounds which were purposely inflicted in order to compete competitively for the distribution of heroin and other drugs? Also, how many of the assailants were African-American?

Martin A. Croce, MD (Memphis, Tennessee): Thank you. I want to commend the authors for an excellent study, and really, not so much to ask any questions but I rise to put out a plea to the membership that this issue is a public health problem.

This is not a right versus left problem, this is not a Second Amendment problem. This is a public health problem.

And to quote Wayne Meredith at one of the recent Board meetings, "Our primary goal is to reduce the number of bullet holes in people." So I implore the Membership to correct this dearth of research that is going on about gun violence in order to promote a public health approach, so that we can reduce the number of bullet holes in people.

Deborah A. Kuhls, MD (Las Vegas, Nevada): And to carry on that thought, I would urge the authors to incorporate the public health data from the CDC when it is available, because part of the methodological issues for this paper is that one data set was used for a certain period of time.

But for the last year, the CDC data was not used because it was not available, so I would urge you to not only do that analysis, but I would also urge the Journal of Trauma to consider an update to that article when that is available. Thank you.

Charles DiMaggio, MPH, PhD (New York, New York): Thank you very much for all these comments and questions.

Dr. Moore, so with regard to your observation about the reductionist approach to looking at this particular issue, that puts me in the mind very much of the traditional epidemiologic triad of agent, host, and environment, and if you break one link in that connection, you can break the transmission. In this case, we could call assault weapons one link, whether it's agent or host, we can decide.

With regards to the rationale for the definition, I think it's reflective of the lack of research in this area.

A case definition is an essential and critical first step in any epidemiologic investigation, and you can see that we are barely there. I think the FBI definition makes sense, I think it's the oldest one, I think it's informed by expert consensus.

And I think all the other definitions are based in some form on that, which is why we chose it. And I would urge that if we are going to be doing this research going forward, probably it would be best if we all had the consensus that that be the definition.

Why did we not use the Gun Violence Archive to estimate some of these results, and why are our numbers so much smaller than some of the other numbers? I have to agree, our numbers are very much an under-count.

We restricted our analysis to these three databases. And so the limiting factor was the one database. And I can tell you it was the LA Times – they had the fewest number. And if it wasn't in the LA Times, then the other databases didn't contribute to this data set.

We felt that the important aspect of this particular study was to demonstrate the relative effects, merits or associations with the assault weapon ban as opposed to documenting the absolute numbers.

So the Gun Archive, for example, defines mass shootings as four or more deaths or injuries. That really raises the number of deaths that can be included. We didn't include it, but I think going forward we absolutely should.

With regard to the analysis using population denominators, we agree, actually, that gun homicides are an imperfect denominator. We also felt that population was an imperfect denominator. And again, as we keep on circling around, it has to do with the data in this case.

We did feel that gun homicides captured something about gun availability and criminality in the United States, although homicides themselves differ very much from these mass shooting fatalities.

We do note that our population-based results essentially mirrored the gun homicide results, indicating that, at least for the relative effects and benefits of the assault weapons ban, the

results are robust and invariant to the choice of denominator in this case.

Can we distinguish local effects, and could this possibly be a bridge to reestablishing an assault rifle ban? The short answer is yes and yes. We can distinguish local effects.

We took a very broad approach on this particular study as a first pass on the data. But, there are data sources (and even within the data sources we used) where you can tease out local, municipal and state policies.

Also, we can link our data to other sources that have those variables. There are statistical methods available that will not only account for those variables, but also allow us to measure or estimate in some way the contribution of local or regional variation in these policies to the overall effectiveness.

The issue of the case fatality rate is very interesting and challenging. I want to note that there was a paper in JAMA on September 11th – just a couple of weeks ago – looking at mass shooter fatalities, that came essentially to the same conclusion – that there has been this recent decrease.

In our paper, in this write-up, we look at three potential explanations, and one of them is, first of all, it's just a matter of denominator. These are indiscriminate weapons.

You have someone shooting at a large group of people, and there are going to be more injuries and more casualties, and it just inflates the denominator in this case.

The second thing is, the obverse of that, is single-fire weapons, guns, are very personal weapons. They're usually characterized by someone who knows who they want to kill. And finally, we feel that perhaps there may be some improvement by the folks in this room in treating these.

I'm going to close at this point, given the time constraints.

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EXHIBIT F

Original Paper

Impact of Firearm Surveillance on Gun Control Policy: Regression Discontinuity Analysis

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Abstract

Background: Public mass shootings are a significant public health problem that require ongoing systematic surveillance to test and inform policies that combat gun injuries. Although there is widespread agreement that something needs to be done to stop public mass shootings, opinions on exactly which policies that entails vary, such as the prohibition of assault weapons and large-capacity magazines.

Objective: The aim of this study was to determine if the Federal Assault Weapons Ban (FAWB) (1994-2004) reduced the number of public mass shootings while it was in place.

Methods: We extracted public mass shooting surveillance data from the Violence Project that matched our inclusion criteria of 4 or more fatalities in a public space during a single event. We performed regression discontinuity analysis, taking advantage of the imposition of the FAWB, which included a prohibition on large-capacity magazines in addition to assault weapons. We estimated a regression model of the 5-year moving average number of public mass shootings per year for the period of 1966 to 2019 controlling for population growth and homicides in general, introduced regression discontinuities in the intercept and a time trend for years coincident with the federal legislation (ie, 1994-2004), and also allowed for a differential effect of the homicide rate during this period. We introduced a second set of trend and intercept discontinuities for post-FAWB years to capture the effects of termination of the policy. We used the regression results to predict what would have happened from 1995 to 2019 had there been no FAWB and also to project what would have happened from 2005 onward had it remained in place.

Results: The FAWB resulted in a significant decrease in public mass shootings, number of gun deaths, and number of gun injuries. We estimate that the FAWB prevented 11 public mass shootings during the decade the ban was in place. A continuation of the FAWB would have prevented 30 public mass shootings that killed 339 people and injured an additional 1139 people.

Conclusions: This study demonstrates the utility of public health surveillance on gun violence. Surveillance informs policy on whether a ban on assault weapons and large-capacity magazines reduces public mass shootings. As society searches for effective policies to prevent the next mass shooting, we must consider the overwhelming evidence that bans on assault weapons and/or large-capacity magazines work.

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KEYWORDS

firearm surveillance; assault weapons ban; large-capacity magazines; guns control policy; mass shootings; regression lines of discontinuity

Introduction**Background**

Approximately 44,000 people are killed and an additional 100,000 people are injured by a gun each year in the United States [1,2]. Mass shooting fatalities, as a particular type of gun injury event, account for <1% of all gun deaths [3] and have largely been ignored until recently [4,5]; yet, mass shooting events occur multiple times per year [6]. This information is based on insights from firearm surveillance performed by a variety of researchers, and state and federal agencies on incidence, prevalence, risk factors, injuries, deaths, and precipitating events, similar to the surveillance of infectious diseases such as COVID-19 [7-21]. Teutch and Thacker [22] defined public health surveillance as

the ongoing systematic collection, analysis, and interpretation of health data, essential to the planning, implementation, and evaluation of public health practice, closely integrated to the dissemination of these data to those who need to know and linked to prevention and control.

Not only do surveillance systems generate hypotheses to test but they also provide the data to test them.

The Federal Assault Weapons Ban (FAWB, also known as the Public Safety and Recreational Firearms Use Protection Act) included a ban on the manufacture for civilian use or sale of certain semiautomatic firearms defined as assault weapons as well as certain large-capacity magazines (LCMs). The Act was in effect for 10 years from 1994 until it sunsetted in 2004. Semiautomatic weapons (rapid fire) and assault weapons (second grip plus other features) are distinct; however, the two are often incorrectly conflated as similar [23-26]. Semiautomatic weapons are defined as weapons that automatically load another cartridge into a chamber, preparing the weapon for firing, but requiring the shooter to manually release and press the trigger for each round [23-26]. By contrast, automatic weapons are similarly self-loading, but allow for a shooter to hold the trigger for continuous fire [27]. Furthermore, the FAWB also prohibited certain ammunition magazines that were defined as “large-capacity” cartridges [28] containing more than 10 bullets [29]. These LCMs can feed ammunition to semiautomatic weapons that do not meet the criteria of being considered assault weapons. Furthermore, LCMs are considered one of the most important features of the FAWB as research has found a relationship between bans on LCMs and casualty counts at the state level [30-34]. The 10-year federal ban was signed into law by President Clinton on September 13, 1994 [28].

Firearm surveillance data have been used to test potential policy responses to prevent mass shootings, including the FAWB [32,34-39], Extreme Risk Protection Orders (also known as red flag laws) [40-45], and federal and state LCM bans [31,32,46]. In particular, it seems likely that the FAWB and LCM bans have potential to affect mass shootings because they regulate

weapons and ammunition formats that are designed to enable rapid discharge, which is a key feature in mass shooting incidents [24,47]. Other types of gun deaths may not be responsive to the FAWB or LCM bans. As an example, Extreme Risk Protection Orders or “Red Flag” orders [43,48], which temporarily prohibit at-risk individuals from owning or purchasing firearms, may be effective for preventing firearm suicides or domestic violence homicides [49] but less effective for public mass shooters [50,51]. The prohibition of LCMs may have no impact on firearm suicide because suicide decedents only require one bullet to kill themselves [52].

Several studies during and after the FAWB attempted to determine if gun policy that restricts the production and sale of assault weapons and LCMs decreased gun deaths [53,54]. These initial studies make meaningful contributions to the literature because they describe what constitutes assault weapons, magazine capacity, ballistics, and loopholes in the FAWB legislation [3,53-57]. However, these studies have found little to no evidence that these policies have had any overall effect on firearm homicides, gun lethality, or overall crime [58-61]. Since deaths from public mass shootings comprise less than 1% of all homicides based on our definition, testing whether or not the FAWB/LCM ban has an impact on homicide would wash out the effect. Since the FAWB/LCM ban may be effective at specific types of gun deaths, sampling must be limited to specific types of shooters over overall gun deaths or tests for lethality [62,63]. Finally, the variation in research findings is related to differences in research design, sampling frame, and case definition of a public mass shooting [3,53-56,64,65].

Our study differs from other studies that evaluated the efficacy of the FAWB because we used economic methods and a different outcome variable. Specifically, we focused on whether the FAWB resulted in fewer public mass shooting “events,” whereas other studies evaluated the number of gun injuries and deaths that occurred during the course of a mass shooting.

Objective

The aim of this study was to test whether curbing *access to certain types of guns and magazines* will decrease mass shooting events. We sought to empirically answer if there was a relationship between the FAWB and a reduction in mass shooting events.

Methods**Data Source**

We created a firearm surveillance system based on the National Institute of Justice-funded Violence Project dataset, which culled mass shooting events from 1966 to 2019 [6]. Consistent with earlier studies, we rely on the original Federal Bureau of Investigation (FBI) definition of a massacre, specifically where 4 or more people are killed within a single timeframe. We differentiate our mass shootings from others in that our inclusion criteria require the shootings to have occurred in a public setting.

We adapted this definition to only include massacres that involved gun deaths of 4 or more victims to isolate a particular type of mass shooter [66]. Many firearm surveillance systems that include mass shootings use a lower threshold of persons shot and many do not include deaths. An FBI report on active shooters in mass shooting events identified planning and preparation behaviors that are central to prevention [67]. This more narrow definition isolates premeditation, whereas broader definitions may include shooters that are more reactive [68]. Our case definition does not include family annihilators or felony killers because *familicides are defined by the victim-offender relationship, public massacres are defined by location, and felony killings are distinguished by motive* [69]. This differentiation is consistent with other mass shooting studies [70-72].

We examined the annual number of public mass shootings occurring between 1966 and 2019 that resulted in 4 or more fatalities. The hypothesis was that the FAWB reduced the number of public mass shootings per year during the period of the ban. We used regression discontinuity analysis to test the hypothesis. Regression discontinuity analysis is a standard economist tool used in policy analysis taking advantage of quasi-experimental designs [65,73].

Analyses

Regression discontinuity analysis allows for discontinuities or shifts in both the intercept and the slope of the trend line at both the onset and sunset of the FAWB. That is, we introduced intercept shift parameters in 1995 and 2005, and trend shift parameters for the periods 1995-2004 and 2005-2019. A statistically significant shift in a parameter indicates a discontinuity (ie, a finding that the FAWB had a statistically significant effect on the number of public mass shootings). We tested for statistical significance of the intercept and trend shift parameters both independently and jointly. All statistical inference was based on a significance level set at .05. We used the Huber-White robust residuals, which attenuate problems of autocorrelation, heteroscedasticity, and some types of model misspecification [74].

We then used the estimated model for two types of counterfactual analysis. First, we used the model to predict the number of public mass shootings that would have occurred had the FAWB not been in place. The difference between this counterfactual prediction and the modeled number of incidents with the FAWB in place provided an estimate of the number of public mass shootings that the FAWB prevented.

Second, we projected forward the number of public mass shootings that would have occurred had the FAWB been permanent (ie, continued from 2004 through to the end of the sample period). We note that in some sense, this is an “out of

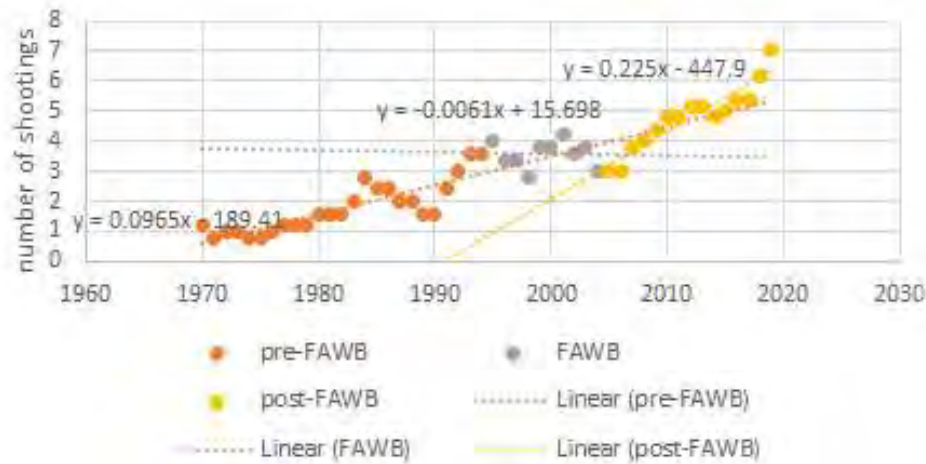
sample” exercise because even though the sample extends to 2019, the FAWB ended in 2004; thus, this exercise would not pick up events in the past 15 years that would have augmented or compromised the effects of the FAWB. The difference between the modeled number of public mass shootings and the projected counterfactual number of public mass shootings could provide an estimate of the number of public mass shootings that the FAWB prevented.

We performed a regression of the 5-year moving average of public mass shootings on the US population in millions, the homicide rate, and discontinuity variables to capture both the effects of the FAWB and its discontinuation. We did not introduce a trend line for the entire sample period because it is highly collinear with the population variable. For the period of the FAWB’s implementation, we originally introduced an intercept shift, time trend, and shift in the homicide rate; for the post-FAWB period, we introduced an intercept shift and a time trend. Due to collinearity, we retained only the trend shift in the final model for the FAWB period; for the post-FAWB period, we retained both the intercept and the trend shift.

Results

We identified a total of 170 public mass shooting events, the primary outcome variable, with 4 or more fatalities between 1966 and 2019. The 5-year cumulative number of public mass shootings is shown in Figure 1, providing a visualization of the impacts of the FAWB on the number of shootings. The first mass shooting occurred in 1966; hence, the first data point for the cumulative number of shootings over the previous 5 years occurs in 1970. For 1966 and 1967, the cumulative number of public mass shootings was 3. This number then increased to 12 in 1993 and declined to 3 in 2004. After 2004, the cumulative number of public mass shootings increased to 81 in 2019. The last year of the ban, 2004, experienced the fewest public mass shootings through 2019.

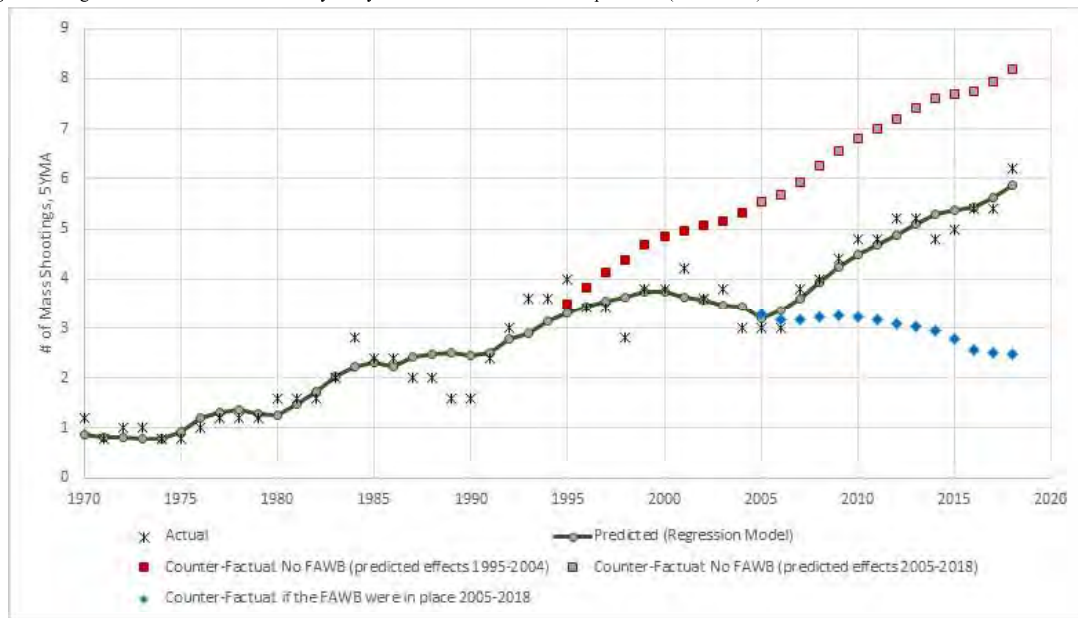
The regression results showed excellent explanatory power ($R^2=0.94$). The coefficient on population was positive and statistically significant (.044, $P<.001$). This coefficient means that for every increase in population of 1 million people, there are an additional .044 public mass shooting events per year. The coefficient on the homicide rate was negative and statistically significant ($-.249$, $P=.01$). The coefficient on the time trend for the FAWB period captures the effect of the FAWB; this coefficient was negative and statistically significant ($-.187$, $P=.001$). Using prediction models in combination with regression slopes, we estimate that 11 public mass shootings were avoided due to the FAWB. The intercept discontinuity for 2005-2019 was negative and statistically significant (-2.232 , $P=.001$), and the trend coefficient was positive and statistically significant (.081, $P=.001$).

Figure 1. Public mass shooting trend line using five year moving averages (1966-2019).

These results are graphed in Figure 2 in which the black stars represent the actual data and the green line represents the predicted numbers of public mass shootings from the regression discontinuity model. A bending of the trend during the FAWB period to become downward sloping at the end of the period is apparent, as is the return of the upward trajectory upon expiration of the FAWB. The red squares represent the projected numbers of public mass shootings during the FAWB period had there been no FAWB. The difference between the red squares

and the green lines represents the predicted number of public mass shootings averted by the FAWB. The model predicts that 11 public mass shootings were averted over the period of 1995-2004.

The blue diamonds represent the projected effects of a continuation of the FAWB through 2019 based on the observed trend from 1995 to 2004. This projection indicates that 30 public mass shootings would have been prevented from 2005 to 2019 had the FAWB been left in place.

Figure 2. Regression lines from discontinuity analysis of the federal assault weapons ban (1994-2004).

Discussion

Principal Findings

In total, 1225 people were killed in a mass shooting over the past 53 years with more than half occurring in the last decade, a function of increases in mass shootings and weapon lethality [62,63,75]. Public mass shooting fatalities and injuries far outpace population growth [75]. Between 1966 and 2019, the US population increased by 67% [76], whereas public mass shooting deaths increased by over 5-fold. The rise in public mass shootings throughout the sample period is in fact partially a function of population growth and homicide rate, along with the effects of the FAWB and its removal. An increase in the US population of 1 million people was associated with an increase of .040 ($P<.005$) public mass shootings per year. During the post-FAWB period, the increase in population from approximately 300 million in 2005 to 330 million in 2019 should be associated with an increase of 1.2 public mass shootings per year, compared to the actual increase of 4 public mass shootings per year in the data (5-year moving average). After controlling for population growth and homicide rate, a positive and statistically significant coefficient (.081, $P=.001$) on the 2005-2018 trend was seen. This further indicates a separate, nonpopulation trend of increasing violence operating during the post-FAWB period. The negative coefficient on the homicide rate invalidates the hypothesis that decreases in the numbers of public mass shootings are simply reflections of an overall decreasing homicide rate. The negative intercept discontinuity is consistent with an effect of the FAWB that persists somewhat beyond the immediate end of the ban. The positive trend coefficient is consistent with the hypothesis that the FAWB was associated with a decrease in the number of public mass shootings, as the expiration of the FAWB was associated with a shift from a downward trend to an upward trend in the number of public mass shootings per year.

The most striking finding from this study is that there was a reduction in the number of public mass shooting events while the FAWB was in place. Using prediction models in combination with regression slopes, we estimate that 11 public mass shootings were avoided due to the FAWB. By projecting what would have happened if the FAWB remained in place, we found that there would have been significantly fewer public mass shootings if the FAWB had remained in place to 2019. Remarkably, although it is intuitive that the removal of assault weapons and magazine clips will reduce the lethality of a mass shooting, we observed an inverse relationship between weapons/ammunition and mass shooting events, meaning that mass shooters may be less likely to perpetrate a mass shooting without rapid fire military-style weapons. This is an independent effect, which indirectly leads to fewer injuries and deaths. DiMaggio et al [64] also found evidence of a decrease in public mass shootings during the ban; however, their study period was shorter and was restricted to 51 public mass shootings. Unlike our study, they implicitly modeled public mass shootings as a random instance of general gun homicides that had a high death count [64]. In contrast, our findings suggest that public mass shootings are a unique type of premeditated gun violence. We found that prior to enactment of the FAWB, the rate of public

mass shootings was increasing. During enactment of the FAWB, there was a downward trend of mass shooting events. After the FAWB was lifted, public mass shootings increased dramatically. Firearm homicides in general follow no such patterns.

This effect was not found in the work of Koper, Roth, and colleagues [53-55]; however, their inclusion of all gun homicides masks the ban's effect on mass shootings. Even though Peterson and Densley's [77] work focused on perpetrator histories and not the FAWB, their findings that ease of gun access is characteristic of public mass shooters further supports our study. We restricted the inclusion criteria to public mass shootings to specifically test the effectiveness of the FAWB on public mass shooting events.

Regardless of the FAWB, bringing a semiautomatic rifle with high magazine capacity to a massacre significantly increases the number of fatalities and injuries. The increase in deaths is a function of rapid fire and increased ballistic energy. The increase in injuries is also a function of rapid fire and high-capacity magazines, enabling the shooter to shoot more people in crowded venues quickly before the crowd can disperse or hide. When controlling for the FAWB, the use of assault rifles decreased by half during implementation of the ban and tripled after the ban was lifted. This is a particularly important finding given that the FAWB had loopholes and that overall violent crime is decreasing [78]. First, all people with an assault weapon prior to the FAWB were allowed to retain their semiautomatic weapons [54,64]. Second, without a buyback program, semiautomatic weapons remained in the community [54,64]. Third, the ban did not target some military assault-like weapons [54,64]. Finally, a major loophole found in gun control legislation is that buyers can bypass background checks by purchasing their weapons and ammunition from gun shows, through illegal purchasing, or legally purchasing their guns and ammunition from another gun owner [57,63,79-87]. Even with these loopholes and issues, there was still a significant reduction in public mass shootings during the FAWB. These loopholes indicate that most people who purchase assault weapons do not become mass shooters; however, mass shooters require assault weapons and LCMs to carry out a mass shooting. Ban effectiveness might have improved if all assault weapons were included in the FAWB.

Some recent studies have specifically analyzed the effects of LCM bans on the incidence of public mass shootings. In a review of state legislation, Webster et al [88] found that bans of LCMs were associated with a significant reduction in the incidence of fatal public mass shootings. This study shows that the FAWB, which included a ban on LCMs, was associated with fewer fatalities and injuries during mass shootings in addition to fewer public mass shooting events. Koper et al [27] previously reported that 19% of public mass shootings resulting in 4 or more fatalities included the use of LCMs, while only 10% involved an assault weapon. Klarevas et al [29] found a similar pattern in shootings of 6 or more people, in which 67% of shooters utilized LCMs, whereas only 26% utilized an assault weapon. Because our study only looked at effects of the FAWB, which included an LCM ban, we were only able to determine the combined effects of limiting assault weapons and LCMs. To be clear, the reduction in the number of public mass

shootings, and resulting fatalities and injuries, may be a function of the ban on assault weapons, assault weapons plus LCMs, or only LCMs. We cannot separate out their independent effects at the national level.

Unlike our study, Webster et al [88] did not evaluate the incidence of assault weapons used in public mass shootings. Rather, they focused on fatalities from public mass shootings vs public mass shooting events. Although Webster et al [88] utilized the FBI Supplemental Homicide Report as their dataset, which is a voluntary reporting measurement system prone to errors in reporting, their findings are applicable to our analysis.

Limitations

Although we found statistically significant decreases during the FAWB, we cannot isolate aspects of the policy that are attributed to the decline. Most notably, the FAWB also included LCMs during the ban. It may be that the type of gun and/or the type of magazine resulted in a decline. Indeed, assault weapons and LCMs provide the means to carry out a mass shooting; however, there are likely other factors beyond this study that partially explain the radical increase in public mass shootings in the post-FAWB period. For example, the FAWB was in place from 1994 to 2004, which is the same time period that the US population largely adopted the internet, along with associated social communication software and websites. This may have

resulted in better tracking of public mass shootings or increased media coverage. Because our study specifically targeted the federal legislation, we omitted state-level gun policies such as state-level prohibitions on certain types of guns, LCMs, or more lethal types of bullets. It is likely that the internet serves as a contagion and as a guide to potential mass shooters, allowing them to access weapons and multiple stories about other mass shooters [62,67,89,90].

Conclusions

In summary, public mass shootings are a unique and specific type of homicide by a gun. We found evidence that public mass shootings are qualitatively different from general homicides because after the FAWB expired, mass shooting events increased while general homicides decreased. The increase in public mass shootings was more dramatic in the final 10 years of the study period following the end of the FAWB. We suspect that these outcomes may be improved by removing existing semiautomatic weapons with large bullet capacity by creating a buyback program for all rapid-firing weapons. Moreover, the legislation would be strengthened if it closed loopholes that allow gun buyers to get around the background check legislation and other purchase prohibitions by exempting gun shows and internet or person-to-person purchases, which were exempted from the FAWB and LCM ban [87].

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Conflicts of Interest

None declared.

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EXHIBIT G

VIEWPOINT

Regulating Assault Weapons and Large-Capacity Magazines for Ammunition

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Viewpoint pages 1177,
1179, 1181, 1183, 1185,
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and 1197 and Editorial
page 1201



Supplemental
content

Mass public shootings in the US account for a small fraction of all firearm-related homicides, but have an outsized role in stoking the public's concern with firearm violence. The vivid instances of attacks on people in churches, schools, and offices and at other public gathering places do vastly disproportionate damage to peace of mind by creating a sense of peril in places that should feel safe. These attacks have been increasing in frequency and deadliness in recent years. As reducing this particular type of firearm violence becomes more urgent, the case for a variety of prevention measures becomes even stronger.

This Viewpoint focuses on a measure that is highly specific to the gun violence problem—stringent regulation of assault weapons and large-capacity magazines (LCMs) for ammunition. Federal law banned the introduction of new LCMs and military-style semiautomatic firearms between 1994 and 2004, but that regulation ended in 2004 and Congress did not renew it. Now, years later, the nation is experiencing the dire effects of opening the door to the manufacture and import of these weapons; it is time to close that door.

History and Current Status of Bans

The history of federal bans on weapons of mass destruction goes back to the 1934 National Firearms Act. Among other provisions, the Act required submachine guns and other firearms capable of fully

The 1994 Federal Assault Weapons Ban extended the regulation of military-style weapons to include some semiautomatic firearms. These weapons fire 1 round of ammunition for each pull of the trigger, and are capable of firing at a rate of roughly 1 per second. The 1994 Assault Weapons Ban ended the legal manufacture and import of specified firearms, as well as ammunition-feeding devices (magazines) that held more than 10 rounds of ammunition. At the time, most prohibited assault weapons were equipped with detachable magazines that held 30 rounds and could accept magazines that could hold as many as 50 or 100 rounds, thus making it possible to fire dozens of rounds without pausing to reload.²

The 1994 federal ban on new assault weapons had gaping loopholes. First, the federal ban did not restrict possession or transactions of existing assault weapons and LCMs. Second, manufacturers found ways to slightly modify the design of some of the banned weapons so that they met the letter of the law while preserving the military appearance and the possibility of accepting LCMs and firing high-powered ammunition quickly. Still, there is evidence that the ban had some salutary effect on mass public shootings.

The LCM ban, also in effect during 1994 to 2004, was not subject to the redesign problem because it provided a bright line that was difficult for manufacturers to overcome. There were, however, an estimated 25 million LCMs in circulation when the ban was enacted, and those remained in circulation, but with no new additions.² It was not just assault weapons (as defined) that were designed to use LCMs, but a variety of other semiautomatic firearms as well, so the LCM ban had much broader scope.

When the law expired in 2004, manufacturing and importations of LCMs and previously banned weapons resumed, and a surge of sales followed.

Current estimates suggest that approximately 20 million assault weapons are owned by private individuals in the US, with millions of new assault weapons manufactured and imported each year.³ The industry initially advertised these weapons as “assault rifles,” and continues to promote them with military allusions but has now rebranded this type of weapon as the “modern sporting rifle.”

Seven states have some version of a ban or stringent restrictions on assault weapons: California, Connecticut, Hawaii, Maryland, Massachusetts, New Jersey, and New York, as well as the District of Columbia.⁴ These laws are being challenged in the courts as a violation of the Second Amendment, but have survived these challenges to date.

Current estimates suggest that approximately 20 million assault weapons are owned by private individuals in the US, with millions of new assault weapons manufactured and imported each year.

automatic fire (ie, firing several shots with a single pull of the trigger) to be registered with the federal government.¹ All transactions involving such weapons were taxed at \$200, a high confiscatory amount at the time. The registration and tax requirement remained in place, although inflation has substantially undercut the force of the transfer fee. The Act was expanded by Congress in 1986 to end the sale of new fully automatic weapons. There is every reason to believe that these restrictions have been effective. Even though the Thompson submachine gun was a notorious gangster weapon in the 1920s, fully automatic weapons of any kind are rarely used in crime in modern times or in mass public shootings.¹

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Opinion Viewpoint

Evidence of Potential Effectiveness of a National Ban

A review conducted by the RAND Corporation concluded that the handful of published studies on the effect of the ban on mass public shootings was "inconclusive" due in part to flaws in the analysis used by the 3 studies with positive findings.⁴ But it is unlikely the surge in mass public shootings that involved assault weapons and LCMs that occurred after the ban would have happened if the ban had remained in place. The logic is straightforward. The sales of these weapons, which had declined during the ban, expanded greatly following its repeal, making them more widely available to everyone including would-be mass murderers.

To document recent trends in such mass public shootings requires a precise definition. One common definition for mass public shootings has several elements,^{5,6} including: (1) a minimum of 4 homicides; (2) a public location; and (3) circumstance not attributable to robbery, other felonious activity, or commonplace conflict in families or among acquaintances. A comprehensive compilation of such events is the Violence Project's database of mass shootings in the US,⁷ which includes the number of people killed and injured in each event and the type of weapon or weapons used.

Information from this database indicates that in the years following when the law expired in 2004, the number of mass shooting incidents greatly increased and the number of fatalities increased even more. During the period from 2015 to 2019, the number of incidents reached 33 (or 6.6 per year), which was almost twice the number during the decade the Federal Assault Weapons Ban was in effect (eFigure and eTable in the Supplement). The number of fatalities from shootings that involved banned weapons decreased during the second half of the ban (2000-2004) and then surged during subsequent periods, reaching a total of 271 during 2015 to 2019. It was during that 5-year interval from 2015 to 2019 that 5 of the top-10 deadliest mass public shootings in US history occurred, and all were committed with assault weapons.⁸ The number of fatalities resulting from mass public shootings with other weapons has remained relatively flat.

The Australian Ban on Rapid-Fire Weapons

The Australian experience has factored into the debate over reinstituting the assault weapons ban in the US. In Australia, the impetus for banning semiautomatic weapons was a 1996 mass public shoot-

ing in Port Arthur, Tasmania, in which a young man killed 35 people with a semiautomatic rifle. Swift action by the federal and state legislatures produced legislation that banned not only manufacture and import, but private possession of semiautomatic rifles. To ease the transition, a series of firearm buybacks were instituted, and 1 million weapons were ultimately relinquished, estimated to be one-third of all privately owned guns. Australia had 11 mass shootings during the decade prior to the ban,⁹ and 1 since then (a family killing in 2018 that would not count as a mass public shooting by the US definition).

The Australian experience is illustrative as a proof of concept for other countries, including the US. Of note, the ban covered all semiautomatic rifles, not just those with the specific features suggestive of use in warfare as opposed to hunting. The ban on possession of existing guns rather than only on the introduction of new guns greatly accelerated its apparent effectiveness.

Potential Next Steps

On July 29, 2022, the US House of Representatives passed the Assault Weapons Ban of 2022. To a large extent this bill reinstituted the 1994 ban, including the ban on the sale of new semiautomatic firearms deemed to be assault weapons, and of new LCMs holding more than 10 rounds. An important innovation is that for LCMs, the bill only allows continued possession and use of existing devices, but not transfer. However, given the reality that the US Senate will not enact this bill, it is useful to consider other approaches.

States could institute or expand assault weapon bans. Indeed, just a ban on LCMs would be a promising first step, impeding access to these products by individuals who could otherwise use them to fire multiple rounds of ammunition at large numbers of people before law enforcement can be mobilized to stop the killing.

Conclusions

In 2017, the *New York Times* polled "32 current or retired academics in criminology, public health and law, who have published extensively in peer-reviewed academic journals on gun policy"¹⁰ to ask them what measures would be most effective in dealing with the mass shooting problem in the US, and an assault weapons ban was deemed overall by this panel to be the single most effective measure. The evidence in support of a ban has grown tragically stronger since then.¹⁰

ARTICLE INFORMATION

Conflict of Interest Disclosures: Dr Donohue reported serving as an expert witness for various government entities on matters related to assault weapons bans based on his research in this area.

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Abbreviations

FAWB: Federal Assault Weapons Ban
FBI: Federal Bureau of Investigation
LCM: large-capacity magazine

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EXHIBIT H

Gun Digest

**34th Anniversary
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**THE WORLD'S
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THE COMPLETE COMPACT CATALOG

It is problematical whether people mostly buy GUN DIGEST for its remarkable catalog or for its feature section designed to be good reading. Certainly, people use the catalog pages of GUN DIGEST more. A copy of this book is to be found within reach of virtually every sales executive and store owner in the firearms industry, and it is certainly a mainstay for gunwriters and editors. Our catalog section is the big question-answerer.

Inflation has brought, to a degree, hard times to those who prepare catalogs that show prices. There was a time when we went to all the shows and made all the phone calls and got, in addition to all the details, the year's prices. Indeed, in the old days as far back as GUN DIGEST goes, there were times when the prices didn't change from year to year.

That is all gone. Inflation has made it virtually impossible for even factory people to keep track of prices. A publication which must be early, as this one is, can only print those prices in effect at the time it goes to press. Those are the prices you see here. At the very least, they provide an absolutely sound starting point for shoppers.

Showing prices is not, however, the principal function of the GUN DIGEST catalog section. Its all-inclusive nature provides, if you look at a lot of them, a history of firearms availability in the United States. It covers virtually all firearms available to U.S. shooters, whether manufactured in the United States or elsewhere, or marketed by United States firms or others, and whether the arm is rimfire, centerfire, muzzleloader, rifle, handgun, shotgun. Indeed, air arms have always been—since they became a factor—listed in GUN DIGEST.

There are things besides guns important to firearms users and those have always been listed in the GUN DIGEST catalog. Sights and accessories, scopes and mounts, books, addresses of associations and clubs and manufacturers—all these are important and sometimes imperative reference needs of gun users.

It is important to note that GUN DIGEST is a commercial venture by itself. It makes its money from its readers and it makes no money through advertising. No one pays to be listed in GUN DIGEST; any legitimate producer of any legitimate product or service who will meet our deadlines regarding essential details and photographs, will be listed. In fact, if they don't meet our deadlines, we go after them. And if that fails, we will present what we can find out without them.

Here it is, then: 180 pages of pure objective fact—what's available, who makes it, where it is, what it looks like, and, within limits imposed from without, how much it costs. There is no other source that presents this information with such completeness and in such compact convenience.

Making it happen is, by the way, hard work.

Kw



Harold A. Murtz, Senior Staff Editor, handles the GUN DIGEST catalog and edits GUNS ILLUSTRATED each year.



This trio— Bob Anderson, Lilo Anderson, Harold A. Murtz— hold down the Northfield editorial offices



Pamela J. Johnson, DBI artist, finds a table full of Digest layouts each spring.

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8 *official capacity as Attorney General of the*
State of California

9 IN THE UNITED STATES DISTRICT COURT
10 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
11 CIVIL DIVISION
12

13 **VIRGINIA DUNCAN, RICHARD**
14 **LEWIS, PATRICK LOVETTE,**
15 **DAVID MARGUGLIO,**
16 **CHRISTOPHER WADDELL, and**
CALIFORNIA RIFLE & PISTOL
ASSOCIATION, INC., a California
corporation,

17 Plaintiffs,

18 v.

19 **ROB BONTA, in his official capacity as**
20 **Attorney General of the State of**
21 **California; and DOES 1-10,**

22 Defendants.
23
24
25
26
27
28

Case No. 17-cv-1017-BEN-JLB

DECLARATION OF BRENNAN RIVAS

Courtroom: 5A
Judge: Hon. Roger T. Benitez
Action Filed: May 17, 2017

1 **DECLARATION OF BRENNAN RIVAS**

2 I, Brennan Rivas, declare under penalty of perjury that the following is true
3 and correct:

4 1. I have been retained by the State of California to provide expert
5 opinion and testimony regarding historical regulations that prohibited the public
6 carry and possession of certain weapons. I am being compensated at a rate of \$130
7 per hour.

8 2. I have evaluated the historical justifications and purposes of laws
9 restricting the carrying of certain weapons, in addition to their scope in restricting
10 the use of certain weapons associated with urgent societal problems of the time
11 while simultaneously protecting the right to use other weapons for constitutionally
12 protected, lawful purposes.

13 **BACKGROUND AND QUALIFICATIONS**

14 3. I have a Ph.D. in history from Texas Christian University, awarded in
15 2019. My expertise includes historical weapon regulations in the United States. I
16 have several publications on this topic, including peer-reviewed articles in the
17 *Southwestern Historical Quarterly*, and a chapter in an edited collection
18 forthcoming by Oxford University Press; earlier this year, my article, “Enforcement
19 of Public Carry Restrictions: Texas as a Case Study (June 2022), was published in
20 the *UC Davis Law Review*.

21 4. I am currently completing a book manuscript, based upon my
22 dissertation research, which traces the development and implementation of weapon
23 and firearm policies in Texas across a century-long period.

24 5. I have provided expert witness testimony in *Miller v. Bonta*, No. 3:19-
25 cv-01537-BEN-JLB (S.D. Cal.).

26 6. A true and correct copy of my current curriculum vitae is attached as
27 **Exhibit A** to this declaration.

OPINIONS

7. As discussed in this declaration, the proliferation of 19th century firearm restrictions, including those enacted in Texas, Tennessee, and Arkansas, demonstrate a robust governmental response to the scourge of gun violence that swept the Nation. Importantly, these restrictions did not flatly ban the carry or possession of all arms, and instead targeted only those weapons that posed significant risk to public safety at that time.

I. BRIEF HISTORY OF THE COLT REVOLVER AND THE SPREAD OF HANDGUN VIOLENCE IN THE 19TH CENTURY

8. The field of gun law history is a relatively young and obscure one, though it will undoubtedly continue to grow as Second Amendment jurisprudence generates a need for more and better scholarship on the subject. My research, which represents some of the most in-depth work on nineteenth-century gun regulations, shows that there are historical firearm regulations similar to both California's restrictions on large-capacity magazines and its restrictions on assault weapons. Notably, during this period, several states prohibited the sale, gift, transfer, or importation of certain types of revolvers and other pistols which people of the time associated with criminal activity.

9. The revolver design that came to dominate American markets during the mid- and late nineteenth century was patented by Samuel Colt in 1836. He was not the first inventor to produce a multi-shot pistol, but he was the first whose creation became technologically and socially significant. Even though Colt had a working revolver by the mid-1830s, it took decades for his invention to become commercially successful.

10. The Colt revolver diverged from pistols then widely available in two critical ways. First, it was breech-loading, meaning that ammunition did not need to be inserted through the end of the barrel (muzzle-loading). Second, it provided multiple shots without reloading; the standard design eventually settled at six

1 rounds. The earliest revolvers (those manufactured prior to and during the Civil
2 War) were of the “cap and ball” type, which required a delicate and time-
3 consuming reloading process. By about the 1870s, technological developments in
4 the design and functionality of ammunition meant that later models of Colt’s could
5 use individual cartridges; these could be inserted fairly quickly into the cylinder,
6 which made the reloading process much more swift—a boon on the battlefield, but
7 a new danger in other contexts.

8 11. Though Colt’s revolver was a revolutionary device that represented a
9 paradigmatic shift in firearm technology, his company struggled to reach its
10 potential. The expiration of Colt’s patent in 1857 opened the door for other
11 manufacturers to enter the market without having to endure the same decades-long
12 startup cost. Meanwhile, the growing crisis over slavery and its looming prospect
13 of war gave Colt what he had always wanted—substantial government patronage.
14 Southern states ordered as many revolvers as they could in the lead-up to Fort
15 Sumter, and Colt’s Patent Fire Arms Manufacturing Company was more than
16 willing to deliver. But the far more important contracts came from the United
17 States military, whose orders for pistols like Colt’s revolver skyrocketed during the
18 course of the Civil War.¹ Wartime production by Colt, in addition to the new
19 entrants into the market (like Smith & Wesson), created an unprecedented
20 infrastructure to manufacture staggeringly large quantities of pistols. As production
21 capacity increased and the U.S. military demobilized, more of these weapons
22 became available to and affordable for American consumers; by the 1870s, the net
23 result was more and cheaper pistols spread throughout the country², introducing the
24 United States to its first experience with rampant gun violence.

25 ¹ On the life of Samuel Colt and the history of his firearm manufacturing
26 companies, see Jim Rasenberger, *Revolver: Sam Colt and the Six-Shooter that*
27 *Changed America* (New York: Scribner, 2020).

28 ² Colt’s Army revolvers cost about \$20 at the time of the Civil War, but
(continued...)

1 12. The Civil War Era, making up the central three decades of the
2 nineteenth century (1840-1870), marked a sharp departure for the United States in
3 terms of violence and homicide in comparison to other Western nations. Distrust in
4 governing institutions and tremendous economic change wrought by
5 industrialization primed Americans for homicidal violence to a degree that was
6 unprecedented in American history. In northern cities, rising population levels
7 accompanied urbanization, labor agitation, and poverty, which caused an increase
8 in homicide and crime. Though military victory and a renewed faith in American
9 government reduced homicide in northern states after the 1860s, the rates for the
10 1870s and 1880s in the north remained higher than those from the more peaceful
11 era prior to the 1840s, and by the close of the 1890s northern homicide rates began
12 ratcheting upward yet again.³ Broader crime rates for the late nineteenth century
13 are harder to pin down than those for homicide, but the development of urban,
14 industrial life produced abundant opportunities for the criminally inclined. That
15 city governments enacted new criminal ordinances and increased funding for police
16 strongly suggests that urban residents perceived themselves to be more vulnerable
17 to victimization than they had been in the past. In the southern states, the
18 subsequent entrants into the market sold small pocket pistols for as little as a couple
19 of dollars. For example, see digitized Sears and Roebuck catalog (1898), pp. 365-
20 367. Regardless of caliber, the pistols from Colt's ran about \$12 to \$13 in the
21 catalog but retailed elsewhere for something closer to \$18 (see pp. 367).
22 Meanwhile, the smaller caliber pocket pistols from other brands could be ordered
23 for as little as \$1.40 (see pp. 365). For the 1898 Sears & Roebuck catalog online,
24 see <https://bit.ly/3VeUhHo>.

25 ³ On homicide in American history, particularly as broken down into
26 northern and southern regions, see Randolph Roth, *American Homicide*
27 (Cambridge: Belknap Press of Harvard University Press, 2009), 297-326, 386-388
28 (for trends in northern areas); 185 (for data-supported charts showing trends in
homicide for large cities across the entire nineteenth century); 184 (complicating
data from pp. 185 by showing that some rural northern areas experienced sharp rise
in crime after 1865 and therefore emulated what took place in the American South
during that time).

1 revolutionary consequences of emancipation and Reconstruction created an
2 atmosphere of distrust of government and one's neighbor, mutual hatred, and
3 deeply ideological partisanship that resulted in tremendous, gut-wrenching violence
4 suffered primarily by Black Americans and their political allies. The disruption of
5 war, occupation, and frequent changes in state government and constitutional
6 structure bred attitudes of vigilantism and disregard for the judicial process. Rates
7 of violence and homicide remained quite high in the southern states across the
8 nineteenth century.⁴ The proliferation of deadly weapons, and especially easily
9 concealable pistols, to a point of near ubiquity in American communities rendered
10 the interpersonal conflicts that erupted as a result of urbanization, Reconstruction,
11 economic hardship, and social dislocation all the more deadly.

12 **II. GOVERNMENTAL RESPONSES TO THE RISE IN HANDGUN VIOLENCE**

13 13. The response to this gun violence varied across the United States. The
14 most popular approach was the enactment or strengthening of public carry laws.
15 Jurisdictions that did not already have such laws were likely to enact them, and
16 those using the older mechanism of sureties to keep the peace were likely to
17 transition toward the implementation of criminal statutes mandating fines and/or
18 jail time for violators.⁵ These public carry regulations targeted concealable items
19 like pistols, sword canes, and daggers that were used in the commission of crimes
20 and generally referred to as deadly weapons. The closing third of the nineteenth
21 century saw a flurry of this activity as states and municipalities tried new penalties,
22
23

24 _____
25 ⁴ Roth, *American Homicide*, 411-434.

26 ⁵ The Repository of Historical Gun Laws, a database maintained by the Duke
27 Center for Firearms Law, reflects that American state and local governments
28 enacted statutes and ordinances specifically relating to "carrying weapons" in large
numbers during the period from the close of the Civil War in 1865 through the end
of the nineteenth century. See <https://firearmslaw.duke.edu/repository/search-the-repository/>.

1 added new weapons to the lists of prohibited weapons, and generally attempted to
2 eliminate small, easily concealable weapons from the public sphere.⁶

3 14. Another strategy employed by state governments to reduce gun
4 violence and gun crime was to tax certain types of firearms. In 1894, Georgia
5 enacted a new occupation tax law that applied to “dealers in pistols and other
6 weapons.” A dealer in “pistols, toy pistols shooting cartridges, pistol or rifle
7 cartridges, dirks, bowie-knives, or metal knucks” had to pay twenty-five dollars per
8 place of business.⁷ In 1907, the Texas legislature placed a fifty-percent sales tax
9 upon pistols; dealers had to report their sales and pay the required tax to the state
10 comptroller’s office on a quarterly basis.⁸ Sales and occupation taxes like these
11 tended to be less about generating revenue than regulating an activity that was
12 frowned upon by society more generally. Occupation tax laws applied to vendors
13 who appealed to vices like smoking, gambling, and playing games as well as
14 peddlers and itinerant salesmen. When a Texas appellate court upheld the stringent
15 sales tax (over loud complaints by dealers), the judge described the business of
16 selling pistols as one “hurtful to the welfare of society” and among that class of
17 occupations “detrimental to the health, morals, or good order of society.” As a
18 result, the court reasoned that the legislature “would have the right, not only to levy

19
20 ⁶ In the second half of the nineteenth century, items like metal knuckles and
21 razor blades became targets for proscription alongside bowie knives, pistols, and
sword canes.

22 ⁷ Acts of the General Assembly of the State of Georgia (1894) available
23 online from the Digital Library of Georgia; see
24 https://dlg.usg.edu/record/dlg_zlgl_75343012/fulltext.text and
25 https://dlg.usg.edu/collection/dlg_zlgl?range%5Byear_facet%5D%5Bbegin%5D=1880&range%5Byear_facet%5D%5Bend%5D=1899&sort=year+desc. Also, there
26 were likely many more occupation taxes, though they have not been
27 comprehensively indexed as of yet.

28 ⁸ An Act providing for the levy and collection of an occupation tax . . . ,
General Laws of Texas, §XVIII (1907). See also Brennan Gardner Rivas, “The
Deadly Weapon Laws of Texas: Regulating Guns, Knives, and Knuckles in the
Lone Star State, 1836-1930, (PhD diss., Texas Christian University, 2019) 161-162.

1 an excessive tax, which would be prohibitory thereof, but could go further and
2 absolutely prohibit any one from engaging therein.”⁹

3 15. Arkansas and Tennessee, for example, adopted a two-pronged
4 approach that displayed attributes of both public carry laws as well as dealer
5 regulations. The first prong was to prohibit the public carrying of pistols.¹⁰ Courts
6 in both states struck down early versions of the laws because they applied to all
7 revolvers, including those being issued to certain classes of soldiers by the United
8 States military.¹¹ But they were quickly amended to exclude “army and navy
9 pistols”—those types or models in use by the US military—when carried openly in
10 the hand. By exempting these models, Arkansas and Tennessee lawmakers made
11 their gun policies comport with the reigning Second Amendment jurisprudence of
12 their day, which held that militia arms enjoyed special protection from certain
13 forms of regulation.

14 16. Unlike today, where laws generally prevent the civilian sale of
15 military-grade weapons while carving out protections for self-defense weapons,
16 Americans of the nineteenth century did just the opposite; case law at that time held
17 that a citizen’s militia obligation conferred upon certain kinds of firearms,
18 especially muskets and rifles, a protected status under the law as “militia arms,”
19 while those smaller weapons which lent themselves to concealability and were
20 more conducive to interpersonal violence could be prohibited. This view of arms
21 and their place in society changed in the twentieth century as a result of substantial
22
23

24 ⁹ *Caswell & Smith v. State*, 148 SW 1159 (Tex. App. 1912).

25 ¹⁰ See 1869-1870 Tenn. Pub. Acts, 2d. Sess., An Act to Preserve the Peace
26 and Prevent Homicide, ch. 13, § 1; 1874-1875 Acts of Ark., An Act to Prohibit the
Carrying of Side-Arms, and Other Deadly Weapons, at p. 155, § 1.

27 ¹¹ *Andrews v. State*, 50 Tenn. 165 (1871); *Wilson v. State*, 33 Ark. 557
28 (1878).

1 alterations to the militia system (and the development of the National Guard) as
2 well as the advent of automatic and select-fire weapons for military use.

3 17. When the Tennessee high court struck down the initial statute, which
4 prohibited the carrying of *all* pistols, lawmakers swiftly wrote a replacement statute
5 that, “it shall not be lawful for any person to publicly carry a dirk, sword cane,
6 Spanish stiletto, belt or pocket pistol, or revolver, other than an army pistol, or such
7 as are commonly carried and used in the United States army, and in no case shall it
8 be lawful for any person to carry such army pistol publicly or privately about his
9 person in any other manner than openly in his hands.”¹² It is worth noting that even
10 the exempted army/navy pistols could not be carried concealed, or even visible
11 within a waistband or hip holster; the only way to carry legally exempted pistols
12 was to hold them in one’s hand. The purpose of this additional phrase was to
13 curtail as much as possible the carrying of these weapons in public spaces so that a
14 person would only do so in the event of a real emergency. Arkansas’s replacement
15 statute was similar to that of Tennessee.¹³ The Tennessee Supreme Court upheld
16 that state’s replacement statute against constitutional challenge.¹⁴ The revised
17 Arkansas statute received no notable challenge.

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19
20 ¹² 1871 Tenn. Pub. Acts 81, An Act to Preserve the Peace and to Prevent
21 Homicide, ch. 90, § 1; *State v. Wilburn*, 66 Tenn. 57, 61 (1872).

22 ¹³ 1881 Ark. Acts 191, An Act to Preserve the Public Peace and Prevent
23 Crime, chap. XCVI, § 1-2 (“That any person who shall wear or carry, in any
24 manner whatever, as a weapon, any dirk or bowie knife, or a sword, or a spear in a
25 cane, brass or metal knucks, razor, or any pistol of any kind whatever, except such
26 pistols as are used in the army or navy of the United States, shall be guilty of a
27 misdemeanor. . . . Any person, excepting such officers or persons on a journey, and
28 on his premises, as are mentioned in section one of this act, who shall wear or carry
any such pistol as i[s] used in the army or navy of the United States, in any manner
except uncovered, and in his hand, shall be guilty of a misdemeanor.”).

¹⁴ *State v. Wilburn*, 66 Tenn. 57, 61 (1872).

1 18. The second prong which these states employed was a prohibition on
2 the sale of certain pistols. Tennessee prohibited “any person to sell, or offer to sell,
3 or bring into the State for the purpose of selling, giving away, or otherwise
4 disposing of, belt or pocket pistols, or revolvers, or any other kind of pistol, except
5 army or navy pistols.”¹⁵ Arkansas followed suit but went even further by
6 prohibiting the sale of pistol cartridges as well. “Any person who shall sell, barter,
7 or exchange, or otherwise dispose of, or in any manner furnish to any person any
8 dirk or bowie knife, or a sword or a spear in a cane, brass or metal knucks, or any
9 pistol, of any kind of whatever, except as are used in the army or navy of the United
10 States, and known as the navy pistol, or any kind of cartridge for any pistol, or any
11 person who shall keep such arms or cartridges for sale, shall be guilty of a
12 misdemeanor.”¹⁶

13 19. Throughout the nineteenth century, Americans voiced their displeasure
14 with the practice of carrying weapons in public spaces.¹⁷ Condemnations of such
15 behavior and calls for regulations rang out across the country and became
16 increasingly common during the late nineteenth century when economic and
17 technological developments had made them easier to produce and cheaper to
18 purchase. Arkansas and Tennessee were no exception to this national rule, and
19 commentators there engaged in the same discourse of their counterparts elsewhere.
20 The “shocks and violent convulsions which have been so fatal to law and order in
21 the South” were well known, as was the fact that “the pistol, the knife, the shotgun
22

23 ¹⁵ 1879 Tenn. Pub. Act 135-36, An Act to Prevent the Sale of Pistols,
24 chap. 96, § 1; *State v. Burgoyne*, 75 Tenn. 173, 173-74 (1881).

25 ¹⁶ Acts of the General Assembly of Arkansas, No. 96 § 3 (1881).

26 ¹⁷ For example, see Patrick Charles, *Armed in America* 152 (2018) (noting
27 the Georgia Supreme Court’s view that it was “at a loss to follow the line of
28 thought that extends the guarantee to the right to carry pistols, dirks, Bowie-knives,
and those other weapons of like character, which, as all admit, are the greatest
nuisances of our day.” (quoting *Hill v. State*, 53 Ga. 472, 474 (1874))).

1 and the bludgeon too often do their bloody work.”¹⁸ After the 1875 statute went
2 into effect in Arkansas, news editors began praising it as “about the best law that
3 has ever been enacted in this state,” and one that, had it been in effect since
4 statehood in 1836, “would have saved the lives of thousands of good men who have
5 fallen victim to the vice of carrying deadly weapons, or from the results and natural
6 consequences thereof.”¹⁹ Some judges in Tennessee began handing down penalties
7 of a fifty-dollar fine plus sixty days in jail, and “as a result few persons carry deadly
8 weapons in [that] county.”²⁰ Reports of this rigid enforcement in Tennessee elicited
9 praise among Arkansans, who viewed it as a social benefit that in Tennessee “men
10 who for years converted themselves into walking arsenals discover that they can
11 pursue their ordinary vocations without fear that they may at any moment be called
12 upon to defend their persons against assault.”²¹ From their perspective, the distrust
13 of one’s fellow community members that went along with habitual gun-toting was a
14 burden of fear that could only be lifted by prohibiting deadly weapons in the public
15 sphere. Middle-class Americans, white southerners included, held the view that
16

17
18 ¹⁸ “Crime in the South” *Arkansas Democrat* (Little Rock, Arkansas), June 7,
1879, 2.

19 ¹⁹ *Newport News* (Newport, Arkansas), quoted in *Daily Arkansas Gazette*
20 (Little Rock, Arkansas), April 27, 1875, 2.

21 ²⁰ The practice began with Judge Horrigan of Shelby County, the seat of
22 which is Memphis, Tennessee. Judge Quarles of Nashville declared his intention to
23 follow suit. *Daily Arkansas Gazette* (Little Rock, Arkansas), January 7, 1883, 4.
24 Judge Allen of Davidson County, Tennessee pledged to “impartially enforce the
25 law” regarding weapons and “declared that ‘it would make no difference of how
26 high degree a man was, if he was convicted before him of carrying a pistol he
27 would have to go to jail as well as pay a fine, and it simply came down to this: if he
28 was bound to carry a pistol he was bound to go to jail. That only ruffians carried
pistols and it gave them an unfair advantage over other citizens.’” *Daily Arkansas
Gazette* (Little Rock, Arkansas), May 13, 1883, 4.

²¹ *Daily Arkansas Gazette* (Little Rock, Arkansas), January 7, 1883, 4.

1 carrying deadly weapons was not honorable, and that such behavior should be
2 stopped.²²

3 20. To fully understand these regulations, it is necessary to understand the
4 different kinds of pistols and revolvers available during this time period. First, at
5 the larger end of the spectrum was the “army pistol” or “holster pistol,” which was
6 originally fashioned after the “horse pistols” that had been adopted by mounted
7 units in Europe and the United States. Such pistols were typically designed to be
8 carried in a saddle mounted holster and could weigh four pounds or more when
9 loaded. Though the firearm became slightly smaller and more conducive to being
10 worn on the person by officers beginning in the 1870s, they remained the largest
11 gun in Colt’s pistol lineup and carried a higher caliber; they were issued in large
12 numbers by the United States Army and Navy during the Civil War and postbellum
13 eras.²³ The Arkansas and Tennessee restrictions carved out an exception for these
14 weapons, but only when carried openly in the hand.

15 21. Second, “belt pistols” were midsized models and would have been
16 worn in a hip holster attached to the belt. These midsized pistols became popular
17 among civilians and may have been the most common type of revolver in the
18 country around the time of the Civil War. The Colt navy pistol took on that
19 moniker during the antebellum years when that model featured an engraving of a
20

21 ²² For an example from Arkansas and Tennessee, see *Daily Arkansas Gazette*
22 (Little Rock, Arkansas), May 13, 1883, 4 (reporting that a Tennessee district judge
23 stated “that only ruffians carried pistols and it gave them an unfair advantage over
24 other citizens,”). See also Mark Anthony Frassetto, “The Myth of Open Carry,”
UC Davis Law Review 55 (June 2022), 2518-2519.

25 ²³ On size, variability, and manufacture of Colt pistols, see Jim
26 Rasenberger, *Revolver: Sam Colt and the Six-Shooter that Changed America* (New
27 York: Simon and Schuster, 2021); Martin Rywell, *Colt Guns* 66–67, 84–93
28 (Harriman, TN: Pioneer Press, 1953); R. L. Wilson, *The Colt Heritage: The Official
History of Colt Firearms from 1836 to the Present* 173 (New York: Simon &
Schuster, 1979).

1 naval battle. In the postbellum decades, “army” or “holster” models became
2 smaller and the differences between them and Colt’s “navy” pistols lessened²⁴;
3 during the period in which these statutes were written—about fifteen years after the
4 Civil War—the “army/navy” description most likely reflected this technological
5 evolution by referring to the larger, heavier, higher caliber pistols with longer
6 barrels that were then issued by the United States military. The sales bans under
7 discussion here generally included “belt” pistols, so it remains unclear whether and
8 to what extent the Colt’s Navy pistol (which was technically a “belt” model) would
9 have received exemption on the basis of its name and/or its use by the military
10 forces.

11 22. Finally, the third kind of pistol available was the “pocket pistol.”
12 These were substantially smaller than the holster and belt models. Pocket pistols
13 ranged from single-shot, muzzle-loading derringers with barrels under two inches to
14 revolvers like Colt’s “pocket navy” six-shooter with a three-inch barrel. After the
15 Civil War, military purchases slowed, which led gun manufacturers to pivot toward
16 civilian sales. They marketed pocket pistols heavily. For instance, Colt’s produced
17 both a “ladies’ model” as well as a “house” pistol—though the latter became more
18 widely known as a “Fisk” for its use in the infamous murder of the robber baron
19 Jim Fisk in 1872.²⁵ The explosion in production was all the more pronounced by
20 the entry of imitation brands that used lower quality metals with less sophisticated
21 workmanship to sell pocket pistols at much lower prices than the competition.²⁶
22

23 ²⁴ See note 23, above.

24 ²⁵ For example, see *The Pistol as a Weapon of Defence in the House and on*
25 *the Road: How to Choose It and How to Use It* 23 (1875) (referring to pocket
26 pistols, including “the house pistol brought out some years ago by the Colt Arms
27 Company, and rendered famous by the fact that it was the pistol used by [Edward]
Stokes in the murder of Fisk”).

28 ²⁶ See note 23, above.

1 These cheap revolvers could be had for a few dollars, with used ones selling for
2 even less.²⁷

3 23. It is in this context that the public carry regulations and associated
4 sales bans and prohibitory taxes mentioned above must be understood. A
5 confluence of technical advancements and social changes resulted in the
6 widespread adoption of new weapons, causing new societal problems that increased
7 levels of interpersonal violence and ratcheted up public fear. In response, state
8 legislatures enacted regulations targeting the source of that problem. In addition to
9 other dangerous weapons, Tennessee and Arkansas targeted “pocket pistols”—
10 designed to be concealed from public view and increasingly easy to obtain by those
11 wishing to cause harm, were a target of these laws. The legislatures of both
12 Tennessee and Arkansas prohibited both the public carrying of these weapons, as
13 well as their sale to the general public. These regulations remained in force well
14 into the twentieth century.

15 24. Previous scholarship addressing these statutes has cast them as racially
16 motivated.²⁸ Those articles did not investigate deeply the primary sources of the
17 time. My research shows that these accounts have misrepresented the Tennessee
18 and Arkansas statutes, which were enacted as a public safety measure rather than an

19 ²⁷ Colt’s Army revolvers cost about \$20 at the time of the Civil War, but
20 subsequent entrants into the market sold small pocket pistols for as little as a couple
21 of dollars. For example, see digitized Sears and Roebuck catalog (1898), pp. 365-
22 367. Regardless of caliber, the pistols from Colt’s ran about \$12 to \$13 in the
23 catalog but retailed elsewhere for something closer to \$18 (see pp. 367).

24 Meanwhile, the smaller caliber pocket pistols from other brands could be ordered
25 for as little as \$1.40 (see pp. 365). For the 1898 Sears & Roebuck catalog online,
26 see

27 <https://archive.org/details/consumersguideno00sear/page/365/mode/1up?q=pistol>.

28 ²⁸ For example, Stefan B. Tahmassebi, “Gun Control and Racism,” *George Mason University Civil Rights Law Journal* 2, no. 1 (Summer 1991), 74-75; Robert Leider, “Our Non-originalist Right to Bear Arms,” *Indiana Law Journal* 89, no. 4, 1619-1620.

1 attempt to disarm Black residents. The argument made by other scholars, again
2 based on little more than inference, has been that most white men served in the
3 Civil War or had the means to purchase a “army/navy” pistol, and that the
4 army/navy exception was tantamount to a whites-only exception to this policy.²⁹
5 Civil War soldiers on both sides of the conflict were unlikely to be issued a
6 revolver unless they were officers, cavalry, or artillery; a great number of enlisted
7 soldiers who possessed revolvers during the conflict had purchased them on their
8 own, and at times their carrying of the weapons caused sufficient trouble within the
9 ranks that officers confiscated them. Others discarded heavy and seemingly
10 unnecessary pistols on long, grueling marches.³⁰ Confederate service did not
11 automatically correlate to white possession of an exempted pistol.

12 25. Rather than impute racism to these laws simply because of their
13 occurrence during Reconstruction, we should embed them within their appropriate
14 political and cultural context. The fact that Tennessee’s legislature amended the
15 public carry law so swiftly to add the army/navy exception could indicate to the
16 casual observer that white residents were dissatisfied with the original statute;
17 however, when the statutes and their constitutional challenges are placed in
18 chronological order and interpreted in light of the other primary sources of the era
19 (particularly newspapers and the widespread social contempt for publicly carrying
20 deadly weapons), it is clear that racism was not behind the army/navy exemption.

21 _____
22 ²⁹ Tahmassebi, “Gun Control and Racism,” 74-75.

23 ³⁰ On pistols and other arms issued during the Civil War, see Katelyn Brown,
24 “Armed to the Teeth,” *Military Images* 33, no. 4 (Autumn 2015), 32-36; Joseph G.
25 Bilby, *Civil War Firearms: Their Historical Background and Tactical*
26 *Use* (Conshohocken, PA: Combined Books, 1996); Graham Smith, *Civil War*
27 *Weapons* (New York: Chartwell, 2011); Jack Coggins, *Arms and Equipment of the*
28 *Civil War* (New York: Fairfax Press, 1982); *Arms and Equipment of the*
Union (Alexandria, VA: Time-Life Books, 1999); Ken Bauman, *Arming the*
Suckers: A Compilation of Illinois Civil War Weapons (Dayton, OH: Morningside
House, 1989).

1 Instead, it represented the best effort of Tennessee lawmakers to emulate the kind
2 of comprehensive public carry prohibition that was in force in Texas³¹ while also
3 respecting the parameters set forth by the state supreme court in *Andrews v. State*.
4 The amendatory statute did not simply provide an exemption for army/navy
5 pistols—it specified that even those pistols could not be carried in public unless
6 openly in the hand. Just like today, it was not common at that time to see a person
7 walking along a public street carrying a gun in hand; such behavior would have
8 been understood as an emergency requiring the intervention of local officers of the
9 law.

10 **III. THE RECENT EMERGENCE OF LARGE-CAPACITY MAGAZINES**

11 26. As explained below, the modern large-capacity magazine as we know
12 it today was not widely distributed in the United States until quite recently. The
13 semi-automatic weapons with which twenty-first century Americans associate large
14 capacity magazines were either not in existence or not manufactured in large
15 numbers until the twentieth century. Nineteenth-century magazines capable of
16 storing more than ten rounds of ammunition at a time were not usually detachable
17 (which made for slower reloading time) or were designed for large, military-grade
18 firearms that were not capable of being used or carried for personal use.

19
20 ³¹ Texas featured a comprehensive deadly weapon law that prohibited the
21 open or concealed carrying of “any pistol, dirk, dagger, slung-shot, sword-cane,
22 spear, brass-knuckles, bowie knife, or any other kind of knife manufactured or sold
23 for the purposes of offense or defense.” There were a few exceptions, such as for
24 travelers, peace officers, and anyone who “has reasonable grounds for fearing an
25 unlawful attack on his person, and that such ground of attack shall be immediate
26 and pressing.” *General Laws of Texas*, ch. XXXIV, §1 (1871). The original
27 statutes in Arkansas and Tennessee indicate legislative intent to enact a
28 comprehensive law like this one, but the decisions from their state courts in *Wilson*
and *Andrews*, respectively, prevented them from doing so; in Texas, on the other
hand, cases *English* and *Duke* upheld the constitutionality of the deadly weapon law
without requiring an army/navy exception. See *English v. State of Texas*, 35 Tex.
473 (1872); *State of Texas v. Duke* 42 Tex. 455 (1874).

1 27. In the decades following the Civil War, lever-action rifles became
2 commercially available to American consumers for the first time. Lever-action
3 rifles permitted the user to fire multiple shots without reloading. The lever-action
4 design usually featured a fixed, tubular magazine that was loaded through a loading
5 port on the side of the firearm. While there are a handful of examples of these fixed
6 tubular magazines capable of holding more than ten cartridges during that time
7 period, such as the famous Winchester Model 1873 Repeating Rifle,³² between each
8 shot the user had to engage the lever action to discharge the spent shell and load a
9 fresh cartridge from the magazine into the chamber. And when all rounds had been
10 expended, the user had to individually load cartridges back into the magazine by
11 inserting them through the loading port.

12 28. In fact, developments in cartridge design in the second half of the 19th
13 Century led to a shift toward smaller, not larger, magazine capacities, such that the
14 Winchester 1883 Hotchkiss Repeater was chambered for the newer 45-70 US
15 Government cartridge and featured a magazine in the butt stock that held 6
16 rounds.³³ And the Winchester Model 1894 Repeating Rifle was chambered for
17 various center-fire cartridges and its maximum magazine capacity was only 8
18 rounds.³⁴

19 29. Around the turn of the twentieth century, John M. Browning began
20 working on the design of semi-automatic firearms, which functioned through a
21 “blowback” method in which “The recoil from the exploded cartridge ejects the
22 empty shell, cocks the hammer, and throws a fresh cartridge into the chamber.”³⁵
23 This design was sometimes referred to as “automatic,” though its function aligns

24 ³² Thomas Henshaw, *The History of Winchester Firearms, 1866-1992*
25 (Clinton, NJ: Winchester Press, 1993), 13-19.

26 ³³ Henshaw, *Winchester Firearms*, 23-24. On cartridges, see Frank C. Barnes
27 and Stan Skinner, *Cartridges of the World: A Complete and Illustrated Reference*
28 *for over 1500 Cartridges* 11th ed. (Iola, WI: Gun Digest Books, 2009), 96-97.

³⁴ Henshaw, *Winchester Firearms*, 41.

³⁵ “Model 1903,” Catalogue No. 71 (June 1904), 60. Winchester Repeating
Arms Company Catalogs 1904-1908, Rare Books, McCracken Research Library,
Buffalo Bill Center of the West, Cody, Wyoming.

1 with our current definition of “semi-automatic”; it was also referred to as “auto-
 2 loading” or “self-loading.” Winchester released its Model 1903 Automatic Rifle,
 3 which employed this method, and featured a 10-round, fixed, tubular magazine for
 4 .22 caliber cartridges. According to its product description, “...all that is necessary
 5 to do to shoot the ten cartridges that the magazine holds is to pull the trigger for
 6 each shot.”³⁶ Winchester did not release a semi-automatic sporting rifle featuring a
 7 detachable magazine until its Model 1905 Self-Loading Rifle, and that detachable
 8 box magazine held only five cartridges in a single column.³⁷ The subsequent semi-
 9 automatic model, called the Model 1907 Self-Loading Rifle, featured a 5-round
 10 detachable box magazine.

11 30. A major rival of Winchester was Marlin Firearms, a company that
 12 became a highly popular producer of lever-action rifles. Marlin did not begin
 13 manufacturing semi-automatic rifles until 1931 when the company (under new
 14 leadership) released the 22 Caliber Autoloading Rifle, also called the Model 50 /
 15 50E.³⁸ It came with a six-round detachable clip magazine.³⁹

16 31. As the twentieth century wore on, both Marlin and Winchester
 17 featured semi-automatic rifles as a part of their regular lineup of sporting firearms,
 18 though lever-action, pump action, and bolt action designs tended to be more
 19 popular.⁴⁰ The magazine capacities of their semi-automatic models with detachable
 20 magazines remained at or below 10 rounds with very few exceptions. In 1948,
 21 Marlin released the Model 89C chambered for .22 caliber long rifle rounds, which
 22 was sold with a standard 7-shot clip magazine. Beginning in 1953, new models

23 ³⁶ “Model 1903,” Catalogue No. 71 (June 1904), 60. Winchester Repeating
 24 Arms Company Catalogs 1904-1908, Rare Books, McCracken Research Library,
 Buffalo Bill Center of the West, Cody, Wyoming.

25 ³⁷ Henshaw, *Winchester Firearms*, 61-61.

26 ³⁸ William S. Brophy, *Marlin Firearms: A History of the Guns and the
 Company that Made Them* (Harrisburg, PA: Stackpole Books, 1989), 300-301.

27 ³⁹ Brophy, *Marlin Firearms*, 301.

28 ⁴⁰ See the catalogs of Marlin Firearms and Winchester Repeating Arms
 Company for the 1950s through the 1990s. Winchester Catalogs, Rare Books; and
 Winchester and Marlin Catalogs and Literature, MS 162, McCracken Research
 Library, Buffalo Bill Center of the West, Cody, Wyoming.

1 were sold with two 5-shot clip magazines. In 1957, that changed once again when
2 standard magazines for new manufactures was a 12-shot clip magazine.⁴¹ The last
3 year in which Marlin featured the Model 89C was 1961; for the next two decades or
4 more, the company's standard magazine sizes tended to max out at 7 rounds.⁴²

5 32. Even though Winchester produced semi-automatic rifles before
6 Marlin, the company did not sell rifles with a standard clip magazine capacity over
7 10 rounds to civilians through at least 1996.⁴³ For a brief period in the 1970s (1974-
8 1978), the company produced the Model 490 Repeating (Autoloading) 22 Rim Fire
9 Rifle. These firearms came with a standard 5-round clip magazine and were shown
10 with that magazine in Winchester catalogs; customers who wish to purchase
11 magazines holding 10 or 15 rounds had to do so as accessories.⁴⁴

12 33. Records relating to the production and advertisement of rifles
13 manufactured by two of the most popular brands shows that even though detachable
14 clip/box magazines have been in existence since the early twentieth century, they
15 were not generally sold with a capacity of more than 10 rounds until recently. In
16 fact, these records show that during most of the twentieth century standard clip/box
17 magazine sizes usually ranged from 3 to 7 rounds.⁴⁵

18 IV. CONCLUSIONS

19 34. An important lesson that the study of history shows us is that
20 nineteenth-century Americans confronted a gun violence problem, and their

21
22 ⁴¹ Brophy, *Marlin Firearms*, 306-307.

23 ⁴² Marlin Catalogs, Folders 1/13-1/16, MS 162, Winchester and Marlin
Catalogs and Literature, McCracken Research Library, Buffalo Bill Center of the
West, Cody, Wyoming.

24 ⁴³ Marlin Catalogs, Folders 1/13-1/16, MS 162, Winchester and Marlin
Catalogs and Literature, McCracken Research Library, Buffalo Bill Center of the
West, Cody, Wyoming.

25 ⁴⁴ Henshaw, *Winchester Firearms*, 174. Winchester Catalogs 1970-1975,
Folder 1/3, MS 162, Winchester and Marlin Catalogs and Literature, McCracken
Research Library, Buffalo Bill Center of the West, Cody, Wyoming.

26 ⁴⁵ See the catalogs of Marlin Firearms and Winchester Repeating Arms
27 Company for the 1950s through the 1990s. Winchester Catalogs, Rare Books; and
28 Winchester and Marlin Catalogs and Literature, MS 162, McCracken Research
Library, Buffalo Bill Center of the West, Cody, Wyoming.

1 solution was the enactment of state and local regulations that might limit the
2 number of pistols in circulation. These took the form of public carry laws,
3 prohibitive taxes, and other sales restrictions. These states targeted pocket pistols
4 and other types of weapons that, due to their concealability, were associated with
5 forms of criminal activity that were threatening the public at that time.

6 35. These restrictions on pocket pistols provide historical precedent for
7 California's restrictions on large-capacity magazines. As explained above, large-
8 capacity magazines as we understand them today only became commercially
9 available for the first time in the later parts of the twentieth and earlier parts of the
10 twenty-first. Thus, like with pocket pistols in the latter half of the nineteenth
11 century, these large-capacity magazines are associated with new social problems
12 and criminal use (*e.g.*, the rise of high-casualty mass shootings). California's
13 regulation, being a prohibition on the sale, transfer, and manufacture of such
14 magazines, is thus quite similar to the sale restrictions in Tennessee and Arkansas.

15 36. As stated above, and as with any historical research project, my work
16 in this area is still ongoing. There is significant research and analysis to be done on
17 the drafting and enforcement of these statutes, as well as the attitudes of residents
18 toward them as time wore on. Very little research that is based upon primary
19 sources, other than the review of case law and historical statutes, has yet been
20 conducted. Still, this brief account of pistol regulations from late-nineteenth
21 century Tennessee and Arkansas demonstrates an important theme in the history of
22 firearms and weapons regulations in the United States: that states enacted
23 restrictions upon certain types of weapons, like pocket pistols, that were uniquely
24 adaptable to and associated with certain types of crime that threatened public safety
25 at the time, while also ensuring that the right of individuals to arm themselves for
26 self-defense in an emergency or upon their private property was not destroyed.

1 I declare under penalty of perjury under the laws of the United States of
2 America that the foregoing is true and correct.

3 Executed on November 8, 2022, at Fort Worth, TX.
4
5

6 *Brennan Rivas*

7 Brennan Rivas
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EXHIBIT A

Brennan Gardner Rivas
Curriculum Vitae · Oct 2022

Employment

Lloyd Lewis Fellow in American History, The Newberry Library, 2021-2022
Bill & Rita Clements Fellow for the Study of Southwestern America, Southern Methodist University, Clements Center for Southwest Studies, 2020-2021
Lecturer in American History (full-time), Texas Christian University, Department of History, 2019-2020

Education

Ph.D., History, Texas Christian University, 2019
Thesis: "[The Deadly Weapon Laws of Texas](#): Regulating Guns, Knives, & Knuckles in the Lone Star State, 1836-1930"
Advisor: [Gregg Cantrell](#)
M.A., History, Texas Christian University, 2013
Thesis: "Texas Antitrust Law: Formulation and Enforcement, 1889-1903"
B.A. with Honors, History, Oklahoma State University, 2010

Publications

Refereed Journal Articles

"[An Unequal Right to Bear Arms](#): State Weapons Laws and White Supremacy in Texas, 1836-1900," *Southwestern Historical Quarterly* 121 (Jan 2018): 284-303.

Law Articles

"Strange Bedfellows: Racism and Gun Rights in American History and Current Scholarship" in Joseph Blocher and Jake Charles, eds., *New Histories of Gun Rights and Regulation: Essays on the Place of Guns in American Law and Society* (New York: Oxford University Press, forthcoming)

"[Enforcement of Public Carry Restrictions: Texas as a Case Study](#)," *U.C. Davis Law Review* (May 2022)

"[The Problem with Assumptions: Reassessing the Historical Gun Policies of Arkansas and Tennessee](#)," *Second Thoughts*, Duke Center for Firearms Law (Jan 2022)

Short Pieces

"Charles F. Cooley," in [Wanted in America: Posters Collected by the Fort Worth Police Department, 1898-1903](#), edited by LeAnna Schooley and Tom Kellam. Fort Worth: TCU Press, 2019.

Review of David R. Berman, *George Hunt: Arizona's Crusading Seven-Term Governor*, in [Southwestern Historical Quarterly](#) 114, no. 3 (January 2016): 327-329.

Public History

"[In the Past, Americans Confronted Gun Violence by Taking Action](#)," *Washington Post: Made by History Blog* (Jun 2022)

- ~ Op-ed showcasing open-mindedness of 19th century Americans about experimenting with new gun control measures
- “[The Origin of Public Carry Laws in Texas](#),” *Texas Gun Sense Blog* (Feb 2021)
- “[Texas Gun Laws](#),” Online Primary Source Collection, hosted by [Omeka](#)
 - ~ Online collection featuring primary sources from my research; feature exhibit titled “Crafting a Public Carry Law”
- “[The Deadly Weapon Laws of Texas](#),” Preserving Our Past: Community History Workshop, Center for Texas Studies at TCU (Nov 2020)
 - ~ Public lecture featuring special insights for genealogical researchers
- “The Deadly Weapon Laws of Texas,” Graduate/Undergraduate Public History Seminar, Tarleton State University (Sept 2020)
 - ~ Research presentation focusing on interpretation of county court records
- “[When Texas Was the National Leader in Gun Control](#): How the Land of Gunslinger Mythology Regulated Weapons to Reduce Violence,” *Washington Post: Made by History Blog* (Sept 2019)
 - ~ Op-ed highlighting long history of weapon regulation in Texas

Fellowships and Awards

Lloyd Lewis Fellowship in American History, 2021-2022

- ~ Awarded by the Newberry Library to scholars using its collection to research topics in American history

Bill & Rita Clements Fellowship for the Study of Southwestern America, 2020-2021

- ~ Awarded by the SMU Clements Center for Southwest Studies to two scholars of Texas, the Southwest, or the U.S.-Mexico borderlands who are developing first books

The Benjamin W. Schmidt Memorial Scholarship, 2018-2019

- ~ Awarded by the TCU Department of History to a PhD candidate who shows exceptional professional promise; highest departmental prize for graduate students

Texas Christian University Department of History, Shinko and Thomas McDonald Research Prize in Texas History, 2019, 2017

- ~ Awarded by the TCU Department of History to a graduate student with the best research on antebellum Texas history

Works in Progress

The Revolver Must Go: The Rise and Fall of a Gun Control Movement in Texas

Aim: Scholarly monograph exploring the rise of a gun control movement in nineteenth-century Texas and the regulatory strategies which it embraced. Widespread acceptance of strict, ambitious gun control laws in the “Wild West” belies current assumptions about Texas and challenges the reigning interpretation of the Second Amendment as a guarantor of expansive gun rights

Status: Editing manuscript

“The Texas Anti-Trust Movement: Antimonopoly, Populism, and Reform in the Long Progressive Era”

Aim: Scholarly article interpreting Texas antitrust policy an example of innovative reform in the Great Plains and trans-Mississippi West

Status: Research and writing in progress

University Teaching Experience

Instructor of Record

Lecturer in American History, Texas Christian University 2019-2020
“American History to 1877: Social Movements & the Politics of Slavery” (HIST 10603)
“American History since 1877: The Quest for Equality” (HIST 10613)
“History of Texas: A Transnational Look at the American Southwest” (HIST 40743)

Graduate Student Instructor

Teaching Assistant, Texas Christian University 2017-2018
American History to 1877 (HIST 10603)
American History since 1877 (HIST 10613)

Teaching Interests

American History, Legal History, Southwestern Borderlands, Civil War Era, American West, Gilded Age & Progressive Era, Women’s History

Conference Presentations & Invited Talks

“Reassessing Assumptions about Historical Arkansas and Tennessee Handgun Regulations,” Race and Guns Roundtable, Duke Center for Firearms Law, Durham, North Carolina, November 2021
“Enforcement of Public Carry Restrictions: Texas as a Case Study,” The Second Amendment at the Supreme Court: 700 Years of History and the Modern Effects of Guns in Public, Davis, California, October 2021
“Race & Guns,” Newberry Library Colloquium, Chicago, Illinois, October 2021
“Unlawful Carrying: Enforcing the Pistol Law in Texas, 1870-1920,” Texas State Historical Association Annual Meeting, Corpus Christi, Texas, February 2019
“Regulating Deadly Weapons in Nineteenth-Century Texas,” Invited Lecturer, Los Bexareños Hispanic Genealogical and Historical Conference, San Antonio, Texas, September 2018
“Impregnable Citadels of Capital: American Monopolies in the British Radical Press,” Southern Conference on British Studies Annual Meeting, St. Pete Beach, Florida, November 2016
“Dating Violence in Texas: Why the State Family Code Obstructs Accurate Reporting about Sexual Assault,” TCU Women & Gender Studies Research Symposium, 2015

Service

Invited Guest, “How to Make the Most of Your Time in Graduate School,” Dept. of History Orientation Day, 2020
~ Advise incoming graduate students on strategies for success in the PhD program, emphasizing importance of intellectual development
Panelist, “Everything You Wanted to Know about TCU but Were Too Afraid to Ask,” Dept. of History Orientation Day, 2016
~ Provide honest and confidential information to prospective graduate students
Graduate Student Mentor, 2015
~ Informal departmental program designed to ease the transition for incoming graduate students

Professional Memberships

Society for Historians of the Gilded Age and Progressive Era

Texas State Historical Association

Southern Historical Association

American Historical Association

Languages

Spanish (Proficient)

Latin (Proficient)

1 ROB BONTA
Attorney General of California
2 MARK R. BECKINGTON
Supervising Deputy Attorney General
3 ROBERT L. MEYERHOFF
Deputy Attorney General
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7 *Attorneys for Defendant Rob Bonta in his*
official capacity as Attorney General of the
8 *State of California*

9 IN THE UNITED STATES DISTRICT COURT
10 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
11 CIVIL DIVISION
12

13 **VIRGINIA DUNCAN, RICHARD**
14 **LEWIS, PATRICK LOVETTE,**
15 **DAVID MARGUGLIO,**
16 **CHRISTOPHER WADDELL, and**
CALIFORNIA RIFLE & PISTOL
ASSOCIATION, INC., a California
corporation,

17 Plaintiffs,

18 v.

19 **ROB BONTA, in his official capacity as**
20 **Attorney General of the State of**
21 **California; and DOES 1-10,**

22 Defendants.
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27
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Case No. 17-cv-1017-BEN-JLB

DECLARATION OF RANDOLPH ROTH

Courtroom: 5A
Judge: Hon. Roger T. Benitez
Action Filed: May 17, 2017

1 **DECLARATION OF RANDOLPH ROTH**

2 I, Randolph Roth, declare under penalty of perjury that the following is true
3 and correct:

4 1. I am an Arts and Sciences Distinguished Professor of History and
5 Sociology at The Ohio State University. I have personal knowledge of the facts set
6 forth in this declaration, and if called upon as a witness, I could and would testify
7 competently as to those facts.

8 2. I have been retained by the California Department of Justice to render
9 expert opinions in this case. I am being compensated at a rate of \$250 per hour.

10 **BACKGROUND AND QUALIFICATIONS**

11 3. I received a B.A. in History with Honors and Distinction in 1973 from
12 Stanford University, where I received the James Birdsall Weter prize for the
13 outstanding honors thesis in History. I received a Ph.D. in History in 1981 from
14 Yale University, where I received the Theron Rockwell Field prize for the
15 outstanding dissertation in the Humanities and the George Washington Eggleston
16 prize for the outstanding dissertation in American history. I have taught courses in
17 history, the social sciences, and statistics since 1978, with a focus on criminology
18 and the history of crime. A true and correct copy of my curriculum vitae is attached
19 as **Exhibit A** to this declaration.

20 4. I am the author of *American Homicide* (The Belknap Press of the
21 Harvard University Press, 2009), which received the 2011 Michael J. Hindelang
22 Award from the American Society of Criminology awarded annually for the book
23 published over the three previous years that “makes the most outstanding
24 contribution to research in criminology over the previous three years,”¹ and the
25 2010 Allan Sharlin Memorial Prize from the Social Science History Association for

26 _____
27 ¹ See American Society of Criminology, Michel J. Hindelang outstanding
28 Book Award Recipients, <https://asc41.com/about-asc/awards/michael-j-hindelang-outstanding-book-award-recipients/>.

1 outstanding books in social science history.² *American Homicide* was also named
2 one of the Outstanding Academic Books of 2010 by *Choice*, and the outstanding
3 book of 2009 by *reason.com*. The book is an interregional, internationally
4 comparative study of homicide in the United States from colonial times to the
5 present. I am a Fellow of the American Association for the Advancement of
6 Science, and I have served as a member of the National Academy of Sciences
7 Roundtable on Crime Trends, 2013-2016, and as a member of the Editorial Board
8 of the *American Historical Review*, the most influential journal in the discipline.

9 5. I am the principal investigator on the National Homicide Data
10 Improvement Project, a project funded by the National Science Foundation (SES-
11 1228406, https://www.nsf.gov/awardsearch/showAward?AWD_ID=1228406) and
12 the Harry Frank Guggenheim Foundation to improve the quality of homicide data
13 in the United States from 1959 to the present. The pilot project on Ohio has drawn
14 on a wide range of sources in its effort to create a comprehensive database on
15 homicides (including narratives of each incident) based on the mortality statistics of
16 the Ohio Department of Health, the confidential compressed mortality files of the
17 National Center for Health Statistics, the F.B.I.'s Supplementary Homicide Reports,
18 death certificates, coroner's reports, the homicide case files of Cincinnati,
19 Cleveland, and Columbus, obituaries, and newspaper accounts.

20 6. I have published numerous essays on the history of violence and the
21 use of firearms in the United States, including a) "Guns, Gun Culture, and
22 Homicide: The Relationship between Firearms, the Uses of Firearms, and
23 Interpersonal Violence in Early America," *William and Mary Quarterly* (2002) 59:
24 223-240 (https://www.jstor.org/stable/3491655#metadata_info_tab_contents); b)
25 "Counting Guns: What Social Science Historians Know and Could Learn about
26

27 ² See Social Science History Association, Allan Sharlin Memorial Book
28 Award, https://ssha.org/awards/sharlin_award/.

1 Gun Ownership, Gun Culture, and Gun Violence in the United States,” *Social*
 2 *Science History* (2002) 26: 699-708
 3 (https://www.jstor.org/stable/40267796#metadata_info_tab_contents); c) “Why
 4 Guns Are and Aren’t the Problem: The Relationship between Guns and Homicide
 5 in American History,” in Jennifer Tucker, Barton C. Hacker, and Margaret Vining,
 6 eds., *A Right to Bear Arms? The Contested Role of History in Contemporary*
 7 *Debates on the Second Amendment* (Washington, D.C.: Smithsonian Institution
 8 Scholarly Press, 2019); and d) “The Opioid Epidemic and Homicide in the United
 9 States,” co-authored with Richard Rosenfeld and Joel Wallman, in the *Journal of*
 10 *Research in Crime and Delinquency* (2021)
 11 ([https://www.researchgate.net/publication/348513393_The_Opioid_Epidemic_and](https://www.researchgate.net/publication/348513393_The_Opioid_Epidemic_and_Homicide_in_the_United_States)
 12 [Homicide_in_the_United_States](https://www.researchgate.net/publication/348513393_The_Opioid_Epidemic_and_Homicide_in_the_United_States)).

13 7. I am also co-founder and co-director of the Historical Violence
 14 Database. The web address for the Historical Violence Database is:
 15 <http://cjrc.osu.edu/research/interdisciplinary/hvd>. The historical data on which this
 16 declaration draws are available through the Historical Violence Database. The
 17 Historical Violence Database is a collaborative project by scholars in the United
 18 States, Canada, and Europe to gather data on the history of violent crime and
 19 violent death (homicides, suicides, accidents, and casualties of war) from medieval
 20 times to the present. The project is described in Randolph Roth et al., “The
 21 Historical Violence Database: A Collaborative Research Project on the History of
 22 Violent Crime and Violent Death.” *Historical Methods* (2008) 41: 81-98
 23 ([https://www.tandfonline.com/doi/pdf/10.3200/HMTS.41.2.81-](https://www.tandfonline.com/doi/pdf/10.3200/HMTS.41.2.81-98?casa_token=PfjkmSciOwAAAAA:1HrNKToUGfQT4T-L4wqloRc2DFsM4eRmKEc346vchboaSh-X29CkEdqIe8bMoZjBNdk7yNh_aAU)
 24 [98?casa_token=PfjkmSciOwAAAAA:1HrNKToUGfQT4T-](https://www.tandfonline.com/doi/pdf/10.3200/HMTS.41.2.81-98?casa_token=PfjkmSciOwAAAAA:1HrNKToUGfQT4T-L4wqloRc2DFsM4eRmKEc346vchboaSh-X29CkEdqIe8bMoZjBNdk7yNh_aAU)
 25 [L4wqloRc2DFsM4eRmKEc346vchboaSh-X29CkEdqIe8bMoZjBNdk7yNh_aAU](https://www.tandfonline.com/doi/pdf/10.3200/HMTS.41.2.81-98?casa_token=PfjkmSciOwAAAAA:1HrNKToUGfQT4T-L4wqloRc2DFsM4eRmKEc346vchboaSh-X29CkEdqIe8bMoZjBNdk7yNh_aAU)).
 26 The only way to obtain reliable historical homicide estimates is to review every
 27 scrap of paper on criminal matters in every courthouse (indictments, docket books,
 28 case files, and judicial proceedings), every jail roll and coroner’s report, every diary

1 and memoir, every article in every issue of a number of local newspapers, every
2 entry in the vital records, and every local history based on lost sources, local
3 tradition, or oral testimony. That is why it takes months to study a single rural
4 county, and years to study a single city.³

5 8. I have provided expert witness testimony in *Miller v. Bonta*, No. 3:19-
6 cv-01537-BEN-JLB (S.D. Cal.).

7 9. My work on data collection and my research for *American Homicide*,
8 together with the research I have conducted for related essays, has helped me gain
9 expertise on the causes of homicide and mass violence, and on the role technology
10 has played in changing the nature and incidence of homicide and mass violence. I
11 hasten to add that the insights that my colleagues and I have gained as social
12 science historians into the causes of violence and the history of violence in the

13 ³ It is also essential, in the opinion of historians and historical social scientists
14 involved in the Historical Violence Database, to use capture-recapture mathematics,
15 when multiple sources are available, to estimate the number of homicides where
16 gaps or omissions exist in the historical record. The method estimates the
17 percentage of the likely number of homicides that appear in the surviving records
18 by looking at the degree to which homicides reported in the surviving legal sources
19 overlap with homicides reported in the surviving non-legal sources (newspapers,
20 vital records, diaries, etc.). A greater degree of overlap means a higher percentage
21 in the surviving records and a tighter confidence interval. A lesser degree of
22 overlap, which typically occurs on contested frontiers and during civil wars and
23 revolutions, means a lower percentage and a wider confidence interval. See
24 Randolph Roth, "American Homicide Supplemental Volume: Homicide Estimates"
25 (2009) ([https://cjrc.osu.edu/sites/cjrc.osu.edu/files/AHSV-Homicide-](https://cjrc.osu.edu/sites/cjrc.osu.edu/files/AHSV-Homicide-Estimates.pdf)
26 [Estimates.pdf](https://cjrc.osu.edu/sites/cjrc.osu.edu/files/AHSV-Homicide-Estimates.pdf)); Roth, "Child Murder in New England," *Social Science History*
27 (2001) 25: 101-147
28 (https://www.jstor.org/stable/1171584#metadata_info_tab_contents); Roth and
James M. Denham, "Homicide in Florida, 1821-1861: A Quantitative Analysis,"
Florida Historical Quarterly 86 (2007): 216-239; and Douglas L. Eckberg, "Stalking
the Elusive Homicide: A Capture-Recapture Approach to the Estimation of Post-
Reconstruction South Carolina Killings." *Social Science History* 25 (2001): 67-91
(https://www.jstor.org/stable/1171582#metadata_info_tab_contents).

1 United States stem from our tireless commitment to empiricism. Our goal is to
2 gather accurate data on the character and incidence of violent crimes and to follow
3 the evidence wherever it leads, even when it forces us to accept the fact that a
4 hypothesis we thought might be true proved false. As my colleagues and I are fond
5 of saying in the Criminal Justice Network of the Social Science History
6 Association, the goal is not to be right, but to get it right. That is the only way to
7 design effective, pragmatic, nonideological laws and public policies that can help us
8 address our nation's problem of violence.

9 **OPINIONS**

10 **I. SUMMARY OF OPINIONS**

11 10. I have been asked by the California Department of Justice to provide
12 opinions on the history of homicides and mass murders in the United States, with
13 special attention to the role that technologies have played in shaping the character
14 and incidence of homicides and mass murders over time, and the historical
15 restrictions that local and federal authorities have imposed in response to new
16 technologies that they deemed particularly lethal, prone to misuse, and a danger to
17 the public because of the ways in which they reshaped the character and incidence
18 of homicides and mass murders.

19 11. For the past thirty-five years, I have dedicated my career to
20 understanding why homicide rates rise and fall over time, in hopes of understanding
21 why the United States—which, apart from the slave South, was perhaps the least
22 homicidal society in the Western world in the early nineteenth century—became by
23 far the most homicidal, as it remains today. I discovered that the key to low
24 homicide rates over the past 450 years has been successful nation-building. High
25 homicide rates among unrelated adults—friends, acquaintances, strangers—
26 coincide with political instability, a loss of trust in government and political leaders,
27 a loss of fellow feeling among citizens, and a lack of faith in the justice of the social
28

1 hierarchy.⁴ As a nation, we are still feeling the aftershocks of our catastrophic
 2 failure at nation-building in the mid- and late-nineteenth century, from the political
 3 crisis of the late 1840s and 1850s through the Civil War, Reconstruction, and the
 4 rise of Jim Crow.

5 12. Our nation's homicide rate would thus be high today even in the
 6 absence of modern technologies that have made firearms far more capable of
 7 injuring multiple people over a short span of time than they were in colonial and
 8 Revolutionary era. But the evidence also shows that the availability of guns and
 9 changes in firearms technology, especially the emergence of modern breech-
 10 loading firearms in the mid-nineteenth century, and of rapid-fire semiautomatic
 11 weapons and extended magazines in the late twentieth century, have pushed the
 12 homicide rate in United States well beyond what it would otherwise have been.

13 13. My opinion will address in turn: 1) firearms restrictions on colonists
 14 from the end of the seventeenth century to the eve of the Revolution, when
 15 homicide rates were low among colonists and firearms were seldom used in
 16 homicides among colonists when they did occur; 2) the development during the
 17 Founding and Early National periods of laws restricting the use or ownership of
 18 concealable weapons in slave and frontier states, where homicide rates among
 19 persons of European ancestry soared after the Revolution in large part because of

20 ⁴ See Randolph Roth, "Measuring Feelings and Beliefs that May Facilitate (or
 21 Deter) Homicide," *Homicide Studies* (2012) 16: 196-217
 22 (https://journals.sagepub.com/doi/pdf/10.1177/1088767912442501?casa_token=dkP_nZZxCaYAAAAA:vL522E2inh9U2gr4X2qAhPnqRminWEjLv8nbwrNEhqNpRliTesFI_1SDY6tepvZbjwiRWPEom7M), for an introduction to the ways that social
 23 science historians can measure the feelings and beliefs that lead to successful
 24 nation-building. My research has shown that those measures have gone up and
 25 down with homicide rates among unrelated adults in the United States from
 26 colonial times to the present. In social science history, as in the non-experimental
 27 historical sciences (geology, paleontology, evolutionary biology), correlations that
 28 persist across wide stretches of time and space are not random. They reveal deep
 patterns that are causal.

1 the increased manufacture and ownership of concealable percussion cap pistols and
 2 fighting knives; 3) the spread of restrictions on carrying concealed weapons in
 3 every state but Vermont by World War I, as homicide rates rose across the nation,
 4 beginning around the time of the Mexican War of 1846-1848 and lasting until
 5 World War I—a rise caused in part by the invention of modern revolvers, which
 6 were used in a majority of homicides by the late nineteenth century; 4) the
 7 difficulty that local and federal officials faced from the colonial era into the early
 8 twentieth century in addressing the threat of mass murders, which, because of the
 9 limitations of existing technologies, were carried out by large groups of individuals
 10 acting in concert, rather than by individuals or small groups; and 5) the spread of
 11 restrictions in the twentieth and early twenty-first centuries on new technologies,
 12 including rapid-fire firearms and large capacity magazines, that changed the
 13 character of mass murder, by enabling individuals or small groups to commit mass
 14 murder.

15 **II. GOVERNMENT REGULATION OF FIREARMS IN RESPONSE TO HOMICIDE** 16 **TRENDS**

17 **A. Homicide and Firearms in the Colonial Era (1688-1763)**

18 14. In the eighteenth century, the use and ownership of firearms by Native
 19 Americans and African Americans, enslaved and free, were heavily regulated.⁵ But
 20 laws restricting the use or ownership of firearms by colonists of European ancestry
 21 were rare, for two reasons. First, homicide rates were low among colonists from
 22 the Glorious Revolution of 1688-1689 through the French and Indian War of 1754-
 23 1763, thanks to political stability, a surge in patriotic fellow feeling within the
 24 British empire, and greater trust in government.⁶ By the late 1750s and early 1760s,
 25

26 ⁵ Clayton E. Cramer, “Colonial Firearms Regulation” (April 6, 2016).
 27 Available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2759961.

28 ⁶ Randolph Roth, *American Homicide* (Cambridge: The Belknap Press of
 (continued...)

1 the rates at which adult colonists were killed were roughly 5 per 100,000 adults per
2 year in Tidewater Virginia, 3 per 100,000 in Pennsylvania, and 1 per 100,000 in
3 New England.⁷ Violence among colonists was not a pressing problem on the eve of
4 the Revolution.

5 15. Second, the impact of firearms on the homicide rate was modest, even
6 though household ownership of firearms was widespread.⁸ Family, household, and
7 intimate partner homicides were rare, and only 10 to 15 percent of those homicides
8 were committed with guns.⁹ And because the homicide rate among unrelated adults
9 was low, the proportion of nondomestic homicides committed with guns was
10 similarly low—never more than 10 to 15 percent.¹⁰

11 16. Firearm use in homicides was generally rare because muzzle-loading
12 firearms had significant limitations as murder weapons in the colonial era.¹¹ They

13
14 Harvard University Press, 2009), 63, noting that “Fear of Indians and slaves, hatred
15 of the French, enthusiasm for the new colonial and imperial governments
16 established by the Glorious Revolution, and patriotic devotion to England drew
17 colonists together. The late seventeenth century thus marks the discernible
18 beginning of the centuries-long pattern linking homicide rates in America with
19 political stability, racial, religious, and national solidarity, and faith in government
20 and political leaders.”

21 ⁷ Roth, *American Homicide*, 61-63, and especially the graphs on 38, 39, and
22 91. By way of comparison, the average homicide rate for adults in the United
23 States from 1999 through 2016—an era in which the quality of emergency services
24 and wound care was vastly superior to that in the colonial era—was 7 per 100,000
25 per year. See CDC Wonder Compressed Mortality Files, ICD-10
26 (<https://wonder.cdc.gov/cmfi-cd10.html>), accessed September 8, 2022).

27 ⁸ Randolph Roth, “Why Guns Are and Aren’t the Problem: The Relationship
28 between Guns and Homicide in American History,” in Jennifer Tucker, Barton C.
Hacker, and Margaret Vining, eds., *Firearms and the Common Law: History and
Memory* (Washington, D.C.: Smithsonian Institution Scholarly Press, 2019), 116.

⁹ Roth, “Why Guns Are and Aren’t the Problem,” 116.

¹⁰ *Ibid.*, 116-119.

¹¹ *Ibid.*, 117.

1 were lethal and accurate enough at short range, but they were liable to misfire, given
2 the limits of flintlock technology; and with the exception of a few double-barreled
3 pistols, they could not fire multiple shots without reloading.¹² They could be used
4 effectively to threaten and intimidate, but once they were fired (or misfired), they
5 lost their advantage: they could only be used as clubs in hand-to-hand combat.
6 They had to be reloaded manually to enable the firing of another shot, which was a
7 time-consuming process that required skill and experience.¹³ And more important,
8 muzzle-loading firearms could not be used impulsively unless they were already
9 loaded for some other purpose.¹⁴ It took at least half a minute (and plenty of elbow
10 room) to load a muzzle-loader if the weapon was clean and if powder, wadding, and
11 shot or ball were at hand.¹⁵ The user had to pour powder down the barrel, hold it in
12 place with wadding, and drop or ram the shot or ball onto the charge.¹⁶ The firing
13 mechanism also had to be readied, often with a fresh flint.¹⁷ And muzzle-loading
14 guns were difficult to keep loaded for any length of time, because black powder
15 absorbed moisture and could corrode the barrel or firing mechanism or make the
16 charge liable to misfire.¹⁸ The life of a charge could be extended by storing a gun
17 in a warm, dry place, typically over a fireplace, but even there, moisture from
18

19 ¹² Ibid.

20 ¹³ Harold L. Peterson, *Arms and Armor in Colonial America, 1526-1783*
21 (New York: Bramhall House, 1956), 155-225; Priya Satia, *Empire of Guns: The*
22 *Violent Making of the Industrial Revolution* (New York: Penguin Press, 2018), 9-
23 10; and Satia, “Who Had Guns in Eighteenth Century Britain?” in Tucker, Hacker,
and Vining, *Firearms and the Common Law*, 41-44.

24 ¹⁴ Roth, “Why Guns Are and Aren’t the Problem,” 117.

25 ¹⁵ Ibid.

26 ¹⁶ Ibid.

27 ¹⁷ Ibid.

28 ¹⁸ Ibid.

1 boiling pots, drying clothes, or humid weather could do damage.¹⁹ That is why
2 most owners stored their guns empty, cleaned them regularly, and loaded them
3 anew before every use.²⁰

4 17. The infrequent use of guns in homicides in colonial America reflected
5 these limitations. Family and household homicides—most of which were caused
6 by abuse or fights between family members that got out of control—were
7 committed almost exclusively with hands and feet or weapons that were close to
8 hand: whips, sticks, hoes, shovels, axes, or knives.²¹ It did not matter whether the
9 type of homicide was rare—like family and intimate homicides—or common, like
10 murders of servants, slaves, or owners committed during the heyday of indentured
11 servitude or the early years of racial slavery.²² Guns were not the weapons of
12 choice in homicides that grew out of the tensions of daily life.²³

13 18. When colonists anticipated violence or during times of political
14 instability gun use was more common. When homicide rates were high among
15 unrelated adults in the early and mid-seventeenth century, colonists went armed to
16 political or interpersonal disputes,²⁴ so the proportion of homicides committed with
17 firearms was at that time forty percent and rose even higher in contested areas on
18 the frontier.²⁵ Colonists also armed themselves when they anticipated hostile
19 encounters with Native Americans, so three-fifths of homicides of Native
20

21 ¹⁹ Ibid.

22 ²⁰ Ibid.; and Herschel C. Logan, *Cartridges: A Pictorial Digest of Small Arms*
23 *Ammunition* (New York: Bonanza Books, 1959), 11-40, 180-183.

24 ²¹ Roth, “Why Guns Are and Aren’t the Problem,” 117.

25 ²² Ibid.

26 ²³ Ibid. Contrary to popular belief, dueling was also rare in colonial America.
Roth, *American Homicide*, 45, 158.

27 ²⁴ Roth, “Why Guns Are and Aren’t the Problem,” 118-119.

28 ²⁵ Ibid., 116-117.

Americans by European Americans in New England were committed with firearms.²⁶ And slave catchers and posses kept their firearms at the ready, so ninety percent of runaway slaves who were killed in Virginia were shot.²⁷ Otherwise, however, colonists seldom went about with loaded guns, except to hunt, control vermin, or muster for militia training.²⁸ That is why firearms had a modest impact on homicide rates among colonists.

B. The Rise in Violence in the South and on Contested Frontiers during the Early National Period, the Role of New Technologies and Practices, and Regulations on Concealable Weapons (1790s-1840s)

19. The Founding Generation was zealous in its defense of the people's rights, and so enshrined them in the Constitution. At the same time, they recognized that some citizens could be irresponsible or motivated by evil intent and could thus threaten the security of the government and the safety of citizens.²⁹ The threats that such citizens posed to public safety could be checked in most instances by ordinary criminal statutes, drawn largely from British common law. But at

²⁶ Ibid., 118-119 (reporting that "In New England, 57 percent of such homicides were committed with guns between the end of King Phillip's War in 1676 and the end of the eighteenth century").

²⁷ Ibid., 118 (reporting that "Petitions to the Virginia House of Burgesses for compensation for outlawed slaves who were killed during attempts to capture them indicate that 90 percent were shot").

²⁸ Ibid., 118-119.

²⁹ On the fears of the Founders that their republic might collapse because selfish or unscrupulous citizens might misuse their liberties, see Gordon S. Wood, *The Creation of the American Republic, 1776-1787* (Chapel Hill: University of North Carolina Press, 1969), 65-70, 282-291, 319-328, 413-425, 463-467; Drew R. McCoy, *The Last of the Fathers: James Madison and the Republican Legacy* (New York: Cambridge University Press, 1989), 42-45; and Andrew S. Trees, *The Founding Fathers and the Politics of Character* (Princeton: Princeton University Press, 2003), 6-9, 60-65, 86-104, 113-114.

1 times those threats could be checked only by statutes that placed limits on basic
2 rights.³⁰

3 20. The Founders were aware that the rate at which civilians killed each
4 other or were killed by roving bands of Tories or Patriots rose during the
5 Revolution.³¹ And they recognized that more civilians, expecting trouble with

6
7 ³⁰ On the Founders' belief that rights might have to be restricted in certain
8 instances, see Terri Diane Halperin, *The Alien and Sedition Acts: Testing the*
9 *Constitution* (Baltimore: Johns Hopkins University Press, 2016), 1-8, on restraints
10 on freedom of speech and the press during the administration of John Adams;
11 Leonard Levy, *Jefferson and Civil Liberties: The Darker Side* (Cambridge: The
12 Belknap Press of Harvard University Press, 1963), 93-141, on loosening restrictions
13 on searches and seizures during the administration of Thomas Jefferson; and Patrick
14 J. Charles, *Armed in America: A History of Gun Rights from Colonial Militias to*
15 *Concealed Carry* (New York: Prometheus Books, 2018), 70-121, especially 108-
16 109, as well as Saul Cornell, *A Well-Regulated Militia: The Founding Fathers and*
17 *the Origins of Gun Control in America* (New York: Oxford University Press, 2006),
18 39-70, and Jack N. Rakove, "The Second Amendment: The Highest State of
19 Originalism," in Carl T. Bogus, ed., *The Second Amendment in Law and History:*
20 *Historians and Constitutional Scholars on the Right to Bear Arms* (New York: The
21 New Press, 2000), 74-116, on the limited scope of the Second Amendment. Jack N.
22 Rakove, *Original Meanings: Politics and Ideas in the Making of the Constitution*
23 (New York: Alfred A. Knopf, 1996), 291, notes that "Nearly all the activities that
24 constituted the realms of life, liberty, property, and religion were subject to
regulation by the state; no obvious landmarks marked the boundaries beyond which
its authority could not intrude, if its actions met the requirements of law." See also
Rakove, "The Second Amendment: The Highest State of Originalism," *Chicago-*
Kent Law Review 76 (2000), 157
(<https://scholarship.kentlaw.iit.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=3289&context=cklawreview>): "[At] the time when the Second Amendment was
adopted, it was still possible to conceive of statements of rights in quite different
terms, as assertions or confirmations of vital principles, rather than the codification
of legally enforceable restrictions or commands."

25 ³¹ Roth, *American Homicide*, 145-149; Holger Hoock, *Scars of*
26 *Independence: America's Violent Birth* (New York: Broadway Books / Penguin
27 Random House, 2017), 308-322; Alan Taylor, *Divided Ground: Indians, Settlers,*
28 *and the Northern Borderland of the American Revolution* (New York: Knopf,
2006), 91-102; George C. Daughan, *Revolution on the Hudson: New York City and*
(continued...)

1 neighbors, public officials, and partisans, were likely to go about armed during the
2 Revolution, which is why the proportion of homicides of European Americans by
3 unrelated adults rose to 33 percent in Virginia and 46 percent in New England.³²
4 But the surge in violence ended in New England, the Mid-Atlantic states, and the
5 settled Midwest once the Revolutionary crisis was over. In those areas homicide
6 rates fell to levels in some instances even lower than those which had prevailed in
7 the early and mid-eighteenth century. By the 1820s, rates had fallen to 3 per
8 100,000 adults per year in Cleveland and Philadelphia, to 2 per 100,000 in rural
9 Ohio, and to 0.5 per 100,000 in northern New England. Only New York City stood
10 out, at 6 per 100,000 adults per year.³³ And the proportion of domestic and
11 nondomestic homicides committed with firearms was correspondingly low—
12 between 0 and 10 percent—because people once again generally refrained, as they
13 had from the Glorious Revolution through the French and Indian War, from going
14 about armed, except to hunt, control vermin, or serve in the militia.³⁴

15 _____
16 *the Hudson River Valley in the American War for Independence* (New York: W. W.
17 Norton, 2016), 137-138; John B. Frantz and William Pencak, eds., *Beyond*
18 *Philadelphia: The American Revolution in the Pennsylvania Hinterland* (University
19 Park: Pennsylvania State University Press, 1998), 42-43, 141-145, 149-152; Francis
20 S. Fox, *Sweet Land of Liberty: the Ordeal of the American Revolution in*
21 *Northampton County, Pennsylvania* (University Park: Pennsylvania State
University Press, 2000), 25-27, 32, 64-65, 91-92, 114; and Fox Butterfield, *All*
God's Children: The Bosket Family and the American Tradition of Violence (New
York: Vintage, 1996), 3-18.

22 ³² Roth, “Why Guns Are and Aren’t the Problem,” 119-120.

23 ³³ Roth, *American Homicide*, 180, 183-186; and Eric H. Monkkonen, *Murder*
24 *in New York City* (Berkeley: University of California Press, 2001), 15-16.

25 ³⁴ For detailed figures and tables on weapons use in homicides by state, city,
26 or county, see Roth, “American Homicide Supplemental Volume: Weapons,”
27 available through the Historical Violence Database, sponsored by the Criminal
28 Justice Research Center at the Ohio State University
(<https://cjrc.osu.edu/sites/cjrc.osu.edu/files/AHSV-Weapons-10-2009.pdf>). On
weapons use in homicides in the North, see Figures 25 through 46.

1 21. The keys to these low homicide rates and low rates of gun violence in
2 New England, the Mid-Atlantic states, and the settled Midwest were successful
3 nation-building and the degree to which the promise of the democratic revolution
4 was realized. Political stability returned, as did faith in government and a strong
5 sense of patriotic fellow feeling, as the franchise was extended and political
6 participation increased.³⁵ And self-employment—the bedrock of citizenship, self-
7 respect, and respect from others—was widespread. By 1815, roughly 80 percent of
8 women and men owned their own homes and shops or farms by their mid-thirties;
9 and those who did not were often white-collar professionals who also received
10 respect from their peers.³⁶ African Americans still faced discrimination and limits
11 on their basic rights in most Northern states. But despite these barriers, most
12 African Americans in the North were optimistic, after slavery was abolished in the
13 North, about earning their own living and forming their own churches and
14 voluntary organizations.³⁷

15 22. That is why there was little interest among public officials in the North
16 in restricting the use of firearms during the Early National period, except in duels.
17 They took a strong stand against dueling in the wake of Alexander Hamilton's
18
19
20

21 ³⁵ Roth, *American Homicide*, 180, 183-186.

22 ³⁶ *Ibid.*, 180, 183-186.

23 ³⁷ *Ibid.*, 181-182, 195-196; Leon F. Litwack, *North of Slavery: The Negro in*
24 *the Free States, 1790-1860* (Chicago: University of Chicago Press, 1961); Joanne
25 Pope Melish, *Disowning Slavery: Gradual Emancipation and "Race" in New*
26 *England, 1780-1860* (Ithaca: Cornell University Press, 1998); Sean White,
27 *Somewhat More Independent: The End of Slavery in New York City, 1780-1810*
28 *(Athens: University of Georgia Press, 1991); and Graham R. Hodges, Root and*
Branch: African Americans in New York and East Jersey, 1613-1863 (Chapel Hill:
University of North Carolina Press, 1999).

1 death, because of the threat the practice posed for the nation's democratic polity
2 and the lives of public men: editors, attorneys, military officers, and politicians.³⁸

3 23. Laws restricting the everyday use of firearms did appear, however, in
4 the early national period in a number of slave states,³⁹ where violence among
5 citizens increased after the Revolution to extremely high levels. Revolutionary
6 ideas and aspirations wreaked havoc on the status hierarchy of the slave South,
7 where homicide rates ranged from 8 to 28 per 100,000 adults per year.⁴⁰ Poor and
8 middle-class whites were increasingly frustrated by their inability to rise in a
9 society that remained class-bound and hierarchical.⁴¹ Prominent whites were
10 subjected to the rough and tumble of partisan politics and their position in society
11 was threatened by people from lower social positions.⁴² African Americans
12 despaired over the failure of the abolition movement in the South, and whites were
13 more fearful than ever of African American rebellion.⁴³ As a result, impatience
14 with restraint and sensitivity to insult were more intense in the slave South, and
15 during this period the region saw a dramatic increase in the number of deadly
16 quarrels, property disputes, duels, and interracial killings.⁴⁴ The violence spread to

17 ³⁸ Joanne B. Freeman, *Affairs of Honor: National Politics in the New*
18 *Republic* (New Haven: Yale University Press, 2001); and C. A. Harwell, "The End
19 of the Affair? Anti-Dueling Laws and Social Norms in Antebellum America,"
20 *Vanderbilt Law Review* 54 (2001): 1805-1847
21 (<https://scholarship.law.vanderbilt.edu/cgi/viewcontent.cgi?article=1884&context=vlr>).

22 ³⁹ Clayton E. Cramer, *Concealed Weapons Laws of the Early Republic:*
23 *Dueling, Southern Violence, and Moral Reform* (Westport, Connecticut: Praeger,
24 1999); and Cornell, *Well-Regulated Militia*, 141-144.

25 ⁴⁰ Roth, *American Homicide*, 180, 199-203.

26 ⁴¹ *Ibid.*, 182.

27 ⁴² *Ibid.*

28 ⁴³ *Ibid.*

⁴⁴ *Ibid.*, 182, 199-203.

1 frontier Florida and Texas, as well as to southern Illinois and Indiana—wherever
 2 Southerners settled in the early national period.⁴⁵ During the Early National period,
 3 the proportion of homicides committed with firearms went up accordingly, to a
 4 third or two-fifths, as Southerners armed themselves in anticipation of trouble, or
 5 set out to cause trouble.⁴⁶

6 24. Citizens and public officials in these states recognized that concealable
 7 weapons—pistols, folding knives, dirk knives, and Bowie knives—were used in an
 8 alarming proportion of the era’s murders and serious assaults.⁴⁷ They were used to
 9 ambush both ordinary citizens and political rivals, to bully or intimidate law-
 10 abiding citizens, and to seize the advantage in fist fights. As the Grand Jurors of
 11 Jasper County, Georgia, stated in a plea to the state legislature in 1834 for
 12 restrictions on concealable weapons,

13 The practice which is common amongst us with the young the middle
 14 aged and the aged to arm themselves with Pistols, dirks knives sticks &
 15 spears under the specious pretence of protecting themselves against
 16 insult, when in fact being so armed they frequently insult others with
 17 impunity, or if resistance is made the pistol dirk or club is immediately
 18 resorted to, hence we so often hear of the stabbing shooting & murdering
 19 so many of our citizens.⁴⁸
 20

21 ⁴⁵ Ibid., 162, 180-183, 199-203; Roth and James M. Denham, “Homicide in
 22 Florida, 1821-1861,” *Florida Historical Quarterly* 86 (2007): 216-239; John Hope
 23 Franklin, *The Militant South, 1800-1861* (Cambridge: Belknap Press of Harvard
 24 University Press, 1961); and Bertram Wyatt-Brown, *Southern Honor: Ethics and
 Behavior in the Old South* (New York: Oxford University Press, 1982).

25 ⁴⁶ Roth, “American Homicide Supplemental Volume: Weapons,” Figures 51
 through 57.

26 ⁴⁷ Roth, *American Homicide*, 218.

27 ⁴⁸ Ibid., 218-219. See also the concerns of the Grand Jurors of Wilkes
 28 County, Georgia, Superior Court Minutes, July 1839 term.

1 The justices of the Louisiana Supreme Court echoed these sentiments—“unmanly”
2 men carried concealed weapons to gain “secret advantages” over their adversaries.⁴⁹
3 These concealed weapons laws were notably difficult to enforce, however, and did
4 not address underlying factors that contributed to rising homicide rates.
5 Nevertheless, these laws represent governmental efforts at that time to address the
6 use of new weapons in certain types of crime.

7 25. The pistols of the early national period represented a technological
8 advance. Percussion-lock mechanisms enabled users to extend the life of a charge,
9 because unlike flint-lock mechanisms, they did not use hydroscopic black powder
10 in their priming pans; they used a sealed mercury-fulminate cap as a primer and
11 seated it tightly on a small nipple (with an inner diameter the size of a medium
12 sewing needle) at the rear of the firing chamber, which restricted the flow of air and
13 moisture to the chamber. Percussion cap pistols, which replaced flint-lock pistols
14 in domestic markets by the mid-1820s, could thus be kept loaded and carried
15 around for longer periods without risk of corrosion.⁵⁰ The new types of knives
16 available in this era also represented technological advances over ordinary knives
17 because they were designed expressly for fighting. Dirks and Bowie knives had
18 longer blades than ordinary knives, crossguards to protect the combatants’ hands,
19 and clip points to make it easier to cut or stab opponents.⁵¹

20 26. The violence in the slave South and its borderlands, and the
21 technological advances that exacerbated it, led to the first prohibitions against
22 carrying certain concealable weapons, which appeared in Kentucky, Louisiana,
23

24 ⁴⁹ Roth, *American Homicide*, 219.

25 ⁵⁰ Roth, “Why Guns Are and Aren’t the Problem,” 117.

26 ⁵¹ Harold L. Peterson, *American Knives: The First History and Collector’s*
27 *Guide* (New York: Scribner, 1958), 25-70; and Peterson, *Daggers and Fighting*
28 *Knives in the Western World, from the Stone Age till 1900* (New York: Walker,
1968), 67-80.

1 Indiana, Arkansas, Georgia, and Virginia between 1813 and 1838. These laws
 2 differed from earlier laws that restricted access to arms by Native Americans or by
 3 free or enslaved African Americans, because they applied broadly to *everyone* but
 4 also applied more *narrowly* to certain types of weapons and to certain types of
 5 conduct. Georgia’s 1837 law “against the unwarrantable and too prevalent use of
 6 deadly weapons” was the most restrictive. It made it unlawful for merchants

7 and any other person or persons whatsoever, to sell, or offer to sell, or to
 8 keep, or have about their person or elsewhere . . . Bowie, or any other
 9 kind of knives, manufactured or sold for the purpose of wearing, or
 10 carrying the same as arms of offence or defence, pistols, dirks, sword
 canes, spears, &c.

11 The sole exceptions were horseman’s pistols—large weapons that were difficult to
 12 conceal and were favored by travelers. But the laws in the other five states were
 13 also strict: they forbid the carrying of concealable weapons in all circumstances.

14 Indiana made an exemption for travelers.⁵²

15 27. Thus, during the lifetimes of Jefferson, Adams, Marshall, and
 16 Madison, the Founding Generation passed laws in a number of states that restricted
 17 the use or ownership of certain types of weapons after it became obvious that those
 18 weapons, including certain fighting knives and percussion-cap pistols, were being
 19
 20

21 _____
 22 ⁵² Cramer, *Concealed Weapons Laws*, especially 143-152, for the texts of
 23 those laws. Alabama and Tennessee prohibited the concealed carrying of fighting
 24 knives, but not pistols. See also the Duke Center for Firearms Law, Repository of
 25 Historical Gun Laws ([https://firearmslaw.duke.edu/search-](https://firearmslaw.duke.edu/search-results/?_sft_subjects=dangerous-or-unusual-weapons)
 26 [results/?_sft_subjects=dangerous-or-unusual-weapons](https://firearmslaw.duke.edu/search-results/?_sft_subjects=dangerous-or-unusual-weapons)), accessed September 9,
 27 2022). Note that the Georgia Supreme Court, in *Nunn v. State*, 1 Ga. 243 (1846),
 28 held that prohibiting the concealed carry of certain weapons was valid, but that the
 state could not also prohibit open carry, which would destroy the right to bear arms.
 That decision put Georgia in line with the five other states that had prohibited the
 carrying of concealable firearms.

1 used in crime by people who carried them concealed on their persons and were thus
2 contributing to rising crime rates.⁵³

3 **C. Homicide, Concealable Weapons, and Concealable Weapons**
4 **Regulations from the Mexican War through the Early**
5 **Twentieth Century (1846-1920s)**

6 28. By the early twentieth century, every state except Vermont either
7 banned concealed firearms or placed severe restrictions on their possession.⁵⁴ They
8 did so in response to two developments: the nationwide surge in homicide rates,
9 from the North and South to the Trans-Mississippi West; and the invention of new
10 firearms, especially the revolver, which enabled the firing of multiple rounds in
11 succession without reloading and made the homicide problem worse. Between the
12 mid-nineteenth and the early twentieth century homicide rates fell in nearly every
13 Western nation.⁵⁵ But in the late 1840s and 1850s those rates exploded across the

14 ⁵³ Cramer, *Concealed Weapons Laws*, 69-96; Cramer, *For the Defense of*
15 *Themselves and the State: The Original Intent and Judicial Interpretation of the*
16 *Right to Keep and Bear Arms* (Westport, Connecticut: Praeger Publishers, 1994);
17 Don B. Kates, Jr., "Toward a History of Handgun Prohibition in the United States,"
18 in Cates, ed., *Restricting Handguns: The Liberal Skeptics Speak Out* (Croton-on-
19 Hudson, New York: North River Press, 1979), 7-30; and Philip D. Jordan, *Frontier*
20 *Law and Order—10 Essays* (Lincoln: University of Nebraska Press, 1970), 1-22.
21 Thomas Jefferson and John Adams died on July 4, 1826, John Marshall on July 6,
22 1835, and James Madison on July 28, 1836. On the history of firearms regulations
23 that pertained to African Americans, see Robert J. Cottrol and Raymond T.
24 Diamond, "The Second Amendment: Toward an Afro-Americanist
25 Reconsideration," *Georgetown Law Journal* 80 (1991): 309-361
26 ([https://digitalcommons.law.lsu.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&art](https://digitalcommons.law.lsu.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1283&context=faculty_scholarship)
27 [icle=1283&context=faculty_scholarship](https://digitalcommons.law.lsu.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1283&context=faculty_scholarship)); Cottrol and Diamond, "Public Safety and
28 the Right to Bear Arms" in David J. Bodenhamer and James W. Ely, Jr., eds., *The*
Bill of Rights in Modern America, revised and expanded (Bloomington: Indiana
University Press, 2008), 88-107; and Cramer, *For the Defense of Themselves and*
the State, 74, 83-85, 97-140.

⁵⁴ Kates, "Toward a History of Handgun Prohibition," 7-30; and Jordan,
Frontier Law and Order, 17-22.

⁵⁵ Roth, *American Homicide*, 297-300.

1 United States and spiked even higher during the Civil War and Reconstruction, not
 2 only in the South and the Southwest, where rates had already risen in the early
 3 national period, but in the North. Americans, especially men, were more willing to
 4 kill friends, acquaintances, and strangers. And so, the United States became—and
 5 remains today—by far the most murderous affluent society in the world.⁵⁶

6 29. The increase occurred because America's heretofore largely successful
 7 effort at nation-building failed catastrophically at mid-century.⁵⁷ As the country
 8 struggled through the wrenching and divisive changes of the mid-nineteenth
 9 century—the crises over slavery and immigration, the decline in self-employment,
 10 and rise of industrialized cities—the patriotic faith in government that most
 11 Americans felt so strongly after the Revolution was undermined by anger and
 12 distrust.⁵⁸ Disillusioned by the course the nation was taking, people felt
 13 increasingly alienated from both their government and their neighbors.⁵⁹ They
 14 were losing the sense that they were participating in a great adventure with their
 15 fellow Americans.⁶⁰ Instead, they were competing in a cutthroat economy and a
 16 combative political system against millions of strangers whose interests and values
 17 were antithetical to their own.⁶¹ And most ominously, law and order broke down in
 18

19 ⁵⁶ Ibid., 297-300.

20 ⁵⁷ Ibid., 299-302, 384-385; and Roth, "American Homicide: Theory,
 21 Methods, Body Counts," *Historical Methods* 43 (2010): 185-192.

22 ⁵⁸ Roth, *American Homicide*, 299-302, 384-385. See also Randolph Roth,
 23 "Measuring Feelings and Beliefs that May Facilitate (or Deter) Homicide,"
 24 *Homicide Studies* (2012) 16: 196-217
 25 (https://journals.sagepub.com/doi/pdf/10.1177/1088767912442501?casa_token=dkP_nZZxCaYAAAAA:vL522E2inh9U2gr4X2qAhPnqRminWEjLv8nbwrNEhqNpRliTesFI_1SDY6tepvZbjwiRWPEom7M).

26 ⁵⁹ Roth, *American Homicide*, 300.

27 ⁶⁰ Ibid.

28 ⁶¹ Ibid.

1 the wake of the hostile military occupation of the Southwest, the political crisis of
2 the 1850s, the Civil War, and Reconstruction.⁶²

3 30. The proportion of homicides committed with firearms increased as
4 well from the Mexican War through Reconstruction, as it had during previous
5 increases in nondomestic homicides during the Revolution, in the postrevolutionary
6 South, and on contested frontiers.⁶³ Because the pistols, muskets, and rifles in use
7 in the early years of the crisis of the mid-nineteenth century were still
8 predominantly single-shot, muzzle-loading, black powder weapons, the proportion
9 of homicides committed with guns stayed in the range of a third to two-fifths,
10 except on the frontier.⁶⁴ Concealable fighting knives, together with concealable
11 percussion-cap pistols, remained the primary murder weapons. But in time, new
12 technologies added to the toll in lives, because of their lethality and the new ways
13 in which they could be used.

14 31. Samuel Colt's cap-and-ball revolvers, invented in 1836, played a
15 limited role in the early years of the homicide crisis, but they gained popularity
16 quickly because of their association with frontiersmen, Indian fighters, Texas
17 Rangers, and cavalymen in the Mexican War.⁶⁵ They retained some of the
18 limitations of earlier firearms, because their rotating cylinders—two of which came
19 with each revolver—had to be loaded one chamber at a time. Users had to seat a
20 percussion cap on a nipple at the rear of each chamber, pour powder into each
21 chamber, secure the powder with wadding, and ram the bullet down the chamber
22 with a rod or an attached loading lever. Thus cap-and-ball revolvers, like muzzle-

23
24 ⁶² Ibid., 299-302, 332, 337, 354.

25 ⁶³ Roth, "Why Guns Are and Aren't the Problem," 116-117.

26 ⁶⁴ Roth, "American Homicide Supplemental Volume: Weapons," Figures 25
27 through 46, and 51 through 57.

28 ⁶⁵ Patricia Haag, *The Gunning of America: Business and the Making of
American Gun Culture* (New York: Basic Books, 2016).

1 loaders, could not be loaded quickly, nor could they be kept loaded indefinitely
2 without risk of damaging the charge or the gun. But they were deadlier than their
3 predecessors, because they made it possible for a person to fire five or six shots in
4 rapid succession and to reload quickly with the second cylinder.⁶⁶

5 32. Smith and Wesson's seven-shot, .22 caliber, breech-loading, Model 1
6 rimfire revolver, invented in 1857, appeared on the market when the homicide crisis
7 was already well underway. But it had none of the limitations of percussion-cap
8 pistols or cap-and-ball revolvers. It could be loaded quickly and easily because it
9 did not require powder, wadding, and shot for each round; and it could be kept
10 loaded indefinitely because its corrosive powder was encapsulated in the bullet.⁶⁷
11 And it did not require a new percussion cap for each chamber, because the primer
12 was located in a rim around the base of the bullet, set to ignite as soon as it was hit
13 by the hammer.⁶⁸ As Smith and Wesson noted in its advertisements,

14 Some of the advantages of an arm constructed on this plan are:

15 The convenience and safety with which both the arm and ammunition
16 may be carried;

17 The facility with which it may be charged, (it requiring no ramrod,
18 powder-flask, or percussion caps);

19 Certainty of fire in damp weather;

20
21 ⁶⁶ Edward C. Ezell, *Handguns of the World: Military Revolvers and Self-*
22 *Loaders from 1870 to 1945* (Harrisburg, Pennsylvania: Stackpole Books, 1981), 24-
23 28; Julian S. Hatcher, *Pistols and Revolvers and Their Use* (Marshallton, Delaware:
24 Small-Arms Technical Publishing Company, 1927), 8-11; and Charles T. Haven
25 and Frank A. Belden, *A History of the Colt Revolver and the Other Arms Made by*
26 *Colt's Patent Fire Arms Manufacturing Company from 1836 to 1940* (New York:
27 Bonanza Books, 1940), 17-43.

28 ⁶⁷ Roy G. Jinks, *History of Smith and Wesson* (North Hollywood: Beinfeld,
1977), 38-57.

⁶⁸ *Ibid.*, 38-57.

1 That no injury is caused to the arm or ammunition by allowing it to
2 remain charged any length of time.⁶⁹

3 33. Smith and Wesson had created a near-perfect murder weapon. It was
4 lethal, reliable, easy to carry and conceal, capable of multiple shots, and ready to
5 use at any time.⁷⁰ Its only drawbacks were its small caliber and low muzzle
6 velocity, which limited its ability to stop an armed or aggressive adversary on the
7 first shot, and the difficulty and danger of reloading. The reloading problem was
8 remedied by Colt's development in 1889 of the first double-action commercial
9 revolver with a swing-out cylinder and Smith and Wesson's addition in 1896 of an
10 ejector to push out spent cartridges.⁷¹

11 34. These new weapons were not the primary cause of the surge in
12 violence that occurred in the United States from the Mexican War through
13 Reconstruction. But they did contribute to the later stages of the crisis, as they
14 superseded knives and black powder handguns as the primary weapons used in
15 interpersonal assaults, not only because of their greater lethality, but because they
16 were used in novel ways.⁷² Easily concealed, they became the weapons of choice
17 for men who stalked and ambushed estranged spouses or romantic partners, for
18 suspects who killed sheriffs, constables, or police officers, and for self-styled
19

20 ⁶⁹ Ibid., 39.

21 ⁷⁰ Ibid., 38-57.

22 ⁷¹ Rick Sapp, *Standard Catalog of Colt Firearms* (Cincinnati: F+W Media,
23 2011), 96; Jeff Kinard, *Pistols: An Illustrated History of Their Impact* (Santa
24 Barbara: ABC-CLIO, 2003), 163; and Jinks, *History of Smith and Wesson*, 104-170.

25 ⁷² Roth, "Why Guns Are and Aren't the Problem," 124-126 (recognizing that
26 "Americans used the new firearms in ways they could never use muzzle-loading
27 guns [. . .] The ownership of modern breech-loading [firearms] made the homicide
28 rate worse in the United States than it would have been otherwise because it
facilitated the use of *lethal* violence in a *wide variety of circumstances*." (emphasis
added).

1 toughs who engaged in shootouts in bars, streets, and even churchyards.⁷³ And as
2 modern, breech-loading firearms replaced the muzzle-loading and cap-and-ball
3 gunstock from the late 1850s through World War I, the proportion of homicides
4 committed with firearms continued to climb even when homicide rates fell for a
5 short time, as they did at the end of Reconstruction.⁷⁴ Ominously, too, firearms
6 invaded families and intimate relationships, so relatives, spouses, and lovers were
7 as likely to be killed with guns as unrelated adults—something that had never
8 happened before in America’s history.⁷⁵ That is why the proportion of homicides
9 committed with firearms—overwhelmingly, concealed revolvers—reached today’s
10 levels by the 1920s, ranging from a median of 56 percent in New England and over
11 70 percent in the South and West.⁷⁶ And that is why every state in the Union
12 except one restricted the right to carrying certain concealable weapons. The lone
13 holdout was Vermont, the state with the lowest homicide rate.⁷⁷

14 35. It is important to note that state legislators experimented with various
15 degrees of firearm regulation, as the nation became more and more violent. In
16 Texas, where the homicide rate soared to at least 76 per 100,000 adults per year
17 from June, 1865, to June, 1868,⁷⁸ the legislature passed a time-place-manner
18 restriction bill in 1870 to prohibit the open or concealed carry of a wide range of
19

20 ⁷³ Ibid., 124-125.

21 ⁷⁴ Ibid., 125-127.

22 ⁷⁵ Ibid., 125.

23 ⁷⁶ Roth, “American Homicide Supplemental Volume: Weapons,” Figures 2
through 7.

24 ⁷⁷ Roth, *American Homicide*, 184; and Horace V. Redfield, *Homicide, North*
25 *and South: Being a Comparative View of Crime against the Person in Several Parts*
26 *of the United States* (Columbus: Ohio State University Press, 2000).

27 ⁷⁸ Roth, Michael D. Maltz, and Douglas L. Eckberg, “Homicide Rates in the
28 Old West,” *Western Historical Quarterly* 42 (2011): 192
(https://www.jstor.org/stable/westhistquar.42.2.0173#metadata_info_tab_contents).

1 weapons, including firearms, on social occasions,⁷⁹ and it followed in 1871 with a
2 bill banning in most circumstances the carrying, open or concealed, of small deadly
3 weapons, including pistols, that were not designed for hunting or militia service.⁸⁰

4
5 ⁷⁹ Brennan Gardner Rivas, “Enforcement of Public Carry Restrictions: Texas
6 as a Case Study,” *UC Davis Law Review* 55 (2021): 2609-2610
7 (https://lawreview.law.ucdavis.edu/issues/55/5/articles/files/55-5_Rivas.pdf). “Be it
8 enacted by the Legislature of the State of Texas, That if any person shall go into
9 any church or religious assembly, any school room or other place where persons are
10 assembled for educational, literary or scientific purposes, or into a ball room, social
11 party or other social gathering composed of ladies and gentlemen, or to any election
12 precinct on the day or days of any election, where any portion of the people of this
13 State are collected to vote at any election, or to any other place where people may
14 be assembled to muster or perform any other public duty, or any other public
15 assembly, and shall have about his person a bowie-knife, dirk or butcher-knife, or
16 fire-arms, whether known as a six-shooter, gun or pistol of any kind, such person so
17 offending shall be deemed guilty of a misdemeanor, and on conviction thereof shall
18 be fined in a sum not less than fifty or more than five hundred dollars, at the
19 discretion of the court or jury trying the same; provided, that nothing contained in
20 this section shall apply to locations subject to Indian depredations; and provided
21 further, that this act shall not apply to any person or persons whose duty it is to bear
22 arms on such occasions in discharge of duties imposed by law.” An Act Regulating
23 the Right to Keep and Bear Arms, 12th Leg., 1st Called Sess., ch. XLVI, § 1, 1870
24 Tex. Gen. Laws 63. See also Brennan Gardner Rivas, “The Deadly Weapon Laws
25 of Texas: Regulating Guns, Knives, and Knuckles in the Lone Star State, 1836-
26 1930” (Ph.D. dissertation: Texas Christian University, 2019)
27 (<https://repository.tcu.edu/handle/116099117/26778>).

28 ⁸⁰ Rivas, “Enforcement of Public Carry Restrictions,” 2610-2611. Rivas,
quoting the law, says that “The first section stated, ‘That any person carrying on or
about his person, saddle, or in his saddle bags, any pistol, dirk, dagger, slung-shot,
sword-cane, spear, brass-knuckles, bowie knife, or any other kind of knife
manufactured or sold for the purposes of offense or defense, unless he has
reasonable grounds for fearing an unlawful attack on his person, and that such
ground of attack shall be immediate and pressing; or unless having or carrying the
same on or about his person for the lawful defense of the State, as a militiaman in
actual service, or as a peace officer or policeman, shall be guilty of a misdemeanor,
and, on conviction thereof shall, for the first offense, be punished by fine of not less
than twenty-five nor more than one hundred dollars, and shall forfeit to the county
the weapon or weapons so found on or about his person; and for every subsequent
(continued...)

1
2
3
4 offense may, in addition to such fine and forfeiture, be imprisoned in the county jail
5 for a term not exceeding sixty days; and in every case of fine under this section the
6 fines imposed and collected shall go into the treasury of the county in which they
7 may have been imposed; provided that this section shall not be so construed as to
8 prohibit any person from keeping or bearing arms on his or her own premises, or at
9 his or her own place of business, nor to prohibit sheriffs or other revenue officers,
10 and other civil officers, from keeping or bearing arms while engaged in the
11 discharge of their official duties, nor to prohibit persons traveling in the State from
12 keeping or carrying arms with their baggage; provided, further, that members of the
13 Legislature shall not be included under the term “civil officers” as used in this act.’
14 An Act to Regulate the Keeping and Bearing of Deadly Weapons, 12th Leg. Reg.
15 Sess., ch. XXXIV, § 1, 1871 Tex. Gen. Laws 25. The third section of the act reads,
16 ‘If any person shall go into any church or religious assembly, any school room, or
17 other place where persons are assembled for amusement or for educational or
18 scientific purposes, or into any circus, show, or public exhibition of any kind, or
19 into a ball room, social party, or social gathering, or to any election precinct on the
20 day or days of any election, where any portion of the people of this State are
21 collected to vote at any election, or to any other place where people may be
22 assembled to muster, or to perform any other public duty, (except as may be
23 required or permitted by law,) or to any other public assembly, and shall have or
24 carry about his person a pistol or other firearm, dirk, dagger, slung shot, sword
25 cane, spear, brass-knuckles, bowie-knife, or any other kind of knife manufactured
26 and sold for the purposes of offense and defense, unless an officer of the peace, he
27 shall be guilty of a misdemeanor, and, on conviction thereof, shall, for the first
28 offense, be punished by fine of not less than fifty, nor more than five hundred
dollars, and shall forfeit to the county the weapon or weapons so found on his
person; and for every subsequent offense may, in addition to such fine and
forfeiture, be imprisoned in the county jail for a term not more than ninety days.’
Id. § 3.” The law did not apply, however, ‘to a person’s home or business, and
there were exemptions for “peace officers” as well as travelers; lawmakers and
jurists spent considerable time fleshing out who qualified under these exemptions,
and how to allow those fearing an imminent attack to carry these weapons in public
spaces. Also, the deadly weapon law did not apply to all guns or firearms but just
pistols. The time-place-manner restrictions, however, applied to any “fire-arms . . .
gun or pistol of any kind” and later “pistol or other firearm,” as well as “any gun,
pistol”’

1 These laws were enforced with little or no racial bias until the 1890s, when white
2 supremacists disfranchised African Americans, legalized segregation, and took firm
3 control of the courts and law enforcement.⁸¹

4 36. California's legislature, recognizing that the homicide rate had reached
5 catastrophic levels (over 65 per 100,000 adults per year),⁸² banned concealed
6 weapons in 1863, because, as the editor of the *Daily Alta Californian* declared,

7 During the thirteen years that California has been a State, there have been
8 more deaths occasioned by sudden assaults with weapons previously
9 concealed about the person of the assailant or assailed, than by all other
10 acts of violence which figure on the criminal calendar.... For many
11 sessions prior to the last, ineffectual efforts were made to enact some
12 statute which would effectually prohibit this practice of carrying
13 concealed weapons. A radical change of public sentiment demanded it,
14 but the desired law was not passed until the last Legislature, by a
15 handsome majority.⁸³

16 37. But the legislature repealed the law in 1870, as public sentiment
17 veered back toward the belief that the effort to make California less violent was
18 hopeless, and that the only protection law-abiding citizens could hope for was to
19 arm themselves. And the legislature once again had the enthusiastic support of the

20 ⁸¹ Rivas, "Enforcement of Public Carry Restrictions," 2609-2620. The study
21 draws on enforcement data from four Texas counties, 1870-1930: 3,256 total cases,
22 of which 1,885 left a record of final adjudication.

23 ⁸² Roth, Maltz, and Eckberg, "Homicide Rates in the Old West," 183. On
24 violence in California and across the Far West, see Roth, Maltz, and Eckberg,
25 "Homicide Rates in the Old West," 173-195; Clare V. McKanna, Jr., *Homicide,
26 Race, and Justice in the American West, 1880-1920* (Tucson: University of Arizona
27 Press, 1997); McKanna, *Race and Homicide in Nineteenth-Century California*
28 (Reno: University of Nevada Press, 2002); and John Mack Faragher, *Eternity
Street: Violence and Justice in Frontier Los Angeles* (New York: W. W. Norton,
2016); and Roth, *American Homicide*, 354.

⁸³ Clayton E. Cramer and Joseph Olson, "The Racist Origins of California's
Concealed Weapon Permit Law," Social Science Research Network, posted August
12, 2016, 6-7 (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2599851).

1 editor of the *Daily Alta Californian*, which then opined, “As the sovereignty resides
2 in the people in America, they are to be permitted to keep firearms and other
3 weapons and to carry them at their pleasure.”⁸⁴ A number of counties dissented,
4 however, and made it a misdemeanor to carry a concealed weapon without a
5 permit—ordinances that they enforced.⁸⁵ In 1917, the state made it a misdemeanor
6 to carry a concealed weapon in incorporated cities and required that gun dealers
7 register handgun sales and send the Dealer’s Record of Sale to local law
8 enforcement.⁸⁶ And in 1923, the state extended the licensing requirement to
9 unincorporated areas and prohibited non-citizens from carrying concealed
10 weapons.⁸⁷

11 38. Other states, like Ohio, tried to have it both ways. The Ohio
12 legislature banned the carrying of concealable weapons in 1859, citing public
13 safety. But it directed jurors, in the same law, to acquit persons who carried such
14 weapons,

15 If it shall be proved to the jury, from the testimony on the trial of any
16 case presented under the first section of this act, that the accused was, at
17 the time of carrying any of the weapon or weapons aforesaid, engaged in
18 the pursuit of any lawful business, calling, or employment, and that the
19 circumstances in which he was placed at the time aforesaid were such as
20 to justify a prudent man in carrying the weapon or weapons aforesaid for
the defense of his person, property or family.⁸⁸

21 ⁸⁴ Cramer and Olson, “Racist Origins of California’s Concealed Weapon
22 Permit Law,” 7-10.

23 ⁸⁵ Ibid., 11.

24 ⁸⁶ Ibid., 11-13.

25 ⁸⁷ Ibid., 13-15. Note that the title of the Cramer and Olson essay is
26 misleading. It does not refer to the origins of the laws discussed here or to the ways
in which they were enforced. It refers instead to an unsuccessful effort in 1878 and
a successful effort in 1923 to deny resident aliens the right to bear arms.

27 ⁸⁸ Joseph R. Swan, *The Revised Statutes of the State of Ohio, of a General*
28 *Nature, in Force August 1, 1860* (Cincinnati: Robert Clarke & Co., 1860), 452.

1 The burden of proof remained with the person who carried the concealed weapon.

2 39. It is important to remember, however, that even when states enacted
3 different types of firearms restrictions, the fact remains that many jurisdictions
4 enacted statutory restrictions at that time to ensure the safety of the public and law
5 enforcement.

6 **III. ADDRESSING THREATS TO THE REPUBLIC AND ITS CITIZENS FROM**
7 **MASS MURDERERS FROM THE REVOLUTION INTO THE EARLY**
8 **TWENTIETH CENTURY**

9 40. The Republic faced threats not only from individual murderers, but
10 from groups of murderers. Mass murder has been a fact of life in the United States
11 since the mid-nineteenth century, when lethal and nonlethal violence of all kinds
12 became more common. But mass murder was a group activity through the
13 nineteenth century because of the limits of existing technologies.⁸⁹ The only way to
14 kill a large number of people was to rally like-minded neighbors and go on a
15 rampage with clubs, knives, nooses, pistols, shotguns, or rifles—weapons that were
16 certainly lethal but did not provide individuals or small groups of people the means
17 to inflict mass casualties on their own. Mass killings of this type were rare in the
18 colonial, Revolutionary, and Early National eras, outside of massacres of Native
19 Americans or irregular warfare among citizens seeking political power.⁹⁰ But from
20 the 1830s into the early twentieth century, mass killings were common.

21 ⁸⁹ On the history of mob violence, including riots and popular protests that
22 led to mass casualties, see Paul A. Gilje, *Rioting in America* (Bloomington: Indiana
23 University Press, 1996); and David Grimsted, *American Mobbing: Toward Civil
War* (New York: Oxford University Press, 1996).

24 ⁹⁰ For examples of massacres of unarmed Native Americans, see the murder
25 in 1623 of six Massachusetts men by a party from Plymouth Colony, led by Captain
26 Miles Standish [Roth, *American Homicide*, 42]; and the massacre in 1782 of 96
27 pacifist Moravian Delaware Indians at Gnadenhutten in present-day Ohio [Rob
28 Harper, “Looking the Other Way: The Gnadenhutten Massacre and the Contextual
Interpretation of Violence,” *William and Mary Quarterly* (2007) 64: 621-644
(https://www.jstor.org/stable/25096733#metadata_info_tab_contents)]. For

(continued...)

41. Examples include Nat Turner's rebellion in Southampton County, Virginia, in 1831, which claimed sixty-nine lives; the murder of seventeen Mormons, perpetrated by militia men and vigilantes at Haun's Mill, Missouri in 1838; Bloody Monday in Louisville, Kentucky, where an assault by nativist Protestants on Irish and German Catholics in 1855 left twenty-two people dead; and the murder of nineteen Chinese Americans by a racist mob in Los Angeles in 1871. Because these mass killings were almost always spontaneous and loosely organized, they were difficult for government to prevent. Worse, in some incidents, such as the Haun's Mill Massacre, state and local governments were complicit; and in others, state and local governments turned a blind eye to the slaughter, as was the case in the murder of Chinese farm workers in Chico, California, in 1877.⁹¹

examples of political conflict among colonists that led to mass killings, see the confrontation in 1655 at Severn River in Maryland between opposed factions in the English Civil War [Aubrey C. Land, *Colonial Maryland: A History* (Millwood, New York: Kato Press, 1981), 49-54] and the slaughter in 1782 of rebel prisoners at Cloud's Creek, South Carolina, by Tory partisans under the leadership of William Cunningham [J. A. Chapman, *History of Edgefield County* (Newberry, South Carolina: Elbert H. Aull, 1897), 31-34]; see also Fox Butterfield, *All God's Children: The Bosket Family and the American Tradition of Violence* (New York: Vintage, 2008), 5-6.

⁹¹ David F. Almendinger, Jr., *Nat Turner and the Rising in Southampton County* (Baltimore: Johns Hopkins Press, 2014); Patrick H. Breen, *The Land Shall Be Deluged in Blood: A New History of the Nat Turner Revolt* (New York: Oxford University Press, 2015); Stephen B. Oates, *The Fires of Jubilee: Nat Turner's Fierce Rebellion* (New York: Harper and Row, 1975); Stephen C. LeSueur, *The 1838 Mormon War in Missouri* (Columbia: University of Missouri Press, 1987), 162-168; Brandon G. Kinney, *The Mormon War: Zion and the Missouri Extermination Order of 1838* (Yardley, Pennsylvania: Westholme, 2011); Mary Alice Mairose, "Nativism on the Ohio: the Know Nothings in Cincinnati and Louisville, 1853-1855" (M.A. thesis, Ohio State University, 1993); W. Eugene Hollon, *Frontier Violence: Another Look* (New York: Oxford University Press, 1974), 93-95; Faragher, *Eternity Street*, 463-480; and Sucheng Chan, *The Bitter-Sweet Soil: The Chinese in California Agriculture, 1860-1910* (Berkeley: University of California Press, 1986), 372.

1 42. The Federal government did act during Reconstruction, however, to
2 prevent mass murder when formally organized white supremacist organizations
3 engaged in systematic efforts to deprive African Americans of their civil rights,
4 which had been guaranteed by the Thirteenth, Fourteenth, and Fifteenth
5 Amendments. The Ku Klux Klan Acts of 1870 and 1871, meant to prevent
6 assassinations and mass shootings and lynchings by white supremacist terrorists,
7 were effective when enforced by the federal government and the U.S. Army.⁹² But
8 when federal troops were withdrawn, white supremacist mass killings resumed. In
9 New Orleans, for example, an ultimately successful effort by white-supremacist
10 Democrats to seize control of the city's government by violent means left dozens of
11 Republican officials and police officers shot dead and scores wounded.⁹³ And the
12 Klan Acts did nothing to prevent mass murders by spontaneous mobs and loosely
13 organized vigilantes. Rioters and vigilantes remained a threat well into the
14 twentieth century. In 1921 more than three hundred African American citizens
15 were murdered in the Tulsa Race Massacre in Oklahoma.⁹⁴

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18
19 ⁹² Alan Trelease, *White Terror: The Ku Klux Klan Conspiracy and Southern Reconstruction* (New York: Harper and Row, 1975).

20 ⁹³ Dennis C. Rousey, *Policing the Southern City: New Orleans, 1805-1889*
21 (Baton Rouge: Louisiana State University Press, 1996), 151-158. See also
22 LeeAnna Keith, *The Colfax Massacre: The Untold Story of Black Power, White*
23 *Terror, and the Death of Reconstruction* (New York: Oxford University Press,
24 2008); and Gilles Vandal, *Rethinking Southern Violence: Homicides in Post-Civil*
War Louisiana, 1866-1884 (Columbus: Ohio State University Press, 2000), 67-109.

25 ⁹⁴ On the deadly race riots of 1919-1921, see William M. Tuttle, Jr., *Race*
26 *Riot: Chicago in the Red Summer of 1919* (New York: Atheneum, 1970); Scott
27 Ellsworth, *Death in a Promised Land: The Tulsa Race Riot of 1921* (Baton Rouge:
28 Louisiana State University Press, 1982); and Tim Madigan, *The Burning:*
Massacre, Destruction, and the Tulsa Race Riot of 1921 (New York: Thomas
Dunne Books / St. Martin's Press, 2001).

1 **IV. ADDRESSING THREATS TO THE REPUBLIC AND ITS CITIZENS FROM**
2 **MASS MURDERERS FROM THE EARLY TWENTIETH CENTURY TO THE**
3 **PRESENT**

4 43. The character of mass murder began to change in the late nineteenth
5 and early twentieth century with the invention and commercial availability of new
6 technologies that gave individuals or small groups of people the power to kill large
7 numbers of people in a short amount of time. These technologies proved useful to
8 criminal gangs, anarchists, and factions of the labor movement intent on killing
9 adversaries, public officials, and law enforcement officers. The technologies that
10 were most widely used by criminals and terrorists were dynamite, invented by
11 Alfred Nobel in 1866, and the Thompson submachine gun, invented in 1918 by
12 General John T. Thompson, who improved upon a pioneering German design.

13 44. The advantage of dynamite over nitroglycerin and other explosives
14 used in mining and construction was its power and its stability, which made
15 accidental explosions rare. The advantages of submachine guns over existing
16 machine guns as weapons of war were that they were light enough to be carried and
17 operated by a single individual, and they were capable of firing .45 caliber bullets
18 from 20-round clips or 50- or 100-round drum magazines at a rate of 600 to 725
19 rounds per minute.⁹⁵

20 45. Criminals and terrorists quickly discovered how accessible and useful
21 these new technologies were. They could be purchased legally by private citizens.
22 In the 1920s, Thompson submachine guns were expensive. They sold for \$175 to
23 \$225 each, at a time when a new Ford cost \$440 (the rough equivalent of \$2996 to
24 \$3852 today, when a base model of the AR-15 semiautomatic rifle can be
25 purchased for less than \$400 and a 30-round magazine for as little as \$10).⁹⁶ That

26 ⁹⁵ Herta E. Pauli, *Alfred Nobel: Dynamite King, Architect of Peace* (New
27 York: L. B. Fisher, 1942); and Bill Yenne, *Tommy Gun: How General Thompson's
28 Submachine Gun Wrote History* (New York: Thomas Dunne Books, 2009).

⁹⁶ Yenne, *Tommy Gun*, 86. Estimates vary on the purchasing power of 1919
(continued...)

1 is why Thompsons were favored by those with resources: law enforcement, the
2 Irish Republican Army, Sandinista rebels in Nicaragua, and bank robbers.
3 Dynamite, however, cost only 18 cents a pound (the rough equivalent of \$3.08
4 today), so it was favored by labor activists and anarchists.⁹⁷ Federal, state, and
5 local officials and law enforcement officers suddenly confronted novel threats to
6 their personal safety. Submachine guns were used most notoriously in gangland
7 slayings in Chicago during the Prohibition Era, such as the St. Valentine's Day
8 Massacre and the Kansas City Massacre.⁹⁸ Dynamite was used in a string of
9 anarchist bombings in 1919-1920. Those included the murder of 38 people and the
10 wounding of 143 in an attack on Wall Street, 36 dynamite bombs mailed to justice
11 officials, newspaper editors, and businessmen (including John D. Rockefeller), and
12

13
14 dollars in today's dollars, but \$1.00 in 1919 was worth roughly \$17.12 today. See
15 the CPI Inflation Calculator (<https://bit.ly/3CS5UNI>), accessed October 4, 2022.
16 The prices of AR-15 style rifles today are from guns.com
17 (<https://www.guns.com/firearms/ar-15-rifles?priceRange=%24250%20-%20%24499>), accessed October 4, 2022. The prices of 30-round magazines of
18 .233 caliber ammunition are from gunmagwarehouse.com
19 (<https://gunmagwarehouse.com/all-magazines/rifles/magazines/ar-15-magazines>),
20 accessed October 4, 2022.

21 ⁹⁷ Department of Commerce, Bureau of the Census, *Fourteenth Census of the*
22 *United States Manufactures: Explosives* (Washington, D.C.: Government Printing
23 Office, 1922), 6. Note that a pound of dynamite would be far more expensive
24 today—potentially hundreds of thousands of dollars—because it would require the
25 purchase of a blasting license, a storage bunker, and an isolated plot of land for the
26 storage bunker. See U.S Department of Justice, Bureau of Alcohol, Tobacco,
27 Firearms, and Explosives, Enforcement Programs and Services, *ATF Federal*
28 *Explosives Law and Regulations*, 2012
(<https://www.atf.gov/explosives/docs/report/publication-federal-explosives-laws-and-regulations-atf-p-54007/download>), accessed October 4, 2022.

⁹⁸ William Helmer and Arthur J. Bilek, *The St. Valentine's Day Massacre: The Untold Story of the Bloodbath That Brought Down Al Capone* (Nashville: Cumberland House, 2004); and Yenne, *Tommy Gun*, 74-78, 91-93.

1 a failed attempt to kill Attorney General A. Mitchell Palmer and his family.⁹⁹
 2 Dynamite was also used effectively for malicious, private ends. For example,
 3 Osage Indians were murdered by an individual in Oklahoma in an attempt to gain
 4 their headrights and profit from insurance policies on them.¹⁰⁰

5 46. Because of the threats these new technologies posed for public safety,
 6 public officials widened their regulatory focus beyond concealed and concealable
 7 weapons. Thirteen states restricted the capacity of ammunition magazines for
 8 semiautomatic and automatic firearms between 1927 and 1934,¹⁰¹ and Congress
 9 passed the National Firearms Acts of 1934 and 1938, which restricted ownership of
 10 machine guns and submachine guns (known today as automatic weapons) because
 11 of their ability to fire rapidly from large-capacity magazines.¹⁰² And the Organized
 12 Crime Control Act of 1970 restricted ownership of a wide range of explosives,

13
 14 ⁹⁹ Paul Avrich, *Sacco and Vanzetti: The Anarchist Background* (Princeton:
 15 Princeton University Press, 1991), 140-156, 181-195; Beverly Gage, *The Day Wall*
 16 *Street Exploded: A Story of American in Its First Age of Terror* (New York: Oxford
 17 University Press, 2009); David Rapoport, *Waves of Global Terrorism: From 1879 to*
 18 *the Present* (New York: Columbia University Press, 2022), 65-110. Consider also
 19 the bombing of the office of the *Los Angeles Times* in 1910 by two union activists,
 20 which killed 21 persons and injured 100 more, in Louis Adamic, *Dynamite: The*
 21 *Story of Class Violence in America* (New York: Viking, 1931).

22 ¹⁰⁰ For this and other murders of Osage people see David Grann, *Killers of*
 23 *the Flower Moon: The Osage Murders and the Birth of the FBI* (New York,
 24 Doubleday, 2017).

25 ¹⁰¹ Robert J. Spitzer, “Gun Accessories and the Second Amendment: Assault
 26 Weapons, Magazines, and Silencers,” *Law and Contemporary Problems* 83 (2020):
 27 238 (<https://scholarship.law.duke.edu/lcp/vol83/iss3/13>). In the same period,
 28 five additional states restricted magazine capacity for fully automatic weapons, but
 not semiautomatic weapons.

¹⁰² The National Firearms Act of 1934, 48 Statute 1236
 (https://homicide.northwestern.edu/docs_fk/homicide/laws/national_firearms_act_of_1934.pdf); and the National Firearms Act of 1938, 52 Statute 1250
 (https://homicide.northwestern.edu/docs_fk/homicide/laws/national_firearms_act_of_1938.pdf).

1 building upon regulations that began in 1917 with the passage of the Federal
2 Explosives Act, which restricted the distribution, storage, possession, and use of
3 explosive materials during the time of war.¹⁰³

4 47. Since 1970, public officials have continued to reserve the right to
5 regulate the sale, ownership, and control of new technologies that can be used by
6 individuals or small groups to commit mass murder. The Homeland Security Act
7 of 2002 improved security at airports and in cockpits to ensure that airplanes could
8 not be used by terrorists to commit mass murder. The Secure Handling of
9 Ammonium Nitrate Act of 2007 restricted access to large quantities of fertilizer to
10 prevent terrorist attacks like the one that killed 165 people in Oklahoma City in
11 1995.¹⁰⁴ And in the wake of the massacre of 58 people and wounding of hundreds
12 of others at a concert in Las Vegas in 2017, the Trump administration issued a
13 regulation that banned the sale or possession of bump stocks. It gave owners 90
14 days to destroy their bump stocks or turn them in to the Bureau of Alcohol,
15 Tobacco, Firearms, and Explosives.¹⁰⁵

16 48. In recent decades, criminal organizations, terrorists, and lone gunmen
17 with an intent to commit mass murder have also discovered the effectiveness of
18 rapid-fire semiautomatic weapons with large capacity magazines. These weapons,
19 which were designed for offensive military applications rather than individual self-

20 _____
21 ¹⁰³ The Organized Crime Control Act of 1970, 84 Statute 922; and the
22 Federal Explosives Act of 1917, 40 Statute 385.

23 ¹⁰⁴ Public Law 107-296, November 25, 2002, “To Establish the Department
24 of Homeland Security” (https://www.dhs.gov/xlibrary/assets/hr_5005_enr.pdf); and
25 6 U.S. Code § 488a - Regulation of the sale and transfer of ammonium nitrate
26 (<https://www.law.cornell.edu/uscode/text/6/chapter-1/subchapter-VIII/part-J>). The
27 ammonium nitrate regulations were to be enforced no later than 90 days after
28 December 26, 2007. Accessed August 31, 2022.

¹⁰⁵ *New York Times*, December 18, 2018
(<https://www.nytimes.com/2018/12/18/us/politics/trump-bump-stocks-ban.html>),
accessed October 4, 2022.

1 defense, emerged from technologies developed for military use during the Cold
2 War. The signature military firearm of that era—the M-16 rifle with a 30-round
3 magazine and a muzzle velocity of over 3,000 feet per second¹⁰⁶—was capable of
4 firing 750 to 900 rounds per minute when set on fully automatic. But the M-16 was
5 used more often in combat—and more accurately, effectively, and sustainably as a
6 weapon for inflicting mass casualties—when set on semiautomatic, which was
7 standard military procedure. That is why the U.S. Army defines “rapid fire” as 45
8 rounds per minute, not 750 to 900.¹⁰⁷ And that is why in 1998 the U.S. Marine
9 Corps adopted the M-16A4, which replaced the “fully automatic” switch with a
10 three-round burst—an alteration that slows the potential rate of fire, conserves
11 ammunition, and improves accuracy.¹⁰⁸

12 49. The muzzle velocity of semiautomatic handguns, like the Glock 17, is
13 far lower than that of an M-16 or its civilian counterparts: around 1,350 feet per
14 second. But technological advances have increased the speed at which
15 semiautomatic handguns can be fired. An expert can fire an entire 30-round clip
16 from a Glock 17 handgun in five seconds.¹⁰⁹ And they are affordable. A new
17
18
19

20 ¹⁰⁶ Muzzle velocity is the speed at which a round exits the barrel of a firearm.

21 ¹⁰⁷ Sections 8-17 through 8-22 (Rates of Fire), Sections 8-23 and 8-24
22 (Follow Through), and Sections B-16 through B22 (Soft Tissue Penetration), in *TC*
23 *3-22.9 Rifle and Carbine Manual*, Headquarters, Department of the Army (May
24 2016). Available at the Army Publishing Directorate Site
(https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN19927_TC_3-22x9_C3_FINAL_WEB.pdf), accessed October 4, 2022.

25 ¹⁰⁸ See military-today.com (<http://www.military-today.com/firearms/m16.htm>), accessed October 4, 2022.

26 ¹⁰⁹ See Jerry Miculek, “Dual Glock 17 Rapid Fire 60 Rounds in 5 Seconds!
27 660 RPM.” YouTube (<https://www.youtube.com/watch?v=1H5KsnoUBzs>),
28 accessed September 1, 2022.

1 semiautomatic handgun can be purchased for less than \$200 and equipped with a
2 33-round magazine for less than \$15.¹¹⁰

3 50. It did not take criminals, terrorists, and lone gunmen long to adopt the
4 rapid-fire semiautomatic handguns and rifles with large capacity magazines that
5 poured onto the domestic market in the 1970s and 1980s. These firearms can inflict
6 mass casualties in a matter of seconds and maintain parity with law enforcement in
7 a standoff.

8 51. Manufacturers soon discovered ways to increase the rate of fire of
9 these new semiautomatic weapons even further. Some innovations, such as bump
10 stocks and modification kits, allowed owners to transform semiautomatic rifles into
11 fully automatic rifles. And in response to the Trump administration's regulatory
12 ban on the production and sale of bump stocks and modification kits, the firearms
13 industry has developed "binary" triggers that fire when pulled *and when released*—
14 a modification that doubles the rate at which semiautomatic weapons can be
15 fired.¹¹¹

16 ¹¹⁰ See guns.com for the price of semiautomatic handguns
17 ([https://www.guns.com/firearms/handguns/semi-](https://www.guns.com/firearms/handguns/semi-auto?priceRange=Less%20than%20%24250)
18 [auto?priceRange=Less%20than%20%24250](https://www.guns.com/firearms/handguns/semi-auto?priceRange=Less%20than%20%24250)) and bymymags.com for the price of
19 large capacity magazines (<https://www.buymymags.com/>), accessed October 4,
20 2022.

21 ¹¹¹ Bureau of Alcohol, Tobacco, Firearms, and Explosives, Office of
22 Enforcement Programs and Services, Office of Field Operations, "Open Letter to
23 All Federal Firearms Licensees," March 22, 2022
24 ([https://www.atf.gov/firearms/docs/open-letter/all-ffls-mar-2022-open-letter-forced-](https://www.atf.gov/firearms/docs/open-letter/all-ffls-mar-2022-open-letter-forced-reset-triggers-frts/download)
25 [reset-triggers-frts/download](https://www.atf.gov/firearms/docs/open-letter/all-ffls-mar-2022-open-letter-forced-reset-triggers-frts/download)), accessed October 4, 2022. The ATF has not banned
26 the production, sale, or ownership of binary triggers, but the several states have
27 done so, citing the threat they pose to the safety of the public and law enforcement.
28 Those states include North Dakota, Hawaii, Connecticut, New Jersey, Maryland,
Washington, California, D.C., Iowa, New York, Rhode Island, and Florida.
(<https://lundestudio.com/are-binary-triggers-legal/>), accessed October 4, 2022. See
also americanfirearms.org, "A Complete Guide to Binary Triggers,"
(<https://www.americanfirearms.org/guide-to-binary-triggers/>), accessed October 4,
2022.

52. Just as dangerous, however, were modifications that helped users fire more rapidly with semiautomatic firearms. The modifications included “fixes” as simple as stretching a rubber band from the trigger to the trigger guard of an AR-15—the civilian version of the M-16, which differs from the military model only in its lack of a switch for fully automatic. The band pushes the trigger forward more rapidly after each round and enables users to fire rapid semiautomatic bursts with help of the weapon’s natural recoil. The rubber band method works because manufacturers have increased the fire rate of semiautomatic weapons by decreasing the pressure it takes to pull the trigger.¹¹²

53. The threat to public safety and law enforcement posed by semiautomatic rifles—with or without dangerous modifications—is a modern phenomenon that has a direct correlation with mass murder and mass shootings. The danger these firearms pose is intrinsically different from past weaponry. In the same way that the Colt cap-and-ball revolvers and breech-loaded firearms resulted in increased deaths by firearms, the development of semiautomatic rifles and handguns dramatically increased the number killed or wounded in mass shootings from 1966 to the present (see Figure 1, below).

Figure 1

	Mass shootings with non-semiautomatic/non-automatic firearm	Mass shootings with semiautomatic handgun	Mass shootings with semiautomatic rifle	Mass shootings with automatic firearms
Average Killed	5.4	6.5	9.2	8.1
Average Wounded	3.9	5.8	11.0	8.1

¹¹² See “Rapid Manual Trigger Manipulation (Rubber Band Assisted),” YouTube (https://www.youtube.com/watch?v=PVfwFP_RwTQ), accessed October 4, 2022.

Average Victims	9.3	12.3	20.2	16.2
Number of Mass Shootings	52	82	40	8

Note that mass shootings with semiautomatic rifles have been as deadly as mass shootings with fully automatic weapons.¹¹³

54. And the threat posed by semiautomatic rifles is amplified when they are used in conjunction with extended magazines (more than 10 rounds) (see figure 2, below).

Figure 2

	No extended magazine	Extended magazine
Mass shootings	10.3	26.4

¹¹³ The data are from the Violence Project (<https://www.theviolenceproject.org/mass-shooter-database/>), accessed October 4, 2022. The Violence Project, which has compiled data on mass shootings from 1966 through 2021, defines a mass shooting as “a multiple homicide incident in which four or more victims are murdered with firearms—not including the offender(s)—within one event, and at least some of the murders occurred in a public location or locations in close geographical proximity (e.g., a workplace, school, restaurant, or other public settings), and the murders are not attributable to any other underlying criminal activity or commonplace circumstance (armed robbery, criminal competition, insurance fraud, argument, or romantic triangle).” The Violence Project database provides information on the weapons used in the shootings. It notes, for instance, that two shooters who possessed semiautomatic rifles at the times of their crimes did not use them, and that 8 shooters had illegal, fully automatic weapons. Those automatic weapons included 2 Uzi submachine guns, 3 machine pistols, 1 M-16, and 2 AK-47 rifles converted to automatic. I have not participated in Violence Project or in the collection of their data. In Figure 1, however, I have added the data from the six mass shootings that occurred from January through August, 2022, that fit the Violence Project’s definition of a mass shooting. Three were committed with semiautomatic rifles and three with semiautomatic handguns. The table does not include the Las Vegas shooting of 2017 (58 killed, 887 wounded).

with semiautomatic handgun		
Mass shootings with semiautomatic rifle	13.0	37.1

55. Without extended magazines, semiautomatic rifles cause an average of 40 percent more deaths and injuries in mass shootings than regular firearms, and semiautomatic handguns 11 percent more than regular firearms. But with extended magazines, semiautomatic rifles cause an average of 299 percent more deaths and injuries than regular firearms, and semiautomatic handguns 184 percent more than regular firearms. In combination, semiautomatic firearms and extended magazines are extraordinarily lethal.¹¹⁴

56. For these reasons, local governments have enacted bans on the sale of semiautomatic rifles with features that enhance their military utility, as the federal government did from 1994 to 2004. And local governments have banned the sale of large capacity magazines, because they allow mass murderers to prolong their attacks before citizens or law enforcement can intervene—usually when the shooter is reloading. For example, the shooter who wounded U.S. House Representative Gabby Giffords in Tucson, Arizona, in 2011 was able to fire 31 rounds with a Glock 19 semiautomatic handgun in a matter of seconds before bystanders could disarm him as he changed magazines. Every one of those rounds hit an individual, killing six and injuring twelve.¹¹⁵

V. CONCLUSION

57. From the Founding Generation to the present, the people of the United States and their elected representatives have recognized that there are instances in

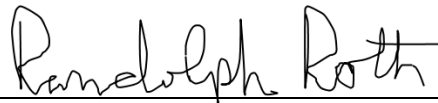
¹¹⁴ The data are from the Violence Project.

¹¹⁵ “2011 Tucson Shooting,” Wikipedia (https://en.wikipedia.org/wiki/2011_Tucson_shooting), accessed September 2, 2022.

1 which the security of the republic and the safety of its citizens require government-
2 imposed restrictions. That is why the majority of states passed and enforced laws
3 against the carrying of concealable weapons, why the federal government passed
4 the Ku Klux Klan Acts during Reconstruction, and why states, municipalities, and
5 the federal government have passed and enforced laws since World War I to restrict
6 ownership or control of modern technologies that enable criminals, terrorists, and
7 malicious or delusional individuals to commit mass murder. Public officials are not
8 required to pass such laws, of course, but historically, they have always retained the
9 ability to do so. There is no evidence in the historical record to suggest that they
10 took their decisions lightly when they imposed these restrictions on weapons and
11 armed voluntary organizations. And mass murders by individuals, including mass
12 shootings, are a recent phenomenon, caused by changes in technology that emerged
13 in the late nineteenth through the late twentieth century. Public officials today are
14 confronting a criminological problem that did not exist in the Founding Era, nor
15 during the first century of the nation's existence.

16
17 I declare under penalty of perjury under the laws of the United States of
18 America that the foregoing is true and correct.

19 Executed on November 9, 2022, at Dublin, Ohio.

20
21 
22 _____
23 Randolph Roth
24
25
26
27
28

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EXHIBIT A

Randolph Roth

Page 1

Curriculum Vitae

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Randolph Roth

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Personal

Marital Status:	Married	Allison Sweeney
Children:	Alexander	

Education

1981, Ph.D. in History, Yale University (thesis, "Whence This Strange Fire? Religious and Reform Movements in Vermont, 1791-1843," David Brion Davis and Howard R. Lamar, advisors)

1973, B.A., with honors and distinction, in History, Stanford University (thesis, "Progressive Reform and Socialism in Berkeley, California, 1877-1924," Carl Degler and Barton Bernstein, advisors)

Academic Positions

1985-present, The Ohio State University: College of Arts and Sciences
Distinguished Professor of History and Sociology
1978-1985, Grinnell College: Assistant Professor of History
1978, University of Vermont: Instructor in History
1974-1977, Graduate Teaching Assistant, Yale University

Honorary Positions

2012, Wayne N. Aspinall Visiting Chair Professor, University of Colorado Mesa

Professional Honors and Awards for Scholarship

2013-2016, Member, Roundtable on Crime Trends in America, National Research Council, National Academy of Sciences

2012, Fellow, American Association for the Advancement of Science

2011, Michael J. Hindelang Award, American Society of Criminology, for the outstanding contribution to criminology over the previous three years

2010, Allan Sharlin Memorial Award, Social Science History Association, for an outstanding book in social science history

2010, Outstanding Academic Books, *Choice*

Randolph Roth

Page 3

1988, E. Harold Hugo Memorial Book Prize, Old Sturbridge Village Research Society, for distinguished work in the history of rural society

1982, Thorton Rockwell Field Prize, Yale University, for the outstanding dissertation in the Humanities

1982, George Washington Eggleston Prize, Yale University, for the outstanding dissertation in American history

1973, James Birdsall Weter Prize, Stanford University, for the outstanding senior thesis in history

Professional Honors and Awards for Teaching

2017, Rodica C. Botoman Award for Distinguished Undergraduate Teaching and Mentoring, College of Arts and Humanities

2013, Outstanding Teaching Award, College of Arts and Sciences Student Council

2009, Ohio State University Alumni Award for Distinguished Teaching

2007, Distinguished Teaching Award, Ohio Academy of History

1995, Clio Award, Phi Alpha Theta Honor Society, for Distinguished Teaching in History at Ohio State University

Grants

2013-2014, Research Grant, Harry Frank Guggenheim Foundation

2012-2015, Research Grant, National Science Foundation (SES-1228406)

2000, Fellowship for University Teachers, National Endowment for the Humanities

1998-2000, Research Grant and Supplemental Research Grant, National Science Foundation (SBR-9808050)

1992, Fellow, Workshop on the Rhetoric of Social History, University of Iowa

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1989-1990, Research Fellowship, Harry Frank Guggenheim Foundation

1987, National Endowment for the Humanities, Summer Stipend

1983, Research Fellowship for Recent Recipients of the Ph.D., American Council of Learned Societies

1981, Fred Harris Daniels Fellowship, American Antiquarian Society

Bibliography and Research

Books

American Homicide (an interregional study of violent crime and violent death in America from colonial times to the present). The Belknap Press of Harvard University Press (2009), 655 pp.

The Democratic Dilemma: Religion, Reform, and the Social Order in the Connecticut River Valley of Vermont, 1791-1850. Cambridge University Press (1987), 399 pp.

Edited Volumes

Co-founder and co-director, Historical Violence Database (on-line database on violent crime, violent death, and collective violence). Web address:
www.sociology.ohio-state.edu/cjrc/hvd

American Homicide Supplementary Volume (on-line supplement to *American Homicide*, including detailed appendices on methods, supplemental tables, graphs, and statistical analyses), approx. 750 pp. Web address:
<http://cjrc.osu.edu/researchprojects/hvd/AHsup.html>

Essays on Historical Subjects

“Homicide and the Opioid Epidemic: A Longitudinal Analysis,” co-authored with Richard Rosenfeld and Joel Wallman. *Homicide Studies* (forthcoming).

“The Opioid Epidemic and Homicide in the United States,” co-authored with Richard Rosenfeld and Joel Wallman. *Journal of Research in Crime and Delinquency* 58: 1 (2021): 1-46.

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“Homicide-Suicide by Women against Intimate Partners,” co-authored with Wendy C. Regoeczi, in Todd Shackelford, ed., *Sage Handbook of Domestic Violence* (Newbury Park: Sage Publications, 2020), v 1, 318-329.

“Why Guns Are and Aren’t the Problem: The Relationship between Guns and Homicide in American History,” in Jennifer Tucker, Barton C. Hacker, and Margaret Vining, eds., *A Right to Bear Arms? The Contested Role of History in Contemporary Debates on the Second Amendment* (Washington, D.C.: Smithsonian Institution Scholarly Press, 2019), 113-133.

“Does Better Angels of Our Nature Hold Up as History?” *Historical Reflections* 44: 1 (2018): 91-103.

“Criminologists and Historians of Crime: A Partnership Well Worth Pursuing.” *Crime, History, and Societies* 21: 2 (2017): 387-400.

“How Exceptional Is the History of Violence and Criminal Justice in the United States? Variation across Time and Space as the Keys to Understanding Homicide and Punitiveness,” in Kevin Reitz, ed. *American Exceptionalism in Crime and Punishment* (Oxford University Press, 2017).

"Getting Things Wrong Really Does Help, as Long as You Keep Trying to Get Things Right: Developing Theories About Why Homicide Rates Rise and Fall" in Michael D. Maltz and Stephen Rice, eds., *Envisioning Criminology: Researchers on Research as a Process of Discovery* (Springer Verlag, 2015), 143-150.

“Roundtable on History Meets Biology: Introduction,” *American Historical Review* (2014) 119: 1492-1499. Principal author and organizer of the Roundtable.

“Emotions, Facultative Adaptation, and the History of Homicide,” *American Historical Review* (2014) 119: 1529-1546.

“Gender, Sex, and Intimate-Partner Violence in Historical Perspective,” in Rosemary Gartner and William McCarthy, eds., *Oxford Handbook on Gender, Sex, and Crime* (Oxford University Press, 2014), 175-190.

“The Importance of Testing Criminological Theories in Historical Context: The Civilization Thesis versus the Nation-Building Hypothesis,” *Criminology* online: Presidential Session Papers from the American Society of Criminology (2014)

“Making Sense of Violence? Reflections on the History of Interpersonal Violence in Europe,” *Crime, History, and Societies* (2013) 17: 5-26. Richard McMahon, Joachim Eibach, and Randolph Roth. Introduction to a special issue solicited by the Board of Editors of *Crime, History, and Societies*, co-edited with Joachim

Randolph Roth

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Eibach, University of Berne, and Richard McMahon, University of Liverpool.

“Scientific History and Experimental History,” *Journal of Interdisciplinary History* (2013) 43: 443-458.

“Measuring Feelings and Beliefs that May Facilitate (or Deter) Homicide,” *Homicide Studies* (2012) 16: 196-217.

“Yes We Can: Working Together toward a History of Homicide That Is Empirically, Mathematically, and Theoretically Sound,” *Crime, History, and Societies* (2011) 15: 131-145.

“Biology and the Deep History of Homicide,” *British Journal of Criminology* (2011) 51: 535-555.

“Homicide Rates in the Old West.” *Western Historical Quarterly*. Randolph Roth, Michael D. Maltz, and Douglas L. Eckberg (2011) 42: 173-195.

“American Homicide: Theory, Methods, Body Counts.” *Historical Methods* (2010) 43: 185-192.

“The Historical Violence Database: A Collaborative Research Project on the History of Violent Crime and Violent Death.” *Historical Methods*. Randolph Roth, Cornelia Hughes Dayton, Kenneth Wheeler, James Watkinson, Robb Haberman, James M. Denham, and Douglas L. Eckberg (2008) 41: 81-98.

“Homicide in Florida, 1821-1861: A Quantitative Analysis.” *Florida Historical Quarterly*. Randolph Roth and James M. Denham (2007) 86: 216-239.

“Guns, Murder, and Probability: How Can We Decide Which Figures to Trust?” *Reviews in American History* (2007) 35: 165-75.

“Twin Evils? Slavery and Homicide in Early America,” in Steven Mintz and John Stauffer, eds., *The Problem of Evil: Slavery, Freedom, and the Ambiguities of American Reform*. Amherst: University of Massachusetts Press (2007), 74-88.

“Rural Communities,” in Feintuch, Burt and David H. Watters, eds., *Encyclopedia of New England*. Yale University Press (2005), 53-55.

“Counting Guns: What Social Science Historians Know and Could Learn about Gun Ownership, Gun Culture, and Gun Violence in the United States,” *Social Science History* (2002) 26: 699-708.

“Guns, Gun Culture, and Homicide: The Relationship between Firearms, the Uses of Firearms, and Interpersonal Violence in Early America,” *William and Mary*

Randolph Roth

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Quarterly (2002) 59: 223-240.

"Homicide in Early Modern England, 1549-1800: The Need for a Quantitative Synthesis." *Crime, History, and Societies* (2001) 5: 33-67.

"Child Murder in New England," *Social Science History* (2001) 25: 101-147.

"Spousal Murder in Northern New England, 1791-1865," in Christine Daniels, ed., *Over the Threshold: Intimate Violence in Early America, 1640-1865*. Routledge Press (1999), 65-93.

"'Blood Calls for Vengeance!': The History of Capital Punishment in Vermont," in Michael Sherman, ed., *Vermont State Government*. Vermont Secretary of State and Vermont Historical Society (1997), 10-25.

"The Generation Conflict Reconsidered," in *American Vistas*, ed. Leonard Dinnerstein & Kenneth T. Jackson. Oxford University Press (7th ed. 1995), 116-127.

"The Other Masonic Outrage: The Death and Transfiguration of Joseph Burnham," *Journal of the Early Republic* (1994) 14: 35-69.

"The First Radical Abolitionists: The Reverend James Milligan and the Reformed Presbyterians of Vermont," *New England Quarterly* (1982) 55: 540-563.

Essays on Methods and Theory

"'To Err Is Human': Uniformly Reporting Medical Errors and Near Misses, a Naïve, Costly, and Misdirected Goal." *Journal of the American College of Surgeons*. Charles H. Andrus, Eduardo G. Villaseñor, John B. Kettelle, Randolph Roth, Allison M. Sweeney, and Nathaniel M. Matolo (2003) 196: 911-918.

"Is There a Democratic Alternative to Republicanism? The Rhetoric and Politics of Synthesis in American History," in Jeffrey Cox and Sheldon Stromquist, eds., *Contesting the Master Narrative: Essays in Social History*. University of Iowa Press (1998), 210-256.

"Did Class Matter in American Politics? The Importance of Exploratory Data Analysis," *Historical Methods* (1998) 31: 5-25.

"Is History a Process? Revitalization Theory, Nonlinearity, and the Central Metaphor of Social Science History," *Social Science History* (1992) 16: 197-243.

"Ecological Regression and the Analysis of Voter Behavior," *Historical Methods*

Randolph Roth

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(1986) 19: 103-117.

Public History Essays

"Can Faith Change the World? Religion and Society in Vermont's Age of Reform," *Vermont History* (2001) 69: 7-18.

"Wayward Youths: Raising Adolescents in Vermont, 1777-1815," *Vermont History* (1991) 59: 85-96.

"Why Are We Still Vermonters? Vermont's Identity Crisis and the Founding of the Vermont Historical Society," *Vermont History* (1991) 59: 197-211.

Works in Progress

Child Murder in America. An interregional study of murders of and by children from colonial times to the present (in manuscript through early 20th century)

"How Scientific Is Environmentalist History? The Rhetoric and Politics of Speaking for Nature" (essay in manuscript)

Editorial Boards

2014-2017, *American Historical Review*
2012-2016, 1995-2005, *Historical Methods*
2011- , *Homicide Studies*
2004- , *Crime, History, and Societies*

Invited Lectures

"The History of Police Involved Homicides in the United States," Mary Immaculate College & the University of Limerick, Ireland, October 26, 2021.

"Firearms and Homicide in the United States: A History," British Crime Historians Symposium, Leeds University, Great Britain, Scheduled for September 2-3, 2021.

"The History of Cross-National Homicide Rates: What We Can Learn from the Available Historical Data, and Why We Have to Worry about Learning the Wrong Lessons," Bielefeld University, Germany, scheduled for April 29, 2020. Postponed.

Randolph Roth

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“Inequality,” Ashland University, October 16, 2019.

“The History of Gun Violence in America,” Shasta Seminar, Wesleyan University, October 28, 2017.

“Why Guns Are and Aren’t the Problem,” Ashland University Center for the Study of Nonviolence, Ashland University, April 1, 2017.

“Firearms and Violence in American History,” Aspen Institute, September 15, 2016, Washington, D.C.

“Homicide in the United States: The Long History and Recent Trends,” The Donald and Margaret Sherman Violence Prevention Lecture, Jerry Lee Center of Criminology, University of Pennsylvania, April 10, 2015.

“The History of Child Murder,” Andrew Young School of Public Policy, Georgia State University, January 28, 2014.

“The Causes of Homicide,” National Institute of Justice, December 2, 2013.

“Biology, History, and the Causes of Homicide,” School of Law, University of Buffalo, October 10, 2013.

“Bio-Historical Co-Evolution and the Biology of Social Behavior: The Prospects for a New Institute on History and the Sciences,” Max Planck Institutes, Berlin, Germany, June 27, 2013.

“Deterrence, Judicial Tolerance, and the Homicide Problem in America,” Robina Institute of Criminal Law and Justice, University of Minnesota, April 26, 2013

“Child Murder in America: A History,” Population Studies Center and Department of History, University of Michigan, April 8, 2013

“America’s Homicide Problem,” Northwestern University School of Law, November 16, 2012

“American Homicide,” Aspinall Lecture, Colorado Mesa University, April 5, 2012

“Quantitative Analysis of the History of Crime and Violence: Achievements and Prospects,” Keynote Address, Conference on “Making Sense of Violence,” University of Bern, September 8, 2011

“Can We Learn to Play Well with Others? Enlisting the Humanities, the Sciences,

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and the Social Sciences in the Study of Violence.” Conference on Emerging Disciplines, Humanities Research Center, Rice University, February 25, 2011

“American Homicide,” Washington Forum, Ohio University, Athens, Ohio, May 25, 2010

“Can We Learn to Play Well with Others? Enlisting the Humanities, the Sciences, and the Social Sciences in the Study of Violence.” Presidential Plenary Address, Southwestern Social Science Association, Houston, Texas, April 1, 2010

“Homicide on Florida’s Antebellum Frontier,” Robert and Rose Stahl Criminal Justice Lecture, Lawton M. Chiles Center for Florida History, Florida Southern College, Lakeland, Florida, March 25, 2010

“Homicide in the American Backcountry, 1717-1850,” Keynote Address at the “From Borderland to Backcountry Conference: Frontier Communities in Comparative Perspective” at the University of Dundee, Scotland, July 7, 2009

“Research Strategies for Studying the History of Crime and Violence,” Seminar on Crime and Criminal Justice, Northwestern University School of Law, Nov. 15, 2007

“American Homicide: Its History,” Ohio State University at Newark, Nov. 6, 2007

“American Homicide: A Political Hypothesis” and “The Case for Social Science History,” Northern Illinois University, April 4-5, 2007

“What Historians Can and Might Learn from Legal Sources.” Seminar in Early American History, Northwestern University, Jan. 31, 2007

“Why Is America a Homicidal Nation? A Political Hypothesis,” lecture in the Historical Approaches in the Social Sciences series, State University of New York at Binghamton, Oct. 12, 2006

“The History of American Homicide,” Winter College, Ohio State University, Sarasota, Florida, February 24, 2006

“The Role of Small Arms in American History,” Small Arms Working Group, Harry Frank Guggenheim Foundation, Columbia University, June 2005

“Why is the United States So Homicidal Compared to Other Western Democracies? A Political and Psychological Hypothesis,” Center for Historical Research and Documentation on War and Contemporary Societies, Belgian Ministry of Scientific Research, Brussels, Belgium, December 2004

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"The History of American Homicide," Center for Law, Policy, and Social Science, Moritz College of Law, Ohio State University, November 2004

"Peaceable Kingdoms? Harmony and Hostility in the Early American Family," Plenary Session, Society of Historians of the Early American Republic, July 22, 2004

"American Homicide," Department of History, Miami University, March, 2004

"Slavery, Freedom, and the History of African-American Homicide." School of Law and Department of History, University of Chicago, January, 2003

"American Homicide," School of Law, Stanford University, February, 2003

Workshop of the Study of the History of Homicide, Department of History, Stanford University, February, 2003

"American Homicide," Social Science Faculty Seminar, Stanford University, February, 2003

"American Homicide," School of Law, Northwestern University, September, 2003

"American Homicide," School of Law, University of Chicago, November, 2002

"Twin Evils?: The Relationship between Slavery and Homicide," Department of History, Yale University, May, 2002

"The Puzzle of American Homicide," School of Law, Northwestern University, November, 2001

"Why Northern New Englanders Seldom Commit Murder: An Interregional History of Homicide in America," and "The Historical Database Project on Crime and Violence in America," two lectures presented at the Charles Warren Center, Harvard University. May, 2000

"Understanding Homicide in America: An Interregional Approach," presentation to the Early American History Seminar, University of Pennsylvania, October, 1999

"Can Faith Change the World?" Keynote address, Conference on Reform in Antebellum Vermont, Vermont Historical Society, September, 1999

"Why Northern New Englanders Seldom Commit Murder," presentation to the

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Center for Research on Vermont, the University of Vermont, and the Vermont Council on the Humanities. The presentation was televised in Vermont. It also made the evening news in Burlington and an AP wire story on my presentation was printed widely in newspapers in New Hampshire and Vermont, April, 1999

Papers Delivered at Professional Meetings (recent)

“The Difficulty of Counting the Number of Children Killed in Homicides in the United States, 1959-Present.” Social Science History Association, November 23, 2019, Chicago.

“Police Involved Homicides in Ohio, 1959-1988,” American Society of Criminology, November 13, 2019, San Francisco, with Wendy Regoczi and Rania Issa.

“Can Criminologists and Historians of Crime Work Together More Fruitfully in the Future?” Social Science History Association, November 3, 2017, Montreal.

“Comparing Data Sources on the Police Use of Lethal Force,” American Society of Criminology, November 15, 2017, Philadelphia, with Wendy Regoczi and Rania Issa.

“The History of Mass Murder,” American Historical Association, January 6, 2017, Denver.

“The Historians’ Role in Criminal Justice Research,” American Society of Criminology, November 16, 2016, New Orleans

“Police and Security Guard Involved Homicides in Ohio, 1959-1988,” American Society of Criminology, November 18, 2016, New Orleans

“Why History and Biology Matter to One Another: The Epigenetics of Social Behavior,” American Historical Association, New York City, January 4, 2015

“The National Homicide Data Improvement Project, 1959-Present: Why Research in Multiple Sources Changes Dramatically Our Understanding of the Incidence and Character of Homicides in the United States,” American Society of Criminology, San Francisco, November 19, 2014

"The Relationship between Guns, Homicides, and Suicide in American History," Organization of American Historians, Atlanta, April 4, 2014

“Situating Crime in Macro-Social and Historical Context,” Presidential Panel, American Society of Criminology, Atlanta, November 22, 2013

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“Has Violence Declined since the Middle Ages?” Presidential Panel, American Society of Criminology, Chicago, November 15, 2012

“The Sudden Appearance of Sexual Serial Killers in Late-Nineteenth Century America,” Organization of American Historians, Houston, March 20, 2011

“The Biology of Social Behavior” at the annual conference of the Society of Historians of the Early American Republic, Philadelphia, July 15, 2011

“Measuring Feelings and Beliefs that May Facilitate (or Deter) Homicide,” at the American Society of Criminology meeting in Washington, D.C., November 16, 2011

“Measuring Feelings and Beliefs that May Facilitate (or Deter) Homicide,” at the Social Science History Association meeting in Boston, November 20, 2011

“Author Meets Critics” session on *American Homicide* at the European Social Science History conference in Ghent, Belgium, April 13, 2010. Discussants: Manuel Eisner, Peter King, and Pieter Spierenburg

“The Relationship between Guns and Homicide in American History,” American Society of Criminology conference in San Francisco, November 18, 2010

“Author Meets Critics” session on American Homicide at the Social Science History Association conference in Chicago, November 20, 2010. Discussants: Richard McMahon, Douglas Eckberg, Donald Fyson, and John Carter Wood

“Does Honor Hold the Key to Understanding Violence in the Early Republic,” Society for Historians of the Early American Republic, Springfield, Illinois, July 2009.

“The Difficulty of Reconciling the Homicide Counts in the National Center for Health Statistics Mortality Data and the FBI Supplementary Homicide Reports,” Social Science History Association, Long Beach, California, November, 2009

“Homicide in American History,” Ohio Academy of History, Dayton, Ohio, April 12, 2008

“Quantification and Social Theory in the Study of Crime and Violence,” in the Presidential Panel on “History in the Social Science History of Association: Disciplinary Developments,” Social Science History Association, Chicago, Nov. 15-18, 2007

“Are Modern and Early Modern Homicide Rates Comparable? The Impact of

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Non-Emergency Medicine,” Social Science History Association, Chicago, Nov. 15-18, 2007

“How Homicidal Was Antebellum Florida?” Gulf South History and Humanities Conference, Pensacola, Florida, Oct. 6, 2006

"Probability and Homicide Rates: Why We Can Be Certain the Nineteenth-Century West Was Violent." Social Science History Association convention in Minneapolis, Nov. 2-5, 2006

“The Historical Violence Database: A Collaborative Research Project on the History of Violent Crime and Violent Death.” Social Science History Association convention in Minneapolis, Nov. 2-5, 2006

“Big Social Science: What Could We Learn about Violent Crime If We Had Enough Money to Study It Properly? Possibilities for Collaborative Research Projects,” Social Science History Association, Portland, Oregon, November 3-6, 2005

Reviews

T. Cole Jones, *Captives of Liberty: Prisoners of War and the Politics of Vengeance in the American Revolution* (American Historical Review, 2021).

Chris Murphy, *The Violence Inside Us: A Brief History of an Ongoing American Tragedy* (Criminal Law and Criminal Justice Books, 2020).

Jeffrey S. Adler, *Murder in New Orleans: The Creation of Jim Crow Policing*. (Punishment and Society, 2020).

Heidi J. Osselaer, *Arizona's Deadliest Gunfight: Draft Resistance and Tragedy at the Power Cabin, 1918*. (Western Historical Quarterly, 2020).

Iain McGilchrist, *The Master and His Emissary: The Divided Brain and the Making of the Western World*. (Journal of Interdisciplinary History, 2011).

Heather Cox Richardson, *Wounded Knee: Party Politics and the Road to an American Massacre*. (Journal of the Civil War Era, 2011).

Bill Neal, *Sex, Murder, and the Unwritten Law: Gender and Judicial Mayhem, Texas Style*. (New Mexico Historical Quarterly, 2010).

Gordon Morris Bakken and Brenda Farrington, *Women Who Kill Men: California Courts, Gender, and the Press*. (Pacific Northwest Quarterly, 2010).

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Jack D. Marietta and Gail S. Rowe, *Troubled Experiment: Crime, Justice, and Society in Pennsylvania, 1682-1800*. (William and Mary Quarterly, 2010).

Mark R. Pogrebin, Paul B. Stretesky, and N. Prabha Unnithan, *Guns, Violence, and Criminal Behavior: The Offender's Perspective*. (Criminal Justice Review, 2010)

Nicole Rafter, *The Criminal Brain: Understanding Biological Theories of Crime*. (Journal of Interdisciplinary History, 2009.)

Laura Browder, *Her Best Shot: Women and Guns in America* (Winterthur Portfolio 2007).

Paul M. Searls, *Two Vermonts: Geography and Identity, 1865-1910* (Vermont History, 2006).

Anu Koskivirta, *The Enemy Within: Homicide and Control in Eastern Finland in the Final Years of Swedish Rule, 1748-1808* (English Historical Review 2005).

Irene Quenzler Brown and Richard D. Brown, *The Hanging of Ephraim Wheeler: A Story of Rape, Incest, and Justice in Early American* (H-SHEAR, 2003).

T. D. S. Bassett, *The Gods of the Hills* (New England Quarterly, 2001).

Karen Halttunen, *Murder Most Foul: The Killer and the American Gothic Imagination* (H-SHEAR, 1999).

Charles E. Clark, *The Meetinghouse Disaster* (Journal of American History, 1999).

Nicholas N. Kittrie and Eldon D. Wedlock, Jr., *The Tree of Liberty: A Documentary History of Rebellion and Political Crime in America* (Journal of the Early Republic, 1998).

Robert E. Shalhope, *Bennington and the Green Mountain Boys: The Emergence of Liberal Democracy in Vermont, 1790-1850* (Reviews in American History, 1997).

Daniel Doan, *Indian Stream Republic: Settling a New England Frontier* (Journal of the Early Republic, 1997).

Thomas H. Jeavons, *When the Bottom Line is Faithfulness: Management of Christian Service Organizations* (American Historical Review, 1996).

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N. Prabha Unnithan, *The Currents of Lethal Violence: an Integrated Model of Suicide & Homicide* (Justice Quarterly, 1995).

Edward Jarvis, *Traditions and Reminiscences of Concord, Massachusetts, 1779-1878* (Journal of the Early Republic, 1995).

Charles Hoffman and Tess Hoffman, *Brotherly Love: Murder and the Politics of Prejudice in Nineteenth-Century Rhode Island* (American Historical Review, 1994).

Richard Bushman, *The Refinement of America: Persons, Houses, Cities* (Pennsylvania History, 1994).

Michael Bellisiles, *Revolutionary Outlaws: Ethan Allen and Vermont's Struggle for Independence* (William and Mary Quarterly, 1994).

David G. Hackett, *The Rude Hand of Innovation: Religion and Social Order in Albany, New York, 1652-1836* (American Historical Review, 1992).

Nat Brandt, *The Congressman Who Got Away With Murder* (New York History, 1992).

Tamara Plakins Thornton, *Cultivating Gentlemen: The Meaning of Country Life Among the Boston Elite, 1785-1860* (American Historical Review, 1991).

George M. Thomas, *Revivalism and Cultural Change: Christianity, Nation Building, and the Market in the Nineteenth-Century United States* (Pennsylvania History, 1991).

Richard D. Brown, *Knowledge is Power: The Diffusion of Information in Early America, 1700-1865* (The History of Education Quarterly, 1990).

William J. Gilmore, *Reading Becomes a Necessity of Life: Material and Cultural Life in Rural New England, 1780-1865* (Vermont History, 1990).

Ruth Alden Doan, *The Miller Heresy, Millennialism, and American Culture* (Journal of the Early Republic, 1988).

William Lynwood Montell, *Killings: Folk Justice in the Upper South* (International Journal of Oral History, 1987).

David R. Kasserman, *Fall River Outrage: Life, Murder, and Justice in Early Industrial New England* (Journal of American History, 1987).

Robert J. Wilson III, *The Benevolent Diety: Ebenezer Gay and the Rise of*

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Rational Religion in New England (New England Quarterly, 1985).

Languages

German

Spanish

French (reading)

Quantitative Skills

Probability and Statistics (including econometric techniques of political analysis, exploratory data analysis, and log-linear and logit analysis)

Calculus and Analytical Geometry

Linear Algebra and Nonlinear Dynamics

Differential and Series Equations

Abstract Algebra

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Teaching**Graduate**

History 7000	Topics in American History to 1877
History 7003	Readings in the Early Republic and Antebellum America
History 7650	Studies in World History
History 7900	Colloquium in the Philosophy of History, Historiography, and the Historian's Skills
History 8000	Seminar in Early American History

Undergraduate

History 2001	American Civilization, 1607-1877 (and Honors)
History 2015	History of American Criminal Justice
History 2650	World History since 1914
History 2800	Introduction to Historical
History 3164	World History since 1914: Readings
History 3193	Individual Studies / Research Internships in History
History 3700	American Environmental History
History 4650	History of Violence: Readings in World / Global / Transnational History
History 4675	Global History of Violence: Research Seminar
History 5900	Introduction to Quantitative Methods in History
History 598	Religious and Reform Movements (Senior Colloquium)
History 598	Research Seminar on Violent Crime and Death in the U.S.
History 557.02	Jeffersonian and Jacksonian Democracy, 1800-1840 Thought
History 282	American Religious History

Publications on Teaching

Founder and contributor to *Retrieving the American Past*, Department of History and Pearson Publishing, a flexible, problem-oriented publication for teaching classes in American History. Author of modules on "Violent Crime in Early America," "Marriage in Colonial America," and "Growing Up in Nineteenth-Century America."

Ph.D Students Supervised

Daniel Vandersommers, "Laboratories, Lyceums, and Lords: Zoos, Zoology, and the Transformation of Humanism in Nineteenth-Century America," August 2014. Recipient of a Presidential Fellowship, 2013-2014, the most prestigious

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University fellowship for senior graduate students. Assistant Professor of History, University of Dayton.

Michael Alarid, ““Caudillo Justice: Intercultural Conflict and Social Change in Santa Fe, New Mexico, 1837-1853,” June 2012. Assistant Professor of History, University of Nevada at Las Vegas.

Matthew Foulds, “Enemies of the State: Methodists, Secession and Civil War in Western Virginia, 1844-1865,” December 2011. Former Assistant Professor of History, Shepherd University

Jeanette Davis Mantilla, “Hush, Hush Miss Charlotte: Twenty-Five Years of Civil Rights Struggles in San Francisco, 1850-1875,” April 2000. Administrator in Charter School Division of the Department of Education, State of Ohio

Ken Wheeler, “The Antebellum College in the Old Northwest: Higher Education and the Defining of the Midwest,” January 1999. Professor of History, Reinhardt College. Author of *Cultivating Regionalism: Higher Education and the Making of the American Midwest* (Northern Illinois University Press, 2011)

Ross Bagby, “The Randolph Slave Saga.” July 1998. Librarian and independent scholar

Marianne Holdzkom, “Parody and Pastiche Images of the American Revolution in Popular Culture, 1765-1820,” May 1995. Professor of Social and International Studies, Southern Polytechnic State University

David Thomas, “Religion in the Far West: Oregon’s Willamette Valley, 1830-1850,” November 1993. Professor of History, Union College

Recent Senior Honors Thesis Students Supervised (recently)

Maggie Seikel, “The Great Depression in More Ways than One: Why Do Americans Commit Suicide More Often during Economic Crises?” (Anticipated 2021).

Margo Hertzner, “Police Involved Homicides in Ohio, 1959-1988.” (Anticipated 2021).

Laura Janosik, “Homicides Involving Women in Ohio, 1959-1988.” (2020). Prospective applicant to graduate school in history.

Randolph Roth

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Ben St. Angelo, “How Labor Disputes Led to Violence: Personalities, Paternalism, and Power at Republic Steel in Youngstown, Ohio: 1937.” (2017). Ph.D. student in History at Ohio State University.

Sarah Paxton, “The Bloody Ould Sixth Ward: Crime and Society in Five Points, New York” (2012). Ph.D. candidate in criminal justice history J.D. candidate at the Moritz School of Law at Ohio State University (twin degree program).

Kristen Gaston, “Restoration of the Cuyahoga River” (2012). Ph.D. candidate in Environmental History at the University of Cincinnati.

Alexandra Finley, “Founding Chestnut Ridge: The Origins of Central West Virginia’s Multiracial Community” (2010). Ph.D. candidate in early American history at the College of William and Mary. Recipient of the first Annual Prize at Ohio State for the outstanding senior honors thesis in the Department of History.

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Service

Service in Professional Organizations

2018-present, Allen Sharlin Book Prize Committee, Social Science History Association

2013-present, Grant Review Board, Harry Frank Guggenheim Foundation

2008-present, Editorial Board, *Crime, History, and Societies*.

2011-present, Editorial Board, *Homicide Studies*.

2014-2017, Board of Editors, *American Historical Review*

2014-15, 2016-17, Program Committee, American Society of Criminology

2014-2017, Research Awards Committee, Ohio Academy of History.

2011-2014, Chair, Distinguish Teaching Award Committee, Ohio Academy of History

2010-2011, Allan Sharlin Memorial Prize Committee, Social Science History Association

2010- ,Ohio Violent Death Reporting System Advisory Board

2010-2013, Advisory Board, Society for Historians of the Early American Republic

2008- , Society for the Scientific Detection of Crime, Columbus, Ohio

2009-2011, Youth Violence Prevention Advisory Board (Columbus)

2003, Nominating Committee, Social Science History Association

2002- , Co-founder and co-director, Historical Violence Database

1995-1997, ABC-Clio America: History and Life Award Committee, Organization of American Historians

1987-1993, Chair, Methods and Theory Network, Social Science History Association

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1987, Program Committee, Social Science History Association

Reviews of Manuscripts

American Historical Review
Journal of American History
William and Mary Quarterly
Journal of the Early Republic
Social Science History
Journal of Interdisciplinary History
Historical Methods
Journal of Women's History
Journal of the Family
Crime, History, and Societies
European Journal of Criminology
American Journal of Sociology
Sociological Quarterly
Criminology
Criminal Justice Review
Journal of Criminal Law and Criminology
Law and Social Inquiry
Homicide Studies
International Criminal Justice Review
International Journal of Law, Crime, and Justice
Law and Society Review
City and Community
Eras Review
Western Historical Quarterly
Canadian Journal of Sociology
Journal of the Gilded Age

Memberships in Professional Organizations (current)

American Historical Association
Organization of American Historians
Social Science History Association
European Social Science History Association
American Society of Criminology
Homicide Studies Working Group
American Association for the Advancement of Science

Service at Ohio State University

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Department

2006-2010, 2018-present, Undergraduate Placement / Enhancement Officer

1994-2015, 2018-present, Undergraduate Teaching Committee

2017-2018, Chair of Grievance Committee

2015-2017, 1991-1993, Chair of Graduate Studies

2012-2013, Chair of Undergraduate Studies

2011-2013, Advisory Committee and Salary Committee

1987-1991, History Department Promotion & Tenure Committee

College of Humanities

2007-2009, Curriculum Committee, College of Humanities

2002-2005, College of Humanities Computing Advisory Committee

1996-1997, College of Humanities Committee on the Center for the Study and Teaching of Writing, 1996-7; Affiliated Faculty Member, 2000-

College of Arts and Sciences

2006-2009, Alternate, Arts and Sciences Faculty Senate

2006- , Advisory Board, Criminal Justice Research Center, Department of Criminology and Sociology

2004- , Fellow, Center for Law, Policy, and Social Science, Moritz College of Law

2000- , Fellow, Criminal Justice Research Center, College of Social and Behavior Sciences

Graduate School

2018- , Graduate Awards Review Committee

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Ohio Department of Higher Education

2020- , Transfer Assurance Guide Review Panel, Ohio Articulation and Transfer Network

Service at Grinnell College

Chairman, African-American Studies Committee

Rosenfield Program on Public Affairs Committee

Faculty-Trustee Committee

Community Service

2001-2008, Chair, Community Services Advisory Commission, City of Dublin: advises City Council on all matters concerning utilities, policing, transportation, parks, recreation, waste management, etc.,

2004-present, Green Team, environmental projects volunteer organization, City of Dublin

2003-12, Committee to create an Indian burial mound and pioneer historic park at the Wright-Holder earthworks, City of Dublin

1997-present, Assistant Scoutmaster, Troop 299, Dublin / Citizenship Merit Badge Counselor / Eagle Scout Association / Philmont Staff Association / Distinguished Service Award, 2014 / Meritorious Service Award, 2006 / Bridge Builder Award, 2002

1997-2003, Good Schools Committee, Dublin City Schools, campaign committee for school bond and levy issues

1995-2005, President, Citizens for Dublin, city-wide association of civic association officers and city commission members

1995-1998, Vice-Chair, Transportation Task Force, City of Dublin

1995-1997, Community Plan Steering Committee, City of Dublin

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1988-present, President / Vice President / Trustee, East Dublin Civic Association

1987-present, Nature Conservancy / Volunteer Service Awards / Volunteer Crew Leader

Outreach / Media Appearances

Testimony to Oversight Committee of the Ohio Senate, December 22, 2020, on so-called “Stand Your Ground” laws.

B.R.E.A.D. (an interfaith organization dedicated to Building Responsibility Equality and Dignity), January 13, 2020, on gun violence in central Ohio.

Testimony to Federalism Committee of the Ohio House of Representatives, June 12, 2019, on concealed carry laws.

Worthington Senior Citizen Center, Inequality in the U.S., April 15, 2019

Canfield Residence Hall, Discussion of History of Criminal Enterprise in the U.S. with Undergraduate Students, April 10, 2019

“Gun Ownership in Decline,” *Columbus Dispatch*, December 11, 2017.

“How the Erosion of Trust Leads to Murders and Mass Shootings,” invited editorial, *Washington Post*, October 6, 2017

“Mass Murder in American History,” CSpan-3, April 2, 2017

All Sides with Ann Fisher, WOSU Radio, “Mass Murder and Terrorism,” December 9, 2015 and June 13, 2106; “The Recent Rise in Homicide in the United States,” March 14, 2017.

Consultant for the TLC Channel, “Who Do You Think You Are Anyway?” 2013-2014

Appeared on the CSPAN Book Channel on September 1, 2012 (<http://www.c-span.org/LocalContent/Columbus/>)

Appeared on the History Channel, “Seven Deadly Sins,” January 3, 2009 (A&E Home Video)

“It’s No Mystery: Why Homicide Declined in American Cities during the First Six Months of 2009,” History News Network, November 22, 2009

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(<http://cjrc.osu.edu/researchprojects/hvd/AHSV/It's%20No%20Mystery%2011-22-2009%205-2010.pdf> and <http://cjrc.osu.edu/researchprojects/hvd/AHSV/It's%20No%20Mystery%20Further%20Thoughts%201-1-2010%205-2010.pdf>)

Radley Balko, editor of reason.com, named *American Homicide* the best book of 2009 (<http://reason.com/archives/2009/12/30/the-year-in-books>)

“American Homicide,” address to Columbus Rotary Club, October 24, 2011

Radio interviews: Execution Watch with Ray Hill on KPFT Houston, Texas, and WPFW Washington, D.C., Nov. 10, 2009; Focus 580 with David Inge, WILL, Champaign-Urbana, Illinois, December 7, 2009; RadioWest with Doug Fabrizio, KUER and XM Public Radio Channel 133, Salt Lake City, Utah, Dec. 17, 2009; The Mark Johnson Show of the Radio Vermont Group, WDEV, Waterbury, Vermont, Dec. 30, 2009; The Current with Anna Maria Tremonti on the CBC, Toronto, Canada, January 6, 2010; The Marc Steiner Show on WEAA in Baltimore, January 26, 2010; by ABC Radio, Sydney, Australia, interviewed on March 3, 2010 for broadcast the week of March 8, 2010; by the Extension with Dr. Milt Rosenberg on WGN Radio 720 AM Chicago, broadcast December 9, 2010; the Gil Gross Show, KKSF Radio 910 AM, San Francisco, July 27, 2012; and The Marc Steiner Show on WEAA in Baltimore, December 17, 2012; *American Homicide* was the subject of an editorial by op-ed writer Gregory Rodriguez in the *Los Angeles Times*, Sunday, April 12, 2010 (<http://www.latimes.com/news/opinion/commentary/la-oe-rodriguez12-2010apr12,0,3217212.column>)

American Homicide was the subject of an editorial by Raina Kelley in *Newsweek*, Nov. 5, 2009 (<http://www.newsweek.com/id/221271>).

American Homicide was cited favorably in the *New York Times Sunday Magazine* in an article by Jeffrey Rosen, "Prisoners of Parole," January 10, 2010; and in the *Washington Post*, Nov. 22, 2009

Newspaper articles: quoted and/or reviewed in the *Washington Post*, the *Washington Times*, the *National Review*, the *Economist*, the *Wall Street Journal*, the *Boston Globe*, the *Chicago Tribune*, the *San Francisco Chronicle*, the *Los Angeles Times*, the *New York Times*, *New York Newsday*, the *Chronicle of Higher Education*, and the *Columbus Dispatch*, which ran a front-page article on Roth's work in a Sunday edition