

No. 19-55376

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

VIRGINIA DUNCAN, RICHARD LEWIS, PATRICK LOVETTE, DAVID
MARGUGLIO, CHRISTOPHER WADDELL, AND CALIFORNIA RIFLE &
PISTOL ASSOCIATION, INC., A CALIFORNIA CORPORATION,
Plaintiffs and Respondents,

V.

XAVIER BECERRA, 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. 17-cv-1017-BEN-JLB
The Honorable Roger T. Benitez, Judge

**APPELLANT'S EXCERPTS OF RECORD
VOLUME TWO**

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1
2
3 IN THE UNITED STATES DISTRICT COURT
4 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
5

6 **VIRGINIA DUNCAN, RICHARD**
7 **LEWIS, PATRICK LOVETTE,**
8 **DAVID MARGUGLIO,**
9 **CHRISTOPHER WADDELL, and**
10 **CALIFORNIA RIFLE & PISTOL**
11 **ASSOCIATION, INC., a California**
12 **corporation,**

Plaintiffs,

13 **v.**

14 **XAVIER BECERRA, in his official**
15 **capacity as Attorney General of the**
16 **State of California; and DOES 1-10,**

Defendants.

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

ORDER STAYING IN PART
JUDGMENT PENDING APPEAL

17 On April 1, 2019, Defendant Xavier Becerra, in his official capacity as the
18 Attorney General of the State of California, applied *ex parte* for an order, pursuant
19 to Federal Rule of Civil Procedure 62, staying the Judgment entered in this action
20 on March 29, 2019, pending his appeal to the United States Court of Appeals for
21 the Ninth Circuit. As part of a stay pending appeal, the Attorney General requests
22 reinstatement of the preliminary injunction issued in 2017 enjoining his
23 enforcement of Calif. Penal Code § 32310 (c) and (d). He also notes that the Court
24 has discretion to tailor the stay to account for cases where residents have purchased
25 large-capacity magazines since last Friday.

26 In deciding whether to grant a stay pending appeal, a court should consider the
27 following four factors: (1) whether the stay applicant has made a strong showing
28 that he is likely to succeed on the merits; (2) whether the applicant will be

1 irreparably injured absent a stay; (3) whether issuance of the stay will substantially
2 injure the other parties interested in the proceeding; and (4) where the public
3 interest lies. “Each factor, however, need not be given equal weight.” *Presidio*
4 *Components, Inc. v. Am. Tech. Ceramics Corp.*, No. 14-cv-2061-H-BGS, 2018 WL
5 4928041, at *3 (S.D. Cal. Oct. 10, 2018) (citations omitted). The “likelihood of
6 success in the appeal is not a rigid concept.” *Id.* “Therefore, to obtain a stay
7 pending appeal, a movant must establish a strong likelihood of success on appeal,
8 or, failing that, “ ‘demonstrate a substantial case on the merits,’ provided the other
9 factors militate in movant’s favor.” *Id.* (citations omitted).

10 These considerations are similar to the factors an appellate court should weigh
11 in deciding whether to issue a stay. *Planned Parenthood of Greater Texas Surgical*
12 *Health Servs. v. Abbott*, 571 U.S. 1061, 134 S. Ct. 506 (2013) (Scalia, J.,
13 concurring in denial of application to stay) (“When deciding whether to issue a
14 stay, the Fifth Circuit had to consider four factors: (1) whether the State made a
15 strong showing that it was likely to succeed on the merits, (2) whether the State
16 would have been irreparably injured absent a stay, (3) whether issuance of a stay
17 would substantially injure other parties, and (4) where the public interest lay. The
18 first two factors are “the most critical.”) (quoting *Nken v. Holder*, 556 U.S. 418,
19 434 (2009))).

20 **A Substantial Case on the Merits**

21 The Attorney General has not made a strong showing, to this Court, that he is
22 likely to succeed on the merits. Nevertheless, both sides are aware that other courts
23 have come to contrasting conclusions on similar issues. Of course, facts matter and
24 the facts are different. Strong and thoughtful views may be found on both sides of
25 the important legal questions presented by this case. This Court’s decision cuts a
26 less-traveled path and the outcome is very important to all citizens.

27 “There are many ways to articulate the minimum quantum of likely success
28 necessary to justify a stay — be it a ‘reasonable probability’ or ‘fair prospect,’ . . .

1 ‘a substantial case on the merits,’ . . . [or] that ‘serious legal questions are raised.’
 2 We think these formulations are essentially interchangeable, and that none of them
 3 demand a showing that success is more likely than not. Regardless of how one
 4 expresses the requirement, the idea is that in order to justify a stay, a petitioner must
 5 show, at a minimum, that she has a substantial case for relief on the merits.” *Leiva-*
 6 *Perez v. Holder*, 640 F.3d 962, 967–68 (9th Cir. 2011) (citations omitted). In this
 7 case, the Attorney General has demonstrated a substantial case on the merits, which
 8 favors a stay.

9 **Irreparable Injury to the State**

10 The Attorney General says that a state suffers irreparable injury whenever its
 11 laws are enjoined. There is strong support for that claim. *Abbott*, 571 U.S. 1061,
 12 134 S. Ct. at 506 (“With respect to the second factor, the Court of Appeals reasoned
 13 that the State faced irreparable harm because “any time a State is enjoined by a
 14 court from effectuating statutes enacted by representatives of its people, it suffers a
 15 form of irreparable injury.” *Maryland v. King*, 133 S.Ct. 1, 3 (2012) (Roberts,
 16 C.J., in chambers) (quoting *New Motor Vehicle Bd. of Cal. v. Orrin W. Fox Co.*,
 17 434 U.S. 1345, 1351 (1977) (Rehnquist, J., in chambers)).”). The Ninth Circuit,
 18 however, has never adopted this view. *Latta v. Otter*, 771 F.3d 496, 500 n.1 (9th
 19 Cir. 2014) (“Individual justices, in orders issued from chambers, have expressed the
 20 view that a state suffers irreparable injury when one of its laws is enjoined. *See*
 21 *Maryland v. King*, 133 S.Ct. 1, 3 (2012) (Roberts, C.J., in chambers); *New Motor*
 22 *Vehicle Bd. of California v. Orrin W. Fox Co.*, 434 U.S. 1345, 1351 (1977)
 23 (Rehnquist, J., in chambers). No opinion for the Court adopts this view.”).

24 The Attorney General may be correct, but it does not end the inquiry. “As the
 25 cited authority suggests, a state may suffer an abstract form of harm whenever one
 26 of its acts is enjoined. To the extent that is true, however, it is not dispositive of the
 27 balance of harms analysis. If it were, then the rule requiring “balance” of
 28 “competing claims of injury” would be eviscerated.” *Indep. Living Ctr. of S.*

1 *California, Inc. v. Maxwell-Jolly*, 572 F.3d 644, 658 (9th Cir. 2009), *vacated on*
2 *other grounds and remanded sub nom. Douglas v. Indep. Living Ctr. of S.*
3 *California, Inc.*, 565 U.S. 606 (2012). “Federal courts instead have the power to
4 enjoin state actions, in part, because those actions sometimes offend *federal* law
5 provisions [or in this case, one of the Bill of Rights], which, like state statutes, are
6 themselves ‘enactments of its people or their representatives.’” *Id.* (emphasis in
7 original) (citation omitted).

8 **Injury to Other Parties**

9 Without question, entering a stay pending appeal will harm the Plaintiffs, and
10 all others like the Plaintiffs (who are many), who would choose to acquire and
11 possess a firearm magazine holding more than 10 rounds for self-defense. “It is
12 well established that the deprivation of constitutional rights ‘unquestionably
13 constitutes irreparable injury.’” *Rodriguez v. Robbins*, 715 F.3d 1127, 1144 (9th
14 Cir. 2013) (quoting *Melendres v. Arpaio*, 695 F.3d 990, 1002 (9th Cir. 2012),
15 quoting *Elrod v. Burns*, 427 U.S. 347, 373 (1976)).

16 **Where the Public Interest Lay**

17 The State’s interest in enforcing a law merges with the public interest, where
18 the law is valid. *Nken*, 556 U.S. at 435. At the same time, however, “‘it is always
19 in the public interest to prevent the violation of a party’s constitutional rights.’”
20 *Am. Beverage Ass’n v. City & Cty. of San Francisco*, 916 F.3d 749, 758 (9th Cir.
21 2019) (quoting *Melendres*, 695 F.3d at 1002).

22 **Discussion**

23 The first factor weighs in favor of staying the injunction. The second factor
24 weighs heavily in opposing directions and thus amounts to a draw. The last two
25 factors weigh against staying the injunction. The first two factors are the most
26 critical. *Abbott*, 571 U.S. 1061. The result of these four factors slightly favors a
27 stay pending appeal.
28

1 The Court understands that strong emotions are felt by people of good will on
2 both sides of the Constitutional and social policy questions. The Court understands
3 that thoughtful and law-abiding citizens can and do firmly hold competing opinions
4 on firearm magazine restrictions. These concerns auger in favor of judicial
5 deliberation. There is an immeasurable societal benefit of maintaining the
6 immediate status quo while the process of judicial review takes place.

7 The power to grant a stay pending appeal is part of a court's "traditional
8 equipment for the administration of justice," and is "a power as old as the judicial
9 system of the nation." *Nken*, 556 U.S. at 427. A partial stay will permit the
10 appellate court to bring its considered judgment to bear -- judgment that takes time.
11 "The choice for a reviewing court should not be between justice on the fly" or a
12 moot ceremony. *Id.* A stay pending appeal is a means of ensuring that the
13 reviewing court(s) can thoughtfully fulfill the role of review. *Id.* A stay "simply
14 suspend[s] judicial alteration of the status quo." *Id.* at 429. In this case, that means
15 staying the injunction on subsections (a) and (b) of § 32310 which has been in force
16 since 2000 and continuing in place the injunction on subsection (c) and (d) entered
17 by this Court on June 29, 2017, pending the outcome of the appeal.

18 In layman's terms, the State of California and the law enforcement agencies
19 therein will be free to re-start the enforcement of Calif. Penal Code § 32310 (a) and
20 (b) which currently prohibits, among other things, any person in the state from
21 manufacturing, importing into the state, offering for sale, giving, lending, buying,
22 or receiving a firearm magazine able to hold more than 10 rounds (as defined by
23 Calif. Penal Code § 16740). This will continue until the appeal proceedings
24 conclude or the stay is modified or lifted.

25 At the same time, the State of California and the law enforcement agencies
26 therein will remain enjoined (or prevented) from enforcing Calif. Penal Code
27 § 32310 (c) and (d) which would have criminalized the simple possession of a
28 firearm magazine able to hold more than 10 rounds and required disposing of such

1 magazines. This will also continue until the appeal proceedings conclude or the
2 stay is modified or lifted.

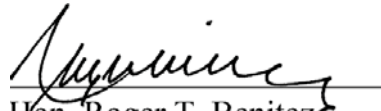
3 Both parties indicate in briefing that persons and business entities in California
4 may have manufactured, imported, sold, or bought magazines able to hold more
5 than 10 rounds since the entry of this Court's injunction on March 29, 2019 and in
6 reliance on the injunction. Indeed, it is the reason that the Attorney General seeks
7 urgent relief in the form of a stay pending appeal. Both parties suggest that it is
8 appropriate to fashion protection for these law-abiding persons.

9 THEREFORE, IT IS HEREBY ORDERED that the Judgment is stayed in part
10 pending final resolution of the appeal from the Judgment. The permanent
11 injunction enjoining enforcement of California Penal Code § 32310 (a) and (b) is
12 hereby stayed, effective 5:00 p.m., Friday, April 5, 2019.

13 IT IS HEREBY FURTHER ORDERED that the preliminary injunction issued
14 on June 29, 2017, enjoining enforcement of California Penal Code § 32310 (c) and
15 (d) shall remain in effect.

16 IT IS HEREBY FURTHER ORDERED that the permanent injunction
17 enjoining enforcement of California Penal Code § 32310 (a) and (b) shall remain in
18 effect for those persons and business entities who have manufactured, imported,
19 sold, or bought magazines able to hold more than 10 rounds between the entry of
20 this Court's injunction on March 29, 2019 and 5:00 p.m., Friday, April 5, 2019.

21 Dated: April 4, 2019

22 
23 Hon. Roger T. Benitez
24 United States District Judge
25
26
27
28

1 C.D. Michel – SBN 144258
Sean A. Brady – SBN 262007
2 Anna M. Barvir – SBN 268728
Matthew D. Cubeiro – SBN 291519
3 MICHEL & ASSOCIATES, P.C.
180 E. Ocean Boulevard, Suite 200
4 Long Beach, CA 90802
5 Telephone: (562) 216-4444
Facsimile: (562) 216-4445
6 Email: abarvir@michellawyers.com

7 Attorneys for Plaintiffs

8
9 IN THE UNITED STATES DISTRICT COURT
10 FOR THE SOUTHERN DISTRICT OF CALIFORNIA

11 VIRGINIA DUNCAN, et al.,
12
13 Plaintiffs,
14
15 v.

16 XAVIER BECERRA, in his official
capacity as Attorney General of the
State of California,
17 Defendant.

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

**DECLARATION OF ANNA M.
BARVIR**

DECLARATION OF ANNA M. BARVIR

1
2 1. I, Anna M. Barvir, am an attorney at the law firm Michel & Associates,
3 P.C., attorneys of record for Plaintiffs in this action. I am licensed to practice law
4 before the United States District Court for the Southern District of California. I am
5 also admitted to practice before the Eastern, Central, and Northern Districts of
6 California, the courts of the state of California, the Supreme Court of the United
7 States, and the D.C., Fourth, Ninth, and Tenth Circuit Courts of Appeals. I have
8 personal knowledge of the facts set forth herein and, if called and sworn as a
9 witness, could and would testify competently thereto.

10 2. On April 1, 2019, counsel for Defendants, Mr. John D. Echeverria,
11 called my office and left voicemail, informing me that his clients intended to file an
12 ex parte application to stay the judgment in this case pending an appeal to the Ninth
13 Circuit. Minutes later, Mr. Echeverria called my co-counsel, Sean A. Brady, to
14 discuss the matter further.

15 3. Later that day, Mr. Echeverria called my office again. Speaking with
16 me and Mr. Brady, Mr. Echeverria confirmed that he would be filing an ex parte
17 application with the Court that afternoon. He elaborated that he would be seeking an
18 immediate stay of the judgment to last until this Court could fully consider the
19 parties' arguments and rule on a stay that would remain in place during the pendency
20 of the State's appeal. We discussed Plaintiffs' position and the reasons for Plaintiffs'
21 opposition. We agreed that Plaintiffs would file an opposition to the immediate,
22 temporary stay as early as the evening of April 1, 2019, but no later than the
23 afternoon of April 2, 2019. We also agreed that Plaintiffs would file an opposition to
24 the more-permanent stay on or before Wednesday, April 3, 2019.

25 4. Defendants filed their Ex Parte Application to Stay Judgment Pending
26 Appeal on April 1, 2019. In support of that application, they filed the Declaration of
27 John D. Echeverria, Deputy Attorney General with the California Department of
28 Justice. As noted in Mr. Echeverria's declaration, following the Court's Order

1 Granting Plaintiffs' Motion for Summary Judgment, out-of-state retailers began
2 accepting orders for magazines capable of accepting more than ten rounds of
3 ammunition. Defendants included as an exhibit a social media post from Palmetto
4 State Armory supporting that claim.

5 5. On April 2, 2019, Plaintiffs filed an opposition to that portion of
6 Defendants' ex parte application seeking the immediate, temporary stay. As part of
7 that opposition, Plaintiffs argued that should the judgment be stayed immediately,
8 even if only temporarily, countless law-abiding Californians who have already
9 ordered magazines capable of holding more than 10 rounds, but have not yet
10 received them, would be unjustly subjected to severe criminal penalties without
11 notice.

12 6. Defendants filed a Response to Plaintiffs' Opposition the same day. In
13 their Response, Defendants argue that Plaintiffs offered "no evidence that there are
14 any Californians who have either ordered or are currently in possession of"
15 magazines capable of holding more than 10 rounds in reliance on this Court's March
16 29, 2019 Order.

17 7. On April 3, 2019, my office contacted representatives of Palmetto State
18 Armory ("PSA"). PSA representatives informed Plaintiffs' counsel that PSA had
19 sold significant quantities of magazines capable of holding more than 10 rounds to
20 California. Due to the extremely tight deadlines under which the parties are litigating
21 this issue and due to the limitations of PSA's software, Plaintiffs are unable to
22 provide PSA's exact figures at this time, but we will file a supplemental declaration
23 as soon as those numbers are available—probably as early as Thursday, April 4,
24 2019.

25 8. In addition to contacting representatives of PSA, my office has been
26 contacted by several firearm-related businesses and individuals regarding this
27 Court's March 29, 2019 Order and its effect. Many of these businesses and
28

1 individuals have told us that they have either begun selling and shipping or had
2 already purchased magazines capable of holding more than 10 rounds.

3 9. Attached hereto as **Exhibit 1** is a true and correct copy of an article
4 posted on Ammoland.com titled "*Companies Crushed with Heavy Demand for Gun*
5 *Magazines from California*," posted on April 2, 2019, by John Crump.
6 [https://www.ammoland.com/2019/04/companies-hit-with-heavy-demand-for-](https://www.ammoland.com/2019/04/companies-hit-with-heavy-demand-for-magazines-from-california/#axzz5k3kBBBoMP)
7 [magazines-from-california/#axzz5k3kBBBoMP](https://www.ammoland.com/2019/04/companies-hit-with-heavy-demand-for-magazines-from-california/#axzz5k3kBBBoMP).

8 10. Attached hereto as **Exhibit 2** is a true and correct copy of an article
9 titled "*Sales Soar After Judge Rules California's Decades Long Ban On High-*
10 *Capacity Ammunition Magazines 'Unconstitutional'*" by Christina Fan and posted
11 online at [https://abc30.com/society/sales-soar-after-ban-on-high-capacity-](https://abc30.com/society/sales-soar-after-ban-on-high-capacity-ammunition-ruled-unconstitutional-/5231610/)
12 [ammunition-ruled-unconstitutional-/5231610/](https://abc30.com/society/sales-soar-after-ban-on-high-capacity-ammunition-ruled-unconstitutional-/5231610/) on April 3, 2019.

13 I declare under penalty of perjury that the foregoing is true and correct.
14 Executed with the United States on April 3, 2019.

15 s/ Anna M. Barvir

16 Anna M. Barvir

17 Declarant
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EXHIBIT 1



AMMOLAND
SHOOTING SPORTS NEWS



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Companies Crushed With Heavy Demand For Gun Magazines From California

Ammoland Inc. Posted on April 2, 2019 by John Crump



Companies Crushed With Heavy Demand For Gun Magazines From California

U.S.A. —(Ammoland.com)— Since Friday's landmark court decision that legalized magazines holding more than ten rounds in California buyers have been going crazy with purchases.

Most online retailers have resumed the sales of magazines of all sizes to the people of the Golden State. **Rainier Arms** has seen a significant uptick in traffic with most sales being for the Magpul Gen2 30 round magazine. This increase in internet transactions has even crashed Rainier Arms payment processing server.

"We received such an overwhelming surge of sales over the weekend, it actually crashed our merchant services, the website was fine, but our payment services were so overwhelmed it crashed," said Aristotle Bartolome of Rainier Arms. "With that said, we closed out a very strong weekend, and even with the chaos, we're currently 48 hours behind on getting all of the weekend orders caught up and adjusting staffing to better support our customers getting their orders quicker."

ER000230

Rainier Arms Co. is also in the 100% increase in sales. Brownells is also reporting an increase in magazine sales to California. They are seeing residents "stocking up" on AR15 magazines as well. Brownells is one of the largest gun retailers on the web.



California residents are in a rush to buy up magazines before the state can appeal U.S. District Judge Roger Benitez's decision to the Ninth Circuit Court. The judge's decision stunned the California Attorney General and the gun community as well. It went further than either side anticipated.

One California resident, Adelaide Golden, told me that she thinks that all gun owners in the state need to take advantage of the opportunity to purchase standard capacity magazines while they are shipping to the state.

"In a national and local environment that is increasingly hostile to responsible gun owners, it's important to take advantage of opportunities that present," Golden said. "With the overturn of unconstitutional limits on magazine sizes, I, as a California resident, can finally have standard size magazines that can make a small difference at the range and a huge difference if I'm ever forced to defend myself or my home."

Some gun owners were worried that the price of magazines would increase with the potential run on the product. Primarily this increase in price hasn't happened. In fact, a lot of websites are running deals for California residents. Companies are there to make a profit, but it seems like a lot of companies are taking this opportunity to spread the message of liberty.

Brownells is trying to flood California with AR15 magazines. The firearms retailer is currently selling 10 packs of 30 round Magpul GEN2 magazines for \$99.99 which saves the residents \$30.

Elite Tactical Components are also helping out the people of the state but are focusing on the AK market. That site is selling blem 30 round XTech MAG47 magazines for only \$10. The deal is just for residents of California.

In a statement released to AmmoLand Elite Tactical Components said: "Elite Tactical Components is excited to do our part in getting standard capacity freedom into the hands of Californians!"

Other websites have followed suit by offering California specific deals, but less than 48 hours after the ruling, the companies sold out of their stock of gun magazines.

Natchez Shooters Supplies sold out of a lot of magazines due to the increase in sales from California. When the ruling came down, they put together an email to send out to their customers. Business was so brisk for the company that they had to redesign the email due to selling out of a lot of their magazine products that were going to be featured in the email.

There is no telling how many magazines retailers have shipped to California since the judge lifted the ban on the sale of standard capacity magazines. One sure thing is that residents of the state are taking advantage of the new ability to defend themselves by buying 10+ round magazines at a record pace.

About John Crump

John is a NRA instructor and a constitutional activist. He is the former CEO of Veritas Firearms, LLC and is the co-host of The Patriot News Podcast which can be found at www.blogtalkradio.com/patriotnews. John has written extensively on the patriot movement including 3%'ers, Oath Keepers, and Militias. In addition to the Patriot movement, John has written about firearms, interviewed people of all walks of life, and on the Constitution. John lives in Northern Virginia with his wife and sons and is currently working on a book on **leftist deplatforming methods** and can be followed on Twitter at [@crumpyss](https://twitter.com/crumpyss), on Facebook at [realjohncrump](https://www.facebook.com/realjohncrump), or at www.crumpy.com.



EXHIBIT 2

menu

GUN LAWS

Sales soar after judge rules California's decades long ban on high-capacity ammunition magazines 'unconstitutional'

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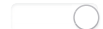
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visit sponsor's site



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MORE VIDEOS

Ammunition stores are eagerly welcoming back California customers after the state's nearly twenty-year ban on high capacity magazines.

By [Christina Fan](#)

Updated 3 hours ago

FRESNO, Calif. (KFSN) -- The ads are popping up everywhere.

Gun stores are eagerly welcoming back California customers after the state's nearly twenty-year ban on certain ammunition magazines was declared unconstitutional.

"Immediately we had people calling us and asking us do you have standard capacity magazines, can we buy them are they legal,"

ER000234

said Jacob Belemjian, owner of The Firing Line. Document 94-1 Filed 04/03/19 PageID.8197 Page 11 of 12

The flood of questions started last Friday when a U.S. District Court declared Proposition 63 unconstitutional.

The voter-approved measure banned the possession of magazines holding more than ten bullets. The law calls the magazines "large-capacity," but they are often the standard size for those guns.

RELATED: Judge blocks California's high-capacity ammunition ban

Sheriff Margaret Mims was never a supporter.

"Because gang members, human traffickers, they aren't going to follow any kind of law that restricts their firepower," Mims said. "So the only people that would follow the law are law abiding citizens."

The ruling has prompted a massive shipment of high-capacity magazines to California.

Local shooting ranges like the Firing Line can't even get the inventory, but the owner doesn't seem to mind.

"This is absolutely is a win for second amendment supporters, this is a win for the constitution, this is a win for freedom in America," Belemjian said.

The ruling already faces challenges though.

California's attorney general intends to appeal it and has already asked a federal judge to delay implementation.

Report a correction or typo

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ER000235

CERTIFICATE OF SERVICE

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

Case Name: *Duncan, et al. v. Becerra*

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

IT IS HEREBY CERTIFIED THAT:

I, the undersigned, declare under penalty of perjury that I am a citizen of the United States over 18 years of age. My business address is 180 East Ocean Boulevard, Suite 200 Long Beach, CA 90802. I am not a party to the above-entitled action.

I have caused service of the following documents, described as:

DECLARATION OF ANNA M. BARVIR

on the following parties by electronically filing the foregoing on April 3, 2019, with the Clerk of the District Court using its ECF System, which electronically notifies them.

John D. Echeverria
Deputy Attorney General
john.echeverria@doj.ca.gov
300 South Spring Street, Suite 1702
Los Angeles, CA 90013

Anthony P. O'Brien
Deputy Attorney General
anthony.obrien@doj.ca.gov
1300 I Street, Suite 125
Sacramento, CA 95814

I declare under penalty of perjury that the foregoing is true and correct.
Executed on April 3, 2019, at Long Beach, CA.

s/ Laura Palmerin
Laura Palmerin

CERTIFICATE OF SERVICE

17cv1017

ER000236

1 C.D. Michel – SBN 144258
Sean A. Brady – SBN 262007
2 Anna M. Barvir – SBN 268728
Matthew D. Cubeiro – SBN 291519
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5 Telephone: (562) 216-4444
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6 Email: abarvir@michellawyers.com

7 Attorneys for Plaintiffs

8
9 IN THE UNITED STATES DISTRICT COURT
10 FOR THE SOUTHERN DISTRICT OF CALIFORNIA

11 VIRGINIA DUNCAN, et al.,

12 Plaintiffs,

13 v.

14 XAVIER BECERRA, in his official
15 capacity as Attorney General of the
16 State of California,

17 Defendant.

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

**DECLARATION OF CHARLES
DAVID WYLIE, JR.**

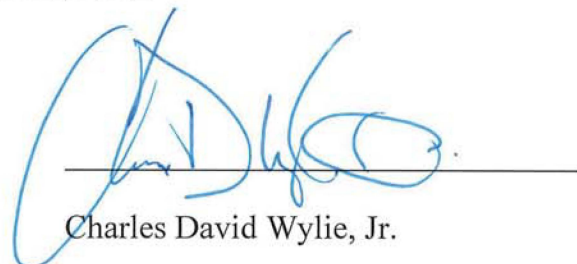
DECLARATION OF CHARLES DAVID WYLIE, JR.

I, Charles David Wylie, Jr., make this declaration of my own personal knowledge and, if called as a witness, I could and would testify competently to the truth of the matters set forth herein.

1. I am the President and Chief Executive Officer of Palmetto State Armory, LLC, a limited liability company organized in the State of South Carolina.
2. Palmetto State Armory is a manufacturer and retailer of firearms and firearm accessories, including firearm magazines with a capacity greater than ten (10) rounds.
3. I am generally aware of an order issued by the United States District Court for the Southern District of California styled as *Duncan v. Becerra*, Case No.: 3:17-cv-1017-BEN (JLB), *Order Granting Plaintiffs' Motion for Summary Judgment, Declaring California Penal Code § 32310 Unconstitutional and Enjoining Enforcement* (S.D. Cal. March 29, 2019) ("Order").
4. Since the issuance of the Order, Palmetto State Armory has received, accepted, processed, and shipped orders from thousands of residents of the State of California for firearm magazines with a capacity greater than ten (10) rounds.

I declare under penalty of perjury that the foregoing is true and correct.

Executed within the United States on April 3, 2019.



Charles David Wylie, Jr.

Declarant

CERTIFICATE OF SERVICE

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

Case Name: *Duncan, et al. v. Becerra*

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

IT IS HEREBY CERTIFIED THAT:

I, the undersigned, declare under penalty of perjury that I am a citizen of the United States over 18 years of age. My business address is 180 East Ocean Boulevard, Suite 200 Long Beach, CA 90802. I am not a party to the above-entitled action.

I have caused service of the following documents, described as:

DECLARATION OF CHARLES DAVID WYLIE, JR.

on the following parties by electronically filing the foregoing on April 3, 2019, with the Clerk of the District Court using its ECF System, which electronically notifies them.

John D. Echeverria
Deputy Attorney General
john.echeverria@doj.ca.gov
300 South Spring Street, Suite 1702
Los Angeles, CA 90013

Anthony P. O'Brien
Deputy Attorney General
anthony.obrien@doj.ca.gov
1300 I Street, Suite 125
Sacramento, CA 95814

I declare under penalty of perjury that the foregoing is true and correct.
Executed on April 3, 2019, at Long Beach, CA.

/s/ Laura Palmerin
Laura Palmerin

1 XAVIER BECERRA
Attorney General of California
2 State Bar No. 118517
MARK R. BECKINGTON
3 Supervising Deputy Attorney General
State Bar No. 126009
4 ANTHONY P. O'BRIEN
Deputy Attorney General
5 State Bar No. 232650
JOHN D. ECHEVERRIA
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Attorneys for Defendant Attorney General
10 Xavier Becerra

11 IN THE UNITED STATES DISTRICT COURT
12 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
13
14

15 **VIRGINIA DUNCAN, RICHARD**
16 **LEWIS, PATRICK LOVETTE,**
17 **DAVID MARGUGLIO,**
18 **CHRISTOPHER WADDELL, and**
19 **CALIFORNIA RIFLE & PISTOL**
20 **ASSOCIATION, INC., a California**
21 **corporation,**

Plaintiffs,

22 **v.**

23 **XAVIER BECERRA, in his official**
24 **capacity as Attorney General of the**
25 **State of California; and DOES 1-10,**

Defendants.

17-cv-1017-BEN-JLB

DEFENDANT'S EX PARTE
APPLICATION TO STAY
JUDGMENT PENDING APPEAL

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

1 **TO THE COURT AND ALL PARTIES AND THEIR RESPECTIVE**
 2 **ATTORNEYS OF RECORD:**

3 **PLEASE TAKE NOTICE** that Defendant Xavier Becerra, in his official
 4 capacity as the Attorney General of the State of California (“Defendant”), hereby
 5 does apply to this Court for an order, under Federal Rule of Civil Procedure 62,
 6 staying the Judgment entered in this action on March 29, 2019 (Dkt. No. 88)
 7 pending appeal to the United States Court of Appeals for the Ninth Circuit.
 8 Specifically, Defendant requests that the Court stay the Judgment—which declares
 9 California Penal Code section 32310¹ unconstitutional and enjoined from
 10 enforcement—to preserve the status quo pending appeal as it existed prior to entry
 11 of the Judgment, whereby, during the pendency of the appeal, section 32310(a) and
 12 (b) will remain in effect and section 32310(c) and (d) will remain subject to the
 13 preliminary injunction issued on June 29, 2017 (Dkt. No. 28). Defendant
 14 respectfully requests that this Court rule on this stay application by **April 5, 2019**.

15 To effectively preserve the status quo, and to prevent a sudden influx of large-
 16 capacity magazines (LCMs) into the State of California (the “State”), Defendant
 17 respectfully requests that the Court issue an immediate, temporary stay pending its
 18 ruling on the application for a stay pending appeal. Even if this Court, or the Ninth
 19 Circuit, ultimately issues a stay pending appeal, the State will suffer irreparable
 20 injury if LCMs are permitted to flow into the State in the interim. Defendant
 21 respectfully requests that such a temporary stay be issued by no later than **April 2,**
 22 **2019**.

23 As discussed in the accompanying Memorandum of Points and Authorities in
 24 Support of Ex Parte Application to Stay Judgment Pending Appeal (the
 25 “Memorandum”), all four factors considered in such a stay request are satisfied.
 26 *See Humane Soc’y of U.S. v. Gutierrez*, 558 F.3d 896, 896 (9th Cir. 2009) (“A party

27 _____
 28 ¹ All subsequent statutory references are to the California Penal Code, unless
 otherwise noted.

1 seeking a stay must establish [1] that he is likely to succeed on the merits, [2] that
2 he is likely to suffer irreparable harm in the absence of relief, [3] that the balance of
3 equities tip in his favor, and [4] that a stay is in the public interest.” (citing *Winter*
4 *v. Nat’l Res. Def. Council, Inc.*, 555 U.S. 7, 20 (2008))).

5 Defendant brings this ex parte application for good cause on the ground that
6 the State will suffer irreparable and immediate injury until a stay pending appeal is
7 issued. California has restricted the acquisition of LCMs for nearly two decades,
8 and until the Judgment is stayed pending appeal, individuals will be free to acquire
9 new LCMs, and there is evidence that sales have begun already. If Section 32310 is
10 ultimately reinstated by the Ninth Circuit, it will be difficult for the State to remove
11 these new LCMs.

12 This application is based on the Memorandum and the Declaration of John D.
13 Echeverria, filed concurrently herewith, as well as all records on file in this action.

14 Dated: April 1, 2019

Respectfully Submitted,

15 XAVIER BECERRA
16 Attorney General of California
17 MARK R. BECKINGTON
18 Supervising Deputy Attorney General
19 ANTHONY P. O’BRIEN
20 Deputy Attorney General

/s/ John D. Echeverria

21 JOHN D. ECHEVERRIA
22 Deputy Attorney General
23 *Attorneys for Defendant Attorney*
24 *General Xavier Becerra*
25
26
27
28

1 XAVIER BECERRA
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Attorneys for Defendant Attorney General
10 Xavier Becerra

11 IN THE UNITED STATES DISTRICT COURT
12 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
13
14

15 **VIRGINIA DUNCAN, RICHARD**
16 **LEWIS, PATRICK LOVETTE,**
17 **DAVID MARGUGLIO,**
18 **CHRISTOPHER WADDELL, and**
19 **CALIFORNIA RIFLE & PISTOL**
20 **ASSOCIATION, INC., a California**
21 **corporation,**

Plaintiffs,

22 **v.**

23 **XAVIER BECERRA, in his official**
24 **capacity as Attorney General of the**
25 **State of California; and DOES 1-10,**

Defendants.

17-cv-1017-BEN-JLB

DECLARATION OF JOHN D.
ECHEVERRIA IN SUPPORT OF
DEFENDANT'S EX PARTE
APPLICATION TO STAY
JUDGMENT PENDING APPEAL

Date:

Time:

Judge: Hon. Roger T. Benitez

Courtroom: 5A

Action Filed: May 17, 2017

DECLARATION OF JOHN D. ECHEVERRIA

I, John D. Echeverria, declare:

1. I am a Deputy Attorney General with the California Department of Justice and serve as counsel to Defendant Xavier Becerra, Attorney General of the State of California (“Defendant”), in the above-captioned matter.

2. Except as otherwise stated, I have personal knowledge of the facts set forth in this declaration, and if called upon as a witness I could testify competently as to those facts. I make this declaration in support of Defendant’s Ex Parte Application to Stay Judgment Pending Appeal.

3. On April 1, 2019, at approximately 12:30 p.m., I contacted Anna Barvir, counsel for Plaintiffs, by telephone and left a voicemail, informing her that Defendant would be applying ex parte, as early as today, for an order staying the Judgment entered in this action on March 29, 2019 (Dkt. No. 88) pending Defendant’s appeal to the United States Court of Appeals for the Ninth Circuit. I also informed Ms. Barvir that Defendant would be requesting in the application an immediate, temporary stay pending the Court’s consideration of the ex parte application, in an effort to preserve the status quo.

4. On April 1, 2019, at approximately 12:50 p.m., I contacted Sean Brady, counsel for Plaintiffs, by telephone, and we discussed Defendant’s intention to apply ex parte for a stay pending appeal. I also informed Mr. Brady of Defendant’s request for an immediate, temporary stay pending the Court’s ruling on the application. Mr. Brady informed me that he would consult with his clients as to whether they are opposed to either or both requests.

5. On April 1, 2019, at approximately 2:12 p.m., I spoke on the telephone with Ms. Barvir and Mr. Brady. Mr. Brady informed me that Plaintiffs will be opposing the ex parte application for a stay pending appeal. Mr. Brady stated that he plans to file Plaintiffs’ opposition to the application to stay pending appeal by this Wednesday, April 3, 2019.

1 6. Mr. Brady also indicated that Plaintiffs will be opposing Defendant's
2 request for an immediate, temporary stay pending the Court's consideration of the
3 application to stay pending appeal. We discussed Mr. Brady's concern that, if the
4 immediate stay is issued, individuals who may have ordered LCMs over the
5 weekend following entry of the Judgment may be in violation of the law if they
6 receive the LCMs during the stay. Given that Defendant is requesting that the
7 Court issue the temporary stay by April 2, 2019, Mr. Brady stated that Plaintiffs
8 anticipate filing their opposition to the request for a temporary stay as early as this
9 evening.

10 7. Good cause exists for granting the ex parte application. The Court
11 issued its ruling on Plaintiffs' motion for summary judgment and entered the
12 Judgment in the afternoon of March 29, 2019. After reviewing the ruling, I
13 contacted Plaintiffs' counsel as soon as practicable on April 1, 2019.

14 8. Good cause exists for the ex parte relief requested. If the Court's
15 Judgment is reversed on appeal, absent a stay of the Judgment pending appeal, the
16 State of California will be irreparably harmed by the influx of large-capacity
17 magazines during the appeal. Attached hereto as **Exhibit 1** is a true and correct
18 copy of a social media post on Facebook.com by an out-of-state firearms retailer,
19 indicating that it will accept orders for LCMs by California residents and expects an
20 increase in order volume as a result. If Section 32310 is ultimately reinstated by the
21 Ninth Circuit, those new LCMs will be rendered illegal under state law, and it will
22 be difficult for the State to remove these new LCMs. A stay pending appeal will
23 preserve the status quo as it existed prior to the entry of the Judgment.

24 9. Good cause also exists for the issuance of an immediate and temporary
25 stay of the Judgment pending the Court's ruling on the ex parte application for a
26 stay pending appeal. Such a temporary stay is necessary to prevent new LCMs
27 from entering the State while the Court considers the application for a stay pending
28 the appeal. Given the urgency, Defendant respectfully requests that the Court issue

1 a temporary stay pending the Court's ruling on the ex parte application by April 2,
2 2019.

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

5 Executed on April 1, 2019, at Los Angeles, California.

6
7 /s/ John D. Echeverria
8 John D. Echeverria
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EXHIBIT 1

Sign Up

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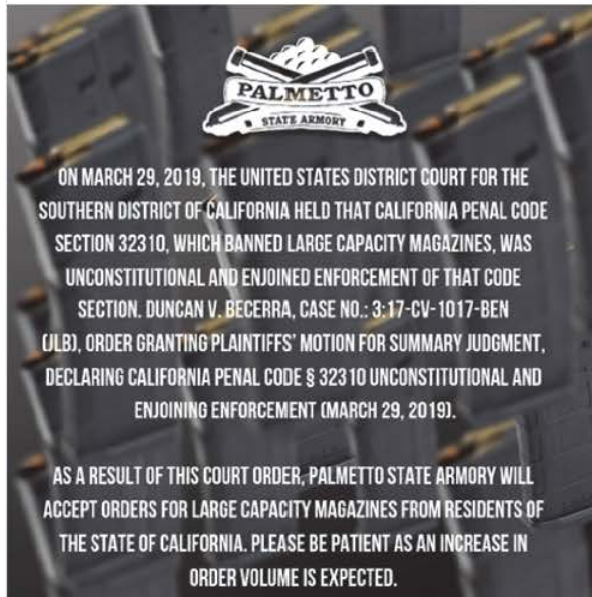
Log In

Forgot account?

**Palmetto State Armory**

March 30 at 3:41 PM

We are getting prepared to send a whole lot of freedom to our friends in California. #ShallNotBeInfringed #2A



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Commercial & Industrial Equipment Supplier

**Brownells, Inc.**

Outdoor Equipment Store

**Spike's Tactical**

Product/Service

**Bravo Company USA**

Geographical Place

**AR15.Com**

Website

**Primary Arms, LLC**

Gun Store

**Hegshot87**

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Public Figure

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10 Xavier Becerra

11 IN THE UNITED STATES DISTRICT COURT
12 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
13

14
15 VIRGINIA DUNCAN, et al.,

16 Plaintiffs,

17 v.

18 XAVIER BECERRA, in his official
19 capacity as Attorney General of the
20 State of California; and DOES 1-10,

21 Defendants.
22

17-cv-1017-BEN-JLB

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**DECLARATION OF BLAKE
GRAHAM IN OPPOSITION TO
PLAINTIFFS' MOTION FOR
SUMMARY JUDGMENT OR,
ALTERNATIVELY, PARTIAL
SUMMARY JUDGMENT**

Date: April 30, 2018
Time: 10:30 a.m.
Courtroom: 5A
Judge: Hon. Roger T. Benitez
Action Filed: May 17, 2017

1
2
3 **DECLARATION OF BLAKE GRAHAM**

4 I, BLAKE GRAHAM, declare:

5 1. I am a Special Agent Supervisor for the California Department of Justice,
6 Bureau of Firearms. I make this declaration of my own personal knowledge and
7 experience and, if called as a witness, I could and would testify competently to
8 the truth of the matters set forth herein.

9 **BACKGROUND AND QUALIFICATIONS**

10 2. I received a Bachelor of Science degree in May 1992 in Criminal
11 Justice at the California State University Sacramento. My coursework included
12 forensics, corrections, and a number of classes in criminal justice-related topics.

13 3. Since 1994, I have worked as either an investigator for the California
14 Department of Alcoholic and Beverage Control (ABC), or as a Special Agent for
15 the California Department of Justice (DOJ). My job responsibilities in all of these
16 positions have increasingly required the recovery, investigation, and identification
17 of firearms, the ammunition used for those firearms, and the magazines used for
18 feeding ammunition for such firearms.

19 4. My work as an investigator for ABC between 1994 and 1999 included
20 the recovery of firearms, magazines and ammunition.

21 5. Between 1999 and 2002, I worked as a Special Agent for DOJ, and was
22 assigned to the Violence Suppression Program in the Bureau of Narcotics
23 Enforcement. In this job, I investigated violent crimes and various violations
24 occurring at California gun shows. As a gun show enforcement agent, I attended
25 gun shows in the San Francisco Bay Area to monitor, and if necessary, seize,
26 firearms, ammunition, and magazines sold illegally to felons, parolees, and
27 probationers.
28

1 6. From October 2002 to the present, I have been a Special Agent and
2 Special Agent Supervisor, for the DOJ's Bureau of Firearms (BOF). In this
3 capacity, I am assigned to recover firearms from prohibited individuals,
4 monitor gun shows for illegal activities, conduct surveillance on gun dealers
5 suspected of illegal activity, and investigate illegal trafficking of firearms,
6 manufacturing of assault weapons, machine guns, and illegal possession of
7 various magazines and ammunition.

8 7. Since 2008, I have been responsible for reviewing handguns that are
9 submitted by manufacturers for inclusion in California's roster of handguns
10 certified for sale. A copy of the roster can be found on the DOJ website:
11 <http://certguns.doj.ca.gov/>.

12 8. In my career I have attended at least 40 gun shows and have become
13 very knowledgeable on current laws pertaining to the sales of firearms,
14 ammunition, and ammunition containers—including large-capacity magazines
15 (LCMs)—in the State of California.

16 9. I have been trained and qualified to carry several different types of
17 firearms, including: Glock Model 17 (9 mm semi-automatic pistol), multiple
18 Glock .40 caliber semi automatic pistols, Heckler & Koch MPS (9 mm
19 submachine gun), Smith & Wesson, Model 60 (.38 Special revolver), multiple
20 .45 caliber semi-automatic pistols, and a Colt, Model M4 (5.56 mm machine
21 gun). I have access to other Department-owned handguns, shotguns,
22 submachine guns, machine guns, rifles, shotguns and 40 mm "less lethal"
23 launchers.

24 10. Throughout my career, I have conducted training programs in the
25 identification and handling of firearms. I have also trained other Special
26 Agents of BOF on assault weapons and firearms identification. I also have
27 given firearms identification classes to members of the Sacramento and San
28 Joaquin County District Attorney's offices.

13. I have been qualified as an expert witness regarding the use of firearms in 14 cases in both federal and state court since 2007.

I. USE OF LARGE-CAPACITY MAGAZINES IN MASS SHOOTINGS.

18. Because magazines carrying more than 10 rounds at a time allow for uninterrupted shooting, such LCMs have been the preferred ammunition feeding devices in several mass shootings in California and elsewhere.

1 19. To the best of my knowledge, all of the shootings listed below
2 involved persons who shot and wounded and/or killed one or more persons,
3 including peace officers, while using LCMs.

4 a. On January 17, 1989, Patrick Purdy, shot and killed 5 and wounded
5 32 others at the Cleveland Elementary School in Stockton, California. He used an
6 AK-47 style rifle and LCMs in the shooting.

7 b. On February 28, 1997, Larry Phillips and Emil Matasareanu, armed
8 with multiple assault weapons and LCMs, wounded 20 people, including law
9 enforcement officers, while robbing the Bank of America in North Hollywood,
10 California.

11 c. On January 9, 2005, Andres Raya used a LCM and illegal assault
12 weapon to shoot and kill Police Sgt. Howard Stevenson in Ceres, California.

13 d. On June 15, 2008, Marco Topete used an assault rifle and LCM
14 to shoot and kill Yolo County Sheriff's Deputy Tony Diaz after a traffic stop
15 near Dunnigan, California.

16 e. On November 5, 2009, Nidal Hasan used a semi-automatic pistol
17 and LCMs to shoot and kill 13 and wounded over 30 others at the Fort Hood
18 Army base in Fort Hood, Texas.

19 f. On February 25, 2010, Ricky Liles, used multiple weapons and
20 LCMs to shoot and kill two law enforcement officers and wounded one other in
21 Minkler, California.

22 g. January 8, 2011, Jared Loughner used a handgun with a LCM to
23 shoot and kill 6 people and wounded 13 others in Tucson, Arizona. He was
24 subdued while trying to reload his weapon.

25 h. On July 20, 2012, James Holmes used an assault weapon and LCMs
26 to kill 12 people and wound 70 others in a movie theater in Aurora, Colorado.

1 i. On December 14, 2012, Adam Lanza used LCMs and multiple
2 firearms to kill 20 children and six adults at Sandy Hook Elementary School in
3 Newtown, Connecticut.

4 j. On June 7, 2013, John Zawahri—who was previously denied
5 purchase of a firearm by DOJ—used a home-built AR-15 rifle and LCMs to kill his
6 father and brother at their family home, and then kill and wound others at the Santa
7 Monica, California Community College.

8 k. On December 2, 2015, Syed Farook and his wife, Tashfeen Malik,
9 used assault weapons and LCMs in killing 14 people and wounding 22 others at the
10 Inland Regional Center in San Bernardino, California.

11 l. On June 12, 2016, Omar Mateen used an assault rifle and LCMs to
12 shoot and kill 49 people and wound 53 others inside a nightclub in Orlando,
13 Florida.

14 m. On July 7, 2016, Micah Johnson used an assault rifle and a LCM to
15 shoot and kill five police officers and wound nine others in Dallas, Texas.

16 n. On July 17, 2016, Gavin Long used an assault rifle and LCMs to
17 shoot and kill three police officers and wound three other officers in Baton Rouge,
18 Louisiana.

19 o. On October 1, 2017, Stephen Paddock used assault rifles and LCMs
20 to fire over 1,000 rounds on concertgoers at an outdoor music festival in Las Vegas,
21 Nevada, killing 58 people and wounding more than 500 others. To date, this is the
22 deadliest mass shooting in U.S. history.

23 **II. LEGISLATION LIMITING LARGE CAPACITY MAGAZINES.**

24 20. I am also aware of the state and federal laws banning the sale and
25 possession of LCMs, and the effect of these laws on the availability of such
26 magazines in California.

27 21. From 1994 to 2004, the federal assault weapons ban controlled the
28 manufacture and sales of LCMs in the United States. During this 10-year window,

1 new LCMs were only able to be sold to law enforcement and the military. Over
2 time, LCMs were removed from public access due to incidental seizure during
3 everyday law enforcement investigations in all 50 states.

4 22. In 1999, the California Legislature passed Senate Bill No. 23, which
5 restricted the sales, transfer and manufacture of LCMs on a state level. This bill,
6 which, at the time did not prohibit possession of LCMs, eventually became codified
7 as California Penal Code section 32310.

8 23. For nearly two decades, since 2000, when California's LCM restrictions
9 went into effect, magazine manufacturers have been producing compliant
10 magazines for sale in California that hold no more than 10 rounds of ammunition,
11 which are widely available in the state and compatible with most, if not all,
12 semiautomatic firearms.

13 **III. REASONS FOR CALIFORNIA'S PROHIBITION ON POSSESSION OF LARGE-**
14 **CAPACITY MAGAZINES.**

15 24. Once the Federal restrictions were lifted in late 2004, LCMs became
16 available in states outside California. This has created in increase in the amount of
17 illegal importation of LCMs in California.

18 25. Since at least 2002, Agents from the DOJ Bureau of Firearms have
19 conducted investigations in which California residents would travel outside
20 California and purchase or acquire LCMs and then return to California with
21 these illegally imported LCMs.

22 26. In such cases, these same subjects would also acquire ammunition
23 and firearms that would be smuggled back into California at the same time.

24 27. Many times these California residents were already prohibited from
25 acquiring, owning and possessing firearms, ammunition and ammunition
26 feeding devices. Sometimes the traffickers would not be firearms-prohibited
27
28

1 but they would ultimately still break the law and smuggle back firearms and
2 LCMs despite facing the potential of felony charges should they be caught.

3 28. The prohibition on sales, but not possession, of LCMs, has also
4 created a market for LCM repair kits. At numerous California gun shows, prior
5 to 2014, I saw subjects purchase disassembled LCMs being sold as large-
6 capacity magazine repair kits. Often the repair kits were for weapons that were
7 not even sold prior to the year 2000.

8 29. Because of the availability of the “repair kits,” Special Agents with
9 the Bureau of Firearms could see California residents were either illegally
10 importing LCM or purchasing these repair kits and assembling them into LCMs
11 in violation of Penal Code Section 32310.

12 30. On October 11, 2013 Governor Brown signed Assembly Bill No. 48,
13 which made it a misdemeanor to knowingly manufacture, import, keep for sale,
14 offer or expose for sale, or give, lend, buy, or receive any LCM conversion kit that
15 is capable of converting an ammunition feeding device into a large-capacity
16 magazine. The bill also made it a misdemeanor or a felony to buy or receive a
17 large-capacity magazine. This new law in essence outlawed “repair kits” and the
18 issues associated with them. Much of AB 48 was codified as Section 32310,
19 subdivisions (a) and (b).

20 31. Even with the passage of AB 48, BOF Agents do not have the ability
21 to identify whether the LCMs at issue were legally purchased, or are the
22 product of an illegal transfer. Also, the presence of large numbers of LCMs in
23 the state—even if lawfully owned by law-abiding citizens—increases the
24 potential for criminal theft or illegal trafficking of such magazines.

25 32. Because of these challenges in identifying legally possessed
26 magazines, as well as use of LCMs in mass shootings that have occurred both in
27 and outside of California for several years, the people of California enacted
28 Proposition 63 in November 2016 to amend⁷ Section 32310 to prohibit the

1 possession large-capacity magazines. The State's laws prohibiting possession of
2 large capacity magazines through Proposition 63 ensures the restriction on the use
3 of such magazines in the State.

4 Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the
5 foregoing is true and correct.

6
7 Executed on: April 5, 2018

8
9 
10 BLAKE GRAHAM

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IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF CALIFORNIA

VIRGINIA DUNCAN, et al.,

Plaintiffs,

v.

**XAVIER BECERRA, in his official
capacity as Attorney General of the
State of California; and DOES 1-10,**

Defendants.

17-cv-1017-BEN-JLB

**DECLARATION OF KEN JAMES
IN OPPOSITION TO PLAINTIFFS'
MOTION FOR SUMMARY
JUDGMENT OR,
ALTERNATIVELY, PARTIAL
SUMMARY JUDGMENT**

Date: April 30, 2018
Time: 10:30 a.m.
Courtroom: 5A
Judge: Hon. Roger T. Benitez
Action Filed: May 17, 2017

Decl. of Ken James in Opposition to Plaintiffs' Motion for Summary Judgment or, Alternatively,
Partial Summary Judgment (17-cv-1017-BEN-JLB)

DECLARATION OF KEN JAMES

I, KEN JAMES, declare:

1. I am a retired law enforcement officer retiring from the Emeryville, California Police Department on June 30, 2015 after forty years of service. I served the last seventeen years of my career as the Chief of Police of the department. During my career I held a wide variety of assignments, including patrol officer, K-9 officer, and general assignment investigator. I rose through the ranks in the Department and served as a patrol and investigations sergeant, Captain of both the Patrol and Professional Services Divisions prior to my appointment as Chief. During my career I investigated and supervised the investigations of various gun related crimes.

2. I served as the Chair of the California Police Chief's Association's Firearms Committee. The California Police Chiefs Association represents the municipal Chiefs, and their seconds in command, of 332 cities who provide public safety services for over twenty-six million Californians. The Association promotes and advances the science and art of police administration and crime prevention, to develop and disseminate professional administrative practices, and to encourage the adherence of all police officers to high professional standards of conduct in strict compliance with the Law Enforcement Officer's Code of Ethics.

3. The Association's Firearms Committee is responsible for the formulation and review of the Association's positions on gun violence prevention, including developing and advocating for legislation to reduce and/or prevent gun violence. The Association adopted its initial position paper in 1995 and has updated and revised its position three times since. The initial paper identified six areas, including limiting magazine capacity, that would significantly impact gun violence in California.

1 4. I also serve as a committee member of the International Association of
2 Chiefs of Police's (IACP) Firearm Committee. The IACP represents over 15,000
3 professional law enforcement administrators worldwide and promotes the best
4 professionals policing practices. The Firearms Committee advises the IACP's
5 Board of Directors and Executive Board on national firearms issues.

6 5. The information stated in this declaration is based on my knowledge,
7 training, education, and experience.

8 6. In my opinion, the existence of high capacity magazines only serves to
9 enhance the killing and injuring potential of a firearm. I have attended debriefings
10 of several high profile mass shootings, including Columbine, Sandy Hook, Aurora
11 Colorado, San Bernardino, Orlando Nightclub, and the Christopher Dorner
12 shootings in Southern California. In each of these shootings high capacity
13 magazines were utilized allowing the shooter or shooters to move quickly through
14 an area dispensing a large number of bullets without slowing to reload, resulting in
15 mass casualties. I have drawn from these reviews that casualties would have been
16 significantly reduced if a shooter needed to slow or stop to reload after ten shots.

17 7. It is my opinion that possession and use of high capacity magazines by
18 individuals committing criminal acts pose a significant threat to law enforcement
19 personnel and the general public. I have been involved with and/or supervised the
20 investigation of gun violence crimes in which high capacity magazines were used.
21 For example, in a drive-by shooting in the City of Emeryville, the investigation
22 revealed that in excess of forty casings from two different guns were found at the
23 scene. The shooting resulted in the death of one individual, but fortunately, no
24 other injuries to individuals at the scene. Witnesses told officers that the shooting
25 lasted only a matter of seconds. The number of shots fired resulted in adjacent
26 occupied buildings being struck by stray bullets posing a significant threat to the
27 occupants of those buildings.

1 8. Also, it is my opinion that the use of high capacity magazines is not
2 necessary for self-defense. In my professional capacity as a police chief, Chair of
3 the California Police Chiefs Association's Firearms Committee and member of the
4 IACP's Firearms Committee, I have read and viewed news accounts of incidents in
5 which individuals have defended themselves from a criminal attacks and perceived
6 criminal attacks by using a firearm. I have performed these reviews to determine
7 whether a large number of rounds was necessary in those incidents for the victims
8 to defend themselves. I am not aware that in any of the accounts the victims fired
9 in excess of ten shots in their defense.

10 9. California's restrictions on the sale of high capacity magazines have been
11 in effect since 2000. Therefore, high capacity magazines have not been available
12 for sale in California for nearly two decades. Magazines holding ten rounds or less
13 have been available in the state since 2000.

14 10. The California Police Chiefs Association, in their initial position paper
15 on gun violence written in 1995 and in subsequent updates, have identified limiting
16 magazine capacities as an appropriate and necessary measure to reduce gun
17 violence. The Association adopted its initial position paper in 1995 and has
18 updated and revised its position three times since. The initial paper identified six
19 areas, including limiting magazine capacity, that would significantly impact gun
20 violence in California. Attached hereto as Exhibit A is a true and correct copy of
21 the Association's position paper adopted in May of 2013. The Association
22 supported legislation that resulted in the current laws regulating magazine capacity.
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1 Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the
2 foregoing is true and correct.

3
4 Executed on: April 6, 2018

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7 KEN JAMES
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EXHIBIT A

**CALIFORNIA POLICE CHIEFS ASSOCIATION
POSITION PAPER**

May 31, 2013

SUBJECT: GUN VIOLENCE AND THE REGULATION OF FIREARMS

INTRODUCTION

The California Police Chiefs Association has long recognized that gun violence is a threat to the safety and well-being of the communities we serve and the officers committed to the protection of those communities. The Association is dedicated to its leadership role in identifying and implementing strategies to reduce gun violence. The Association's position is that while the right to bear arms is clearly articulated under the Second Amendment, reasonable regulations of firearms protect those rights. It is entirely appropriate to take reasonable steps that ensure responsible ownership while removing firearms from those who are prohibited by law from possessing them or who are intent on threatening the safety of our communities.

California has some of the strictest firearms regulations in the nation. These regulations have served law-abiding Californians well and clearly have not interfered with firearms ownership by responsible Californians. However, regulations prove ineffective unless those who are intent on threatening the safety of our communities are arrested, prosecuted, and sentenced to the fullest extent possible. Additionally, California's regulations are undermined if the ability of our federal law enforcement partners to effectively perform their designed function is restricted.

We cannot escape the fact that many firearm-related deaths and injuries do not occur as a result of intentional criminal misconduct. Far too often, gun related deaths and injuries occur between family, friends, unintended victims, and children. Therefore, it is the Association's position that responsible ownership, which includes safe storage and handling of firearms, is imperative as a means of reducing these tragic incidents.

Gun violence is a complex issue with a multitude of causative factors that must be addressed if we are to be successful in reducing gun violence in our communities. These factors include:

- Examining mental health issues, including how to eliminate the ability of those who are mentally incompetent from purchasing or possessing a firearm.
- Straw Purchases: the purchase of a firearm by someone legally capable for an individual who is prohibited from purchasing or possessing a firearm.

- **Armed and Prohibited Individuals:** prosecuting and proactively removing firearms and ammunition from individuals who are prohibited from owning and possessing them.
- **Universal background checks:** It is estimated that over 40% of all firearm sales occur without background checks. Weapons acquired through such sales are finding their way into the hands of individuals who are prohibited from possessing them or who are intent on affecting the safety of our communities
- **Ammunition** –The Association recommends the addition of a registration component, similar to the Dealer Record of Sale (DROS), to track ammunition sales. This would assist in the investigation of crimes committed with a firearm, ammunition straw purchases, and purchases by those prohibited from owning or possessing firearms or ammunition.

**Possession of armor piercing ammunition, which threatens the safety of police officers, should be made illegal.
- **Concealed Weapons:** the Association advocates that the ability to issue concealed weapons permits should remain at the discretion of the local chief or sheriff.
- **High Capacity Magazines:** Recognizing that justifiable reasons exist for limiting magazine capacity, we propose that no firearm magazine be lawfully possessed if it has a capacity of more than ten rounds of ammunition.
- **The ability of the Federal Bureau of Alcohol, Tobacco, and Firearms (ATF)** to track purchases and provide information to local law enforcement agencies across the country should be strengthened.
- **Direct the Center for Disease Control (CDC)** to conduct research for the purpose of determining the scope of the deaths and injuries which occur as a consequence of firearms.

CONCLUSION

The California Police Chiefs Association's position recognizes and supports the Second Amendment and the right of gun ownership provided to law abiding citizens. The Association also recognizes that delving into the mental health aspects of individuals associated with gun violence may conflict with currently enacted health and privacy laws, but if we are to have any impact on reducing gun violence, we must be a strong voice in addressing these issues that threaten the safety of our communities.

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 Attorneys for Defendant Attorney General
 10 Xavier Becerra

11 IN THE UNITED STATES DISTRICT COURT
 12 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
 13
 14

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

20 Plaintiffs,

21 v.

22 **XAVIER BECERRA, in his official**
 23 **capacity as Attorney General of the**
State of California; and DOES 1-10,

24 Defendant.

17-cv-1017-BEN-JLB

DECLARATION OF JOHN D.
ECHEVERRIA IN SUPPORT OF
DEFENDANT'S OPPOSITION TO
PLAINTIFFS' MOTION FOR
SUMMARY JUDGMENT OR,
ALTERNATIVELY, PARTIAL
SUMMARY JUDGMENT;
EXHIBITS 1-3

Date: April 30, 2018
 Time: 10:30 a.m.
 Judge: Hon. Roger T. Benitez
 Courtroom: 5A
 Action Filed: May 17, 2017

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 28
 Declaration of John D. Echeverria in Support of Defendant's Opposition to Plaintiffs' Motion for
 Summary Judgment or, Alternatively, Partial Summary Judgment (17-cv-1017-BEN-JLB)

1 **DECLARATION OF JOHN D. ECHEVERRIA**

2 I, John D. Echeverria, declare:

3 1. I am a Deputy Attorney General with the California Department of
4 Justice and serve as counsel to Defendant Xavier Becerra, Attorney General of the
5 State of California ("Defendant"), in the above-captioned matter.

6 2. Except as otherwise stated, I have personal knowledge of the facts set
7 forth in this declaration, and if called upon as a witness I could testify competently
8 as to those facts. I make this declaration in support of Defendant's Opposition to
9 Plaintiffs' Motion for Summary Judgment or, Alternatively, Partial Summary
10 Judgment.

11 3. On October 6, 2017, Defendant served Plaintiffs with the Expert
12 Report of Lucy P. Allen. A true and correct copy of the Expert Report of Lucy P.
13 Allen is attached as **Exhibit 1**.

14 4. On November 3, 2017, Defendant served Plaintiffs with the Expert
15 Rebuttal Report of John J. Donohue. A true and correct copy of the Expert Rebuttal
16 Report of John J. Donohue is attached as **Exhibit 2**.

17 5. On January 9, 2018, Defendant served Plaintiffs with the Revised
18 Expert Report of Dr. Louis J. Klarevas. A true and correct copy of the Revised
19 Expert Report of Dr. Louis J. Klarevas is attached as **Exhibit 3**.

20 6. On October 6, 2017, Defendant served Plaintiffs with the Expert
21 Report of Christopher S. Koper. A true and correct copy of the Expert Report of
22 Christopher S. Koper is attached as **Exhibit 4**.

23 7. On December 18, 2017, Defendant deposed Plaintiffs' expert, Stephen
24 Helsley. A true and correct copy of relevant excerpts of the Reporter's Transcript
25 of the Deposition of Stephen Helsley is attached as **Exhibit 5**.

26 8. On December 19, 2017, Plaintiffs deposed Defendant's witness, Blake
27 Graham. A true and correct copy of relevant excerpts of the Reporter's Transcript
28 of the Deposition of Blake Graham is attached as **Exhibit 6**.

Declaration of John D. Echeverria in Support of Defendant's Opposition to Plaintiffs' Motion for
Summary Judgment or, Alternatively, Partial Summary Judgment (17-cv-1017-BEN-JLB)

1 9. On January 2, 2018, and continuing on January 4, 2018, Defendant
2 deposed Plaintiffs' expert, Carlisle Moody. A true and correct copy of relevant
3 excerpts of the Reporter's Transcript of the Deposition of Carlisle Moody is
4 attached as **Exhibit 7**.

5 10. On January 3, 2018, Defendant deposed Plaintiffs' expert, Gary Kleck.
6 A true and correct copy of relevant excerpts of the Reporter's Transcript of the
7 Deposition of Gary Kleck is attached as **Exhibit 8**.

8 11. On January 5, 2018, Plaintiffs deposed Defendant's expert,
9 Christopher S. Koper. A true and correct copy of relevant excerpts of the
10 Reporter's Transcript of the Deposition of Christopher S. Koper is attached as
11 **Exhibit 9**.

12 12. On January 18, 2018, Plaintiffs deposed Defendant's expert, Lucy P.
13 Allen. A true and correct copy of relevant excerpts of the Reporter's Transcript of
14 the Deposition of Lucy P. Allen and Deposition Exhibit 7 are attached as **Exhibit**
15 **10**.

16 13. On January 19, 2018, Plaintiffs deposed Defendant's expert, Louis
17 Klarevas. A true and correct copy of relevant excerpts of the Reporter's Transcript
18 of the Deposition of Louis Klarevas is attached as **Exhibit 11**.

19 14. A true and correct copy of Dep't of the Treasury, Bureau of Alcohol,
20 Tobacco, and Firearms (ATF), *Recommendation on the Importability of Certain*
21 *Semiautomatic Rifles* (1989) is attached as **Exhibit 12**.

22 15. A true and correct copy of Dep't of the Treasury, Bureau of Alcohol,
23 Tobacco, and Firearms (ATF), *Study on the Sporting Suitability of Modified*
24 *Semiautomatic Assault Rifles* (1998) is attached as **Exhibit 13**.

25 16. A true and correct copy of Sen. Bill No. 1446, 3d Reading Analysis,
26 Mar. 28, 2016 (2015-2016 Reg. Sess.) (Cal. 2016) is attached as **Exhibit 14**.

27 17. A true and correct copy of Prepared Testimony by Laurence H. Tribe,
28 *Proposals to Reduce Gun Violence: Protecting Our Communities While Respecting*
2

Declaration of John D. Echeverria in Support of Defendant's Opposition to Plaintiffs' Motion for
Summary Judgment or, Alternatively, Partial Summary Judgment (17-cv-1017-BEN-JLB)

1 *the Second Amendment: Hearing Before the Subcomm. on the Constitution, Civil*
2 *Rights and Human Rights, S. Comm. on the Judiciary* (Feb. 12, 2013) is attached as
3 **Exhibit 15.**

4 18. A true and correct copy of Mark Follman, et al., *U.S. Mass Shootings,*
5 *1982-2018: Data from Mother Jones' Investigation* (Mother Jones, 2018), available
6 at [https://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-](https://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data/)
7 [full-data/](https://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data/), is attached as **Exhibit 16.** This data was accessed and downloaded as an
8 Microsoft Excel file on April 9, 2018. The columns of the spreadsheet have been
9 expanded for readability.

10 19. A true and correct copy of Mayors Against Illegal Guns, *Analysis of*
11 *Recent Mass Shootings* (2013) is attached as **Exhibit 17.**

12 20. A true and correct copy of the Declaration of Professor Daniel Webster
13 in Support of Defendant Xavier Becerra's Opposition to Plaintiffs' Motion for
14 Preliminary Injunction (June 5, 2017) (Dkt. No. 15) is attached as **Exhibit 18.**

15 21. A true and correct copy of Larry Buchanan, et al., *Nine Rounds a*
16 *Second: How the Las Vegas Gunman Outfitted a Rifle to Fire Faster*, N.Y. Times,
17 Oct. 5 2017, available at
18 <https://www.nytimes.com/interactive/2017/10/02/us/vegas-guns.html>, is attached as
19 **Exhibit 19.**

20 22. A true and correct copy of Violence Policy Center, *High-Capacity*
21 *Ammunition Magazines are the Common Thread Running Through Most Mass*
22 *Shootings in the United States* (2018), available at
23 www.vpc.org/fact_sht/VPCshootinglist.pdf, is attached as **Exhibit 20.**

24 23. A true and correct copy of Alex Yablon, *Bans on High-Capacity*
25 *Magazines, Not Assault Rifles, Most Likely to Limit Shooting Carnage*, The Trace,
26 June 13, 2016, available at [https://www.thetrace.org/2016/06/high-capacity-](https://www.thetrace.org/2016/06/high-capacity-magazines-orlando-shooting/)
27 [magazines-orlando-shooting/](https://www.thetrace.org/2016/06/high-capacity-magazines-orlando-shooting/), is attached as **Exhibit 21.**

1 24. A true and correct copy of State of Connecticut, Division of Criminal
2 Justice, *Report of the State's Attorney for the Judicial District of Danbury on the*
3 *Shootings at Sandy Hook Elementary School* (2013) is attached as **Exhibit 22**.

4 25. A true and correct copy of Mark Follman, *More Guns, More Mass*
5 *Shootings—Coincidence?*, Mother Jones, Dec. 15, 2012, available at
6 <https://www.motherjones.com/politics/2012/09/mass-shootings-investigation/>, is
7 attached as **Exhibit 23**.

8 26. A true and correct copy of relevant excerpts from Louis Klarevas,
9 Rampage Nation: Securing America from Mass Shootings (2016) is attached as
10 **Exhibit 24**.

11 27. A true and correct copy of relevant excerpts from Robert J. Spitzer,
12 *Gun Law History in the United States and Second Amendment Rights*, 80 Law &
13 Contemporary Problems 55 (2017), available at
14 <http://scholarship.law.duke.edu/lcp/vol80/iss2/3>, is attached as **Exhibit 25**.

15 28. A true and correct copy of H.R. Rep. No. 103-489 (1994), 1994 WL
16 168883, reprinted in 1994 U.S.C.C.A.N. 1820, is attached as **Exhibit 26**.

17 29. A true and correct copy of The Safety for All Act of 2016, 2016 Cal.
18 Legis. Serv. Proposition 63 (West), is attached as **Exhibit 27**.

19 30. A true and correct copy of Sandy Hook Advisory Comm'n, *Final*
20 *Report of the Sandy Hook Advisory Commission* (2015) is attached as **Exhibit 28**.

21 31. A true and correct copy of *LAPD Chief Backs Ban on Some Ammo*
22 *Magazines*, NBC So. Cal., Mar. 2, 2011, available at
23 [https://www.nbclosangeles.com/news/local/beck-lapd-ammunition-ban-nra-](https://www.nbclosangeles.com/news/local/beck-lapd-ammunition-ban-nra-117261943.html)
24 [117261943.html](https://www.nbclosangeles.com/news/local/beck-lapd-ammunition-ban-nra-117261943.html), is attached as **Exhibit 29**.

25 32. A true and correct copy of C. S. Koper & D. C. Reedy, *Impact of*
26 *Handgun Types on Gun Assault Outcomes: A Comparison of Gun Assaults*
27 *Involving Semiautomatic Pistols and Revolvers*, 9 Injury Prevention 151 (2003) is
28 attached as **Exhibit 30**.

1 33. A true and correct copy of Brady Center to Prevent Gun Violence,
2 Assault Weapons: 'Mass Produced Mayhem' (2008) is attached as **Exhibit 31**.

3 34. A true and correct copy of the Testimony of Brian J. Siebel, Senior
4 Attorney, Brady Center to Prevent Gun Violence, Before the Council of the District
5 of Columbia (Oct. 1, 2008) is attached as **Exhibit 32**.

6 35. A true and correct copy of Christopher S. Koper et al., *Gunshot*
7 *Victimisations Resulting from High-Volume Gunfire Incidents in*
8 *Minneapolis: Findings and Policy Implications*, Injury Prevention, Feb. 24, 2018,
9 <http://injuryprevention.bmj.com/content/early/2018/02/24/injuryprev-2017-042635>,
10 is attached as **Exhibit 33**.

11 36. A true and correct copy of Nat. Law Enforcement P'ship to Prevent
12 Gun Violence, Protecting Communities from Assault Weapons and High-capacity
13 Ammunition Magazines (2017) is attached as **Exhibit 34**.

14 37. A true and correct copy of the Declaration of San Francisco Police
15 Department Officer Joseph Emanuel in Support of Plaintiff's Ex Parte Application
16 for Order to Show Cause Re: Preliminary Injunction, *People v. Badger Mountain*
17 *Supply, et al.*, No. CGC-17-557010 (S.F. Super. Feb. 21, 2017), is attached as
18 **Exhibit 35**. This declaration was submitted as Appendix B to the brief of Amici
19 Curiae City and County of San Francisco, the City of Los Angeles, and the City of
20 Sunnyvale in *Duncan v. Becerra*, 9th Cir. No. 17-56081 (9th Cir. Oct. 19, 2017)
21 (ECF No. 29).

22 38. A true and correct copy of the Declaration of Detective Michael
23 Mersereau of the Los Angeles Police Department in Support of Amici Curiae the
24 City and County of San Francisco, the City of Los Angeles, and the City of
25 Sunnyvale, *Duncan v. Becerra*, 9th Cir. No. 17-56081 (9th Cir. Oct. 19, 2017), is
26 attached as **Exhibit 36**. This declaration was submitted as Appendix K to the brief
27 of Amici Curiae City and County of San Francisco, the City of Los Angeles, and
28

1 the City of Sunnyvale in *Duncan v. Becerra*, 9th Cir. No. 17-56081 (9th Cir. Oct.
2 19, 2017) (ECF No. 29).

3 39. A true and correct copy of Mark Follman, et al., *A Guide to Mass*
4 *Shootings in America*, Mother Jones (last updated Mar. 10, 2018, 9:00 AM),
5 available at <https://www.motherjones.com/politics/2012/07/mass-shootings-map/>,
6 is attached as **Exhibit 37**.

7 40. A true and correct copy of David S. Fallis & James V. Grimaldi, *Va.*
8 *Data Show Drop in Criminal Firepower During Assault Gun Ban*, Wash. Post, Jan.
9 23, 2011, available at [http://www.washingtonpost.com/wp-](http://www.washingtonpost.com/wp-dyn/content/article/2011/01/22/AR2011012203452.html)
10 [dyn/content/article/2011/01/22/AR2011012203452.html](http://www.washingtonpost.com/wp-dyn/content/article/2011/01/22/AR2011012203452.html), is attached as **Exhibit 38**.

11 41. A true and correct copy of David S. Fallis, *Data Indicate Drop in*
12 *High-Capacity Magazines During Federal Gun Ban*, Wash. Post, Jan. 10, 2013,
13 available at [https://www.washingtonpost.com/investigations/data-point-to-drop-in-](https://www.washingtonpost.com/investigations/data-point-to-drop-in-high-capacity-magazines-during-federal-gun-ban/2013/01/10/d56d3bb6-4b91-11e2-a6a6-aabac85e8036_story.html?utm_term=.a7d9831fe6dd)
14 [high-capacity-magazines-during-federal-gun-ban/2013/01/10/d56d3bb6-4b91-](https://www.washingtonpost.com/investigations/data-point-to-drop-in-high-capacity-magazines-during-federal-gun-ban/2013/01/10/d56d3bb6-4b91-11e2-a6a6-aabac85e8036_story.html?utm_term=.a7d9831fe6dd)
15 [11e2-a6a6-aabac85e8036_story.html?utm_term=.a7d9831fe6dd](https://www.washingtonpost.com/investigations/data-point-to-drop-in-high-capacity-magazines-during-federal-gun-ban/2013/01/10/d56d3bb6-4b91-11e2-a6a6-aabac85e8036_story.html?utm_term=.a7d9831fe6dd), is attached as
16 **Exhibit 39**.

17 42. A true and correct copy of relevant excerpts from Gary Kleck, *Point*
18 *Blank: Guns and Violence in America* (1991) is attached as **Exhibit 40**.

19 43. A true and correct copy of Claude Werner, *The Armed Citizen -*
20 *Analysis of Five Years of Armed Encounters*, GunsSaveLives.com (Mar. 12, 2012),
21 available at [http://gunssavelives.net/self-defense/analysis-of-five-years-of-armed-](http://gunssavelives.net/self-defense/analysis-of-five-years-of-armed-encounters-with-data-tables/)
22 [encounters-with-data-tables/](http://gunssavelives.net/self-defense/analysis-of-five-years-of-armed-encounters-with-data-tables/), is attached as **Exhibit 41**.

23 44. A true and correct copy of California Voter Information Guide,
24 Firearms. Ammunition Sales. Initiative Statute. California Proposition 63 (2016),
25 available at http://repository.uchastings.edu/ca_ballot_props/1356, is attached as
26 **Exhibit 42**.

27 45. A true and correct copy of Larry Buchanan, et al., *How They Got Their*
28 *Guns*, N.Y. Times, Nov. 5, 2017), available at

6
Declaration of John D. Echeverria in Support of Defendant's Opposition to Plaintiffs' Motion for
Summary Judgment or, Alternatively, Partial Summary Judgment (17-cv-1017-BEN-JLB)

1 [https://www.nytimes.com/interactive/2015/10/03/us/how-mass-shooters-got-their-](https://www.nytimes.com/interactive/2015/10/03/us/how-mass-shooters-got-their-guns.html)
2 [guns.html](https://www.nytimes.com/interactive/2015/10/03/us/how-mass-shooters-got-their-guns.html), is attached as **Exhibit 43**.

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

5 Executed on April 9, 2018, at Los Angeles, California.

6
7 /s/ John D. Echeverria
8 John D. Echeverria
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2	Expert Rebuttal Report of John J. Donohue	00034-00072
3	Revised Expert Report of Louis J. Klarevas	00073-00120
4	Expert Report of Christopher S. Koper	00121-00433
5	Transcript of Deposition of Stephen Helsley (Excerpts)	00434-00456
6	Transcript of Deposition of Blake Graham, (Excerpts)	00457-00463
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10	Transcript of Deposition of Lucy P. Allen (Excerpts & Ex. 7)	00502-00518
11	Transcript of Deposition of Louis J. Klarevas (Excerpts)	00519-00533
12	Dep't of the Treasury, Bureau of Alcohol, Tobacco, and Firearms (ATF), <i>Recommendation on the Importability of Certain Semiautomatic Rifles</i> (1989)	00534-00553
13	Dep't of the Treasury, Bureau of Alcohol, Tobacco, and Firearms (ATF), <i>Study on the Sporting Suitability of Modified Semiautomatic Assault Rifles</i> (1998)	00554-00680
14	Sen. Bill No. 1446, 3d Reading Analysis, Mar. 28, 2016 (2015-2016 Reg. Sess.) (Cal. 2016)	00681-00684

<u>Exhibit</u>	<u>Description</u>	<u>Page(s)</u>
15	Prepared Testimony by Laurence H. Tribe, <i>Proposals to Reduce Gun Violence: Protecting Our Communities While Respecting the Second Amendment: Hearing Before the Subcomm. on the Constitution, Civil Rights and Human Rights, S. Comm. on the Judiciary</i> (Feb. 12, 2013) Rights, <i>Proposals to Reduce Gun Violence: Protecting Our Communities While Respecting the Second Amendment</i> (2013).	00685-00721
16	Mark Follman, et al., <i>U.S. Mass Shootings, 1982-2018: Data from Mother Jones' Investigation</i> (Mother Jones, 2018)	00722-00736
17	Mayors Against Illegal Guns, <i>Analysis of Recent Mass Shootings</i> (2013)	00737-00772
18	Declaration of Professor Daniel Webster in Support of Defendant Xavier Becerra's Opposition to Plaintiffs' Motion for Preliminary Injunction (June 5, 2017) (Dkt. No. 15)	00773-00792
19	Larry Buchanan, et al., <i>Nine Rounds a Second: How the Las Vegas Gunman Outfitted a Rifle to Fire Faster</i> , N.Y. Times, Oct. 5 2017	00793-00797
20	Violence Policy Center, <i>High-Capacity Ammunition Magazines are the Common Thread Running Through Most Mass Shootings in the United States</i> (2018)	00798-00807
21	Alex Yablon, <i>Bans on High-Capacity Magazines, Not Assault Rifles, Most Likely to Limit Shooting Carnage</i> , The Trace, June 13, 2016	00808-00811
22	State of Connecticut, Division of Criminal Justice, <i>Report of the State's Attorney for the Judicial District of Danbury on the Shootings at Sandy Hook Elementary School</i> (2013)	00812-00860

<u>Exhibit</u>	<u>Description</u>	<u>Page(s)</u>
23	Mark Follman, <i>More Guns, More Mass Shootings—Coincidence?</i> , Mother Jones, Dec. 15, 2012	00861-00867
24	Louis Klarevas, <i>Rampage Nation: Securing America from Mass Shootings</i> (2016) (Excerpts)	00868-00898
25	Robert J. Spitzer, <i>Gun Law History in the United States and Second Amendment Rights</i> , 80 Law & Contemporary Problems 55 (2017)	00899-00904
26	H.R. Rep. No. 103-489 (1994)	00905-00981
27	The Safety for All Act of 2016, 2016 Cal. Legis. Serv. Proposition 63 (West)	00982-01011
28	Sandy Hook Advisory Comm'n, <i>Final Report of the Sandy Hook Advisory Commission</i> (2015)	01012-01289
29	<i>LAPD Chief Backs Ban on Some Ammo Magazines</i> , NBC So. Cal., Mar. 2, 2011	01290-01294
30	C. S. Koper & D. C. Reedy, <i>Impact of Handgun Types on Gun Assault Outcomes: A Comparison of Gun Assaults Involving Semiautomatic Pistols and Revolvers</i> , 9 Injury Prevention 151 (2003)	01295-01300
31	Brady Center to Prevent Gun Violence, <i>Assault Weapons: 'Mass Produced Mayhem'</i> (2008)	01301-01364
32	Testimony of Brian J. Siebel, Senior Attorney, Brady Center to Prevent Gun Violence, Before the Council of the District of Columbia (Oct. 1, 2008)	01365-01372
33	Christopher S. Koper et al., <i>Gunshot Victimisations Resulting from High-Volume Gunfire Incidents in Minneapolis: Findings and Policy Implications</i> , Injury Prevention, Feb. 24, 2018	01373-01377

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34	Nat. Law Enforcement P'ship to Prevent Gun Violence, Protecting Communities from Assault Weapons and High-capacity Ammunition Magazines (2017)	01378-01382
35	Declaration of San Francisco Police Department Officer Joseph Emanuel in Support of Plaintiff's Ex Parte Application for Order to Show Cause Re: Preliminary Injunction, <i>People v. Badger Mountain Supply, et al.</i> , No. CGC-17-557010 (S.F. Super. Feb. 21, 2017)	01383-01402
36	Declaration of Detective Michael Mersereau of the Los Angeles Police Department in Support of Amici Curiae the City and County of San Francisco, the City of Los Angeles, and the City of Sunnyvale, <i>Duncan v. Becerra</i> , 9th Cir. No. 17-56081 (9th Cir. Oct. 19, 2017)	01403-01412
37	Mark Follman, et al., <i>A Guide to Mass Shootings in America</i> , Mother Jones (last updated Mar. 10, 2018, 9:00 AM)	01413-01417
38	David S. Fallis & James V. Grimaldi, <i>Va. Data Show Drop in Criminal Firepower During Assault Gun Ban</i> , Wash. Post, Jan. 23, 2011	01418-01422
39	David S. Fallis, <i>Data Indicate Drop in High-Capacity Magazines During Federal Gun Ban</i> , Wash. Post, Jan. 10, 2013	01423-01427
40	Gary Kleck, <i>Point Blank: Guns and Violence in America</i> (1991) (Excerpts)	01428-01437
41	Claude Werner, <i>The Armed Citizen - Analysis of Five Years of Armed Encounters</i> , GunsSaveLives.com (Mar. 12, 2012)	001438-01445

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42	California Voter Information Guide, Firearms. Ammunition Sales. Initiative Statute. California Proposition 63 (2016)	01446-01469
43	Larry Buchanan, et al., <i>How They Got Their Guns</i> , N.Y. Times, Nov. 5, 2017)	01470-01478

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**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF CALIFORNIA**

VIRGINIA DUNCAN, RICHARD LEWIS,
PATRICK LOVETTE, DAVID MARGUGLIO,
CHRISTOPHER WADDELL, and
CALIFORNIA RIFLE & PISTOL
ASSOCIATION, INCORPORATED, a
California corporation,

Plaintiffs,

vs.

XAVIER BECERRA, in his official capacity as
Attorney General of the State of California; and
DOES 1-10,

Defendants.

17-cv-1017-BEN-JLB

**EXPERT REPORT OF
LUCY P. ALLEN**

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

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I. SCOPE OF ASSIGNMENT

1. I have been asked by the Office of the Attorney General of California to address the following issues: (a) the number of rounds of ammunition fired by individuals using a gun in self-defense; (b) weapons used in mass shootings; and (c) the rate at which firearms are used in California for self-defense in a home.

II. QUALIFICATIONS AND REMUNERATION

A. Qualifications

2. I am a Managing Director of NERA Economic Consulting (“NERA”), a member of NERA’s Securities and Finance Practice and Chair of NERA’s Product Liability and Mass Torts Practice. NERA provides practical economic advice related to highly complex business and legal issues arising from competition, regulation, public policy, strategy, finance, and litigation. NERA was established in 1961 and now employs approximately 500 people in more than 20 offices worldwide.

3. In my over 20 years at NERA, I have been engaged as an economic consultant or expert witness in numerous projects involving economic and statistical analysis. I have been qualified as an expert and testified in court on various economic and statistical issues relating to the flow of guns into the criminal market. I have testified at trials in Federal District Court, before the New York City Council Public Safety Committee, the American Arbitration Association and the Judicial Arbitration Mediation Service, as well as in depositions.

4. I have an A.B. from Stanford University, an M.B.A. from Yale University, and M.A. and M. Phil. degrees in Economics, also from Yale University. Prior to joining NERA, I was an Economist for both President George H. W. Bush’s and President Bill Clinton’s Council of Economic Advisers. My resume with recent publications and testifying experience is included as Appendix A.

B. Remuneration

5. NERA is being compensated for time spent by me and my team at standard billing rates and for out-of-pocket expenses at cost. NERA currently bills for my time at \$850 per hour. NERA's fees are not in any way contingent upon the outcome of this matter.

III. MATERIALS CONSIDERED

6. In preparing this report, I considered the following materials:
- a) Complaint for Declaratory and Injunctive Relief, dated May 17, 2017 ("Complaint");
 - b) Memorandum of Points and Authorities in Support of Plaintiffs' Motion for Preliminary Injunction, dated May 26, 2017;
 - c) Attorney General's Opposition to Plaintiffs' Motion for Preliminary Injunction, dated June 5, 2017;
 - d) Plaintiffs' Objections to Defendant's Evidence in Support of Opposition to Motion for Preliminary Injunction, dated June 9, 2017;
 - e) Order Granting Preliminary Injunction, dated June 29, 2017;
 - f) Declaration of Massad Ayoob in Support of Plaintiffs' Motion for Preliminary Injunction, dated May 26, 2017;
 - g) Declaration of Stephen Helsley in Support of Plaintiffs' Motion for Preliminary Injunction, dated May 26, 2017;
 - h) Declaration of Gary Kleck in Support of Plaintiffs' Motion for Preliminary Injunction, dated May 26, 2017;
 - i) Supplemental Declaration of Gary Kleck in Support of Plaintiffs' Motion for Preliminary Injunction, dated June 9, 2017;
 - j) Declaration of Professor John J. Donohue in Support of Defendant Xavier Becerra's Opposition to Plaintiffs' Motion for Preliminary Injunction, dated June 5, 2017;

- k) Declaration of Professor Blake Graham in Support of Defendant Xavier Becerra's Opposition to Plaintiffs' Motion for Preliminary Injunction, dated June 5, 2017;
- l) Declaration of Professor Daniel W. Webster in Support of Defendant Xavier Becerra's Opposition to Plaintiffs' Motion for Preliminary Injunction, dated June 5, 2017;
- m) NRA Institute for Legislative Action, Armed Citizen Stories, <https://www.nraila.org/gun-laws/armed-citizen.aspx>, last accessed May 28, 2017, and supporting news stories for the incidents obtained through Factiva and Google searches;
- n) Claude Werner, "The Armed Citizen – A Five Year Analysis," <http://gunssaveslives.net/self-defense/analysis-of-five-years-of-armed-encounters-with-data-tables>, accessed January 10, 2014;
- o) News stories on incidents of self-defense with a firearm in the home from Factiva between January 2011 and May 2017;
- p) Freedman, David A., and David H. Kaye, "Reference Guide on Statistics," *Reference Manual on Scientific Evidence* (Washington, D.C.: The National Academies Press, 3rd ed., 2011), pp. 211-302;
- q) Fisher, Franklin M., "Multiple Regression in Legal Proceedings," 80 *Columbia Law Review* 702 (1980);
- r) Mother Jones: "US Mass Shootings, 1982-2017: Data From Mother Jones' Investigation," updated October 2, 2017, <http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data>, accessed October 2, 2017; "A Guide to Mass Shootings in America," updated October 2, 2017, <http://www.motherjones.com/politics/2012/07/mass-shootings-map>, accessed October 2, 2017; "What Exactly is a Mass Shooting," *Mother Jones*, August 14, 2012, <http://www.motherjones.com/mojo/2012/08/what-is-a-mass-shooting>. Additional details for the mass shootings obtained through Factiva and Google searches;

- s) Citizens Crime Commission of New York City: "Mayhem Multiplied: Mass Shooters and Assault Weapons," 2016, <http://www.nycrimecommission.org/pdfs/CCC-MayhemMultiplied-June2016.pdf>; "Mass Shooting Incidents in America (1984-2012)," <http://www.nycrimecommission.org/mass-shooting-incidents-america.php>, accessed June 1, 2017. Additional details for the mass shootings obtained through Factiva and Google searches;
- t) Kleck, Gary, "Large-Capacity Magazines and the Casualty Counts in Mass Shootings: The Plausibility of Linkages," 17 *Justice Research and Policy* 28 (2016);
- u) "Analysis of Recent Mass Shootings," *Mayors Against Illegal Guns*, September 2013;
- v) "Crime in California 2016," *California Department of Justice: Criminal Justice Statistics Center*;
- w) "Firearm Violence, 1993-2011," *U.S. Department of Justice: Bureau of Justice Statistics*, May 2013;
- x) Federal Emergency Management Agency (FEMA): U.S. Fire Administration, *Residential and nonresidential building fire and fire loss estimates by property use and cause (2003-2015)*, <https://www.usfa.fema.gov/data/statistics/>, accessed September 28, 2017;
- y) U.S. Census Bureau, *State Population Totals Tables: 2010-2016*, <https://www.census.gov/data/tables/2016/demo/popest/state-total.html>, accessed September 28, 2017;
- z) Centers for Disease Control and Prevention (CDC): National Center for Health Statistics, *Injury Mortality: United States*, <https://data.cdc.gov/NCHS/NCHS-Injury-Mortality-United-States/nt65-c7a7>, accessed September 28, 2017;
- aa) National Weather Service, *How Dangerous is Lightning?* <http://www.lightningsafety.noaa.gov/odds.shtml>, accessed September 28, 2017.

IV. FINDINGS

A. Number of rounds fired by individuals in self-defense

7. Plaintiffs claim the banned “large-capacity magazines” (which are magazines capable of holding more than ten rounds) are commonly used in the home for self-defense. In particular, the Complaint claims, “There is little dispute that magazines having a capacity over 10 rounds are popular for self-defense purposes. [...] Each available round is an additional opportunity to end a threat. That is precisely why millions of Americans choose magazines over ten rounds for self-defense, including in the home.”¹

8. Analysis of data from the NRA Institute for Legislative Action, as well as my own study of news reports on incidents of self-defense with a firearm, indicates that it is rare for a person, when using a firearm in self-defense, to fire more than ten rounds. The NRA maintains a database of “Armed Citizen” stories describing private citizens who have successfully defended themselves, or others, using a firearm (“NRA Armed Citizen database”). According to the NRA, the “Armed Citizen” stories “highlight accounts of law-abiding gun owners in America using their Second Amendment rights to defend self, home and family.”² Although the methodology used to compile the NRA Armed Citizen database of stories is not explicitly detailed by the NRA, and the database itself is not readily replicable, the NRA Armed Citizen database was the largest collection of accounts of citizen self-defense compiled by others that I was able to find. In light of the positions taken by the entity compiling the data, I would expect that any selection bias would be in favor of stories that put use of guns in self-defense in the best possible light. In addition to analyzing incidents in the NRA Armed Citizen database (2011 through May 2017), I performed my own systematic, scientific study of news reports on incidents of self-defense with a firearm in the home, covering the same time period.

9. My team and I performed an analysis of incidents in the NRA Armed Citizen database that occurred between January 2011 and May 2017. For each incident, the city/county, state, venue (whether the incident occurred on the street, in the home, or elsewhere) and the

¹ Complaint at 47.

² NRA Institute for Legislative Action, Armed Citizens, <https://www.nraila.org/gun-laws/armed-citizen/>, last accessed May 28, 2017.

number of shots fired were tabulated.³ The information was gathered for each incident from both the NRA synopsis and, where available, an additional news story. An additional news story was found for over 95% of the incidents in the NRA Armed Citizen database.

10. According to this analysis of incidents in the NRA Armed Citizen database, defenders fired 2.2 shots on average. Out of 736 incidents, there were two incidents (0.3% of all incidents), in which the defender was reported to have fired more than 10 bullets. In 18.2% of incidents, the defender did not fire any shots, and simply threatened the offender with a gun. For incidents occurring in the home (56% of total), defenders fired an average of 2.1 shots, and fired no shots in 16.1% of incidents.⁴ The table below summarizes these findings:

³ The following incidents were excluded from the analysis: (1) duplicate incidents, (2) wild animal attacks, and (3) one incident where the supposed victim later pleaded guilty to covering up a murder. When the exact number of shots fired was not specified, we used the average for the most relevant incidents with known number of shots. For example, if the story stated that "shots were fired" this would indicate that at least two shots were fired and thus we used the average number of shots fired in all incidents in which two or more shots were fired and the number of shots was specified.

⁴ A separate study of incidents in the NRA Armed Citizen database for an earlier period (the five year period from 1997 through 2001) found similar results. Specifically, this study found that, on average, 2.2 shots were fired by defenders and that in 28% of incidents of armed citizens defending themselves the individuals fired no shots at all. See Claude Werner, "The Armed Citizen – A Five Year Analysis," <http://gunssaveslives.net/self-defense/analysis-of-five-years-of-armed-encounters-with-data-tables>, accessed January 10, 2014.

**Number of Shots Fired in Self-Defense
Based on NRA Armed Citizen Incidents in the United States
January 2011 - May 2017**

	Shots Fired by Individual in Self-Defense	
	Overall	Incidents in Home
Average Number of Shots Fired	2.2	2.1
Number of Incidents with No Shots Fired	134	66
Percent of Incidents with No Shots Fired	18.2%	16.1%
Number of Incidents with >10 Shots Fired	2	2
Percent of Incidents with >10 Shots Fired	0.3%	0.5%

Notes and Sources:

Data from NRA Armed Citizen database covering 736 incidents (of which 411 were in the home) from January 2011 through May 2017. Excludes duplicate incidents, wild animal attacks and one incident where the supposed victim later pleaded guilty to covering up a murder.

11. We also performed the same analysis of the NRA Armed Citizen database limited to incidents that occurred in the state of California. According to this analysis, defenders in California fired 2.0 shots on average. Out of 47 incidents, there were no incidents in which the defender was reported to have fired more than 10 bullets. In 27.7% of incidents, the defender did not fire any shots, and simply threatened the offender with a gun. For incidents occurring in the home (60% of total), defenders fired an average of 1.9 shots, and fired no shots in 32.1% of incidents. The table below summarizes these findings for California:

**Number of Shots Fired in Self-Defense
Based on NRA Armed Citizen Incidents in California
January 2011 - May 2017**

	Shots Fired by Individual in Self-Defense	
	Overall	Incidents in Home
Average Number of Shots Fired	2.0	1.9
Number of Incidents with No Shots Fired	13	9
Percent of Incidents with No Shots Fired	27.7%	32.1%
Number of Incidents with >10 Shots Fired	0	0
Percent of Incidents with >10 Shots Fired	0.0%	0.0%

Notes and Sources:

Data from NRA Armed Citizen database covering 47 incidents in California (of which 28 were in the home) January 2011 through May 2017. Excludes duplicate incidents and wild animal attacks.

12. In addition to our analysis of incidents in the NRA Armed Citizen database, we performed a systematic, scientific study of news reports on incidents of self-defense with a firearm in the home, covering the same time period used in our analysis of the NRA Armed Citizen database.

13. To identify relevant news stories to include in our analysis, we performed a comprehensive search of published news stories using Factiva, an online news reporting service and archive owned by Dow Jones, Inc. that aggregates news content from nearly 33,000 sources. The search covered the same period used in our analysis of incidents in the NRA Armed Citizen database (January 2011 to May 2017). The search identified all stories that contained the following keywords in the headline or lead paragraph: one or more words from “gun,” “shot,” “shoot,” “fire,” or “arm” (including variations on these keywords, such as “shooting” or “armed”), plus one or more words from “broke in,” “break in,” “broken into,” “breaking into,” “burglar,” “intruder,” or “invader” (including variations on these keywords) and one or more

words from “home,” “apartment,” or “property” (including variations on these keywords).⁵ The region for the Factiva search was set to “United States.” The search returned approximately 35,000 stories for the period January 2011 to May 2017.⁶

14. Using a random number generator, a random sample of 200 stories was selected for each calendar year, yielding 1,400 stories in total.⁷ These 1,400 stories were reviewed to identify those stories that were relevant to the analysis, *i.e.*, incidents of self-defense with a firearm in or near the home. This methodology yielded a random selection of 200 news stories describing incidents of self-defense with a firearm in the home out of a population of approximately 4,800 relevant stories. Thus, we found that out of the over 70 million news stories aggregated by Factiva between January 2011 and May 2017, approximately 4,800 news stories were on incidents of self-defense with a firearm in the home. We analyzed a random selection of 200 of these stories.

15. For each news story, the city/county, state and number of shots fired were tabulated. When tabulating the number of shots fired, we used the same methodology as that used to analyze stories in the NRA Armed Citizen database.⁸ We then identified other stories describing the same incident on Factiva based on the date, location and other identifying information, and recorded the number of times that each incident was covered by Factiva news stories.

16. According to our study of a random selection from approximately 4,800 relevant stories on Factiva describing incidents of self-defense with a firearm in the home, the average number of shots fired per story was 2.61. This is not a measure of the average shots fired *per*

⁵ The precise search string used was: (gun* or shot* or shoot* or fire* or arm*) and (“broke in” or “break in” or “broken into” or “breaking into” or burglar* or intrud* or inva*) and (home* or “apartment” or “property”). An asterisk denotes a wildcard, meaning the search includes words which have any letters in place of the asterisk. For example, a search for shoot* would return results including “shoots,” “shooter” and “shooting.” The search excluded duplicate stories classified as “similar” on Factiva.

⁶ We compared a sample of stories in the NRA Armed Citizen database to the Factiva search and found that the Factiva search contained all of the NRA stories with the exception of those published by sources not tracked by Factiva.

⁷ The random numbers were generated by sampling with replacement.

⁸ When the exact number of shots fired was not specified, we used the average for the most relevant incidents with known number of shots. For example, if the story stated that “shots were fired” this would indicate that at least two shots were fired and thus we used the average number of shots fired in all incidents in which two or more shots were fired and the number of shots was specified.

incident, however, because the number of stories covering an incident varies, and the variation is not independent of the number of shots fired. We found that there was a statistically significant relationship between the number of shots fired in an incident and the number of news stories covering an incident.⁹ We found that on average the more shots fired in a defensive gun use incident, the greater the number of stories covering an incident. For example, as shown in the table below, we found that incidents in Factiva news stories with zero shots fired were covered on average by 1.8 news stories, while incidents with six or more shots fired were covered on average by 10.4 different news stories.

**Average Number of News Stories by Number of Shots Fired
In Factiva Stories on Incidents of Self-Defense with a Firearm
January 2011 - May 2017**

Number of Shots Fired By Defender	Average Number of News Stories
0	1.8
1 to 2	2.8
3 to 5	3.8
6 or more	10.4

Notes and Sources:

Based on news stories describing defensive gun use in a random selection of Factiva stories between 2011 and May 2017 using the search string: (gun* or shot* or shoot* or fire* or arm*) and ("broke in" or "break in" or "broken into" or "breaking into" or burglar* or intrud* or inva*) and (home* or "apartment" or "property"), with region set to "United States" and excluding duplicate stories classified as "similar" on Factiva. Methodology for tabulation of shots fired as per footnote 8.

⁹ Based on a linear regression of the number of news stories as a function of the number of shots fired, the results were statistically significant at the 1% level (more stringent than the 5% level commonly used by academics and accepted by courts. *See* for example, Freedman, David A., and David H. Kaye, "Reference Guide on Statistics," *Reference Manual on Scientific Evidence* (Washington, D.C.: The National Academies Press, 3rd ed., 2011), pp. 211-302, and Fisher, Franklin M., "Multiple Regression in Legal Proceedings," 80 *Columbia Law Review* 702 (1980).)

17. After adjusting for this disparity in news coverage, we find that the average number of shots fired per incident covered is 2.34.¹⁰ Note that this adjustment does not take into account the fact that some defensive gun use incidents may not be picked up by *any* news story. Given the observed relationship that there are more news stories when there are more shots fired, one would expect that the incidents that are not written about would on average have fewer shots than those with news stories. Therefore, the expectation is that these results, even after the adjustment, are biased upward (*i.e.*, estimating too high an average number of shots and underestimating the percent of incidents in which no shots were fired).

18. As shown in the table below, according to the study of Factiva news stories, in 11.6% of incidents the defender did not fire any shots, and simply threatened the offender with a gun. In 97.3% of incidents the defender fired 5 or fewer shots. There were no incidents where the defender was reported to have fired more than 10 bullets.

¹⁰ The adjustment reflects the probability that a news story on a particular incident would be selected at random from the total population of news stories on incidents of self-defense with a firearm in the home. The formula used for the adjustment is:

$$\frac{\sum_{i=1}^n \left(\text{Shots Fired}_i \times \frac{R_i}{C_i} \right)}{\sum_{i=1}^n \left(\frac{R_i}{C_i} \right)}$$

where:

n = random selection of news stories on incidents of self-defense with a firearm in the home

R_i = number of search results on Factiva in the calendar year of incident i

C_i = number of news stories covering incident i

**Number of Shots Fired in Self-Defense in the Home
Based on Random Selection of News Stories in Factiva
January 2011 - May 2017**

Estimated population of news reports in Factiva on self-defense with a firearm in the home	4,841
Random selection of news reports	200
Average Number of Shots Fired	2.34
Median Number of Shots Fired	2.03
Number of Incidents with No Shots Fired	23
Percent of Incidents with No Shots Fired	11.6%
Number of Incidents with ≤ 5 Shots Fired	195
Percent of Incidents with ≤ 5 Shots Fired	97.3%
Number of Incidents with > 10 Shots Fired	0
Percent of Incidents with > 10 Shots Fired	0.0%

Notes and Sources:

Based on news stories describing defensive gun use in a random selection of Factiva stories between 2011 and May 2017 using the search string: (gun* or shot* or shoot* or fire* or arm*) and ("broke in" or "break in" or "broken into" or "breaking into" or burglar* or intrud* or inva*) and (home* or "apartment" or "property"), with region set to "United States" and excluding duplicate stories classified as "similar" on Factiva. Methodology for tabulation of shots fired as per footnote 8. Number of incidents probability-weighted as per footnote 10.

19. In sum, an analysis of incidents in the NRA Armed Citizen database, as well as our own study of a random sample from approximately 4,800 news stories describing incidents of self-defense with a firearm, indicates that it is rare for a person, when using a firearm in self-defense, to fire more than ten rounds.

B. Mass shootings

1. Use of large-capacity magazines in mass shootings

20. We analyzed two sources detailing historical mass shootings: 1) Mother Jones, “US Mass Shootings, 1982-2017: Data From Mother Jones’ Investigation,”¹¹ and 2) the Citizens Crime Commission of New York City, “Mayhem Multiplied: Mass Shooters and Assault Weapons”¹² and “Mass Shooting Incidents in America (1984-2012).”¹³

21. The definition of a mass shooting and the period covered differed somewhat for each of the sources. The Mother Jones data that we analyzed covers 91 mass shootings from 1982 to October 2017. Mother Jones includes mass shootings in which a shooter killed four or more people in one incident in a public place and excludes crimes involving armed robbery or gang violence.¹⁴ Starting in January 2013, Mother Jones changed its definition of a mass shooting to include instances when a shooter killed three or more people, consistent with a change in the federal definition of a mass shooting.¹⁵ The Citizens Crime Commission data that we analyzed covers 73 mass shootings from 1984 to June 2016. Citizens Crime Commission includes mass shootings in which a shooter killed four or more people in a public place and was unrelated to another crime (such as robbery or domestic violence).¹⁶ We combined the data from

¹¹ “US Mass Shootings, 1982-2017: Data From Mother Jones’ Investigation,” *Mother Jones*, updated October 2, 2017, <http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data>, accessed October 2, 2017.

¹² “Mayhem Multiplied: Mass Shooters and Assault Weapons,” *Citizens Crime Commission of New York City*, 2016.

¹³ “Mass Shooting Incidents in America (1984-2012),” *Citizens Crime Commission of New York City*, <http://www.nycrimecommission.org/mass-shooting-incidents-america.php>, accessed June 1, 2017.

¹⁴ “A Guide to Mass Shootings in America,” *Mother Jones*, updated October 2, 2017, <http://www.motherjones.com/politics/2012/07/mass-shootings-map>. See also, “What Exactly is a Mass Shooting,” *Mother Jones*, August 14, 2012. <http://www.motherjones.com/mojo/2012/08/what-is-a-mass-shooting>.

¹⁵ “A Guide to Mass Shootings in America,” *Mother Jones*, updated October 2, 2017, <http://www.motherjones.com/politics/2012/07/mass-shootings-map>. Note this analysis of the Mother Jones data may not match other analyses because Mother Jones periodically updates its historical data.

The Mother Jones data includes three incidents involving two shooters (Columbine High School, San Bernardino and Westside Middle School).

¹⁶ Note that the Citizens Crime Commission data are obtained from two sources. The first source covers 72 mass shootings from 1984 to 2016, in which a shooter killed four or more people in a public place and was unrelated

both sources and searched news stories on each mass shooting to obtain data on shots fired where available.¹⁷ See attached Appendix B for a summary of the combined data.

22. Based on the combined data we found that large-capacity magazines (those with a capacity to hold more than 10 rounds of ammunition) are often used in mass shootings. Magazine capacity is known in 83 out of the 96 mass shootings (86%) considered in this analysis. We found that large-capacity magazines were used in the majority of mass shootings since 1982 regardless of how mass shootings with unknown magazine capacity are treated. In particular, out of 83 mass shootings with known magazine capacity, 54 involved large-capacity magazines or 65% of mass shootings with known magazine capacity. Even assuming the mass shootings with unknown magazine capacity *all* did not involve large-capacity magazines, the majority of mass shootings involved large capacity magazines (*i.e.*, 54 out of 96 mass shootings or 56%).

23. The combined data on mass shootings indicates that it is common for offenders to fire more than ten rounds when using a gun with a large-capacity magazine in mass shootings. In particular, in mass shootings that involved use of large-capacity magazine guns, the average number of shots fired was 72.¹⁸

2. Casualties in mass shootings with large-capacity magazine guns compared with other mass shootings

24. Based on our analysis of the combined mass shootings data in the past 35 years, casualties were higher in the mass shootings that involved large-capacity magazine guns than in

to another crime (such as robbery or domestic violence). See "Mayhem Multiplied: Mass Shooters and Assault Weapons," *Citizens Crime Commission of New York City*, 2016.

The second source covers 33 mass shootings from 1984 to 2012, in which a shooter killed four or more people and the gun used by the shooter had a magazine capacity greater than ten. All but one of the mass shooting incidents in the second source are covered by the first, but the combination of the two sources provides additional detail, such as the number of shots fired. See "Mass Shooting Incidents in America (1984-2012)," *Citizens Crime Commission of New York City*, <http://www.nycrimecommission.org/mass-shooting-incidents-america.php>, accessed June 1, 2017.

¹⁷ The October 1, 2017 Las Vegas Strip mass shooting occurred a few days before the filing of this report and thus, any information or statistics on this mass shooting are preliminary.

¹⁸ There were 36 mass shootings in which the magazine used was known to be a large capacity magazine and the number of shots fired were known. The October 1, 2017 Las Vegas Strip mass shooting occurred a few days before the filing of this report. Details on the number of shots fired are still preliminary and thus are not included in this analysis. (News stories indicate hundreds of shots were fired.)

other mass shootings. In particular, we found an average number of fatalities or injuries of 30 per mass shooting with a large-capacity magazine versus 9 for those without.¹⁹

3. Percent of mass shooters' guns legally obtained

25. The combined data on mass shootings indicates that the majority of guns used in mass shootings were obtained legally.²⁰ According to the data, shooters in at least 71% of mass shootings in the past 35 years obtained their guns legally (at least 68 of the 96 mass shootings) and at least 76% of the guns used in these 96 mass shootings were obtained legally (at least 170 of the 224 guns).²¹

C. Rate in California that victims use a firearm in self-defense in the home

26. Plaintiffs claim the banned large-capacity magazines are commonly used in the home for self-defense.²² We estimated how common it is in California for a person in their home to defend themselves with a gun against an armed robber.

27. Using California-specific crime data collected by the California Department of Justice,²³ we estimated the number of residential robberies committed with a firearm. This estimate was based on the average annual rate for the six-year period between 2011-2016 using

¹⁹ An analysis of the mass shootings detailed in an article by Plaintiffs' expert Gary Kleck yielded similar results (21 average fatalities or injuries in mass shootings involving large-capacity magazines versus 8 for those without). The article covered 88 mass shooting incidents between 1994 and 2013. See Kleck, Gary, "Large-Capacity Magazines and the Casualty Counts in Mass Shootings: The Plausibility of Linkages," 17 *Justice Research and Policy* 28 (2016).

A 2013 study by Mayors Against Illegal Guns found that when mass shootings involved assault weapons or high capacity magazines, the number of deaths was higher. The study was based on data from the FBI and media reports covering the period January 2009 through January 2013. The study found that mass shootings where assault weapons or high-capacity magazines were used resulted in an average of 14.4 people shot and 7.8 deaths versus other mass shootings that resulted in 5.7 people shot and 4.8 deaths. See "Analysis of Recent Mass Shootings," *Mayors Against Illegal Guns*, September 2013.

²⁰ The determination of whether guns were obtained legally is based on Mother Jones reporting.

²¹ Mother Jones did not indicate whether the guns were obtained legally for 10% of mass shootings (9 out of the 91 mass shootings covered by Mother Jones).

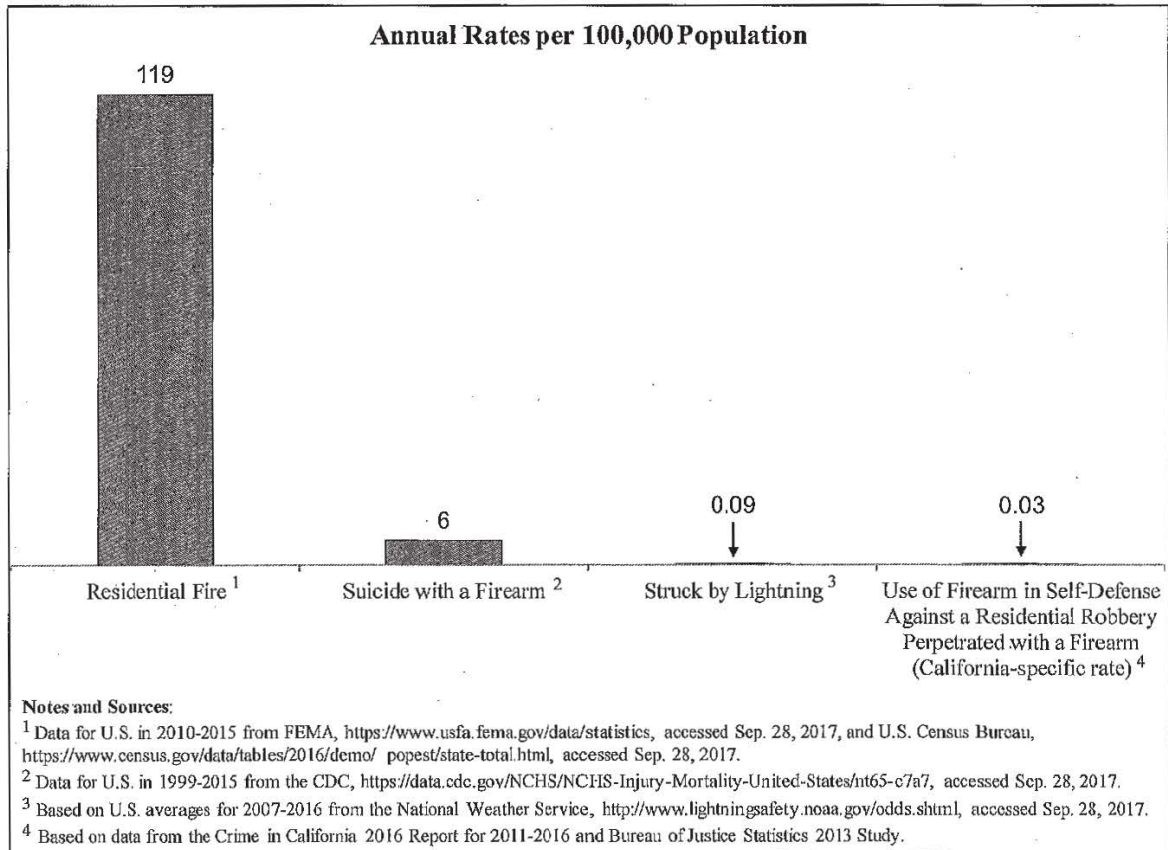
²² Complaint at 47.

²³ "Crime in California 2016," *California Department of Justice: Criminal Justice Statistics Center*.

California annual data on the number of residential robberies adjusted for the percentage of robberies committed with a firearm in California.

28. To this California estimate, the national rate from the Bureau of Justice Statistics at which victims in nonfatal violent crimes used a firearm in self-defense was applied to determine an annual rate that victims use a firearm in self-defense in a residential robbery perpetrated with a firearm.²⁴ We estimated an annual rate of 0.03 instances per 100,000 persons in California in which a victim used a firearm in self-defense in a residential robbery perpetrated with a firearm (0.3 incidents per million people or less than one in a million).

29. The chart below illustrates how this rate compares with annual rates of other events: residential fires, suicide with a firearm and being struck by lightning.



²⁴ This rate is obtained from "Firearm Violence, 1993-2011," *U.S. Department of Justice: Bureau of Justice Statistics*, May 2013, p. 12, Table 11.

The chart shows that the annual rate of a person being struck by lightning is around one in a million. The rate in California of a victim using a firearm in self-defense in an armed residential robbery is three times less than being struck by lightning. Further, the chart shows when comparing a person in California's odds of using a firearm in self-defense in an armed residential robbery to other risks, the person is over 200 times more likely to commit suicide with a firearm, and almost 4,000 times more likely to have a fire in their home.

Respectfully submitted,



Lucy P. Allen

October 6, 2017

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Appendix A

MANAGING DIRECTOR

Education

YALE UNIVERSITY
M.Phil., Economics, 1990
M.A., Economics, 1989
M.B.A., 1986

STANFORD UNIVERSITY
A.B., Human Biology, 1981

Professional Experience

1994-Present	National Economic Research Associates, Inc. <u>Managing Director</u> . Responsible for economic analysis in the areas of securities, finance and environmental and tort economics. <u>Senior Vice President (2003-2016)</u> . <u>Vice President (1999-2003)</u> . <u>Senior Consultant (1994-1999)</u> .
1992-1993	Council of Economic Advisers, Executive Office of the President <u>Staff Economist</u> . Provided economic analysis on regulatory and health care issues to Council Members and interagency groups. Shared responsibility for regulation and health care chapters of the <i>Economic Report of the President, 1993</i> . Working Group member of the President's National Health Care Reform Task Force.
1986-1988 1983-1984	Ayers, Whitmore & Company (General Management Consultants) <u>Senior Associate</u> . Formulated marketing, organization, and overall business strategies including: Plan to improve profitability of chemical process equipment manufacturer. Merger analysis and integration plan of two equipment manufacturers. Evaluation of Korean competition to a U.S. manufacturer. Diagnostic survey for auto parts manufacturer on growth obstacles. Marketing plan to increase international market share for major accounting firm.

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Summer 1985 **WNET/Channel Thirteen, Strategic Planning Department**
Associate. Assisted in development of company's first long-term strategic plan. Analyzed relationship between programming and viewer support.

1981-1983 **Arthur Andersen & Company**
Consultant. Designed, programmed and installed management information systems. Participated in redesign/conversion of New York State's accounting system. Developed municipal bond fund management system, successfully marketed to brokers. Participated in President's Private Sector Survey on Cost Control (Grace Commission). Designed customized tracking and accounting system for shipping company.

Teaching

1989- 1992 **Teaching Fellow, Yale University**
Honors Econometrics
Intermediate Microeconomics
Competitive Strategies
Probability and Game Theory
Marketing Strategy
Economic Analysis

Publications, Speeches and Conference Papers

"Snapshot of Recent Trends in Asbestos Litigation: 2017 Update," (co-author), NERA Report, 2017.

"Asbestos: Economic Assessment of Bans and Declining Production and Consumption," World Health Organization, 2017.

"Snapshot of Recent Trends in Asbestos Litigation: 2016 Update," (co-author), NERA Report, 2016.

"Economic Dimension and Societal Costs and Benefits of Banning Asbestos," presented at the World Health Organization, Regional Office for Europe conference, Assessing the Economic Costs of the Health Impacts of Environmental and Occupational Factors: The Economic Dimension of Asbestos, Bonn, Germany, 2016.

"Snapshot of Recent Trends in Asbestos Litigation: 2015 Update," (co-author), NERA Report, 2015.

Participant in panel on "Expert Reports and Depositions" at PLI Expert Witness 2014, hosted by the Practising Law Institute, New York, New York, 2014.

"Snapshot of Recent Trends in Asbestos Litigation: 2014 Update," (co-author), NERA Report, 2014.

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"High Frequency Trading --A Primer in 1,800,000 Milliseconds" before the Litigation Group at Morrison Foerster, New York, New York, 2014.

"Snapshot of Recent Trends in Asbestos Litigation: 2013 Update," (co-author), NERA Report, 2013.

"Asbestos Payments per Resolved Claim Increased 75% in the Past Year -- Is This Increase as Dramatic as it Sounds? Snapshot of Recent Trends in Asbestos Litigation: 2012 Update," (co-author), NERA Report, 2012.

"Snapshot of Recent Trends in Asbestos Litigation: 2011 Update," (co-author), NERA White Paper, 2011.

Participant in panel at The Implications of Matrixx, hosted by NERA Economic Consulting, New York, New York, 2011.

"2011 & Beyond--Predicting Mass Tort Litigation: with a Focus on Pharmaceutical Torts" presented at Emerging Insurance Coverage and Allocation Issues, hosted by Perrin Conferences, New York, New York, 2011.

Presented recent trends in settlements, predicting settlement amounts, and the use of economic analysis at mediation in the "Settlement Trends & Tactics" panel at Securities Litigation & Enforcement: Current Developments & Strategies, hosted by the New York City Bar, New York, New York, 2010.

"Snapshot of Recent Trends in Asbestos Litigation: 2010 Update," (co-author), NERA White Paper, 2010.

"Settlement Trends and Tactics" presented at Securities Litigation During the Financial Crisis: Current Development & Strategies, hosted by the New York City Bar, New York, New York, 2009.

"GM and Chrysler Bankruptcies: Potential Impact on Other Asbestos Defendants" presented at Asbestos Litigation Conference: A Comprehensive National Overview and Outlook, hosted by Perrin Conferences, San Francisco, California, 2009.

"Snapshot of Recent Trends in Asbestos Litigation," (co-author), NERA White Paper, 2009.

"Emerging Economies and Product Recall -- Are the Claims Coming?" presented at The International Reinsurance Summit 2008, Hamilton, Bermuda, 2008.

"China Product Recalls: What's at Stake and What's Next," (co-author), NERA Working Paper, 2008.

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"Recent Trends in Securities Litigation" presented at Strategies, Calculations & Insurance in Complex Business Litigation, hosted by the Directors Roundtable, New York, New York, 2008.

"The Current Landscape" presented at Mealey's Product Recall Liability Conference: Made in China and Beyond, Washington, DC, 2007.

"China Product Recalls: What's at Stake and What's Next" presented at China Product Recalls, sponsored by National Economic Research Associates, New York, New York, 2007.

"Damages and Loss Causation in Shareholder Class Actions after Dura" presented at Securities Litigation: Emerging Trends in Enforcement and Winning Litigation Strategies hosted by the International Quality & Productivity Center, New York, New York, 2006.

"Forecasting Product Liability by Understanding the Driving Forces," (co-author), The International Comparative Legal Guide to Product Liability, 2006.

"Recent Trends in Securities Class Action Litigation," presented at The Class Action Litigation Summit Program Class Action in the Securities Industry, Washington, D.C., 2003.

"Product Liability Claims Estimation – Four Steps, Four Myths" presented at Standard & Poor's Seminar, New York, New York, 2001.

"How Bad Can It Be? The Economics of Damages and Settlements in Shareholder Class Actions," Balancing Disclosure and Litigation Risks for Public Companies (Or Soon-To-Be Public Companies) Seminar, sponsored by Alston & Bird LLP and RR Donnelley Financial, Nashville, Tennessee, 2000.

"Securities Litigation Reform: Problems and Progress," Viewpoint, November 1999, Issue No. 2 (co-authored).

"Trends in Securities Litigation and the Impact of the PSLRA," Class Actions & Derivative Suits, American Bar Association Litigation Section, Vol. 9, No. 3, Summer 1999 (co-authored).

"Random Taxes, Random Claims," Regulation, Winter 1997, pp. 6-7 (co-authored).

"Adverse Selection in the Market for Used Construction Equipment," presented at the NBER Conference on Research in Income and Wealth, Federal Reserve Board, June 1992.

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Expert Reports, Depositions & Testimony (4 years)

Deposition Testimony and Expert Report before the United States District Court for the Western District of Texas, Austin Division in *City of Pontiac General Employees' Retirement System v. Dell, Inc., et al.*, 2017.

Deposition Testimony and Expert Report before the United States District Court for the Southern District of Texas, Houston Division in *In re Willbros Group, Inc. Securities Litigation*, 2017.

Declaration before the United States District Court Eastern District of California in *William Wiese, et al. v. Xavier Becerra, et al.* and *Virginia Duncan, et al. v. Xavier Becerra, et al.*, 2017.

Deposition Testimony and Expert Report before the United States District Court for the Southern District of Texas, Houston Division in *In re Cobalt International Energy Inc. Securities Litigation.*, 2017.

Testimony, Deposition Testimony and Expert Report before the United States District Court for the Northern District of Texas, Dallas Division in *DEKA Investment GmbH, et al. v. Santander Consumer USA Holdings, Inc., et al.*, 2017.

Deposition Testimony before the Superior Court of the State of North Carolina for Mecklenburg County in *Next Advisor, Inc. v. LendingTree, Inc.*, 2017

Deposition Testimony and Expert Report before the Supreme Court of the State of New York, County of New York in *Iroquois Master Fund Ltd., et al. v. Hyperdynamics Corporation*, 2016.

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Lucy P. Allen

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Testimony, Deposition Testimony and Expert Report before the United States District Court for the Northern District of Texas, Dallas Division in *The Archdiocese of Milwaukee Supporting Fund, Inc., et al. v. Halliburton Company, et al.*, 2014.

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Deposition Testimony and Expert Report before the United States District Court Southern District of Florida in *Atul Kumar Sood, et al. v. Catalyst Pharmaceutical Partners Inc., et al.*, 2014.

Declaration before the Superior Court of Gwinnett County State of Georgia in *City of Riviera Beach General Employees Retirement System, et al. v. Aaron's Inc., et al., Norfolk County Retirement System, et al. v. Aaron's Inc., et al.*, 2014.

Deposition Testimony, Surrebuttal Report and Expert Report before the United States District Court Middle District of Tennessee Nashville Division in *Garden City Employees' Retirement System and Central States, Southeast and Southwest Areas Pension Fund, et al. v. Psychiatric Solutions, Inc., et al.*, 2014.

Declaration before the United States District Court Northern District of California San Jose Division in *Fyock, et al. v. The City of Sunnyvale, et al.*, 2014.

Deposition Testimony and Expert Report before the United States District Court for the District of Maryland (Northern Division) in *Kolbe, et al. v. O'Malley, et al.*, 2014.

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Lucy P. Allen

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Deposition Testimony and Expert Report before the United States Court of Federal Claims in *Starr International Company, Inc. v. the United States of America*, 2013.

Expert Report before the Circuit Court for the County of Fairfax in *John DeGroote as liquidating trustee for and on behalf of the BearingPoint, Inc. Liquidating Trust v. F. Edwin Harbach, et al.*, 2013.

Appendix B

Combined Mass Shootings Data

1982 – October 2017

Case	Location	Date	Source	Large Cap. Mag.? ^a	Fatalities ^b	Injuries ^b	Total Fatalities & Injuries ^b	Shots Fired	Gun(s) Obtained Legally? ^c	Offenders' Number of Guns
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. Las Vegas Strip	^d Las Vegas, NV	10/1/2017	MJ	Yes	59 ^d	527 ^d	586 ^d	- ^d	Yes ^d	23 ^d
2. San Francisco UPS	San Francisco, CA	6/14/2017	MJ	Yes	3	2	5	-	No	2
3. Pennsylvania Supermarket	Tunkhannock, PA	6/7/2017	MJ	No	3	0	3	59 ^e	-	2
4. Fiamma Workplace	Orlando, FL	6/5/2017	MJ	-	5	0	5	-	-	1
5. Ohio Nursing Home	Kirkersville, OH	5/12/2017	MJ	-	3	0	3	-	-	2
6. Fresno Downtown	Fresno, CA	4/18/2017	MJ	No	3	0	3	16 ^f	-	1
7. Fort Lauderdale Airport	Fort Lauderdale, FL	1/6/2017	MJ	-	5	6	11	15 ^g	Yes	1
8. Cascade Mall	Burlington, WA	9/23/2016	MJ	-	5	0	5	-	-	1
9. Baton Rouge Police	Baton Rouge, LA	7/17/2016	MJ	Yes	3	3	6	43 ^h	-	3
10. Dallas Police	Dallas, TX	7/7/2016	MJ	Yes	5	11	16	-	Yes	3
11. Orlando Nightclub	Orlando, FL	6/12/2016	MJ/CC	Yes	49/50	53	102/103	110 ⁱ	Yes	2
12. Excel Industries	Hesston, KS	2/25/2016	MJ	Yes	3	14	17	-	Yes	2
13. Kalamazoo	Kalamazoo County, MI	2/20/2016	MJ	-	6	2	8	-	Yes	1
14. San Bernardino	San Bernardino, CA	12/2/2015	MJ/CC	Yes	14/16	21	35/37	150 ^j	Yes	4
15. Planned Parenthood Clinic	Colorado Springs, CO	11/27/2015	MJ	-	3	9	12	-	-	1
16. Colorado Springs	Colorado Springs, CO	10/31/2015	MJ	Yes	3	0	3	-	Yes	3
17. Umpqua Community College	Roseburg, OR	10/1/2015	MJ/CC	Yes	9/10	9	18/19	-	Yes	6
18. Chattanooga Military Center	Chattanooga, TN	7/16/2015	MJ/CC	Yes	5/6	2/3	7/9	-	Yes	3
19. Charleston Church	Charleston, SC	6/17/2015	MJ/CC	Yes	9	1	10	-	Yes	1
20. Trestle Trail Bridge	Menasha, WI	6/11/2015	MJ	-	3	1	4	-	Yes	2
21. Marysville High School	Marysville, WA	10/24/2014	MJ/CC	Yes	5	1	6	-	Stolen	1
22. Isla Vista	Santa Barbara, CA	5/23/2014	MJ	Yes	6	13	19	50 ^k	Yes	3
23. Fort Hood	Fort Hood, TX	4/3/2014	MJ	-	3	12	15	-	Yes	1
24. Alturas Tribal	Alturas, CA	2/20/2014	MJ	-	4	2	6	-	-	2
25. Washington Navy Yard	Washington, D.C.	9/16/2013	MJ/CC	No	12/13	8/7	20	-	Yes	2

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Appendix B
Combined Mass Shootings Data
1982 – October 2017

Case	Location	Date	Source	Large Cap. Mag.? ^a	Fatalities ^b	Injuries ^b	Total Fatalities & Injuries ^b	Shots Fired	Gun(s) Obtained Legally? ^c	Offenders' Number of Guns
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
26. Hialeah	Hialeah, FL	7/26/2013	MJ/CC	Yes	7	0	7	10 ¹	Yes	1
27. Santa Monica	Santa Monica, CA	6/7/2013	MJ/CC	Yes	6	3/4	9/10	70 ^m	Yes	2
28. Federal Way	Federal Way, WA	4/21/2013	MJ	-	5	0	5	-	Yes	2
29. Upstate New York	Herkimer County, NY	3/13/2013	MJ	-	5	2	7	-	Yes	1
30. Newtown School	Newtown, CT	12/14/2012	MJ/CC	Yes	28	2	30	154	Stolen	4/3
31. Accent Signage Systems	Minneapolis, MN	9/27/2012	MJ/CC	Yes	7	1/2	8/9	46	Yes	1
32. Sikh Temple	Oak Creek, WI	8/5/2012	MJ/CC	Yes	7	3	10	-	Yes	1
33. Aurora Movie Theater	Aurora, CO	7/20/2012	MJ/CC	Yes	12	70	82	80	Yes	4
34. Seattle Café	Seattle, WA	5/30/2012	MJ/CC	No	6	1	7	-	Yes	2
35. Oikos University	Oakland, CA	4/2/2012	MJ/CC	No	7	3	10	-	Yes	1
36. Su Jung Health Sauna	Norcross, GA	2/22/2012	MJ	-	5	0	5	-	Yes	1
37. Seal Beach	Seal Beach, CA	10/14/2011	MJ/CC	No	8	1	9	-	Yes	3
38. IHOP	Carson City, NV	9/6/2011	MJ/CC	Yes	5	7	12	-	Yes	3
39. Grand Rapids	Grand Rapids, MI	7/7/2011	CC	Yes	8	2	10	10	-	1
40. Tucson	Tucson, AZ	1/8/2011	MJ/CC	Yes	6	13	19	33	Yes	1
41. Hartford Beer Distributor	Manchester, CT	8/3/2010	MJ/CC	Yes	9	2	11	11	Yes	2
42. Yoyito Café	Hialeah, FL	6/6/2010	CC	No	5	3	8	9 ⁿ	-	-
43. Coffee Shop Police	Parkland, WA	11/29/2009	MJ/CC	No	4/5	1/0	5	-	Stolen	2
44. Fort Hood	Fort Hood, TX	11/5/2009	MJ/CC	Yes	13	30/32	43/45	214	Yes	1
45. Binghamton	Binghamton, NY	4/3/2009	MJ/CC	Yes	14	4	18	99	Yes	2
46. Carthage Nursing Home	Carthage, NC	3/29/2009	MJ/CC	No	8	3/2	11/10	-	Yes	2
47. Atlantis Plastics	Henderson, KY	6/25/2008	MJ/CC	No	6	1	7	-	Yes	1
48. Northern Illinois University	DeKalb, IL	2/14/2008	MJ/CC	Yes	5/6	21	26/27	54	Yes	4
49. Kirkwood City Council	Kirkwood, MO	2/7/2008	MJ/CC	No	6	2	8	-	Stolen	2
50. Westroads Mall	Omaha, NE	12/5/2007	MJ/CC	Yes	9	4/5	13/14	14	Stolen	1

Appendix B
Combined Mass Shootings Data
1982 – October 2017

Case	Location	Date	Source	Large Cap. Mag.? ^a	Fatalities ^b	Injuries ^b	Total Fatalities & Injuries ^b	Shots Fired	Gun(s) Obtained Legally? ^c	Offenders' Number of Guns
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
51. Crandon	Crandon, WI	10/7/2007	MJ/CC	Yes	6/7	1	7/8	30 ^o	Yes	1
52. Virginia Tech	Blacksburg, VA	4/16/2007	MJ/CC	Yes	32/33	23/17	55/50	176	Yes	2
53. Trolley Square	Salt Lake City, UT	2/12/2007	MJ/CC	No	6	4	10	-	No	2
54. Amish School	Lancaster County, PA	10/2/2006	MJ/CC	No	6	5	11	-	Yes	3
55. Capitol Hill	Seattle, WA	3/25/2006	MJ/CC	Yes	7	2	9	-	Yes	4
56. Goleta Postal	Goleta, CA	1/30/2006	MJ/CC	Yes	8	0	8	-	Yes	1
57. Red Lake	Red Lake, MN	3/21/2005	MJ/CC	No	10	5/6	15/16	-	Stolen	3
58. Living Church of God	Brookfield, WI	3/12/2005	MJ/CC	Yes	7/8	4	11/12	-	Yes	1
59. Damageplan Show	Columbus, OH	12/8/2004	MJ/CC	No	5	7/3	12/8	15 ^P	Yes	1
60. Hunting Camp	Meteor, WI	11/21/2004	CC	Yes	6	3	9	20	-	1
61. Windy City Warehouse	Chicago, IL	8/27/2003	CC	No	7	0	7	-	-	-
62. Lockheed Martin	Meridian, MS	7/8/2003	MJ/CC	Yes	7	8	15	-	Yes	5
63. Navistar	Melrose Park, IL	2/5/2001	MJ/CC	Yes	5	4	9	-	Yes	4
64. Wakefield	Wakefield, MA	12/26/2000	MJ/CC	Yes	7	0	7	37	Yes	3
65. Hotel	Tampa, FL	12/30/1999	MJ/CC	No	5	3	8	-	Yes	2
66. Xerox	Honolulu, HI	11/2/1999	MJ/CC	Yes	7	0	7	28	Yes	1
67. Wedgwood Baptist Church	Fort Worth, TX	9/15/1999	MJ/CC	Yes	8	7	15	30	Yes	2
68. Atlanta Day Trading	Atlanta, GA	7/29/1999	MJ	-	9	13	22	-	Yes	4
69. Columbine High School	Littleton, CO	4/20/1999	MJ/CC	Yes	13/15	24	37/39	188	No	4
70. Thurston High School	Springfield, OR	5/21/1998	MJ/CC	Yes	4	25	29	50	No	3
71. Westside Middle School	Jonesboro, AR	3/24/1998	MJ/CC	Yes	5	10	15	26	Stolen	9/10
72. Connecticut Lottery	Newington, CT	3/6/1998	MJ/CC	Yes	5	1/0	6/5	5	Yes	1
73. Caltrans Maintenance Yard	Orange, CA	12/18/1997	MJ/CC	Yes	5	2	7	144	Yes	1
74. R.E. Phelon Company	Aiken, SC	9/15/1997	MJ/CC	No	4	3	7	-	No	1
75. Fort Lauderdale	Fort Lauderdale, FL	2/9/1996	MJ/CC	No	6	1	7	14 ^q	Yes	2

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Appendix B
Combined Mass Shootings Data
1982 – October 2017

Case	Location	Date	Source	Large Cap. Mag.? ^a	Fatalities ^b	Injuries ^b	Total Fatalities & Injuries ^b	Shots Fired	Gun(s) Obtained Legally? ^c	Offenders' Number of Guns
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
76. Piper Technical Center	Los Angeles, CA	7/19/1995	CC	Yes	4	0	4	-	-	-
77. Walter Rossler Company	Corpus Christi, TX	4/3/1995	MJ/CC	No	6	0	6	-	Yes	2
78. Air Force Base	Fairchild Base, WA	6/20/1994	MJ/CC	Yes	5/6	23	28/29	50 ^r	Yes	1
79. Chuck E. Cheese	Aurora, CO	12/14/1993	MJ/CC	No	4	1	5	-	-	1
80. Long Island Railroad	Garden City, NY	12/7/1993	MJ/CC	Yes	6	19	25	30	Yes	1
81. Luigi's Restaurant	Fayetteville, NC	8/6/1993	MJ/CC	No	4	8	12	-	Yes	3
82. 101 California Street	San Francisco, CA	7/1/1993	MJ/CC	Yes	9	6	15	75	No	3
83. Watkins Glen	Watkins Glen, NY	10/15/1992	MJ/CC	No	5	0	5	-	Yes	1
84. Lindhurst High School	Olivehurst, CA	5/1/1992	MJ/CC	No	4	10	14	-	Yes	2
85. Royal Oak Postal	Royal Oak, MI	11/14/1991	MJ/CC	No	5	5/4	10/9	-	Yes	1
86. University of Iowa	Iowa City, IA	11/1/1991	MJ/CC	No	6	1	7	-	Yes	1
87. Luby's Cafeteria	Killeen, TX	10/16/1991	MJ/CC	Yes	24	20	44	100	Yes	2
88. GMAC	Jacksonville, FL	6/18/1990	MJ/CC	Yes	10	4	14	14	Yes	2
89. Standard Gravure Corporation	Louisville, KY	9/14/1989	MJ/CC	Yes	9	12	21	21	Yes	5
90. Stockton Schooolyard	Stockton, CA	1/17/1989	MJ/CC	Yes	6	29/30	35/36	106	Yes	2
91. ESL	Sunnyvale, CA	2/16/1988	MJ/CC	No	7	4	11	-	Yes	7
92. Shopping Centers	Palm Bay, FL	4/23/1987	MJ/CC	Yes	6	14/10	20/16	40 ^s	Yes	3
93. United States Postal Service	Edmond, OK	8/20/1986	MJ/CC	No	15	6	21	-	Yes	3
94. San Ysidro McDonald's	San Ysidro, CA	7/18/1984	MJ/CC	Yes	22	19	41	257	Yes	3
95. Dallas Nightclub	Dallas, TX	6/29/1984	MJ/CC	Yes	6	1	7	-	No	1
96. Welding Shop	Miami, FL	8/20/1982	MJ	No	8	3	11	-	Yes	1
Large Capacity Magazine Average					10.3	20.0	30.2	71.5		
Non-Large Capacity Magazine Average					6.3	2.9	9.2	22.6		

Appendix B Combined Mass Shootings Data 1982 – October 2017

Case	Location	Date	Source	Large Cap. Mag.? ^a	Fatalities ^b	Injuries ^b	Total Fatalities & Injuries ^b	Shots Fired	Gun(s) Obtained Legally? ^c	Offenders' Number of Guns
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

Notes and Sources:

Data from Mother Jones ("US Mass Shootings, 1982-2017: Data from Mother Jones' Investigation," accessed June 1, 2017) and the Citizens Crime Commission of New York City ("Mayhem Multiplied: Mass Shooters and Assault Weapons," 2016, and "Citizens Crime Commission of New York City, Mass Shooting Incidents in America (1984-2012)," accessed June 1, 2017). MJ indicates Mother Jones data. CC indicates Citizens Crime Commission of New York City data. If sources differ on data, "/" is added between values. In these instances, values from MJ are listed first. Except where noted, all data on shots fired obtained from CC.

^a Large capacity magazines are those with a capacity to hold more than 10 rounds of ammunition.

^b Offender(s) included in counts of fatalities and injuries.

^c The determination of whether guns were obtained legally is based on Mother Jones reporting.

^d The October 1, 2017 Las Vegas Strip mass shooting occurred a few days before the filing of this report and thus, any information and statistics on this mass shooting are preliminary.

^e Shots fired from: "Killer in Supermarket Shooting Posted Chilling Videos Online, Lauding Columbine Massacre," *Washington Post*, June 9, 2017.

^f Shots fired from: "Hate Crime is Suspected After Gunman Kills 3 White Men in Downtown Fresno," *Los Angeles Times*, April 19, 2017.

^g Shots fired from: "Fort Lauderdale Shooting Suspect Appears in Court, Ordered Held Without Bond," *Washington Post*, January 9, 2017.

^h Shots fired from: "Baton Rouge Cop Killer Left Note, Fired At Least 43 Rounds," *CNN*, July 9, 2017.

ⁱ Shots fired from: "'We Thought It Was Part of the Music': How the Pulse Nightclub Massacre Unfolded in Orlando," *The Telegraph*, June 13, 2016.

^j Shots fired from: "San Bernardino Suspects Left Trail of Clues, but No Clear Motive," *New York Times*, December 3, 2015.

^k Shots fired from: "Sheriff: Elliot Rodger Fired 50-plus Times in Isle Vista Rampage," *Los Angeles Times*, June 4, 2014.

^l Shots fired from: "Shooter Set \$10,000 on Fire in Hialeah Shooting Rampage," *NBC News*, July 28, 2013.

^m Shots fired from: "Police Call Santa Monica Gunman 'Ready for Battle,'" *New York Times*, June 8, 2013.

ⁿ Shots fired from: "Hialeah Gunman's Rage Over Estranged Wife Leaved 5 Dead," *Sun-Sentinel*, June 7, 2010.

^o Shots fired from: "Small Town Grieves for 6, and the Killer," *Los Angeles Times*, October 9, 2007.

^p Shots fired from: "National Briefing | Midwest: Ohio: Shooter At Club May Have Reloaded," *New York Times*, January 15, 2005.

^q Shots fired from: "5 Beach Workers in Florida are Slain by Ex-Colleague," *New York Times*, February 10, 1996.

^r Shots fired from: "Man Bent On Revenge Kills 4, Hurts 23 -- Psychiatrist Is First Slain In Rampage At Fairchild Air Force Base," *The Seattle Times*, June 21, 1994.

^s Shots fired from: "6 Dead in Florida Sniper Siege; Police Seize Suspect in Massacre," *Chicago Tribune*, April 25, 1987.

DECLARATION OF SERVICE BY E-MAIL and U.S. Mail

Case Name: **Duncan, Virginia et al v. Xavier Becerra**
No.: **17-cv-1017-BEN-JLB**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter. I am familiar with the business practice at the Office of the Attorney General for collection and processing of correspondence for mailing with the United States Postal Service. In accordance with that practice, correspondence placed in the internal mail collection system at the Office of the Attorney General is deposited with the United States Postal Service with postage thereon fully prepaid that same day in the ordinary course of business.

On October 6, 2017, I served the attached **EXPERT REPORT OF LUCY P. ALLEN** by transmitting a true copy via electronic mail. In addition, I placed a true copy thereof enclosed in a sealed envelope, in the internal mail system of the Office of the Attorney General, addressed as follows:

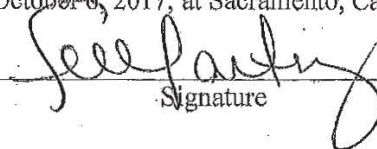
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I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on October 6, 2017, at Sacramento, California.

Chris McCartney
Declarant


Signature

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12838753.docx

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11 IN THE UNITED STATES DISTRICT COURT
12 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
13
14

15 **VIRGINIA DUNCAN, et al.,**
16
Plaintiffs,
17
v.
18
XAVIER BECERRA, in his official
capacity as Attorney General of the
19 **State of California, et al.,**
20
Defendants.
21
22
23
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25
26
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17-cv-1017-BEN-JLB

**EXPERT REBUTTAL REPORT
OF JOHN J. DONOHUE**

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

EXPERT REBUTTAL REPORT OF JOHN J. DONOHUE (17-cv-1017-BEN-JLB)

Exhibit 2
Page 00035

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Expert Rebuttal Report of John J. Donohue

Duncan v. Becerra, United States District Court (S.D. Cal.),
Case No.: 17CV1017 BEN JLB
November 2, 2017

BACKGROUND AND QUALIFICATIONS

1. I, John J. Donohue, am the C. Wendell and Edith M. Carlsmith Professor of Law at Stanford Law School. After earning a law degree from Harvard and a Ph.D. in economics from Yale, I have been a member of the legal academy since 1986. I have previously held tenured positions as a chaired professor at both Yale Law School and Northwestern Law School. I have also been a visiting professor at a number of prominent law schools, including Harvard, Yale, the University of Chicago, Cornell, the University of Virginia, Oxford, Toei University (Tokyo), St. Gallen (Switzerland), and Renmin University (Beijing).
2. For a number of years, I have been teaching a course at Stanford on empirical law and economics issues involving crime and criminal justice, and I have previously taught similar courses at Yale Law School, Tel Aviv University Law School, the Gerzensee Study Center in Switzerland, and St. Gallen University School of Law in Switzerland. I have consistently taught courses on law and statistics for two decades.
3. I am a Research Associate of the National Bureau of Economic Research and a member of the American Academy of Arts and Sciences. I was a Fellow at the Center for Advanced Studies in Behavioral Sciences in 2000-01, and served as the co-editor (handling empirical articles) of the *American Law and Economics Review* for six years. I have also served as the President of the American Law and Economics Association and as Co-President of the Society of Empirical Legal Studies.
4. I am also a member of the Committee on Law and Justice of the National Research Council ("NRC"), which "reviews, synthesizes, and proposes research related to crime,

law enforcement, and the administration of justice, and provides an intellectual resource for federal agencies and private groups.”¹

5. My research and writing uses empirical analysis to determine the impact of law and public policy in a wide range of areas, and I have written extensively about the relationship between rates of violent crime and firearms regulation. My complete credentials and list of publications are stated in my curriculum vitae, a true and correct copy of which is attached as Exhibit A.
6. The following lists all of the cases in which I have testified as an expert in the past 4 years. I filed an expert declaration in each of two cases involving a National Rifle Association (“NRA”) challenge to city restrictions on the possession of large-capacity magazines:

Fyock v. City of Sunnyvale, United States District Court (N.D. Cal.), Case No. 4:13-cv-05807-PJH, January 2014.

San Francisco Veteran Police Officers Association v. City and County of San Francisco, United States District Court (N.D. Cal.), Case No. C 13-05351 WHA, January 2014.
7. I also filed an expert declaration in a case involving a challenge by the NRA to Maryland’s restrictions on assault weapons and large-capacity magazines:

Tardy v. O’Malley (currently listed as *Kolbe v. Hogan*), United States District Court (District of Maryland), Case 1:13-cv-02841-CCB, February 2014.

In all these cases, the relevant gun regulations have (ultimately) been sustained in the relevant federal appellate courts.
8. In addition to filing an earlier expert declaration in this case, I also filed (on June 1, 2017) an expert declaration in a case involving a challenge by the NRA to California’s restrictions on carrying of weapons in public:

Flanagan v. Becerra, United States District Court (C.D. Cal.), Case No. 2:16-cv-06164-JAK-AS.
9. I am being compensated at my government rate of \$425 per hour.

¹ See <http://www7.national-academies.org/claj/> online for more information about the NRC.

SUBSTANTIVE CONCLUSIONS

10. The events in Las Vegas on October 1, 2017, have underscored—yet again—the wisdom of the efforts of the California legislature, with the overwhelming support of the voters of the state, “to aid in the shaping and application of those wise restraints that make men free” by banning from our state the large-capacity magazines (LCMs)² that were a key element enabling the extent of the carnage in that horrific mass shooting.³ It is my opinion that if, rather than allowing the federal ban on these devices to lapse in 2004, the country had moved to the more complete ban that California has finally adopted, tragedies like the one in Las Vegas would have been far less deadly and damaging to countless individuals who have been maimed and injured throughout the United States and perhaps the world.⁴ It is also my opinion that Section 32310’s ban on possession of LCMs would decrease the mayhem from at least some mass killings in California, by making it incrementally harder for those bent on mass destruction to implement their criminal designs.

Response to Curcuruto Report

11. In opposition to the ban on LCMs, plaintiffs offer two additional expert reports. The first report is from James Curcuruto of the National Shooting Sports Foundation.
12. Mr. Curcuruto provides irrelevant information, opining as his main conclusion that “There are at least one hundred million magazines of a capacity of more than ten rounds in possession of American citizens” (Curcuruto Report at 3), only to concede later that he really does not know but “it is safe to say whatever the actual number of such magazines

² LCMs are defined as ammunition-feeding devices with the capacity to hold more than 10 rounds of ammunition.

³ The quote is from John MacArthur Maguire and is enshrined at the Harvard Law School library. See <https://asklib.law.harvard.edu/friendly.php?slug=faq/115309> (last visited Nov. 1, 2017).

⁴ The horrendous mass killing in Norway by Anders Breivik, endangered by the restrictive gun laws of Europe, was salvaged by his ability to procure ten 30-round high-capacity magazines from the United States. Stephanie Condon, “Norway Massacre Spurs Call for New U.S. Gun Laws,” CBS News, July 28, 2011, *available at* <https://www.cbsnews.com/news/norway-massacre-spurs-calls-for-new-us-gun-laws/> (last visited Nov. 1, 2017).

in United States consumers' hands is, it is in the tens-of-millions." (Curcuruto Report at 4.)

13. While Mr. Curcuruto offers his wildly varying estimates of the number of high-capacity magazines in the United States, his undifferentiated national speculations offer no insight into how many of these magazines are possessed in rural areas throughout the United States. As a result, his figures would have little relevance to the appropriate regulatory regime for a state with large urban population centers like California. Mr. Curcuruto does not discuss the stock of high-capacity magazines in California, which of course will be far lower on a per capita basis because it has been unlawful to add to this stock for decades.

14. National surveys such as the General Social Survey (GSS) and research by the Pew Research Center and the National Behavioral Risk Factor Surveillance System consistently find a persistent decline in household gun ownership over the past several decades. A March 2013 report from the Pew Research Center states:

The Pew Research Center has tracked gun ownership since 1993, and our surveys largely confirm the General Social Survey trend. In our December 1993 survey, 45% reported having a gun in their household; in early 1994, the GSS found 44% saying they had a gun in their home. A January 2013 Pew Research Center survey found 33% saying they had a gun, rifle or pistol in their home, as did 34% in the 2012 wave of the General Social Survey.⁵

15. Because this reliable social science data shows that the number of households that own guns has likely dropped in recent decades, and certainly has not grown, the robust gun sales in recent years cannot be attributed to increasingly broad gun ownership. Instead, these sales predominantly represent purchases of guns by members of households that previously owned guns, as well as purchases in anticipation that certain gun bans will be enacted with grandfather clauses that will generate profits from the higher prices that follow when the supply of certain weapons or LCMs is restricted.

⁵ Pew Research Center, *Why Own a Gun? Protection is Now Top Reason*, Section 3: Gun Ownership Trends and Demographics, March 12, 2013, available at <http://www.people-press.org/2013/03/12/section-3-gun-ownership-trends-and-demographics> (last visited on November 2, 2017).

16. I am not aware of any current social science research providing an estimate for the number of American households that own LCMs or for the number of LCMs in private hands in America. It is reasonable to assume, however, that consumer demand for LCMs is similar to demand for firearms generally.
17. If that is the case, then LCM ownership by household is also likely to be concentrated, with increased numbers of LCMs held by a declining share of households. This would be consistent with a January 2013 New York Times/CBS News nationwide poll of 1,110 adults showing that nearly two-thirds of Americans favored a ban on LCMs.⁶ This is roughly the percentage of California voters who cast their ballots to rid the state of these devices.
18. Thus, Mr. Curcuruto's unsubstantiated claims about the number of LCMs in private hands should not be confused with broad possession across America, but merely proliferation in the hands of a stable or dwindling number of households. Indeed, plaintiff's other expert, Stephen Helsley, makes this point when he states: "My associates who have such pistols [that accept LCMs] also have a considerable number of spare magazines for them. In my case, I have one 19-round and eight 17-round magazines for my Glock." (Helsley Report at 5.)
19. Moreover, it is unclear what relevance the stock of high-capacity magazines could make to determinations about what can be lawfully banned. Had the federal ban on these magazines not been lifted in 2004, the stock would have been dramatically lower than it is today, and since the 1994 federal ban was lawful, efforts by the gun industry to flood the market with these magazines in its wake can hardly be thought to deprive state governments of the ability to regulate in ways that were available to them prior to 1994.

Response to Helsley Report

⁶ Jennifer Steinhauer, *Pro-Gun Lawmakers Are Open to Limits on Size of Magazines*, N.Y. Times, Feb. 18, 2013, available at http://www.nytimes.com/2013/02/19/us/politics/lawmakers-look-at-ban-on-high-capacity-gun-magazines.html?_r=1& (last visited November 2, 2017).

20. The second expert report submitted for the plaintiffs is from Stephen Helsley. Noting that for the past 24 years, he was a state liaison for and then consultant to the National Rifle Association, Helsley states that soldiers during war and “on duty, uniformed police officers” often use guns equipped with high-capacity magazines. Without acknowledging that the risks faced by soldiers and police are vastly different from those faced by civilians, Helsley then states the following:

The home-owner and the concealed weapon permit holder want a pistol that can hold significantly more cartridges than a revolver for the same reason a law enforcement officer or soldier wants one—to increase his or her chances of staying alive. For virtuous citizens buy their guns to protect themselves from the same criminals that police carry guns to protect the citizens, the public, and themselves. (Helsley Report at 5).

21. But private individuals have completely different needs than police officers. The former only need to scare off criminals (or hold them off until the police arrive). The police need to effectuate arrests. Thus, while having the criminal run away is a desired outcome for the average citizen, this is a bad outcome for a police officer, which is why an extended gun battle is extremely rare for law-abiding citizens and far more common for the police. Accordingly, Helsley’s effort to look to officer-involved shootings to make judgments about the needs of average citizens widely misses the mark. (Helsley Report at 7).

22. In opposing the ban on high-capacity magazines, Helsley’s claims that “Gunfights frequently involve a lot of ‘missing.’” (Helsley Report at 7.) He then combines that with the fact that the average citizen is not well-trained and is under stress when threatened to argue that more bullets should be sprayed by law-abiding citizens because some of their bullets will likely hit “barriers such as vehicles or walls.” (Helsley Report at 7.) But all of these factors actually provide strong support for a ban on LCMs rather than an argument against such a ban. Helsley doesn’t consider that bullets fired by a modern weapon with an LCM will easily penetrate walls, threatening family members or occupants in attached dwellings. This point was dramatically underscored when a hapless concealed carry permit holder attending a gun safety class inadvertently fired his weapon, which discharged a bullet that easily penetrated the classroom wall, striking and

killing the owner of the gun store who was working in the next room.⁷ Encouraging untrained, stressed individuals to spray bullets from a high-capacity magazine is a recipe for generating similar unwelcome outcomes that will put family members and neighbors at considerable risk.

23. If high-capacity magazines had been completely barred from the civilian market, many lives would have been saved as the destructive capacity of mass shooters would have been appropriately restricted. The *New York Times* video of the recent Las Vegas shooting shows how the Las Vegas concert attendees would use the pauses in firing when the shooter's high-capacity magazines were spent to flee the deadly venue before more shots were fired.⁸ If Stephen Paddock had been limited to using only 10-round magazines during his deadly rampage, potentially hundreds of victims at the concert could have been spared.

24. A prescient December 2016 editorial in the *Las Vegas Sun* noted the danger presented—and the lack of practical use for—LCMs:

By overwhelmingly supporting universal background checks for firearms purchases, Clark County voters made it abundantly clear last month that they were concerned about gun violence.

Now, it's time for Las Vegas-area lawmakers to go a step further to protect Nevadans and push to ban the sale of high-capacity magazines in the state.

⁷ Peter Holley, *Ohio gun store owner accidentally killed by student during firearm-safety class*, *Washington Post*, June 19, 2016, available at https://www.washingtonpost.com/news/morning-mix/wp/2016/06/19/ohio-gun-store-owner-accidentally-killed-by-student-during-firearm-safety-class/?utm_term=.ed4c232d20ad (last visited Nov. 1, 2017).

Another example of how doors and walls do not stop bullets from modern handguns occurred on September 13, 2015, when “39-year-old Mike Lee Dickey was babysitting an 8-year-old Casa Grande, Arizona boy. According to police, at about 2 a.m., Dickey was in the bathroom removing his .45-caliber handgun from the waistband of his pants when he unintentionally discharged the gun. The bullet passed through two doors and struck the 8-year-old in his arm while he lay sleeping in a nearby bedroom. The boy was flown to a hospital in Phoenix for treatment.” *8-year-old boy unintentionally shot by babysitter*, *Ohh Shoot*, Sept. 13, 2016, available at <http://ohhshoot.blogspot.com/2015/09/8-year-old-boy-unintentionally-shot-by.html> (last visited Nov. 1, 2017).

⁸ Malachy Browne, et al., *10 Minutes. 12 Gunfire Bursts. 30 Videos. Mapping the Las Vegas Massacre*, N.Y. TimesVideo, Oct. 21, 2017, available at <https://www.nytimes.com/video/us/100000005473328/las-vegas-shooting-timeline-12-bursts.html> (last visited Nov. 1, 2017).

Eight states and the District of Columbia already have imposed such prohibitions, and with good reason. There's simply no legitimate civilian use for magazines that hold dozens upon dozens of rounds of ammunition.

Don't believe us? Fine, then listen to Clark County Sheriff Joe Lombardo.

"I'm a very avid hunter, I was in the military myself, and there's no need to have a high-capacity magazine for any practical reason," Lombardo said during a recent interview with the Sun.

To the contrary, the dangers posed by such magazines are obvious. Lombardo says the time it takes for suspects to change magazines gives potential victims an opportunity to escape and law enforcement officials an opportunity to safely fire back. That being the case, the fewer times a shooter has to switch out magazines, the fewer the chances for people to get away and authorities to get a protected shot.⁹

25. Sheriff Lombardo's views were similarly endorsed in the testimony of United States Attorney (District of Colorado) John Walsh before the Senate Judiciary Committee on February 27, 2013, in which he noted:

From the point of view of most law enforcement professionals, a perspective I share as a long-time federal prosecutor and sitting United States Attorney, shutting off the flow of military-style assault weapons and high-capacity magazines is a top public safety priority. [...]

One of the most disturbing aspects of the recent mass shootings our Nation has endured is the ability of a shooter to inflict massive numbers of fatalities in a matter of minutes due to the use of high-capacity magazines. High-capacity magazines were defined in the 1994 ban as magazines capable of holding more than 10 rounds, and this is a definition the Department endorses. The devastating impact of such magazines is not limited to their use in military-style assault rifles; they have also been used with horrific results in recent mass shootings involving handguns. The 2007 mass shooting at Virginia Tech involved a shooter using handguns with high-capacity magazines. Similarly, recent mass shootings in Tucson, Arizona; Oak Creek, Wisconsin; and Fort Hood, Texas all involved handguns with magazines holding more than 10 rounds. As evidenced by these events, a high capacity magazine can turn any weapon into a tool of mass violence. Forcing an individual bent on inflicting large numbers of casualties to stop and reload creates the opportunity to reduce the possible death toll in two ways: first, by affording a chance for law enforcement or bystanders to intervene during a pause to reload; and second, by giving bystanders and potential victims an opportunity to seek cover or escape when there is an interruption in the firing.

⁹ *High-capacity magazine ban a must for Nevadans' safety*, Las Vegas Sun, Dec. 11, 2016, available at <https://lasvegassun.com/news/2016/dec/11/high-capacity-magazine-ban-a-must-for-nevadans-saf/> (last visited Nov. 1, 2017).

This is not just theoretical: In the mass shooting in Tucson, for example, 9-year old Christina-Taylor Green was killed by the 13th shot from a 30-round high-capacity magazine. The shooter was later subdued as he was trying to reload his handgun after those 30 shots. The outcome might have been different if the perpetrator had been forced to reload after firing only 10 times.

Furthermore, high-capacity magazines are not required for defending one's home or deterring further action by a criminal. The majority of shootings in self-defense occur at close range, within a distance of three yards. In such a scenario, and at such close ranges, a 10-round magazine is sufficient to subdue a criminal or potential assailant. Nor are high-capacity magazines required for hunting or sport shooting. Like military-style assault weapons, high-capacity magazines should be reserved for war, and for law enforcement officers protecting the public. The continued commercial sale of high-capacity magazines serves only to provide those determined to produce a high body count with the opportunity and the means to inflict maximum damage. Indeed, there is evidence suggesting that when the previous ban was in effect, it reduced the number of high-capacity magazines seized by the police, as well as the lethality of incidents.¹⁰[The citation is from Walsh's statement.]¹¹

Respectfully submitted,

John J. Donohue III

¹⁰ See, David S. Fallis and James V. Grimaldi, *In Virginia, high-yield clip seizures rise*, Washington Post, Jan. 23, 2011, available at <http://www.washingtonpost.com/wp-dyn/content/article/2011/01/22/AR2011012204046.html> (last visited Nov. 1, 2017).

¹¹ Statement of John F. Walsh before the United States Senate Committee on the Judiciary, <https://www.judiciary.senate.gov/imo/media/doc/2-27-13WalshTestimony.pdf> (last visited Nov. 1, 2017).

Exhibit A

Exhibit 2
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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 Clarke, U.S. District Court, Hartford, Connecticut, September 1977-August 1978.

Temporary Appointments

- 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, Toei 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
 - 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:

- Law and Economics of Discrimination, Edward Elgar Publishing, 2013.
- Employment Discrimination: Law and Theory, Foundation Press, 2005, 2009 (2d edition) (with George Rutherglen).
- Economics of Labor and Employment Law: Volumes I and II, Edward Elgar Publishing, 2007. http://www.elgar.co.uk/bookentry_main.lasso?id=4070
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Book Chapters:

- "Drug Prohibitions and Its Alternatives." Chapter 2 in Cook, Philip J., Stephen Machin, Olivier Marie, and Giovanni Mastrobuoni, eds, *Lessons from the Economics of Crime: What Reduces Offending?* MIT Press. 45-66 (2013).
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- "The Evolution of Employment Discrimination Law in the 1990s: A Preliminary Empirical Evaluation" (with Peter Siegelman), in Laura Beth Nielsen and Robert L. Nelson, eds., Handbook of Employment Discrimination Research (2005).

- "Divining the Impact of Concealed Carry Laws," in Jens Ludwig and Phillip Cook, Evaluating Gun Policy: Effects on Crime and Violence (Washington D.C.: Brookings, 2003).

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- "The Impact of Right-to-Carry Laws and the NRC Report: Lessons for the Empirical Evaluation of Law and Policy," Am Law Econ Rev (Fall 2011) 13 (2): 565-631 (with Abhay Aneja and Alex Zhang). See January 2014 Revision released as an NBER working paper above.
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- "Moore v. Texas and the Pathologies that Still Mar Capital Punishment in the U.S.," 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>.
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WORKSHOPS AND ADDRESSES

- 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, "Econometrical Crime Control," **Boalt Hall**, Berkeley, CA, January 16, 2010; NBER Summer Institute Pre-Conference "Econometrical 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*, Laguna 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*, Laguna 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," SPILLS Fellows Lecture, Stanford Law School, January 15, 2011; Legal Studies Workshop, Stanford Law School, Feb. 7, 2011; *Renaissance Weekend*, Laguna 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 Ball 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 of 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; **AIEA, 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 Ciudad 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.

PROFESSIONAL ACTIVITIES

- Member, Committee on Law and Justice, National Research Council, October 2011 – present.
- Fellow of the Society for Empirical Legal Studies, 2015 - present.
- 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 ALJ 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

- 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 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 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.
- 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.

DECLARATION OF SERVICE BY E-MAIL and U.S. Mail

Case Name: **Duncan, Virginia et al v. Xavier Becerra**

No.: **17-cv-1017-BEN-JLB**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter. I am familiar with the business practice at the Office of the Attorney General for collection and processing of correspondence for mailing with the United States Postal Service. In accordance with that practice, correspondence placed in the internal mail collection system at the Office of the Attorney General is deposited with the United States Postal Service with postage thereon fully prepaid that same day in the ordinary course of business.

On November 3, 2017, I served the attached **EXPERT REBUTTAL REPORT OF JOHN J. DONOHUE** by transmitting a true copy via electronic mail. In addition, I placed a true copy thereof enclosed in a sealed envelope, in the internal mail system of the Office of the Attorney General, addressed as follows:


C. D. Michel
Michel & Associates, P.C.
180 E. Ocean Boulevard, Suite 200
Long Beach, CA 90802
E-mail Address:
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Erin E. Murphy
Kirkland & Ellis LLP
655 15th Street N.W.
Washington D.C. 20005
E-mail Address:
erin.murphy@kirkland.com

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on November 3, 2017, at Sacramento, California.

N. Newlin
Declarant


Signature

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Exhibit 2
Page 00072

ER000349

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Attorney General of California
2 TAMAR PACHTER
Supervising Deputy Attorney General
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Attorney General Xavier Becerra
10

11 IN THE UNITED STATES DISTRICT COURT
12 FOR THE SOUTHERN DISTRICT OF CALIFORNIA
13
14

15 **VIRGINIA DUNCAN, et al.,**

16 Plaintiffs,

17 v.

**REVISED EXPERT REPORT OF
DR. LOUIS KLAREVAS**

18
19 **XAVIER BECERRA, in his official
capacity as Attorney General of the
20 State of California, et al.,**

21 Defendants.
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25
26
27
28

17-cv-1017-BEN-JLB

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

I. ASSIGNMENT

II. QUALIFICATIONS AND BACKGROUND

I am a political scientist by training, with a B.A. from the University of Pennsylvania and a Ph.D. from American University. My most recent research examines the nexus between American public safety and large-scale gun violence.

In addition to having made well over 100 media and public speaking appearances, I am the author or co-author of more than 20 scholarly articles and over 70 commentary pieces. My most recent research project (undertaken in collaboration with Prof. David Hemenway of Harvard University) assesses the effectiveness of restrictions on large-capacity magazines in reducing gun massacres.

Last year, I served on a team of experts, coordinated through Johns Hopkins University, tasked with examining the implications of allowing guns on college

1 campuses. Furthermore, I was one of 32 experts surveyed by the *New York Times*
2 for a review of proposals aimed at curbing gun violence in the United States.¹

3 Besides the present case, I have been retained by the California Attorney
4 General's office in *Wiese v. Becerra*, Case Number 2:17-cv-00903-WBS-KJN,
5 Eastern District of California, Sacramento Division. *Wiese* is similar to the present
6 case in that it also involves a challenge against California's regulation of large-
7 capacity magazines. Earlier this year, I served as an expert for the State of
8 Colorado, as it defended a legal challenge to its ban on large-capacity magazines in
9 *Rocky Mountain Gun Owners, et al. v. Hickenlooper*, Case Number 2013CV33879,
10 District Court, City and County of Denver, Colorado. This is the only time that I
11 have testified or been deposed in a legal proceeding in the past five years. I have
12 also provided consultative services to the United States Institute of Peace and the
13 Federal Bureau of Investigation.

14 A more detailed list of my credentials and professional experiences can be
15 found in my curriculum vitae, which is attached as Appendix A.

16 **III. RETENTION AND COMPENSATION**

17 I am being compensated for my time in this case on an hourly basis at a rate of
18 \$300 per hour. My compensation is not contingent on the results of my analysis or
19 the substance of my testimony.

20 **IV. BASIS FOR OPINION AND MATERIAL CONSIDERED**

21 My opinion is based on the pleadings filed in this case, including the Court's
22 Order of June 29, 2017, granting a temporary injunction, as well as the materials
23 discussed in this report, including the resources cited in the footnotes and the data
24 presented in Appendix B.

25 _____
26 ¹ Quoctrung Bui and Margaret Sanger-Katz, "How to Prevent Gun Deaths? Where
27 Experts and the Public Agree," *New York Times*, January 10, 2017, available at
28 <https://www.nytimes.com/interactive/2017/01/10/upshot/How-to-Prevent-Gun-Deaths-The-Views-of-Experts-and-the-Public.html> (last accessed October 4, 2017).

1 **V. OPINION**

2 It is my professional opinion, based upon my extensive review and analysis of
 3 data from the past five decades, that: (1) gun massacres presently pose the deadliest
 4 threat to the safety and security of American society, and the problem is growing;
 5 (2) gun massacres involving large-capacity magazines, on average, have resulted in
 6 a greater loss of life than similar incidents that did not involve large-capacity
 7 magazines; and (3) jurisdictions where bans on the possession of large-capacity
 8 magazines were in effect experienced fewer gun massacres, per capita, than
 9 jurisdictions where such bans were not in effect. As a result, restrictions on LCMs
 10 have the potential to significantly reduce the number of lives lost in mass
 11 shootings.²

12 **A. Gun Massacres Are a Growing Threat to Public Safety**

13 In 1984, an individual armed with, among other firearms, an Uzi assault
 14 weapon walked into a McDonald's restaurant in San Ysidro, California, and
 15 murdered 21 people, making it the deadliest mass shooting in American history at
 16 the time. It was a tragic marker that was short-lived, as the United States
 17 experienced several deadlier shootings in the years that followed: 23 people killed
 18 in a gun rampage in Killeen, Texas, in 1991; 32 people killed in a gun rampage at

19 ² In my book *Rampage Nation*, I defined a mass shooting as "any violent attack that
 20 results in four or more individuals incurring gunshot wounds." I then differentiated
 21 between three different categories of mass shooting: (1) Nonfatal are those mass
 22 shootings in which no one dies; (2) Fatal are those mass shootings in which at least
 23 one victim dies; and (3) High-Fatality are those mass shootings in which six or
 24 more victims die. Throughout my book and in this report, I use the terms "high-
 25 fatality mass shooting" and "gun massacre" interchangeably. Of the three
 26 categories of mass shooting, gun massacres are the deadliest, resulting in the
 27 highest fatality tolls per individual incidents. Given that gun massacres are the
 28 most lethal and most disturbing, my original dataset in *Rampage Nation* focused on
 and surveyed all known gun massacres in the United States from 1966-2015. Louis
 Klarevas, *Rampage Nation: Securing America from Mass Shootings* 47-48
 (Prometheus 2016).

1 Virginia Tech in Blacksburg, Virginia, in 2007; 27 people killed, including 20 first-
2 graders, in a gun rampage in Newtown, Connecticut, in 2012; 49 people killed in a
3 gun rampage in Orlando, Florida. This year, the United States reached a new
4 milestone when a gunman attacked a crowd of concert-attendees in Las Vegas,
5 Nevada, murdering an unprecedented 58 people in a single shooting. All six
6 massacres had one factor in common: the perpetrator used a semiautomatic firearm
7 armed with an ammunition-feeding device holding more than 10 bullets.³ Such
8 ammunition-feeding devices are frequently referred to as large-capacity magazines
9 (LCMs).⁴

10 In the past decade, gun massacres—like the Newtown, Orlando, Las Vegas,
11 and Sutherland Springs rampages—have been the deadliest individual acts of
12 violence in the United States. In fact, every single intentional act of violence in the
13 past decade that has claimed ten or more lives has been a mass shooting (*see* App.
14 B, tbl. 1), making gun attacks the greatest and most credible threat to the security
15 and safety of American society in the present era.

16 In preparation for my book *Rampage Nation*, I assembled 50 years of data
17 capturing all known gun massacres in the United States.⁵ Since 1968, there have
18

19 ³ App. B, tbl. 2.

20 ⁴ Magazines can come in a variety of capacities, including but not limited to 5, 8,
21 10, 15, 17, 20, 30, 40, 50, and even 100 rounds. The definition of “large-capacity
22 magazine” varies by state. For instance, California and Connecticut define them as
23 ammunition-feeding devices holding more than 10 bullets, whereas Colorado and
24 New Jersey define them as ammunition-feeding devices holding more than 15
25 bullets. *See* Law Center to Prevent Gun Violence, *Large Capacity Magazines*,
26 available at [http://smartgunlaws.org/gun-laws/policy-areas/classes-of-](http://smartgunlaws.org/gun-laws/policy-areas/classes-of-weapons/large-capacity-magazines)
27 weapons/large-capacity-magazines (last accessed October 4, 2017). For purposes
28 of this report, unless otherwise stated, LCMs will hereinafter refer to magazines
with a capacity greater than 10 rounds.

⁵ My book, which was published in 2016, covered the 50-year period of 1966-2015.
In preparation of this report, I have updated the dataset of gun massacres to cover

1 been a total of 114 gun massacres, resulting in the loss of a combined 1,035 lives.
2 *See* App. B, tbl. 2 & figs. 1-2. The data show that the past decade (2008-2017) has
3 been the worst on record, accounting for nearly one-third of all gun massacre
4 incidents from the past five decades (37 out of 114) and over 40 percent of all
5 deaths lost in such high-fatality mass shootings (428 out of 1,035).⁶ In fact, this
6 past year (2017) is the deadliest year of the past 50 years, with 100 people dying in
7 gun massacres.⁷ In other words, mass shootings pose a grave threat to the United
8 States, and the threat is growing.

9 **B. The Use of LCMs Is a Major Factor in the Rise of Gun**
10 **Massacre Violence**

11 A review of the data from the past 50 years indicates that gun massacres have
12 grown in terms of frequency and lethality. The data also point to another striking
13 pattern: the use of LCMs in the commission of gun massacres has risen in vast
14 proportions. *See* App. B, tbl. 2 & figs. 3-4.

15 A comparison of the ten-year period of 1968-1977 with the most recent
16 decade of 2008-2017 shows that the number of gun massacres involving LCMs has
17 increased eight-fold, from three to 24. Even more disturbing, the number of deaths
18 attributable to LCM-involving gun massacres has jumped over 17-fold between the
19 same two ten-year periods, from 19 to 330. Indeed, the 24 LCM-involving gun
20 massacres from the past decade account for 45 percent of all LCM-involving gun
21 massacres since 1968, and the 330 deaths attributable to the 24 incidents of the past
22 decade account for 55 percent of all deaths resulting from LCM-involving gun
23 massacres since 1968. To present the data in another manner, between 1968-1977,
24 only 17 percent of gun massacres involved LCMs, and those shootings accounted

25 the 50-year period from 1968 to 2017.

26 ⁶ App. B, tbl. 2 & figs. 1-2.

27 ⁷ *Id.*

1 for only 16 percent of all gun massacre fatalities from that decade. By contrast,
2 between 2008-2017, 65 percent of gun massacres involved LCMs, and those
3 shootings accounted for 77 percent of all gun massacre fatalities from that decade.
4 These are gigantic increases of 282 percent and 381 percent, respectively.⁸

5 LCMs provide multiple advantages to active shooters. Offensively, LCMs
6 increase kill potential. Basically, the more bullets a gunman can fire at a target, the
7 more potential wounds he can inflict. Furthermore, the more bullets that strike a
8 victim, the higher the odds that that person will die. There are two forces that allow
9 LCMs to increase kill potential: rapid-fire capability and multiple-impact
10 capability.

11 When inserted into either a semiautomatic or fully-automatic weapon, an
12 LCM facilitates the ability of an active shooter to fire a large number of rounds at
13 an extremely quick rate. This phenomenon—rapid-fire capability—comes in handy
14 when a target is in a gunman's line of sight for only a few seconds. For example,
15 rapid-fire capability allows a decent shooter to fire three rounds per second with a
16 semiautomatic firearm and ten rounds per second with an automatic firearm. That
17 results in numerous chances to hit a target in a very short window of opportunity.

18 LCMs also facilitate the ability of a shooter to strike a human target with
19 more than one round. This phenomenon—multiple-impact capability—increases
20 the chances that the victim, when struck by multiple rounds, will die. At least two
21 separate studies have found that, when compared to the fatality rates of gunshot
22 wound victims who were hit by only a single bullet, the fatality rates of those
23 victims hit by more than one bullet were over 60 percent higher.⁹ The implication

24
25 ⁸ App. B, tbl. 2 & figs. 3-4.

26 ⁹ Daniel W. Webster, et al., "Epidemiologic Changes in Gunshot Wounds in
27 Washington, DC, 1983-1990," 127 *Archives of Surgery* 694-698 (June 1992); and
28 Christopher S. Koper & Jeffrey A. Roth, The Impact of the 1994 Federal Assault
Weapon Ban on Gun Violence Outcomes: An Assessment of Multiple Outcome

1 is straightforward: being able to strike human targets with more than one bullet
2 increases the shooter's chances of killing his victims. In essence, LCMs are force
3 multipliers when it comes to kill potential—and the evidence from gun massacres
4 supports this commonsense conclusion.

5 Of the 114 gun massacres since 1968, 53 involved LCMs, resulting in a
6 cumulative 600 deaths. See App. B, tbl. 2 & fig. 5. The average death toll for the
7 53 gun massacres involving LCMs is 11.32 fatalities per shooting.¹⁰ By contrast,
8 the average death toll for the 61 incidents for which there is no evidence of LCM
9 usage is 7.13 fatalities per shooting.¹¹ In other words, the use of LCMs in
10 massacres resulted in a 59 percent increase in fatalities per incident.¹² In the past

11 Measures and Some Lessons for Policy Evaluation, 17 *Journal of Quantitative*
12 *Criminology* 33-74 (March 2001); see also, Angela Sauaia, et al., Fatality and
13 Severity of Firearm Injuries in a Denver Trauma Center, 2000-2013, 315 *J. of the*
14 *Am. Med. Ass'n* 2465-2467 (June 14, 2015).

15 ¹⁰ App. B, tbl. 2 & fig. 5.

16 ¹¹ *Id.* T-tests confirm that the differences in death tolls by LCM status are
17 statistically significant ($p < .01$ level). The difference remained statistically
18 significant ($p < .01$ level) regardless of whether non-LCM incidents were limited to
19 only those that did not involve LCMs or also included incidents for which the LCM
20 status was unknown.

21 ¹² The standard methodology is to attribute all deaths in LCM-involving mass
22 shootings to the use of LCMs and to treat cases for which the status of LCM usage
23 is unknown as incidents not involving LCMs. See Gary Kleck, Large-Capacity
24 Magazines and the Casualty Counts in Mass Shootings, 17 *Justice Research &*
25 *Policy* 28-47 (June 2016). Therefore, the calculation of the 11.32 mean average is
26 determined by dividing the total number of gun massacres involving LCMs (53)
27 into the total number of deaths resulting from those incidents (600). App. B, tbl. 2
28 & fig. 5. However, some of the people murdered in five of the 53 LCM-involving
gun massacres were shot and killed by firearms that were not LCM-capable. When
these five shootings are adjusted to reflect only deaths that were the result of LCM-
capable firearms—San Ysidro (19 out of 21 deaths), Littleton (5 out of 13 deaths),
Kirkwood (5 out of 6 deaths), Aurora (10 out of 12 deaths), and Newtown (26 out
of 27 deaths)—the cumulative death toll decreases to 586. This adjustment drops
the average death toll per LCM-involving incident to 11.06 fatalities, which in turn

1 decade, the difference is even more pronounced: 7.54 versus 13.75 deaths per
2 incident.¹³ This is a 82 percent increase in the average death toll, attributed to the
3 use of LCMs. Moreover, since 1968, LCMs have been used in 74 percent of all
4 gun massacres with 10 or more deaths, as well as in 100 percent of all gun
5 massacres with 20 or more deaths—establishing a relationship between LCMs and
6 the deadliest gun massacres.¹⁴

7 In addition to the offensive advantage that LCMs provide, there is the
8 advantage of extended cover. During an active shooting, perpetrators are either
9 firing their guns or not firing their guns. While pulling the trigger, it is extremely
10 difficult for those in harm's way to take successful defensive maneuvers. But if
11 gunmen run out of bullets, there is a lull in the shootings. This precious down-time
12 affords those in the line of fire with a chance to flee, hide, or fight back.

13 There are countless examples of individuals fleeing or taking cover while
14 active shooters paused to reload. For instance, in 2012, nine first-graders at Sandy
15 Hook Elementary School in Newtown, Connecticut, literally pushed their attacker
16 aside as he was swapping out magazines, allowing them to escape from their
17

18 results in a 55-percent increase (as opposed to a 59-percent increase) in deaths per
19 incident attributed to the use of LCMs. The revised fatality attributions are based
20 on my review of official government documents and autopsy reports pertaining to
21 the three respective mass shootings. Furthermore, the calculation of the 7.13 mean
22 average is determined by dividing the number of incidents for which the status of
23 LCM usage was either none or unknown (61) into the total number of deaths
24 resulting from those incidents (435). However, removing the nine cases wherein
25 the status of LCM usage is unknown from the set of 61 total cases results in 52
26 incidents and 373 cumulative fatalities. This adjustment decreases the average
27 death toll per non-LCM-involving incident to 7.17 fatalities, which in turn results in
28 a 58 percent increase (as opposed to a 59 percent increase) in deaths per incident
attributed to the use of LCMs. App. B, tbl. 2 & fig. 5.

¹³ App. B, tbl. 2 & figs. 1-5.

¹⁴ App. B, tbl. 2.

1 classroom and dash to safety.¹⁵ There is also the possibility that someone will rush
2 a rampage gunman and try to tackle him (or at the very least try to wrestle his
3 weapon away from him) while he pauses to reload.¹⁶ In recent history, there have
4 been numerous instances of active shooters being physically confronted by
5 unarmed civilians while reloading, bringing their gun attacks to an abrupt end. The
6 following list is just a sampling of examples.¹⁷

7
8 ¹⁵ See Klarevas, *Rampage Nation*, *supra* note 2, at 22.

9 ¹⁶ The longer a shooter can fire without interruption, the longer he can keep
10 potential defenders at bay. The longer potential defenders are kept from physically
11 confronting a gunman, the more opportunity there is for the shooter to inflict
12 damage.

13 ¹⁷ See Rich Schapiro, "LIRR Massacre 20 Years Ago: 'I Was Lucky,' Says Hero
14 Who Stopped Murderer," *New York Daily News*, December 7, 2013, *available at*
15 [http://www.nydailynews.com/new-york/nyc-crime/lirr-massacre-20-years-lucky-](http://www.nydailynews.com/new-york/nyc-crime/lirr-massacre-20-years-lucky-hero-stopped-murderer-article-1.1540846)
16 [hero-stopped-murderer-article-1.1540846](http://www.nydailynews.com/new-york/nyc-crime/lirr-massacre-20-years-lucky-hero-stopped-murderer-article-1.1540846) (last accessed October 4, 2017); *see also*
17 Eric Schmitt, "Gunman Shoots at White House from Sidewalk," *New York Times*,
18 October 30, 1994, *available at* [http://www.nytimes.com/1994/10/30/us/gunman-](http://www.nytimes.com/1994/10/30/us/gunman-shoots-at-white-house-from-sidewalk.html)
19 [shoots-at-white-house-from-sidewalk.html](http://www.nytimes.com/1994/10/30/us/gunman-shoots-at-white-house-from-sidewalk.html) (last accessed October 4, 2017); *see also*
20 Timothy Egan, "Oregon Student Held in 3 Killings; One Dead, 23 Hurt at His
21 School," *New York Times*, May 22, 1998, *available at* [http://www.nytimes.com/](http://www.nytimes.com/1998/05/22/us/shootings-school-overview-oregon-student-held-3-killings-one-dead-23-hurt-his.html)
22 [1998/05/22/us/shootings-school-overview-oregon-student-held-3-killings-one-](http://www.nytimes.com/1998/05/22/us/shootings-school-overview-oregon-student-held-3-killings-one-dead-23-hurt-his.html)
23 [dead-23-hurt-his.html](http://www.nytimes.com/1998/05/22/us/shootings-school-overview-oregon-student-held-3-killings-one-dead-23-hurt-his.html) (last accessed October 4, 2017); *see also* Ken Ritter, "Trial
24 Begins in Las Vegas Casino Gunfire Case," *San Diego Union-Tribune*, July 7, 2009,
25 *available at* [http://www.sandiegouniontribune.com/sdut-us-casino-shooting-trial-](http://www.sandiegouniontribune.com/sdut-us-casino-shooting-trial-070709-2009jul07-story.html)
26 [070709-2009jul07-story.html](http://www.sandiegouniontribune.com/sdut-us-casino-shooting-trial-070709-2009jul07-story.html) (last accessed October 4, 2017); *see also* "Capitol
27 Gunfire Suspect Tried Reloading," *Huntsville Item*, January 22, 2010, *available at*
28 [http://www.itemonline.com/news/local_news/report-capitol-gunfire-suspect-tried-](http://www.itemonline.com/news/local_news/report-capitol-gunfire-suspect-tried-reloading/article_7f321cc6-170e-578c-928f-fbc702f1228a.html)
[reloading/article_7f321cc6-170e-578c-928f-fbc702f1228a.html](http://www.itemonline.com/news/local_news/report-capitol-gunfire-suspect-tried-reloading/article_7f321cc6-170e-578c-928f-fbc702f1228a.html) (last accessed
October 4, 2017); *see also* Adam Nagourney, "A Single, Terrifying Moment: Shots
Fired, a Scuffle and Some Luck," *New York Times*, January 9, 2011, *available at*
<http://www.nytimes.com/2011/01/10/us/10reconstruct.html> (last accessed October
4, 2017); *see also* Joe Kemp, "Student Hailed Hero for Tackling Gunman Who
Opened Fire in Seattle Pacific University, Killing One," *New York Daily News*,
June 6, 2014, *available at* [http://www.nydailynews.com/news/crime/student-hailed-](http://www.nydailynews.com/news/crime/student-hailed-hero-tackling-gunman-opened-fire-seattle-pacific-university-killing-article-1.1819485)
[hero-tackling-gunman-opened-fire-seattle-pacific-university-killing-article-](http://www.nydailynews.com/news/crime/student-hailed-hero-tackling-gunman-opened-fire-seattle-pacific-university-killing-article-1.1819485)
[1.1819485](http://www.nydailynews.com/news/crime/student-hailed-hero-tackling-gunman-opened-fire-seattle-pacific-university-killing-article-1.1819485) (last accessed October 4, 2017).

**Examples of Active Shooters Who Were Physically
Confronted While Reloading**

Date	Perpetrator	Target	Location
December 7, 1993	Colin Ferguson	Long Island Rail Road	Garden City, NY
October 29, 1994	Francisco Duran	White House	Washington, DC
May 21, 1998	Kipland Kinkel	Thurston High School	Springfield, OR
July 6, 2007	Steven Zegrean	New York-New York Casino	Las Vegas, NV
January 21, 2010	Fausto Cardenas	Texas State Capitol	Austin, TX
January 8, 2011	Jared Loughner	Rep. Gabrielle Giffords Event	Tucson, AZ
June 5, 2014	Aaron Ybarra	Seattle Pacific University	Seattle, WA

C. Restrictions on LCMs Result in Fewer Gun Massacres

In light of the growing threat posed by rampage violence, legislatures have enacted measures in an effort to reduce the carnage of mass shootings. Prominent among these measures are restrictions on LCMs. There are at least two rationales for restricting magazine capacity. First, because LCMs, on average, produce higher death tolls in gun massacres, limiting magazine capacity aims to reduce the loss of life attributable to the increased kill potential of LCMs. Second, because LCMs allow rampage gunmen to fire more bullets without interruption, resulting in fewer opportunities for potential victims to take life-saving measures, limiting magazine capacity aims to create conditions which force mass shooters to pause in order to reload fresh magazines. This, in turn, provides authorities and civilians with precious seconds that can be exploited to escape, seek cover, or take other defensive measures, including attacking the gunmen.

In 1994, the United States enacted the Federal Assault Weapons Ban (AWB). Pub. L. No. 103-322, tit. XI, subtit. A, 108 Stat. 1796, 1996-2010 (codified as

1 former 18 U.S.C. § 922(v), (w)(1) (1994)). The law, which was in effect for only a
2 ten-year period before sun-setting, regulated certain firearms and their components.
3 Among its provisions, the AWB prohibited the manufacture, sale, transfer, or
4 possession of *new* magazines with a capacity greater than 10 rounds. *Id.*¹⁸ With
5 regard to the frequency and lethality of gun massacres, the AWB clearly had a
6 positive impact in reducing the number and carnage of such shootings.

7 In the 10-year period prior to the AWB (September 13, 1984-September 12,
8 1994), there were a total of eight gun massacres involving magazines with a
9 capacity greater than 10 rounds. *See* App. B, tbl. 2 & fig. 6. These eight gun
10 massacres claimed a combined 73 lives. During the 10-year period the AWB was
11 in effect (September 13, 1994-September 12, 2004), there were six gun massacres
12 involving magazines with a capacity greater than 10 rounds. These six gun
13 massacres claimed a combined 50 lives. In the ten-year period immediately
14 following the expiration of the AWB (September 13, 2004-September 12, 2014),
15 there were 24 gun massacres involving magazines with a capacity greater than 10
16 rounds. These 24 gun massacres claimed a combined 230 lives.¹⁹

17 In terms of incidents, the AWB ushered in a period marked by a 25-percent
18 decrease in the number of gun massacres involving magazines with a capacity
19 greater than 10 rounds. In contrast, the decade following the ban was marked by a
20 300-percent increase in the number of gun massacres involving magazines with a
21 capacity greater than 10 rounds. In terms of fatalities, the AWB ushered in a period
22 marked by a 32 percent decrease in the cumulative number of lives lost in gun
23 massacres involving magazines with a capacity greater than 10 rounds. In contrast,

24
25 ¹⁸ Magazines lawfully in circulation prior to the AWB's date of effect (September
26 13, 1994) were exempted (i.e., grandfathered) from the ban. Former 18 U.S.C.
27 § 922 (v)(2) (1994).

28 ¹⁹ App. B, tbl. 2 & fig. 6.

1 the decade following the ban was marked by a 360 percent increase in the
2 cumulative number of lives lost in gun massacres involving magazines with a
3 capacity greater than 10 rounds.²⁰

4 Since 1990, several states have also enacted restrictions on LCMs,
5 predominantly in an effort to reduce the loss of life in mass shootings.²¹ On March
6 30, 1990, New Jersey became the first state to regulate LCMs. Seven states and the
7 District of Columbia have since followed suit: Hawaii (July 1, 1992), Maryland
8 (June 1, 1994), Massachusetts (July 23, 1998), California (January 1, 2000), New
9 York (November 1, 2000), Washington, D.C. (March 31, 2009), Connecticut (April
10 4, 2013), and Colorado (July 1, 2013).²²

11
12 ²⁰ *Id.* In terms of all gun massacres, regardless of whether or not the shootings
13 involved LCMs, patterns in the same directions were noted. For instance, the period
14 of the AWB was marked by a 37 percent decrease in gun massacre incidents and a
15 43 percent decrease in gun massacre deaths, when compared to the 10-year period
16 immediately preceding the AWB. By contrast, the 10-year period immediately
17 following the AWB was marked by a 183 percent increase in gun massacre
18 incidents and a 239 percent increase in gun massacre deaths, when compared to the
19 decade of the AWB. *See Klarevas, Rampage Nation, supra* note 2, at 242.

20 ²¹ For a review of state laws that regulate LCMs, *see* Law Center to Prevent Gun
21 Violence, Large Capacity Magazines, *supra* note 1. States differ on the
22 ammunition-capacity threshold of LCMs. California, Connecticut, Hawaii,
23 Maryland, Massachusetts, New York, and Washington, D.C., define LCMs as
24 ammunition feeding devices holding more than 10 bullets, whereas Colorado and
25 New Jersey define LCMs as ammunition feeding devices holding more than 15
26 bullets. States also differ on whether to exempt LCMs that were in circulation or
27 owned prior to their respective bans going into effect—a practice known as
28 “grandfathering.” Colorado, Connecticut, Maryland Massachusetts grandfather
pre-ban LCMs. Hawaii, New Jersey, New York, and Washington, D.C., do not
grandfather pre-ban LCMs. Pursuant to a preliminary injunction issued by the
court in the current matter, California is prohibited from enforcing a law that would
prohibit LCMs that were legally possessed prior to January 1, 2000. If the
injunction is lifted, California would join Hawaii, New Jersey, New York, and
Washington, D.C. in not grandfathering previously-owned LCMs. *Id.*

²² Through a referendum on Proposition 63 (November 8, 2016), California voters

1 In the field of epidemiology, a common method for assessing the impact of
2 laws and policies is to measure the rate of onset of new cases of a problem,
3 comparing the rate when and where the laws and policies were in effect against the
4 rate when and where the laws and policies were not in effect. This measure, known
5 as the incidence rate, allows public health experts and criminologists to identify
6 discernable differences, per capita, over a period of time. Relevant to the present
7 case, calculating incidence rates across jurisdictions, in a manner that accounts for
8 whether or not LCM bans were in effect during the period of observation, allows
9 for the assessment of the effectiveness of such bans. In addition, fatality rates—the
10 number of deaths, per capita, that result from particular activities across different
11 jurisdictions—also provide insights into the impact of LCM bans on gun
12 massacres.²³

13 Since 1990, when the first LCM ban took effect in New Jersey, there have
14 been 69 gun massacres in the United States.²⁴ Calculating gun massacre incidence
15 rates for the time-period 1990-2017, across jurisdictions with and without bans on
16 the possession of LCMs, reveals that the enactment of an LCM ban resulted in an

17
18 decided to enhance their existing regulations on LCMs by prohibiting the
19 ownership of all ammunition magazines with a capacity greater than 10 bullets,
20 including any previously “grandfathered” LCMs. The relevant California statutes
21 can be found at Cal. Penal Code §§ 16740, 32310-32450. The particular provisions
22 that are the subject of the current litigation are codified at Cal. Penal Code §§
23 32310, 32390. California’s new LCM ban was set to take effect on July 1, 2017,
24 although the State is temporarily enjoined from enforcing it pursuant to a ruling in
25 the current case.

26 ²³ For purposes of this report, incidence and fatality (i.e., mortality) rates are
27 calculated in accordance with the methodological principles established by the
28 Centers for Disease Control and Prevention. *See* Centers for Disease Control and
Prevention, *An Introduction to Applied Epidemiology and Biostatistics* (2012).

²⁴ App. B, tbl. 2. There were no LCM bans in effect prior to 1990. Therefore, a
priori, 1990 is the logical starting point for an analysis of the impact of LCM bans.

1 79 percent difference, with ban states experiencing a far lower rate of incidence.
 2 *See* App. B, tbl. 3.²⁵ Even if the examination is limited to the last 13 years (2005-
 3 2017), which covers the years when the nationwide AWB was no longer in effect,
 4 the difference in incidence rates is still 56 percent, with LCM-ban states again
 5 experiencing far fewer gun massacres per capita.²⁶

6 It should be noted that the aforementioned incidence rates pertain to all gun
 7 massacres, regardless of the weaponry they involved. When calculations go a step
 8 further and are limited to gun massacres involving LCMs, the difference is even
 9 more pronounced. *See* App. B, tbl. 3. In terms of incidence rates, for the time-
 10 period since 1990, the benefit for jurisdictions that regulated LCMs was a 105
 11 percent difference, when compared to jurisdictions that did not regulate LCMs.²⁷
 12 Again, even if the examination is limited to post-federal AWB era, the difference in
 13 incidence rates for LCM-involving gun massacres was 88 percent, again with
 14 LCM-ban states experiencing far fewer attacks involving LCMs.²⁸

15 In terms of fatality rates, the patterns are similar. *See* App. B, tbl. 4. From
 16 1990-2017, the difference in rates was 101 percent, with jurisdictions that had LCM
 17 bans in effect experiencing drastically fewer deaths per capita than those areas
 18 which did not regulate LCMs. Even after the federal AWB expired, drastically
 19 cutting the number of areas restricting LCMs, states with LCM bans experienced
 20 fewer gun massacre deaths per capita, marked by a 74 percent difference in fatality

21
 22 ²⁵ For purposes of coding, between September 13, 1994, and September 12, 2004,
 23 the federal AWB was in effect. During that ten-year period, all 50 states and the
 24 District of Columbia were under legal conditions that banned the possession of
 25 certain prohibited LCMs. As such, the entire country is coded as being under a
 26 LCM ban during the decade the AWB was in effect.

27 ²⁶ App. B, tbl. 3.

28 ²⁷ *Id.*

²⁸ *Id.*

1 rates. Limiting analysis to only those gun massacres that involved LCMs indicates
2 that the difference in gun massacre fatality rates for LCM-ban jurisdictions was
3 even greater when compared to the fatality rates for jurisdictions that opted not to
4 regulate LCMs. In terms of LCM-involving gun massacres, the differences in
5 fatality rates between the two categories of jurisdictions were 126 percent and 106
6 percent for the time-periods 1990-2017 and 2005-2017, respectively, in both
7 instances to the benefit of states that regulated LCMs.²⁹

8 Basically, all of the above epidemiological calculations lead to the same
9 conclusion: when LCM bans are in effect, per capita, fewer gun massacres occur
10 and fewer people die in such high-fatality mass shootings.

11 The intent underlying most LCM bans is to restrict the circulation of LCMs.
12 The reasoning is that, if there are fewer LCMs in circulation within their
13 jurisdictions, then gunmen will be forced to use firearms with lower ammunition-
14 capacities, resulting in attacks that do not kill enough victims to rise to the level of
15 a gun massacre (six or more victims being shot to death in a mass shooting).³⁰
16 Moreover, even if gunmen opt to use semiautomatic firearms equipped with
17 magazines, bans should still result in fewer opportunities to acquire and utilize
18 LCMs prohibited by law to perpetrate gun massacres. The epidemiological data
19 clearly lend support to both of these premises, in turn furthering the argument that
20 bans on the possession of LCMs enhance public safety.

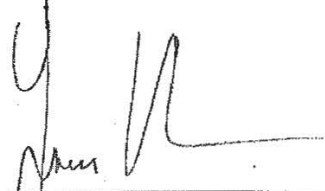
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23 ²⁹ App. B, tbl. 4.

24 ³⁰ For instance, a gunman armed with a six-shot revolver can, in theory, kill six
25 people without having to reload. However, to kill more people, that same gunman
26 would require a way to fire additional ammunition, and the most efficient way to do
27 so is to utilize a firearm armed with a LCM. Restricting the ability of gunmen to
28 deliver large capacities of ammunition without interruption can result in fewer lives
lost in shootings.

1 While imposing constraints on LCMs will not result in the prevention of all
2 future mass shootings, the data suggest that denying rampage gunmen access to
3 LCMs will result in a significant number of lives being saved.

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5 Respectfully Submitted,

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Louis Klarevas, Ph.D.
January 5, 2018
Queens, NY

Appendix A

Curriculum Vitae of Dr. Louis Klarevas

Louis J. Klarevas

Education

Ph.D. International Relations, 1999
School of International Service
American University

B.A. Political Science, *Cum Laude*, 1989
School of Arts and Sciences
University of Pennsylvania

Current Position

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

Representation

Trident Media Group
41 Madison Avenue
New York, NY 10010

Professional Experience

Expert Witness for State of California, *Duncan v. Becerra*, United States District Court for Southern District of California, Case Number 3:17-cv-1017-BEN, 2017

Expert Witness for State of California, *Wiese v. Becerra*, United States District Court for Eastern District of California, Case Number 2:17-cv-00903-WBS-KJN, 2017

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

Member, Guns on Campus Assessment Group, Johns Hopkins University Center for Gun Policy and Research, 2016

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

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

Clinical Assistant Professor, Center for Global Affairs, New York University, 2006-2011

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

Faculty Affiliate, A. S. Onassis Program in Hellenic Studies, New York University, 2007-2011

Consultant, Academy for International Conflict Management and Peacebuilding, United States Institute of Peace, Washington, D.C., 2008-2009

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

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

Consultant, United States Institute of Peace, Washington, DC, 2005

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

Defense Analysis Research Fellow, London School of Economics and Political Science, 2002-2003

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

Adjunct Professor of Political Science, George Washington University, Washington, D.C., 1998-1999

Research Associate, United States Institute of Peace, Washington, D.C., 1992-1998

Adjunct Professor of International Relations, School of International Service, American University, Washington, D.C., 1994

Faculty Advisor, National Youth Leadership Forum, Washington, D.C., 1992

Dean's Scholar, School of International Service, American University, Washington, D.C., 1989-1992

Courses Taught

American Government and Politics (undergraduate)

Counter-Terrorism and Homeland Security (graduate)

European-Atlantic Relations (undergraduate)

International Political Economy (graduate and undergraduate)

International Politics in a Post-Cold War Era (graduate)

International Relations (undergraduate)

International Security (graduate)

Machinery and Politics of American Foreign Policy (graduate)

Role of the United States in World Affairs (graduate)

Security Policy (graduate)

Theories of International Politics (graduate)

Transnational Security (graduate)

Transnational Terrorism (graduate, undergraduate, and senior seminar)

United States Foreign Policy (graduate and undergraduate)

Books

Rampage Nation: Securing America from Mass Shootings (2016)

<http://www.penguinrandomhouse.com/books/252353/rampage-nation-by-louis-klarevas>

Scholarship

Firearms on College Campuses: Research Evidence and Policy Implications, report prepared by the Johns Hopkins University Center for Gun Policy and Research for the Association of American Universities, October 2016 (co-authored with Daniel W. Webster, John J. Donohue, et al.)

"No Relief in Sight: Barring *Bivens* Suits in Torture Cases," *Presidential Studies Quarterly*, June 2013

"Trends in Terrorism Since 9/11," *Georgetown Journal of International Affairs*, Winter/Spring 2011

"The Death Penalty Should Be Decided Only Under a Specific Guideline," in Christine Watkins, ed., *The Ethics of Capital Punishment* (Cengage/Gale Publishers, 2011)

Saving Lives in the 'Convoy of Joy': Lessons for Peace-Keeping from UNPROFOR, United States Institute of Peace Case Study, 2009

"Casualties, Polls and the Iraq War," *International Security*, Fall 2006

"The CIA Leak Case Indicting Vice President Cheney's Chief of Staff," *Presidential Studies Quarterly*, June 2006

"Were the Eagle and the Phoenix Birds of a Feather? The United States and the 1967 Greek Coup," *Diplomatic History*, June 2006

"Greeks Bearing Consensus: An Outline for Increasing Greece's Soft Power in the West," *Mediterranean Quarterly*, Summer 2005

"W Version 2.0: Foreign Policy in the Second Bush Term," *The Fletcher Forum of World Affairs*, Summer 2005

"Can You Sue the White House? Opening the Door for Separation of Powers Immunity in *Cheney v. District Court*," *Presidential Studies Quarterly*, December 2004

"Political Realism: A Culprit for the 9/11 Attacks," *Harvard International Review*, Fall 2004

Greeks Bearing Consensus: An Outline for Increasing Greece's Soft Power in the West, Hellenic Observatory Discussion Paper 18, London School of Economics, November 2004

Were the Eagle and the Phoenix Birds of a Feather? The United States and the 1967 Greek Coup, Hellenic Observatory Discussion Paper 15, London School of Economics, February 2004

"Media Impact," in Mark Rozell, ed., *The Media and American Politics: An Introduction* (Lanham, MD: Rowman & Littlefield, 2003)

"The Surrender of Alleged War Criminals to International Tribunals: Examining the Constitutionality of Extradition via Congressional-Executive Agreement," *UCLA Journal of International Law and Foreign Affairs*, Fall/Winter 2003

"The Constitutionality of Congressional-Executive Agreements: Insights from Two Recent Cases," *Presidential Studies Quarterly*, June 2003

"The 'Essential Domino' of Military Operations: American Public Opinion and the Use of Force," *International Studies Perspectives*, November 2002

"The Polls-Trends: The United States Peace Operation in Somalia," *Public Opinion Quarterly*, Winter 2001

American Public Opinion on Peace Operations: The Cases of Somalia, Rwanda, and Haiti, University of Michigan Dissertation Services, 1999

"Turkey's Right v. Might Dilemma in Cyprus: Reviewing the Implications of *Loizidou v. Turkey*," *Mediterranean Quarterly*, Spring 1999

"An Outline of a Plan Toward a Comprehensive Settlement of the Greek-Turkish Dispute," in Vangelis Calotychos, ed., *Cyprus and Its People: Nation, Identity, and Experience in an Unimaginable Community, 1955-1997*, Boulder, CO: Westview Press, 1998 (co-authored with Theodore A. Couloumbis)

"Prospects for Greek-Turkish Reconciliation in a Changing International Setting," in Robert L. Pfaltzgraff and Dimitris Keridis, eds., *Security in Southeastern Europe and the U.S.-Greek-Relationship*, London: Brassey's, 1997 (co-authored with Theodore A. Couloumbis)

"Prospects for Greek-Turkish Reconciliation in a Changing International Setting," in Tozun Bahcheli, Theodore A. Couloumbis, and Patricia Carley, eds., *Greek-Turkish Relations and U.S. Foreign Policy: Cyprus, the Aegean, and Regional Stability*, Washington, D.C.: U.S. Institute of Peace, 1997 (co-authored with Theodore A. Couloumbis)

"Structuration Theory in International Relations," *Swords & Ploughshares*, Spring 1992

Book Reviews

Review of James Edward Miller's *The United States and the Making of Modern Greece: History and Power, 1950-1974*, *Presidential Studies Quarterly*, June 2012

"The Life-Cycle of Regimes: Oran Young's *International Cooperation*," *Millennium*, Winter 1990 (co-authored with Nanette S. Levinson)

Commentaries and Correspondence

"The Texas Shooting Again Reveals Inadequate Mental-Health Help in the U.S. Military," *New York Daily News*, November 7, 2017

"Why Mass Shootings Are Getting Worse," *New York Daily News*, October 2, 2017

"London and the Mainstreaming of Vehicular Terrorism," *The Atlantic*, June 4, 2017 (co-authored with Colin P. Clarke)

"Almost Every Fatal Terrorist Attack in America since 9/11 Has Involved Guns," *Vice*, December 4, 2015

"Firearms Have Killed 82 of the 86 Victims of Post-9/11 Domestic Terrorism," *The Trace*, June 30, 2015

"International Law and the 2012 Presidential Elections," Vitoria Institute Website, March 24, 2012

"Al Qaeda Without Bin Laden," CBS News *Opinion*, May 2, 2011

"Fuel, But Not the Spark," *Zocalo Public Square*, February 16, 2011

"After Tucson, Emotions Run High," *New York Times*, January 12, 2011 (correspondence)

"WikiLeaks, the Web, and the Need to Rethink the Espionage Act," *The Atlantic*, November 9, 2010

"N.Y. Can Lead the Nation in Fighting Child Sex Trafficking," *New York Daily News*, April 21, 2009 (co-authored with Ana Burdsall-Morse)

"Deprogramming Jihadis," *New York Times Magazine*, November 23, 2008 (correspondence)

"Food: An Issue of National Security," *Forbes* (Forbes.com), October 25, 2008

"Crack Down on Handguns – They're a Tool of Terror, Too," *New York Daily News*, October 25, 2007

"An Invaluable Opportunity for Greece To Increase Its Standing and Influence on the World Stage," *Kathimerini* (Greece), January 13, 2005

"Not a Divorce," *Survival*, Winter 2003-2004

"How Many War Deaths Can We Take?" *Newsday*, November 7, 2003

"Death Be Not Proud," *The New Republic*, October 27, 2003 (correspondence)

"Down But Not Out," London School of Economics Iraq War Website, April 2003

"Four Half-Truths and a War," *American Reporter*, April 6, 2003

"The Greek Bridge between Old and New Europe," *National Herald*, February 15-16, 2003

"Debunking a Widely-Believed Greek Conspiracy Theory," *National Herald*, September 21-22, 2002

"Debunking of Elaborate Media Conspiracies an Important Trend," *Kathimerini* (Greece), September 21, 2002 [Not Related to September 21-22, 2002, *National Herald* Piece with Similar Title]

"Cold Turkey," *Washington Times*, March 16, 1998

"Make Greece and Turkey Behave," *International Herald Tribune*, January 3, 1998

"If This Alliance Is to Survive . . .," *Washington Post*, January 2, 1998

"Defuse Standoff on Cyprus," *Defense News*, January 27-February 2, 1997

"Ukraine Holds Nuclear Edge," *Defense News*, August 2-8, 1993

Commentaries for *Foreign Policy* – <http://www.foreignpolicy.com>

"The White House's Benghazi Problem," September 20, 2012

"Greeks Don't Want a Grexit," June 14, 2012

"The Earthquake in Greece," May 7, 2012

"The Idiot Jihadist Next Door," December 1, 2011

"Locked Up Abroad," October 4, 2011

Commentaries for *The New Republic* – <http://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

Commentaries Written for *The Huffington Post* – <http://www.huffingtonpost.com/louis-klarevas>

“Improving the Justice System Following the Deaths of Michael Brown and Eric Garner,” December 4, 2014

“American Greengemony: How the U.S. Can Help Ukraine and the E.U. Break Free from Russia’s Energy Stranglehold,” March 6, 2014

“Guns Don’t Kill People, Dogs Kill People,” October 17, 2013

“Romney the Liberal Internationalist?” October 23, 2012

“Romney’s Unrealistic Foreign Policy Vision: National Security Funded by Money Growing Trees,” October 10, 2012

“Do the Wrong Thing: Why Penn State Failed as an Institution,” November 14, 2011

“Holding Egypt’s Military to Its Pledge of Democratic Reform,” February 11, 2011

“The Coming Twivolutions? Social Media in the Recent Uprisings in Tunisia and Egypt,” January 31, 2011

“Scholarship Slavery: Does St. John’s ‘Dean of Mean’ Represent a New Face of Human Trafficking?” October 6, 2010

“Misunderstanding Terrorism, Misrepresenting Islam,” September 21, 2010

“Bombing on the Analysis of the Times Square Bomb Plot,” May 5, 2010

“Do the Hutaree Militia Members Pose a Terrorist Threat?” May 4, 2010

“Addressing Mexico’s Gun Violence One Extradition at a Time,” March 29, 2010

“Terrorism in Texas: Why the Austin Plane Crash Is an Act of Terror,” February 19, 2010

“Securing American Primacy by Tackling Climate Change: Toward a National Strategy of Greengemony,” December 15, 2009

“Traffickers Without Borders: A ‘Journey’ into the Life of a Child Victimized by Sex Trafficking,” November 17, 2009

“Beyond a Lingering Doubt: It’s Time for a New Standard on Capital Punishment,” November 9, 2009

“It’s the Guns Stupid: Why Handguns Remain One of the Biggest Threats to Homeland Security,” November 7, 2009

“Obama Wins the 2009 Nobel Promise Prize,” October 9, 2009

Legal Analyses Written for *Writ* – <http://writ.news.findlaw.com/contributors.html#klarevas>

“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)

Columns Written (in Greek) for *To Vima* Newspaper (Athens)

“Time to Pay,” August 2003

“Does Turkey Have an Ulterior Motive?” July 2003

“Will They Make Up?” June 2003

“Don't Take the Bait,” May 2003

“If the Cheers Turn to Jeers,” April 2003

“The Power of a Niche Identity,” April 2003

“If You Can't Beat Them, Join Them,” April 2003

“Show Me the Euros,” March 2003

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)

“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 Spotlighting 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. Couloumbis)

"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. Couloumbis)

"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. Coulombis)

"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 Political Science Review

Comparative Political Studies

Journal of Public and International Affairs

Millennium

Political Behavior

Presidential Studies Quarterly

Brill Publishers

Service to University, Profession, and Community

Expert Witness for State of California, 2017

Expert Witness for State of Colorado, 2016-2017

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

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

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

Faculty Advisor, Global Affairs Graduate Society, 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

Department Liaison, Commencement, 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 of the 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

Associations and Organizations (Past and Present)

Academy of Political Science

American Political Science Association

Anderson Society of American University

Carnegie Council Global Ethics Network

International Political Science Association

International Studies Association

Museum of Modern Art

New York Screenwriters Collective

Pan-Icarian Brotherhood

Pi Sigma Alpha

Sigma Nu Fraternity

Social Science Research Network

United States Department of State Alumni Network

United States Institute of Peace Alumni Association

University of Pennsylvania Alumni Association

Honors and Awards

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, 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

Appendix B

Tables and Figures in Support of Expert Report Submitted by Dr. Louis Klarevas

Appendix B – Table 1**The 10 Deadliest Intentional Acts of Violence of the Past Decade, 2008-2017**

	Deaths	Incident Type	Date	Perpetrator	City	State
1	58	Mass Shooting	10/1/2017	Stephen Paddock	Las Vegas	NV
2	49	Mass Shooting	6/12/2016	Omar Mateen	Orlando	FL
3	27	Mass Shooting	12/14/2012	Adam Lanza	Newtown	CT
4	26	Mass Shooting	11/5/2017	Devin Kelley	Sutherland Springs	TX
5	14	Mass Shooting	12/2/2015	Syed Rizwan Farook and Tashfeen Malik	San Bernardino	CA
6	13	Mass Shooting	4/3/2009	Jiverly Wong	Binghamton	NY
7	13	Mass Shooting	11/5/2009	Nidal Hasan	Fort Hood	TX
8	12	Mass Shooting	7/20/2012	James Holmes	Aurora	CO
9	12	Mass Shooting	9/16/2013	Aaron Alexis	Washington	DC
10	10	Mass Shooting	3/10/2009	Michael McLendon	Kinston, Samson, and Geneva	AL

Appendix B – Table 2

Gun Massacres in the United States, 1968-2017

	Date	City	State	Perpetrator(s)	LCM	Deaths
1	3/16/1968	Ironwood	MI	Eric Pearson	N	7
2	6/25/1968	Good Hart	MI	Undetermined	N	6
3	12/19/1968	Napa	CA	Charles Bray	N	6
4	9/3/1971	Phoenix	AZ	John Freeman	N	7
5	6/21/1972	Cherry Hill	NJ	Edwin Grace	Y	6
6	1/7/1973	New Orleans	LA	Mark Essex	N	7
7	6/21/1973	Palos Hills	IL	William Workman	N	7
8	4/22/1973	Los Angeles	CA	William Bonner	N	7
9	6/9/1973	Boston	MA	George O'Leary	N	6
10	11/4/1973	Cleveland	OH	Cyril Rovanssek	N	7
11	2/18/1974	Fayette	MS	Frankie Lias	N	7
12	11/13/1974	Amityville	NY	Ronald DeFeo	N	6
13	3/30/1975	Hamilton	OH	James Ruppert	N	11
14	10/19/1975	Sutherland	NE	Erwin Simants	N	6
15	3/12/1976	Trevoze	PA	George Geschwendt	N	6
16	7/12/1976	Fullerton	CA	Edward Allaway	Y	7
17	7/23/1977	Klamath Falls	OR	DeWitt Henry	Y	6
18	8/26/1977	Hackettstown	NJ	Emile Benoist	N	6
19	7/16/1978	Oklahoma City	OK	Harold Stafford, Roger Stafford, and Verna Stafford	N	6
20	1/3/1981	Delmar	IA	Gene Gilbert	N	6
21	1/7/1981	Richmond	VA	Artie Ray Cherry, Michael Finazzo, and Tyler Frndak	N	6
22	5/2/1981	Clinton	MD	Ronald Ellis	N	6
23	8/21/1981	Indianapolis	IN	King Bell	N	6
24	2/17/1982	Farwell	MI	Robert Haggart	N	7
25	8/9/1982	Grand Prairie	TX	John Parish	N	6
26	8/20/1982	Miami	FL	Carl Brown	N	8
27	9/7/1982	Craig	AK	Undetermined	N	8
28	9/25/1982	Wilkes-Barre	PA	George Banks	Y	13
29	2/18/1983	Seattle	WA	Kwan Fai Mak and Benjamin Ng	N	13
30	3/3/1983	McCarthy	AK	Louis Hastings	N	6
31	10/11/1983	College Station and Hempstead	TX	Eliseo Moreno	N	6
32	4/15/1984	Brooklyn	NY	Christopher Thomas	N	10
33	5/19/1984	Manley Hot Springs	AK	Michael Silka	N	8
34	6/29/1984	Dallas	TX	Abdelkrim Belachheb	Y	6
35	7/18/1984	San Ysidro	CA	James Huberty	Y	21
36	10/18/1984	Evansville	IN	James Day	N	6
37	8/20/1986	Edmond	OK	Patrick Sherrill	N	14
38	12/8/1986	Oakland	CA	Rita Lewis and David Welch	Y	6
39	2/5/1987	Flint	MI	Terry Morris	N	6
40	4/23/1987	Palm Bay	FL	William Cruse	Y	6
41	7/12/1987	Tacoma	WA	Daniel Lynam	N	7
42	9/25/1987	Elkland	MO	James Schnick	N	7
43	12/30/1987	Algona	IA	Robert Dreesman	N	6
44	2/16/1988	Sunnyvale	CA	Richard Farley	N	7
45	9/14/1989	Louisville	KY	Joseph Wesbecker	Y	8
46	6/18/1990	Jacksonville	FL	James Pough	Y	9
47	1/26/1991	Chimayo	NM	Ricky Abeyta	N	7
48	8/9/1991	Waddell	AZ	Jonathan Doody and Alessandro Garcia	N	9
49	10/16/1991	Killeen	TX	George Hennard	Y	23
50	11/7/1992	Morro Bay and Paso Robles	CA	Lynwood Drake	N	6
51	1/8/1993	Palatine	IL	James Degorski and Juan Luna	N	7
52	5/16/1993	Fresno	CA	Allen Heflin and Johnnie Malarkey	Y	7
53	7/1/1993	San Francisco	CA	Gian Luigi Ferri	Y	8
54	12/7/1993	Garden City	NY	Colin Ferguson	Y	6
55	4/20/1999	Littleton	CO	Eric Harris and Dylan Klebold	Y	13
56	7/12/1999	Atlanta	GA	Cyrano Marks	U	6
57	7/29/1999	Atlanta	GA	Mark Barton	Y	9
58	9/15/1999	Fort Worth	TX	Larry Ashbrook	Y	7
59	11/2/1999	Honolulu	HI	Byran Koji Uyesugi	Y	7
60	12/26/2000	Wakefield	MA	Michael McDermott	Y	7

Appendix B – Table 2 (Cont.)

Gun Massacres in the United States, 1968-2017

	Date	City	State	Perpetrator(s)	LCM	Deaths
61	12/28/2000	Philadelphia	PA	Shihean Black, Dawud Faruqi, Khalid Faruqi, and Bruce Veney	Y	7
62	8/26/2002	Rutledge	AL	Westley Harris	N	6
63	1/15/2003	Edinburg	TX	Humberto Garza, Robert Garza, Rodolfo Medrano, and Juan Ramirez	U	6
64	7/8/2003	Meridian	MS	Douglas Williams	N	6
65	8/27/2003	Chicago	IL	Salvador Tapia	N	6
66	3/12/2004	Fresno	CA	Marcus Wesson and Sebhrenah Wesson	N	9
67	11/21/2004	Birchwood	WI	Chai Soua Vang	Y	6
68	3/12/2005	Brookfield	WI	Terry Ratzmann	Y	7
69	3/21/2005	Red Lake	MN	Jeffrey Weise	Y	9
70	1/30/2006	Goleta	CA	Jennifer San Marco	Y	7
71	3/25/2006	Seattle	WA	Kyle Huff	Y	6
72	6/1/2006	Indianapolis	IN	James Stewart and Desmond Turner	Y	7
73	12/16/2006	Kansas City	KS	Hersel Isadore	N	6
74	4/16/2007	Blacksburg	VA	Seung Hui Cho	Y	32
75	10/7/2007	Crandon	WI	Tyler Peterson	Y	6
76	12/5/2007	Omaha	NE	Robert Hawkins	Y	8
77	12/24/2007	Carnation	WA	Michele Anderson and Joseph McEnroe	U	6
78	2/7/2008	Kirkwood	MO	Charles Lee Thornton	Y	6
79	9/2/2008	Alger	WA	Isaac Zamora	U	6
80	12/24/2008	Covina	CA	Bruce Pardo	Y	8
81	1/27/2009	Los Angeles	CA	Ervin Lupoe	N	6
82	3/10/2009	Kinston, Samson, and Geneva	AL	Michael McLendon	Y	10
83	3/29/2009	Carthage	NC	Robert Stewart	N	8
84	4/3/2009	Binghamton	NY	Jiverly Wong	Y	13
85	11/5/2009	Fort Hood	TX	Nidal Hasan	Y	13
86	1/19/2010	Appomattox	VA	Christopher Speight	Y	8
87	8/3/2010	Manchester	CT	Omar Thornton	Y	8
88	1/8/2011	Tucson	AZ	Jared Loughner	Y	6
89	7/7/2011	Grand Rapids	MI	Rodrick Dantzler	Y	7
90	8/7/2011	Copley Township	OH	Michael Hance	N	7
91	10/12/2011	Seal Beach	CA	Scott Dekraai	N	8
92	12/25/2011	Grapevine	TX	Aziz Yazdanpanah	N	6
93	4/2/2012	Oakland	CA	One Goh	N	7
94	7/20/2012	Aurora	CO	James Holmes	Y	12
95	8/5/2012	Oak Creek	WI	Wade Page	Y	6
96	9/27/2012	Minneapolis	MN	Andrew Engeldinger	Y	6
97	12/14/2012	Newtown	CT	Adam Lanza	Y	27
98	7/26/2013	Hialeah	FL	Pedro Vargas	Y	6
99	9/16/2013	Washington	DC	Aaron Alexis	N	12
100	7/9/2014	Spring	TX	Ronald Lee Haskell	Y	6
101	9/18/2014	Bell	FL	Don Spirit	U	7
102	2/26/2015	Tyrone	MO	Joseph Jesse Aldridge	U	7
103	5/17/2015	Waco	TX	Unidentified	Y	9
104	6/17/2015	Charleston	SC	Dylann Storm Roof	Y	9
105	8/8/2015	Houston	TX	David Conley	U	8
106	10/1/2015	Roseburg	OR	Christopher Harper-Mercer	Y	9
107	12/2/2015	San Bernardino	CA	Syed Rizwan Farook and Tashfeen Malik	Y	14
108	2/21/2016	Kalamazoo	MI	Jason Dalton	Y	6
109	4/22/2016	Piketon	OH	Undetermined	U	8
110	6/12/2016	Orlando	FL	Omar Mateen	Y	49
111	5/27/2017	Brookhaven	MS	Corey Godbolt	U	8
112	9/10/2017	Plano	TX	Spencer Hight	Y	8
113	10/1/2017	Las Vegas	NV	Stephen Paddock	Y	58
114	11/5/2017	Sutherland Springs	TX	Dovin Kelley	Y	26

Note: The incidents highlighted in gray represent the 20 gun massacres that occurred at a time when and place where a ban on certain LCMs was in effect. Incidents marked as LCM-positive involved fatalities resulting from a firearm armed with least one magazine capable of holding more than 10 bullets.
Y=Yes / N=No / U=Undetermined.

Appendix B – Table 3**Gun Massacre Incidence Rates by Whether or Not LCM Bans Were in Effect**

1990-2017 (All Incidents N=69)			
	No LCM Ban in Effect	LCM Ban in Effect	Percentage Difference
Incidence Rate	.327	.142	79%
Number of Incidents	49	20	
2005-2017 (All Incidents N=47)			
	No LCM Ban in Effect	LCM Ban in Effect	Percentage Difference
Incidence Rate	.171	.096	56%
Number of Incidents	39	8	
1990-2017 (Incidents Only Involving LCMs N=44)			
	No LCM Ban in Effect	LCM Ban in Effect	Percentage Difference
Incidence Rate	.227	.071	105%
Number of Incidents	34	10	
2005-2017 (Incidents Only Involving LCMs N=32)			
	No LCM Ban in Effect	LCM Ban in Effect	Percentage Difference
Incidence Rate	.123	.048	88%
Number of Incidents	28	4	

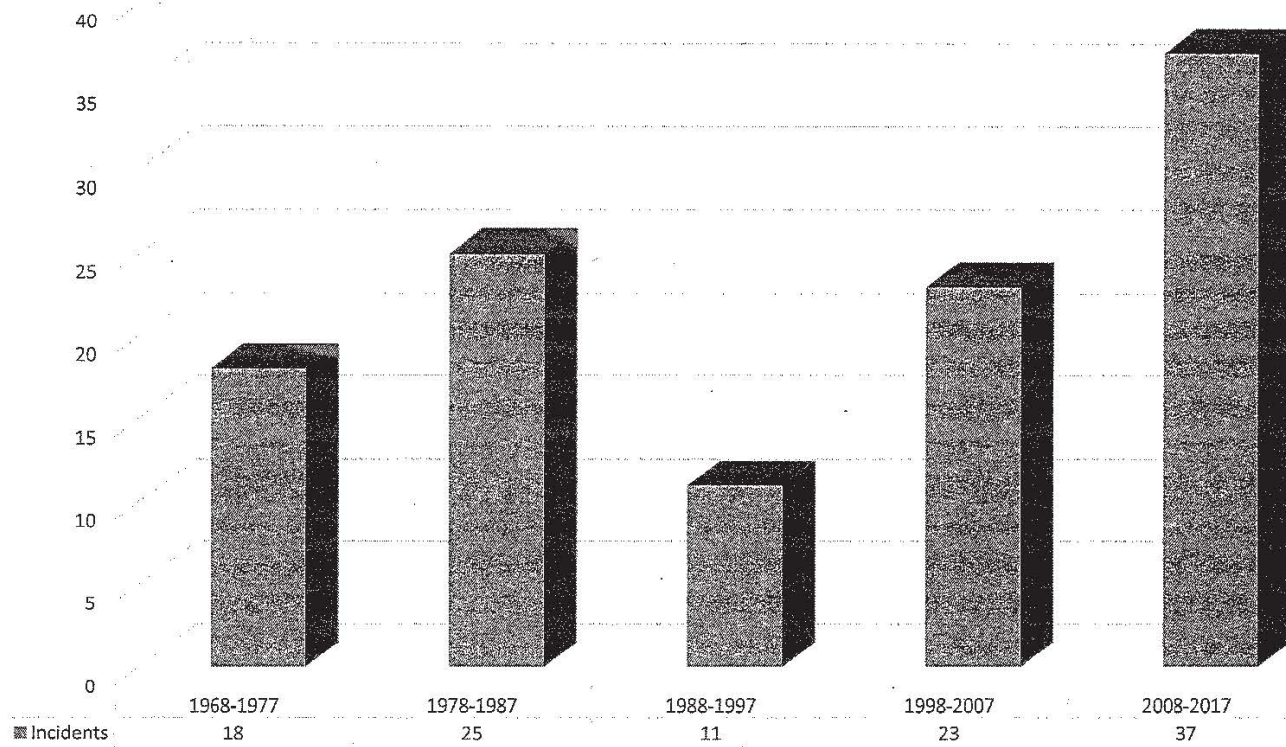
Note: Incidence rates are calculated per one million people. All population data used to calculate incidence rates in this table are drawn from United States Census Bureau, "Population and Housing Unit Estimates Tables," <https://www.census.gov/programs-surveys/popest/data/tables.html> (last accessed January 4, 2018). The percentage difference refers to percentage difference between the two incidence rates—the rate for the jurisdictions where an LCM ban was in effect and the rate for the jurisdictions where an LCM ban was not in effect. All percentage differences were calculated using the Calculator Soup online percentage difference calculator. As the Calculator Soup website states, "Percentage difference equals the absolute value of the change in value, divided by the average of the 2 numbers, all multiplied by 100." The calculator and formula are available at the following website: <https://www.calculatorsoup.com/calculators/algebra/percent-difference-calculator.php> (last accessed January 4, 2018).

Appendix B – Table 4**Gun Massacre Fatality Rates by Whether or Not LCM Bans Were in Effect**

1990-2017 (Fatalities in All Incidents N=699)			
	No LCM Ban in Effect	LCM Ban in Effect	Percentage Difference
Fatality Rate	3.58	1.17	101%
Number of Fatalities	535	164	
2005-2017 (Fatalities in All Incidents N=522)			
	No LCM Ban in Effect	LCM Ban in Effect	Percentage Difference
Fatality Rate	1.96	0.90	74%
Number of Fatalities	447	75	
1990-2017 (Fatalities in Incidents Only Involving LCMs N=521)			
	No LCM Ban in Effect	LCM Ban in Effect	Percentage Difference
Fatality Rate	2.87	0.65	126%
Number of Fatalities	429	92	
2005-2017 (Fatalities in Incidents Only Involving LCMs N=412)			
	No LCM Ban in Effect	LCM Ban in Effect	Percentage Difference
Fatality Rate	1.62	0.50	106%
Number of Fatalities	370	42	

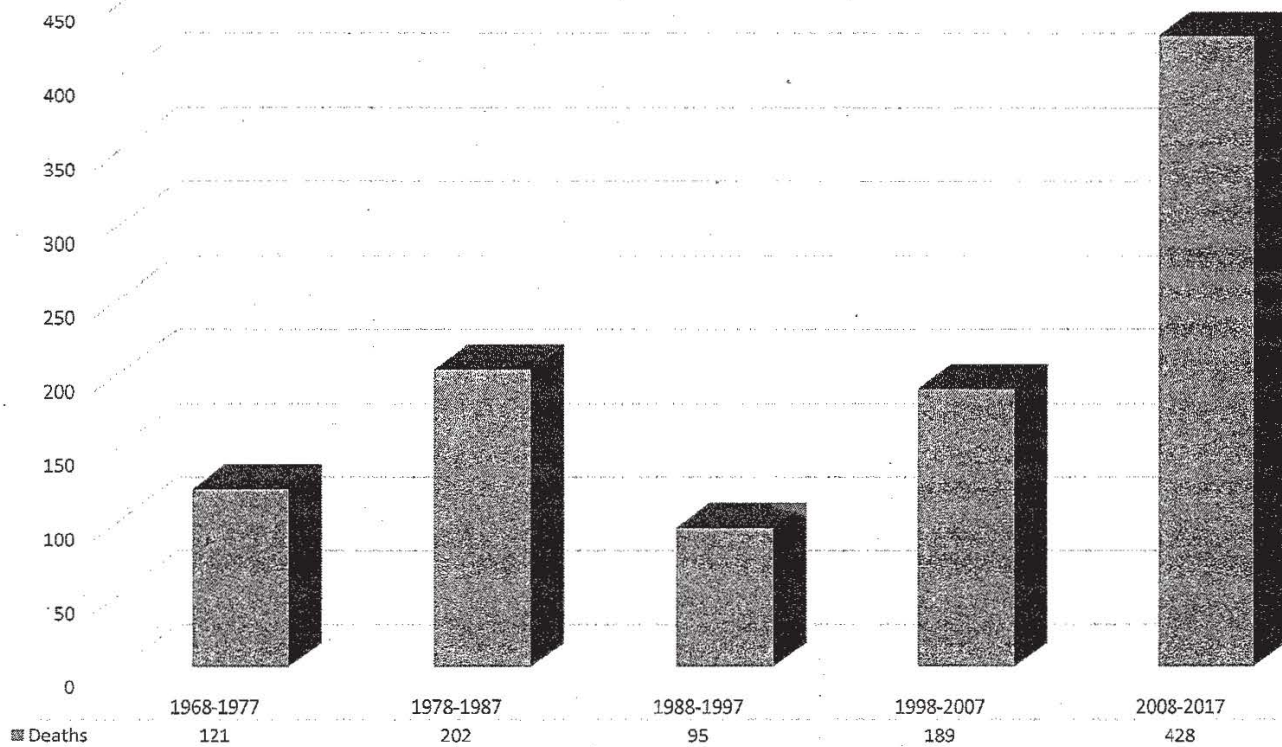
Note: Fatality rates are calculated per one million people. All population data used to calculate fatality rates in this table are drawn from United States Census Bureau, "Population and Housing Unit Estimates Tables," <https://www.census.gov/programs-surveys/popest/data/tables.html> (last accessed January 4, 2018). The percentage difference refers to percentage difference between the two fatality rates—the rate for the jurisdictions where an LCM ban was in effect and the rate for the jurisdictions where an LCM ban was not in effect. All percentage differences were calculated using the Calculator Soup online percentage difference calculator. As the Calculator Soup website states, "Percentage difference equals the absolute value of the change in value, divided by the average of the 2 numbers, all multiplied by 100." The calculator and formula are available at the following website: <https://www.calculatorsoup.com/calculators/algebra/percent-difference-calculator.php> (last accessed January 4, 2018).

Appendix B – Figure 1
Gun Massacre Incidents by Decade, 1968-2017



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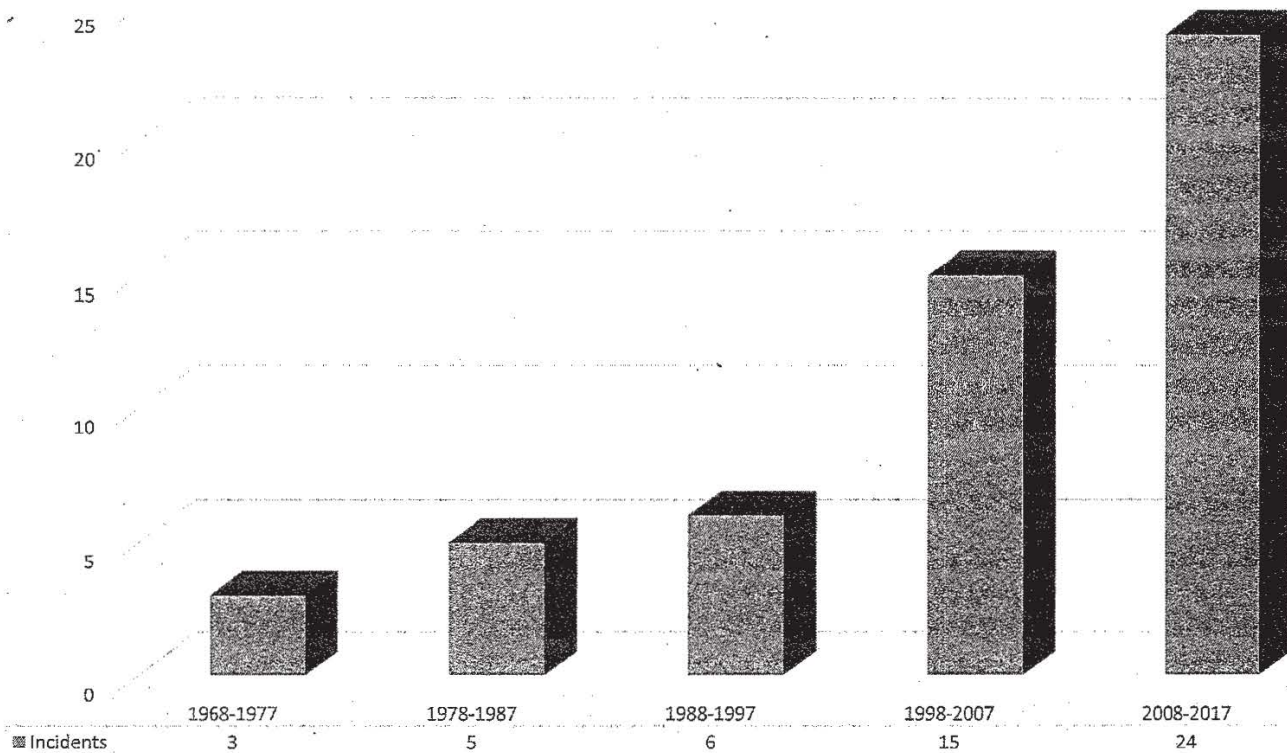
Appendix B – Figure 2
Gun Massacre Deaths by Decade, 1968-2017



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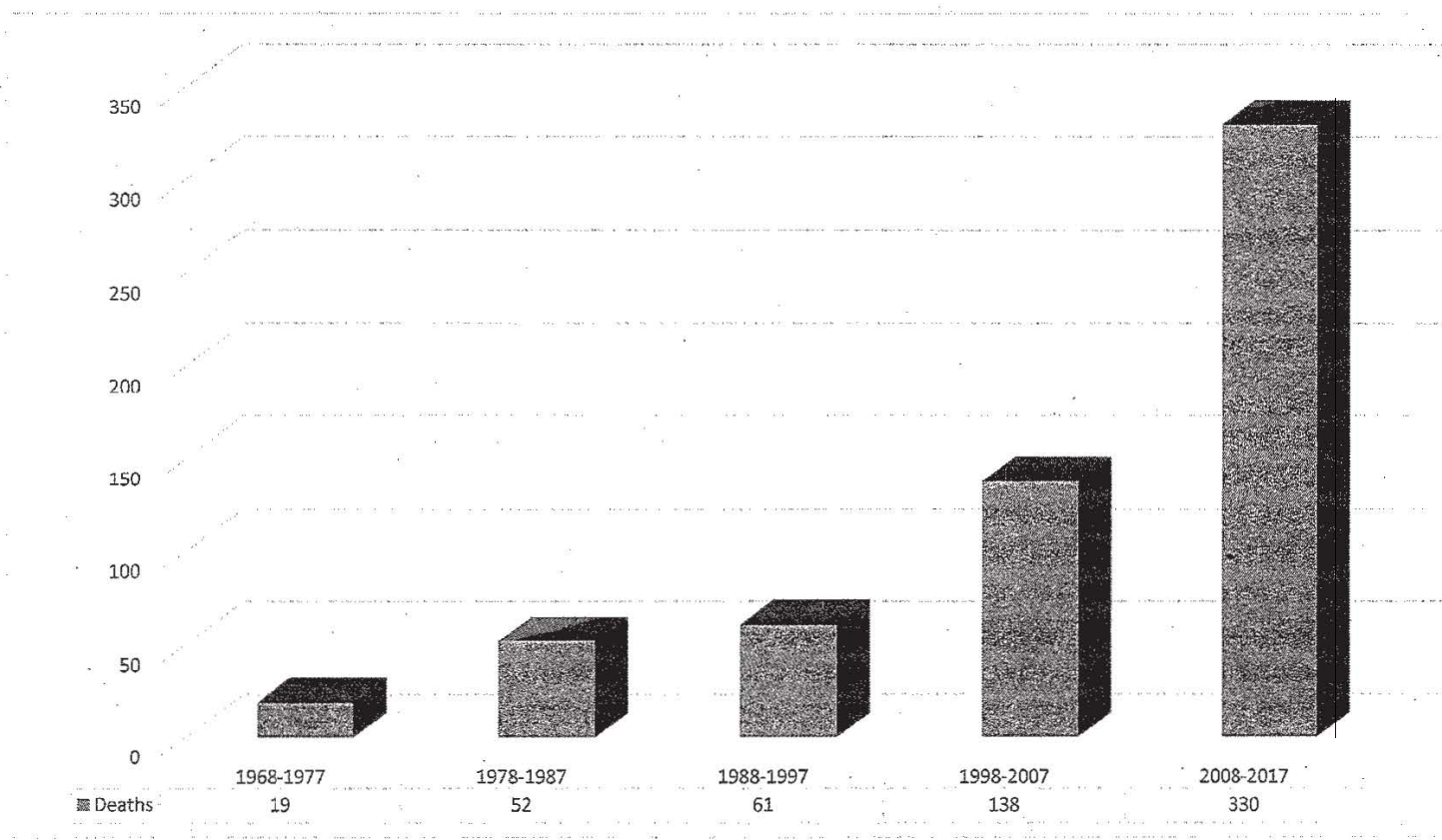
Appendix B – Figure 3

Gun Massacre Incidents Involving LCMs by Decade, 1968-2017

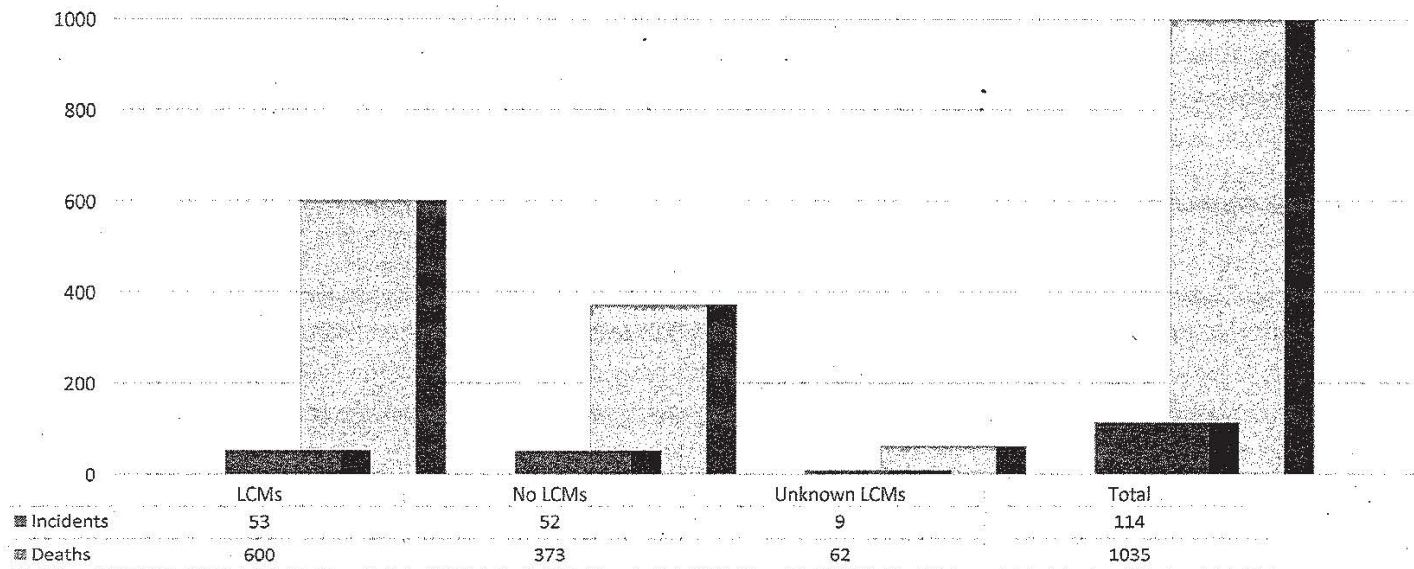


Appendix B – Figure 4

Gun Massacre Deaths from Incidents Involving LCMs by Decade, 1968-2017



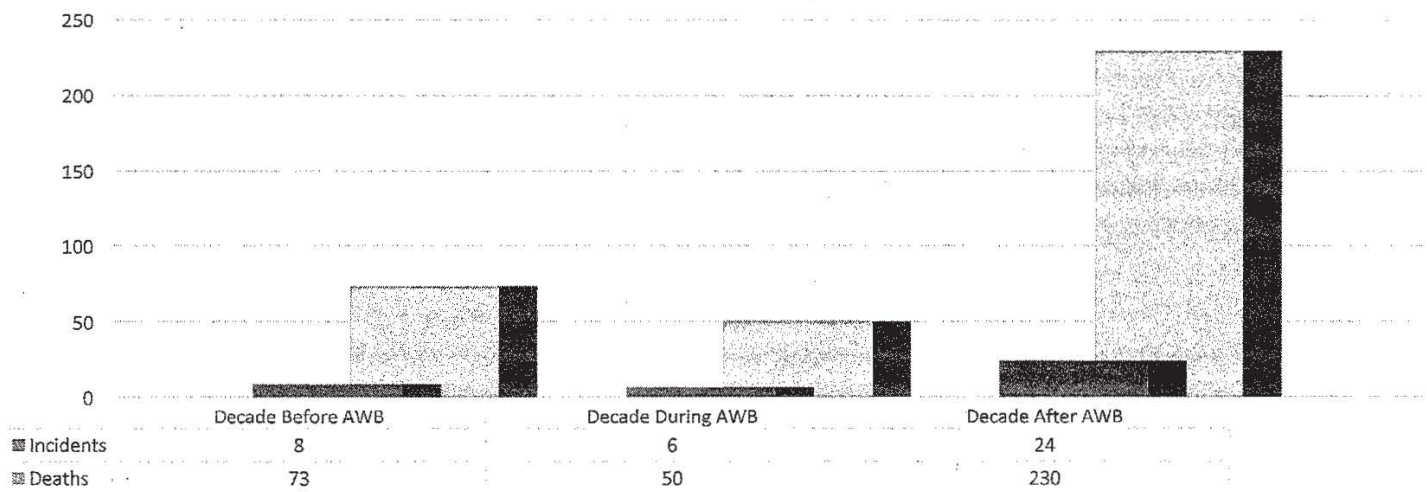
Appendix B – Figure 5
Gun Massacre Incidents and Deaths by Magazine Capacity, 1968-2017



10

Appendix B – Figure 6

LCM-Involving Gun Massacre Incidents and Deaths by Decade Before, During, and After the Federal Assault Weapons Ban



Note: The Federal Assault Weapons Ban was in effect from September 13, 1994, through September 12, 2004.

DECLARATION OF SERVICE BY E-MAIL and U.S. Mail

Case Name: **Duncan, Virginia et al v. Xavier Becerra**
No.: **17-cv-1017-BEN-JLB**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter. I am familiar with the business practice at the Office of the Attorney General for collection and processing of correspondence for mailing with the United States Postal Service. In accordance with that practice, correspondence placed in the internal mail collection system at the Office of the Attorney General is deposited with the United States Postal Service with postage thereon fully prepaid that same day in the ordinary course of business.

On January 9, 2018, I served the attached

REVISED EXPERT REPORT OF DR. LOUIS KLAREVAS

by transmitting a true copy via electronic mail. In addition, I placed a true copy thereof enclosed in a sealed envelope, in the internal mail system of the Office of the Attorney General, addressed as follows:

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I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on January 9, 2018, at San Francisco, California.

N. Newlin
Declarant

/s/ N. Newlin
Signature

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11 IN THE UNITED STATES DISTRICT COURT
12 FOR THE SOUTHERN DISTRICT OF CALIFORNIA

15 VIRGINIA DUNCAN, et al.,

16 Plaintiffs,

17 v.

18
19 XAVIER BECERRA, in his official
20 capacity as Attorney General of the
State of California, et al.,

21 Defendants.

17-cv-1017-BEN-JLB

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**EXPERT REPORT OF
DR. CHRISTOPHER S. KOPER**

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

EXPERT REPORT OF DR. CHRISTOPHER S. KOPER (17-cv-1017-BEN-JLB)

Exhibit 4
Page 00122

ER000397

1 **EXPERT REPORT OF DR. CHRISTOPHER S. KOPER**

2 **I. ASSIGNMENT**

3 I was retained by counsel for Defendant California Attorney General Xavier
4 Becerra for the purpose of preparing an expert report on the potential efficacy of
5 California's new ban on possession of large capacity ammunition magazines.

6 **II. QUALIFICATIONS AND BACKGROUND**

7 I am an Associate Professor for the Department of Criminology, Law and
8 Society at George Mason University, in Fairfax, Virginia and the principal fellow
9 of George Mason's Center for Evidence-Based Crime Policy. I have been studying
10 firearms issues since 1994. My primary areas of focus are firearms policy and
11 policing issues. My credentials, experience, and background are stated in my
12 curriculum vitae, a true and correct copy of which is attached as Exhibit A.

13 In 1997, my colleague Jeffrey Roth and I conducted a study on the impact of
14 Title XI, Subtitle A of the Violent Crime Control and Law Enforcement Act of
15 1994 (hereinafter the "federal assault weapons ban" or the "federal ban"), for the
16 United States Department of Justice and the United States Congress.¹ I updated the
17 original 1997 study in 2004² and briefly revisited the issue again by re-examining
18 my 2004 report in 2013.³ To my knowledge, these are the most comprehensive
19 studies to have examined the efficacy of the federal ban on assault weapons and
20 ammunition feeding devices holding more than ten rounds of ammunition

21 ¹ Jeffrey A. Roth & Christopher S. Koper, *Impact Evaluation of the Public Safety*
22 *and Recreational Firearms Use Protection Act of 1994: Final Report* (1997),
23 attached hereto as Exhibit B (hereinafter, "*Impact Evaluation*").

24 ² Christopher S. Koper, *An Updated Assessment of the Federal Assault Weapons*
25 *Ban: Impacts on Gun Markets and Gun Violence, 1994-2003* (2004), attached
26 hereto as Exhibit C (hereinafter, "*Updated Assessment of the Federal Assault*
27 *Weapons Ban*").

28 ³ Christopher S. Koper, *America's Experience with the Federal Assault Weapons*
Ban, 1994- 2004: Key Findings and Implications, ch. 12, 157-171, in *Reducing*
Gun Violence in America: Informing Policy with Evidence (Daniel S. Webster &
Jon S. Vernick eds. 2013), attached hereto as Exhibit D (hereinafter "*America's*
Experience with the Federal Assault Weapons Ban").

(hereinafter referred to as “large-capacity magazines” or “LCMs”).⁴ My 1997 study was based on limited data, especially with regard to the criminal use of large-capacity magazines. As a result, my conclusions on the impact of the federal ban are most accurately and completely set forth in my 2004 and 2013 reports.

This report summarizes some of the key findings of those studies regarding the federal ban and its impact on crime prevention and public safety. I also discuss the results of a new research study I directed that investigated current levels of criminal activity with high capacity semiautomatic weapons as measured in several local and national data sources.⁵ Based upon my findings, I then provide some opinions on the potential impact and efficacy of prohibitions and restrictions on large-capacity magazines, like those contained in California Penal Code section 32310 (hereinafter, “Section 32310”).

As discussed below, it is my considered opinion that California’s LCM ban has the potential to prevent and limit shootings, particularly those involving high numbers of shots and victims, and thus is likely to advance California’s interests in protecting its populace from the dangers of such shootings.

III. RETENTION AND COMPENSATION

I am being compensated for my time on this case on an hourly basis at a rate of \$150 per hour. My compensation is not contingent on the results of my analysis or the substance of my testimony.

⁴ As discussed below, there have been some additional academic and non-academic studies that have examined more limited aspects of the ban’s effects.

⁵ Christopher S. Koper et al., *Criminal Use of Assault Weapons and High Capacity Semiautomatic Firearms: An Updated Examination of Local and National Sources*, Journal of Urban Health (October 2, 2017) DOI 10.1007/s11524-017-0205-7, available at http://em.rdcu.be/wf/click?upn=KP7O1RED-2BID0F9LDqGVeSCtPCwMbqH-2BMWBUHgPpsN5I-3D_aLASUIDI3T0TZ55mA5weKyxif1pNAQ-2FS0QcxHHbBP65v2wnicdu8DEAbXOHNYJipa4WGEmYqVQvkFcdtrFEsYjZAuWYuv7oZRi5azzY-2B5kRSTavg1BTwrdrnUNdQZVTcHVKQjHpPzJRCNjuQtSjVJuN-2F-2BNTasWPxQOVbflpq1NLGA3TvS1NOwbCbQHSILbi3GAhoVkr0iwOIrRLg8INPZXWLjKU6PJ-2F84jalWCxLaJiY74BdpLrwOkfJQ3Cvy-2F04YQt1UhllsfjNdtP7DBeGw-3D-3D (last visited Oct. 5, 2017).

1 **IV. BASES FOR OPINION AND MATERIAL COVERED**

2 The opinions I provide in this expert report are based solely on the findings of
3 the materials cited in the footnotes and text, as well as the materials attached as
4 exhibits to this report.

5 **V. OPINION**

6 **A. Summary of Findings**

7 Based on my research, I found, among other things, that assault pistols are
8 used disproportionately in crime in general, and that assault weapons more broadly
9 were disproportionately used in murder and other serious crimes in some
10 jurisdictions for which there was data. I also found that assault weapons and other
11 firearms with large capacity magazines are used in a higher share of mass public
12 shootings and killings of law enforcement officers.

13 The evidence also suggests that gun attacks with semiautomatics—especially
14 assault weapons and other guns equipped with large capacity magazines—tend to
15 result in more shots fired, more persons wounded, and more wounds per victim,
16 than do gun attacks with other firearms. There is evidence that victims who receive
17 more than one gunshot wound are substantially more likely to die than victims who
18 receive only one wound. Thus, it appears that crimes committed with these
19 weapons are likely to result in more injuries, and more lethal injuries, than crimes
20 committed with other firearms.

21 In addition, there is some evidence to suggest that assault weapons are more
22 attractive to criminals, due to the weapons' military-style features and particularly
23 large magazines. Based on these and other findings in my studies discussed below,
24 it is my considered opinion that California's recently enacted ban on large capacity
25 magazines, which is in some ways stronger than the federal ban that I studied, is
26 likely to advance California's interest in protecting public safety. Specifically, it
27 has the potential to: (1) reduce the number of crimes committed with firearms with
28 large capacity magazines; (2) reduce the number of shots fired in gun crimes; (3)

1 reduce the number of gunshot victims in such crimes; (4) reduce the number of
2 wounds per gunshot victim; (5) reduce the lethality of gunshot injuries when they
3 do occur; and (6) reduce the substantial societal costs that flow from shootings.

4 **B. Criminal Uses and Dangers of Large-Capacity Magazines**

5 Large-capacity magazines allow semiautomatic weapons to fire more than 10
6 rounds without the need for a shooter to reload the weapon.⁶ Large-capacity
7 magazines come in a variety of sizes, including but not limited to 17-round
8 magazines, 25- or 30-round magazines, and drums with the capacity to accept up to
9 100 rounds.

10 The ability to accept a detachable magazine, including a large-capacity
11 magazine, is a common feature of guns typically defined as assault weapons.⁷ In
12 addition, LCMs are frequently used with guns that fall outside of the definition of
13 an assault weapon.

14 LCMs are particularly dangerous because they facilitate the rapid firing of
15 high numbers of rounds. This increased firing capacity thereby potentially
16 increases injuries and deaths from gun violence. *See Updated Assessment of the*
17 *Federal Assault Weapons Ban* at 97 (noting that “studies ... suggest that attacks
18 with semiautomatics—including [assault weapons] and other semiautomatics with
19 LCMs—result in more shots fired, persons wounded, and wounds per victim than
20 do other gun attacks”).

21
22 ⁶ A semiautomatic weapon is a gun that fires one bullet for each pull of the trigger
23 and, after each round of ammunition is fired, automatically loads the next round and
24 cocks itself for the next shot, thereby permitting a faster rate of fire relative to non-
25 automatic firearms. Semiautomatics are not to be confused with fully automatic
26 weapons (*i.e.*, machine guns), which fire continuously so long as the trigger is
27 depressed. Fully automatic weapons have been illegal to own in the United States
28 without a federal permit since 1934. *See Updated Assessment of the Federal*
Assault Weapons Ban, at 4 n.1.

⁷ Although the precise definition used by various federal, state, and local statutes
has varied, the term “assault weapons” generally includes semiautomatic pistols,
rifles, and shotguns with military features conducive to military and potential
criminal applications but unnecessary in shooting sports or for self-defense.

1 As such, semiautomatics equipped with LCMs have frequently been employed
2 in highly publicized mass shootings, and are disproportionately used in the murders
3 of law enforcement officers, crimes for which weapons with greater firepower
4 would seem particularly useful. *See Updated Assessment of the Federal Assault*
5 *Weapons Ban* at 14-19, 87.

6 During the 1980s and early 1990s, semiautomatic firearms equipped with
7 LCMs were involved in a number of highly publicized mass murder incidents that
8 first raised public concerns and fears about the accessibility of high powered,
9 military-style weaponry and other guns capable of discharging high numbers of
10 rounds in a short period of time. For example:

- 11 • On July 18, 1984, James Huberty killed 21 persons and wounded 19 others in
12 a San Ysidro, California McDonald's restaurant, using an Uzi carbine, a
13 shotgun, and another semiautomatic handgun, and equipped with a 25-round
14 LCM;
- 15 • On January 17, 1989, Patrick Purdy used a civilian version of the AK-47
16 military rifle and a 75-round LCM to open fire in a Stockton, California
17 schoolyard, killing five children and wounding 29 other persons;
- 18 • On September 14, 1989, Joseph Wesbecker, armed with an AK-47 rifle, two
19 MAC-11 handguns, a number of other firearms, and multiple 30-round
20 magazines, killed seven and wounded 15 people at his former workplace in
21 Louisville, Kentucky;
- 22 • On October 16, 1991, George Hennard, armed with two semiautomatic
23 handguns with LCMs (and reportedly a supply of extra LCMs), killed 22
24 people and wounded another 23 in Killeen, Texas;
- 25 • On July 1, 1993, Gian Luigi Ferri, armed with two Intratec TEC-DC9 assault
26 pistols and 40- to 50-round magazines, killed nine and wounded six at the
27 law offices of Pettit & Martin in San Francisco, California; and
- 28 • On December 7, 1993, Colin Ferguson, armed with a handgun and multiple
LCMs, opened fire on commuters on a Long Island Rail Road train, killing 6
and wounding 19.

1 *See Updated Assessment of the Federal Assault Weapons Ban* at 14.⁸

2 More recently, in the years since the expiration of the federal ban in 2004,
3 there has been another well-publicized series of mass shooting incidents involving
4 previously banned assault weapons and/or LCMs. Some of the more notorious of
5 these incidents include:

- 6 • On April 16, 2007, Seung-Hui Cho, armed with a handgun and multiple
7 LCMs, killed 33 (including himself) and wounded 23 on the campus of
8 Virginia Tech in Blacksburg, Virginia;
- 9 • On January 8, 2011, Jared Loughner, armed with a handgun and multiple
10 LCMs, killed 6 and wounded 13, including Congresswoman Gabrielle
11 Giffords, in Tucson, Arizona;
- 12 • On July 20, 2012, James Holmes, armed with a Smith & Wesson M&P 15
13 assault rifle, 100-round LCMs, and other firearms, killed 12 and wounded 58
14 in a movie theater in Aurora, Colorado;
- 15 • On December 14, 2012, Adam Lanza, armed with a Bushmaster AR-15-style
16 assault rifle, two handguns, and multiple LCMs, killed 26 (20 of whom were
17 young children) and wounded 2 at Sandy Hook Elementary School in
18 Newtown, Connecticut;
- 19 • On December 2, 2015, Syed Rizwan Farook and Tashfeen Malik, armed with
20 2 AR-15 style rifles, semiautomatic handguns, and LCMs, killed 14 and
21 injured 21 at a workplace party in San Bernardino, California; and

22 ⁸ Additional details regarding these incidents were obtained from: Violence Policy
23 Center, *Mass Shootings in the United States Involving High-Capacity Ammunition*
24 *Magazines*, available at http://www.vpc.org/fact_sht/VPCshootinglist.pdf
25 (hereinafter, "Violence Policy Center Report"); Mark Follman, Gavin Aronsen &
26 Deanna Pan, *US Mass Shootings, 1982-2012: Data from Mother Jones'*
27 *Investigation*, updated Feb. 27, 2013, available at [http://www.motherjones.com/](http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data)
28 [politics/2012/12/mass-shootings-mother-jones-full-data](http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data) (hereinafter, "Follman,
Aronsen & Pan 2013"); and Mark Follman, Gavin Aronsen & Jacah Lee, *More*
Than Half of Mass Shooters Used Assault Weapons and High-Capacity Magazines,
Feb. 27, 2013, available at [http://www.motherjones.com/politics/2013/02/assault-](http://www.motherjones.com/politics/2013/02/assault-weapons-highcapacity-magazines-mass-shootings-feinstein)
[weapons-highcapacity-magazines-mass-shootings-feinstein](http://www.motherjones.com/politics/2013/02/assault-weapons-highcapacity-magazines-mass-shootings-feinstein) (hereinafter, "Pollman,
Aronsen & Lee 2013").

- 1 • On June 12, 2016, Omar Mateen, armed with a Sig Sauer MCX rifle, a Glock
2 17 semiautomatic handgun, and LCMs, killed 49 and injured 53 in a nightclub
3 in Orlando, Florida.⁹

4 There is evidence to suggest that the particularly large ammunition capacities
5 of assault weapons, along with their military-style features, are more attractive to
6 criminals than lawful users. *See Updated Assessment of the Federal Assault*
7 *Weapons Ban* at 17-18. The available evidence also suggests that large-capacity
8 magazines, along with assault weapons, pose particular dangers by their large and
9 disproportionate involvement in two aspects of crime and violence: mass shootings
10 and murders of police. *See Updated Assessment of the Federal Assault Weapons*
11 *Ban* at 14- 19, 87.

12 With respect to mass shootings, the available evidence before the federal
13 assault weapons ban was enacted in 1994 and after its expiration in 2004 both
14 support this conclusion. Prior to the federal ban, assault weapons or other
15 semiautomatics with LCMs were involved in 6, or 40%, of 15 mass shooting
16 incidents occurring between 1984 and 1993 in which 6 or more persons were killed
17 or a total of 12 or more were wounded. *See Updated Assessment of the Federal*
18 *Assault Weapons Ban* at 14.¹⁰

19 More recently, a *Mother Jones* media investigation and compilation of 62
20 public mass shooting incidents that involved the death of four or more people, over
21 the period 1982-2012, showed that, of the cases where magazine capacity could be
22 determined, 31 of 36 cases, or 86%, involved a large-capacity magazine. Including
23

24 ⁹ For details on these incidents, see Marc Follman et al., *US Mass Shootings, 1982-*
25 *2017: Data from Mother Jones' Investigation*, Mother Jones (June 14, 2017)
26 *available at* [http://www.motherjones.com/politics/2012/12/mass-shootings-mother-](http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data/)
27 *jones-full-data/*.

28 ¹⁰ These figures are based on tabulations conducted by my research team and me
using data reported in Gary Kleck, *Targeting Guns: Firearms and Their Control*
(1997) at 124-26.

1 all cases, including those where magazine capacity could not be determined, exactly
2 half of the cases (31 of 62) are known to have involved an LCM.¹¹

3 LCMs, because they can be and are used both with assault weapons and guns
4 that fall outside the definition of an assault weapon, appear to present even greater
5 dangers to crime and violence than assault weapons alone.

6 Prior to the federal assault weapons ban, for example, guns with LCMs were
7 used in roughly 13-26% of most gun crimes (as opposed to somewhere between
8 about 1% and 8% for assault weapons alone). *See Updated Assessment of the*
9 *Federal Assault Weapons Ban* at 15, 18-19; *see also America's Experience with the*
10 *Federal Assault Weapons Ban* at 161-62. More recent data discussed below
11 suggest that guns with LCMs now represent an even higher share of guns used in
12 crime.

13 It also appears that guns with LCMs have been used disproportionately in
14 murders of police. Specifically, data from prior to the federal ban indicated that
15 LCMs were used in 31% to 41% of gun murders of police in contrast to their use in
16 13-26% of gun crimes overall. *See Updated Assessment of the Federal Assault*
17 *Weapons Ban* at 18; *see also America's Experience with the Federal Assault*
18 *Weapons Ban* at 162. More recent data discussed below also show a similar pattern
19 of guns with LCMs being more common among weapons used in gun murders of
20 police.

21 In addition, the available evidence suggests that gun attacks with
22 semiautomatics—including both assault weapons and guns equipped with LCMs—
23 tend to result in more shots fired, more persons wounded, and more wounds
24 inflicted per victim than do attacks with other firearms. *See Updated Assessment of*

25 ¹¹ This investigation and compilation of data on mass shootings was done by
26 reporters at *Mother Jones* magazine. *See* Follman, Aronsen & Pan 2013; *see also*
27 Follman Aronsen & Lee 2013; Mark Follman, Gavin Aronsen & Deanna Pan, *A*
28 *Guide to Mass Shootings in America* (updated Feb. 27, 2013), available at
<http://www.motherjones.com/politics/2012/07/mass-shootings-map>.

1 *the Federal Assault Weapons Ban* at 97; *see also America's Experience with the*
2 *Federal Assault Weapons Ban* at 166-67.

3 For example, in mass shooting incidents that resulted in at least 6 deaths or at
4 least 12 total gunshot victims from 1984 through 1993, offenders who clearly
5 possessed assault weapons or other semiautomatics with LCMs wounded or killed
6 an average of 29 victims in comparison to an average of 13 victims wounded or
7 killed by other offenders. *See Updated Assessment of the Federal Assault Weapons*
8 *Ban* at 85-86; *see also America's Experience with the Federal Assault Weapons*
9 *Ban* at 167.

10 Working under my direction, Luke Dillon, a graduate student at George
11 Mason University, recently analyzed the *Mother Jones* data from 1982 through
12 2012 for his Master's thesis, and compared the number of deaths and fatalities of
13 the 62 mass shootings identified therein to determine how the presence of assault
14 weapons and LCMs impacted the outcome.¹² With respect to LCMs, Mr. Dillon
15 compared cases where an LCM was known to have been used (or at least possessed
16 by the shooter) against cases where either an LCM was not used or not known to
17 have been used. He found that the LCM cases (which included assault weapons)
18 had significantly higher numbers of fatalities and casualties: an average of 10.19
19 fatalities in LCM cases compared to 6.35 fatalities in non-LCM/unknown cases.
20 Mr. Dillon also found an average of 12.39 people were shot but not killed in public
21 mass shootings involving LCMs, compared to just 3.55 people shot in the non-
22 LCM/unknown LCM shootings. These findings reflect a total victim differential of
23 22.58 killed or wounded in the LCM cases compared to 9.9 in the non-
24
25

26 ¹² *See* Luke Dillon, *Mass Shootings in the United States: An Exploratory Study of*
27 *the Trends from 1982 to 2012 (2013)* (unpublished M.A. thesis, George Mason

28 University, Department of Criminology, Law and Society).

1 LCM/unknown LCM cases.¹³ All of these differences were statistically significant
2 and not a result of mere chance.

3 Similarly, a study of handguns attacks in Jersey City, New Jersey during the
4 1990s found that the average number of victims wounded in gunfire incidents
5 involving semiautomatic pistols was 15% higher than in those involving revolvers.
6 The study further found that attackers using semiautomatics to fire more than ten
7 shots were responsible for nearly 5% of all gunshot victims and that 100% of these
8 incidents involved injury to at least one victim. *See Updated Assessment of the*
9 *Federal Assault Weapons Ban* at 84-86, 90-91; *see also America's Experience with*
10 *the Federal Assault Weapons Ban* at 167.¹⁴

11 Similar evidence comes from other local studies. Between 1992 and 1995,
12 gun homicide victims in Milwaukee who were killed by guns with LCMs had 55%
13 more gunshot wounds than those victims killed by non-LCM firearms. Further, a
14 study of gun homicides in Iowa City (IA), Youngstown (OH), and Bethlehem (PA)
15 from 1994 through 1998 found gun homicide victims killed by pistols averaged 4.5
16 gunshot wounds as compared to 2 gunshot wounds for those killed by revolvers.
17 *See Updated Assessment of the Federal Assault Weapons Ban* at 86.

18 And, in an analysis I conducted of guns recovered by police in Baltimore, I
19 also found LCMs to be associated with gun crimes that resulted in more lethal and
20 injurious outcomes. For instance, I found, among other things, that guns used in
21 shootings that resulted in gunshot victimizations were 17% to 26% more likely to

22
23 ¹³ The patterns were also very similar when comparing the LCM cases against just
24 those cases in which it was clear that an LCM was not used (though this was a very
25 small number).

26 ¹⁴ Note that these data were collected in the 1990s during the years of the federal
27 LCM ban and in a city that was also subject to state-level LCM restrictions on
28 magazines holding more than 15 rounds. Hence, these findings may not generalize
well to other locations and the current timeframe. More specifically, given recent
increases in the use of firearms with LCMs as discussed below, the Jersey City
results may understate the current share of gunshot victimizations resulting from
incidents with more than 10 shots fired.

1 have LCMs than guns used in gunfire cases with no wounded victims, and guns
2 linked to murders were 8% to 17% more likely to have LCMs than guns linked to
3 non-fatal gunshot victimizations. *See Updated Assessment of the Federal Assault*
4 *Weapons Ban* at 87.

5 In short, while tentative, the available evidence suggests more often than not
6 that attacks with semiautomatics, particularly those equipped with LCMs, result in
7 more shots fired, leading both to more injuries and injuries of greater severity.
8 Such attacks also appear to result in more wounds per victim. This is significant
9 because gunshot victims who are shot more than once are more than 60% more
10 likely to die than victims who receive only one gunshot wound. *See Updated*
11 *Assessment of the Federal Assault Weapons Ban* at 87 (citing studies showing 63%
12 increase and 61% increase, respectively, in fatality rates among gunshot victims
13 suffering more than one wound).

14 In addition, diminishing the number of victims of shootings by even a small
15 percentage can result in significant cost savings because of the significant social
16 costs of shootings, as discussed herein.

17 **C. Effects of the 1994 Federal Assault Weapons Ban**

18 **1. Provisions of the Federal Assault Weapons Ban**

19 Enacted on September 13, 1994—in the wake of many of the mass shootings
20 described above—the federal assault weapons ban imposed prohibitions and
21 restrictions on the manufacture, transfer, and possession of both certain
22 semiautomatic firearms designated as assault weapons and certain LCMs. Pub. L.
23 No. 103-322, tit. XI, subtit. A, 108 Stat. 1796, 1996-2010 (codified as former
24 18 U.S.C. § 922(v), (w)(1) (1994).

25 The federal assault weapons ban was to expire after ten years, unless renewed
26 by Congress. Pub. L. No. 103-322, tit. XI, § 110105(2). Congress did not renew
27
28

1 the ban, and thus, by its own terms, the federal ban expired on September 13,
2 2004.¹⁵

3 **a. Banned Assault Weapons and Features**

4 As noted, the federal assault weapons ban imposed a ten-year ban on the
5 manufacture, transfer, or possession of what the statute defined as “semiautomatic
6 assault weapons.” The federal ban was not a prohibition on all semiautomatic
7 firearms; rather, it was directed against those semiautomatics having features that
8 are useful in military and criminal applications but that are unnecessary in shooting
9 sports or for self-defense.

10 Banned firearms were identified under the federal law in two ways: (i) by
11 specific make and model; and (ii) by enumerating certain military-style features and
12 generally prohibiting those semiautomatic firearms having two or more of those
13 features.

14 First, the federal ban specifically prohibited 18 models and variations of
15 semiautomatic guns by name (*e.g.*, the Intratec TEC-9 pistol and the Colt AR-15
16 rifle), as well as revolving cylinder shotguns. This list also included a number of
17 foreign rifles that the federal government had banned from importation into the
18 country beginning in 1989 (*e.g.*, the Avtomat Kalashnikov models). And, indeed,
19 several of the guns banned by name were civilian copies of military weapons and
20 accepted ammunition magazines made for those military weapons. A list of the
21 weapons banned by name in the 1994 law is set forth in Table 2-1 of the *Updated*
22 *Assessment of the Federal Assault Weapons Ban* at 5.

23 Second, the federal assault weapons ban contained a “features test” provision
24 that generally prohibited other semiautomatic guns having two or more military-

25 ¹⁵ I understand that California prohibited assault weapons in 1989, before the
26 federal ban, but grandfathered most existing assault weapons; and that California
27 prohibited large-capacity magazines in 2000 but grandfathered existing LCMs. I
28 am not aware of any specific studies of the effects of these California laws on gun
markets or gun violence.

1 style features. Examples of such features include pistol grips on rifles, flash
 2 suppressors, folding rifle stocks, threaded barrels for attaching silencers, and the
 3 ability to accept detachable magazines. This “features test” of the federal ban is
 4 described more fully in Table 2-2 of the *Updated Assessment of the Federal Assault*
 5 *Weapons Ban* at 6, and in Table 12-1 of *America’s Experience with the Federal*
 6 *Assault Weapons Ban* at 160.

7 **b. Banned Large-Capacity Magazines**

8 The federal ban also prohibited most ammunition feeding devices holding
 9 more than ten rounds of ammunition (which I have referred to herein as “large-
 10 capacity magazines” or “LCMs”). The federal ban on LCMs extended to LCMs or
 11 similar devices that had the capacity to accept more than ten rounds of ammunition,
 12 or that could be “readily restored or converted or to accept” more than ten rounds of
 13 ammunition.¹⁶

14 **c. Exemptions and Limitations to the Federal Ban**

15 The 1994 federal assault weapons ban contained several important exemptions
 16 that limited its potential impact, especially in the short-term. *See Updated*
 17 *Assessment of the Federal Assault Weapons Ban* at 10-11.

18 First, assault weapons and LCMs manufactured before the effective date of the
 19 ban were “grandfathered” in and thus legal to own and transfer. Estimates suggest
 20 that there may have been upward of 1.5 million assault weapons and 25-50 million
 21 LCMs thus exempted from the federal ban. Moreover, an additional 4.8 million
 22 pre-ban LCMs were imported into the country from 1994 through 2000 under the
 23 grandfathering exemption. Importers were also authorized to import another 42
 24 million pre-ban LCMs, which may have arrived after 2000. *See Updated*

25 ¹⁶ Technically, the ban prohibited any magazine, belt, drum, feed strip, or similar
 26 device that had the capacity to accept more than 10 rounds of ammunition, or which
 27 could be readily converted or restored to accept more than 10 rounds of
 28 ammunition. The ban exempted attached tubular devices capable of operating only
 with 22 caliber rimfire (*i.e.*, low velocity) ammunition.

1 *Assessment of the Federal Assault Weapons Ban* at 10; *see also America's*
 2 *Experience with the Federal Assault Weapons Ban* at 160-61.

3 Furthermore, although the 1994 law banned “copies or duplicates” of the
 4 named firearms banned by make and model, federal authorities emphasized exact
 5 copies in enforcing this provision. Similarly, the federal ban did not apply to a
 6 semiautomatic weapon possessing only one military-style feature listed in the ban’s
 7 features test provision.¹⁷ Thus, many civilian rifles patterned after military
 8 weapons were legal under the ban with only slight modifications. *See Updated*
 9 *Assessment of the Federal Assault Weapons Ban* at 10-11.¹⁸

10 **D. Impact of the Federal Assault Weapons Ban**

11 This section of my report discusses the empirical evidence of the impact of the
 12 federal assault weapons ban. I understand that the Plaintiffs in this litigation
 13 contend that California’s prohibition on the possession of LCMs will not have an
 14 effect on crime or gunshot victimization because criminal users of firearms will not
 15 comply with California’s ban. In my opinion, that contention misunderstands the
 16 effect of possession bans. The issue is not only whether criminals will be unwilling
 17 to comply with such laws, though this could be an important consideration
 18 depending on the severity of penalties for possession or use. The issue is also how
 19 possession bans affect the availability of weapons for offenders. Examining the

20
 21 ¹⁷ It should be noted, however, that any firearms imported into the country must
 22 still meet the “sporting purposes test” established under the federal Gun Control
 23 Act of 1968. In 1989, the federal Bureau of Alcohol, Tobacco, Firearms and
 24 Explosives (“ATF”) determined that foreign semiautomatic rifles having any one of
 25 a number of named military features (including those listed in the features test of
 26 the 1994 federal assault weapons ban) fail the sporting purposes test and cannot be
 27 imported into the country. In 1998, the ability to accept an LCM made for a
 28 military rifle was added to the list of disqualifying features. Consequently, it was
 possible for foreign rifles to pass the features test of the federal assault weapons
 ban, but not meet the sporting purposes test for imports. *See Updated Assessment*
of the Federal Assault Weapons Ban at 10 n.7.

¹⁸ Examples of some of these modified, legal versions of banned guns that
 manufacturers produced in an effort to evade the ban are listed in Table 2-1 of the
Updated Assessment of the Federal Assault Weapons Ban at 5.

1 effects of the federal ban on LCMs could cast some light on how a state or local
2 prohibition on possession of LCMs may diminish their availability for offenders. It
3 is difficult, however, to assess trends in LCM use because of limited information.
4 *See infra* at 20. For that reason, this section discusses the impacts of the federal ban
5 both on LCM use, for which information is limited, and on ownership and use of
6 assault weapons, for which there is more information.

7 1. Assault Weapons

8 Prior to the federal ban, the best estimates are that there were approximately
9 1.5 million privately owned assault weapons in the United States (less than 1% of
10 the total civilian gun stock). *See America's Experience with the Federal Assault*
11 *Weapons Ban* at 160-61; *see also Updated Assessment of the Federal Assault*
12 *Weapons Ban* at 10.

13 Although there was a surge in production of assault weapon-type firearms as
14 Congress debated the ban in 1994, the federal ban's restriction of new assault
15 weapon supply helped drive up the prices for many assault weapons (notably
16 assault pistols) and appeared to make them less accessible and affordable to
17 criminal users. *See America's Experience with the Federal Assault Weapons Ban* at
18 162-63; *see also Updated Assessment of the Federal Assault Weapons Ban* at 25-
19 38.

20 Analyses that my research team and I conducted of several national and local
21 databases on guns recovered by law enforcement indicated that crimes with assault
22 weapons declined after the federal assault weapons ban was enacted in 1994.

23 In particular, across six major cities (Baltimore, Miami, Milwaukee, Boston,
24 St. Louis, and Anchorage), the share of gun crimes involving assault weapons
25 declined by 17% to 72%, based on data covering all or portions of the 1995-2003
26 post-ban period. *See Updated Assessment of the Federal Assault Weapons Ban* at
27 2, 46-60; *see also America's Experience with the Federal Assault Weapons Ban* at
28 163.

1 This analysis of local data is consistent with patterns found in the national data
2 on guns recovered by law enforcement agencies around the country and reported to
3 the ATF for investigative gun tracing.¹⁹ Specifically, although the interpretation is
4 complicated by changes in tracing practices that occurred during this time, the
5 national gun tracing data suggests that use of assault weapons in crime declined
6 with the onset of the 1994 federal assault weapons ban, as the percentage of gun
7 traces for assault weapons fell 70% between 1992-93 and 2001-02 (from 5.4% to
8 1.6%). And, notably, this downward trend did not begin until 1994, the year the
9 federal ban was enacted. *See Updated Assessment of the Federal Assault Weapons*
10 *Ban* at 2, 39-46, 51-52; *see also America's Experience with the Federal Assault*
11 *Weapons Ban* at 163.²⁰

12 In short, the analysis that my research team and I conducted indicates that the
13 criminal use of assault weapons declined after the federal assault weapons ban was
14 enacted in 1994, independently of trends in gun crime. *See Updated Assessment of*
15 *the Federal Assault Weapons Ban* at 51-52; *see also America's Experience with the*
16 *Federal Assault Weapons Ban* at 163.

17 This decline in crimes with assault weapons was due primarily to a reduction
18 in the use of assault pistols. Assessment of trends in the use of assault rifles was
19 complicated by the rarity of crimes with such rifles and by the substitution in some
20 cases of post-ban rifles that were very similar to the banned models. In general,
21 however, the decline in assault weapon use was only partially offset by substitution

22
23 ¹⁹ A gun trace is an investigation that typically tracks a gun from its manufacture to
24 its first point of sale by a licensed dealer. It is undertaken by the ATF, upon request
25 by a law enforcement agency. The trace is generally initiated when the requesting
26 law enforcement agency provides ATF with a trace request including identifying
27 information about the firearm, such as make, model and serial number. For a full
28 discussion of the use of ATF gun tracing data, see section 6.2 of *Updated*
Assessment of the Federal Assault Weapons Ban at 40-46.

²⁰ These findings are consistent with other tracing analyses conducted by ATF and
the Brady Center to Prevent Gun Violence. *See Updated Assessment of the Federal*
Assault Weapons Ban at 44 n.43.

1 of post-ban assault weapon-type models. Even counting the post-ban models as
2 assault weapons, the share of crime guns that were assault weapons fell 24% to
3 60% across most of the local jurisdictions studied. Patterns in the local data
4 sources also suggested that crimes with assault weapons were becoming
5 increasingly rare as the years passed. *See Updated Assessment of the Federal*
6 *Assault Weapons Ban* at 46-52; *see also America's Experience with the Federal*
7 *Assault Weapons Ban* at 163-64.

8 Thus, while developing a national estimate of the number of assault weapons
9 crimes prevented by the federal ban is complicated by the range of estimates of
10 assault weapon use and changes therein derived from different data sources,
11 tentatively, it appears that the federal ban prevented a few thousand crimes with
12 assault weapons annually. For example, using 2% as the best estimate of the share
13 of gun crimes involving assault weapons prior to the ban, and 40% as a reasonable
14 estimate of the post-ban drop in this figure, implies that almost 2,900 murders,
15 robberies, and assaults with assault weapons were prevented in 2002. *See Updated*
16 *Assessment of the Federal Assault Weapons Ban* at 52 n.61.²¹ If this tentative
17 conclusion is correct, then contrary to Plaintiffs' contention, prohibitions like the
18 federal ban do have an impact on criminal users of guns.

19 2. Large-Capacity Magazines

20 Assessing trends in LCM use is much more difficult because there was, and is,
21 no national data source on crimes with LCMs, and few local jurisdictions maintain
22 this sort of information.

23 It was possible, nonetheless, to examine trends in the use of guns with LCMs
24 in four jurisdictions: Baltimore, Milwaukee, Anchorage, and Louisville. In all four
25

26 ²¹ While it seems likely that some or all of these crimes happened regardless, as
27 perpetrators merely substituted some other gun for the assault weapon, it also seems
28 likely that the number of victims per shooting incident, and the number of wounds
inflicted per victim, was diminished in some of those instances.

jurisdictions, the overall share of crime guns equipped with LCMs rose or remained steady through at least the late 1990s. This failure to reduce overall LCM use for at least several years after the federal ban was likely due to the immense stock of exempted pre-ban magazines, which, as noted, was enhanced by post-ban imports. *See Updated Assessment of the Federal Assault Weapons Ban* at 68-79; *see also America's Experience with the Federal Assault Weapons Ban* at 164.

My studies did show that crimes with LCMs may have been decreasing by the early 2000s, but the available data in the four cities I investigated were too limited and inconsistent to draw any clear overall conclusions in this regard. *See America's Experience with the Federal Assault Weapons Ban* at 164; *Updated Assessment of the Federal Assault Weapons Ban* at 68-79.

However, a later investigation by *The Washington Post* of LCM use in Virginia, analyzing data maintained by the Virginia State Police as to guns recovered in crimes by local law enforcement officers across the state, suggests that the ban may have had a more substantial impact on the supply of LCMs to criminal users by the time it expired in 2004. In Virginia, the share of recovered guns with LCMs generally varied between 13% and 16% from 1994 through 2000 but fell to 9% by 2004. Following expiration of the federal ban in 2004, the share of Virginia crime guns with an LCM rose to 20% by 2010. *See America's Experience with the Federal Assault Weapons Ban* at 165.²² These data suggest that the federal ban

²² The results of *The Washington Post's* original investigation (which are what are conveyed in *America's Experience with the Federal Assault Weapons Ban* at 165) are reported in David S. Fallis & James V. Grimaldi, *Va. Data Show Drop in Criminal Firepower During Assault Gun Ban*, Wash. Post, Jan. 23, 2011, available at <http://www.washingtonpost.com/wp-dyn/content/article/2011/01/22/AR2011012203452.html>, and attached as Exhibit E to this report. In early 2013, *The Washington Post* updated this analysis, and slightly revised the figures it reported by identifying and excluding from its counts more than 1,000 .22-caliber rifles with large-capacity tubular magazines, which were not subject to the federal ban (and which are similarly not subject to California's ban on large-capacity magazines). *See* David S. Fallis, *Data Indicate Drop in High-Capacity Magazines During Federal Gun Ban*, Wash. Post, Jan. 10, 2013, available at <https://www.washingtonpost.com/investigations/data-point-to-drop-in-high-capacity-magazines-during-federal-gun-ban/2013/01/10/d56d3bb6-4b91-11e2->

(continued...)

1 may have been reducing the use of LCMs in gun crime by the time it expired in
2 2004, and that it could have had a stronger impact had it remained in effect.

3 3. Summary of Results of the Federal Assault Weapons Ban

4 The federal ban's exemption of millions of pre-ban assault weapons and
5 LCMs meant that the effects of the law would occur only gradually—and that those
6 effects were still unfolding when the ban expired in 2004. Nevertheless, while the
7 ban did not appear to have a measurable effect on overall gun crime during the
8 limited time it was in effect, as just discussed, my studies and others do appear to
9 show a significant impact on the number of gun crimes involving assault weapons
10 and a possibly significant impact (based on *The Washington Post's* analysis of
11 Virginia data, see Fallis, *supra*, at Exhibits E & F) on those crimes involving
12 LCMs.²³

13 Moreover, as set forth in my 2013 book chapter, there is evidence that, had the
14 federal ban remained in effect longer (or were it renewed), it could conceivably
15 have yielded significant additional societal benefits as well, potentially preventing
16 hundreds of gunshot victimizations annually and producing millions of dollars of

17 (...continued)

18 a6a6-aabac85e8036_story.html?utm_term=.44aa13f8e442, and attached as Exhibit
19 F to this report. This updated data is reported above.

20 ²³ In our initial 1997 study on the impact of the federal assault weapons ban, Jeffrey
21 Roth and I also estimated that gun murders were about 7% lower than expected in
22 1995 (the first year after the ban), adjusting for pre-existing trends. See *Impact*
23 *Evaluation* at 6, 79-85. However, the very limited post-ban data available for that
24 study precluded a definitive judgment as to whether this drop was statistically
25 meaningful. My later findings on LCM use made it difficult to credit the ban with
26 this effect, however, and I did not update it for the 2004 report. See *Updated*
27 *Assessment of the Federal Assault Weapons Ban* at 92 n.109. Other national
28 studies of trends in gun violence have failed to find an effect of the federal ban on
gun murders (which is consistent with my conclusions in the 2004 report but must
also be interpreted in light of the ban's limitations and delayed effects as discussed
above), though they also suggest that the ban may have reduced fatalities and
injuries from public mass shootings. Mark Gius, *An Examination of the Effects of*
Concealed Weapons Laws and Assault Weapons Bans on State-Level Murder
Rates, 21 *Applied Econ. Letters* 265, 265-267 (Nov. 26, 2013) (hereinafter, "Gius
2013"); Mark Gius, *The Impact of State and Federal Assault Weapons Bans on*
Public Mass Shootings, 22 *Applied Econ. Letters* 281, 281-84 (Aug. 1, 2014)
(hereinafter, "Gius 2014").

1 cost savings per year in medical care alone. Indeed, reducing shootings by even a
2 very small margin could produce substantial long term savings for society,
3 especially as the shootings prevented accrue over many years. *See America's*
4 *Experience with the Federal Assault Weapons Ban* at 166-67; *see also Updated*
5 *Assessment of the Federal Assault Weapons Ban* at 100 n.118. Some studies have
6 shown that the lifetime medical costs for gunshot injuries are about \$28,894
7 (adjusted for inflation). Thus, even a 1% reduction in gunshot victimizations at the
8 national level would result in roughly \$18,781,100 in lifetime medical costs savings
9 from the shootings prevented each year. *See America's Experience with the*
10 *Federal Assault Weapons Ban* at 166-67; *see also Updated Assessment of the*
11 *Federal Assault Weapons Ban* at 100 n.18.

12 The cost savings potentially could be substantially higher if one looks beyond
13 just medical costs. For example, some estimates suggest that the full societal costs
14 of gun violence—including medical, criminal justice, and other government and
15 private costs (both tangible and intangible)—could be as high as \$1 million per
16 shooting. Based on those estimates, even a 1% decrease in shootings nationally
17 could result in roughly \$650 million in cost savings to society from shootings
18 prevented each year. *See America's Experience with the Federal Assault Weapons*
19 *Ban* at 166-67.

20 **E. More Recent Research on Criminal Use of Large Capacity**
21 **Magazines**

22 To provide an updated examination of the assault weapons and LCM issue,
23 my colleagues and I recently investigated current levels of criminal activity with
24 assault weapons and other high capacity semiautomatic firearms in the United
25 States using several local and national data sources.²⁴ I focus here on the results
26 pertaining to the use of guns with LCMs overall. Sources for this portion of the

27 ²⁴ See Koper et al., *supra* note 5.
28

1 analysis included guns recovered by police in eight large cities (Hartford, CT;
2 Syracuse, NY; Baltimore, MD; Richmond, VA; Minneapolis, MN; Milwaukee, WI;
3 Kansas City, MO; and Seattle, WA), guns used in murders of police throughout the
4 nation, and guns used in firearm mass murder incidents in which at least four
5 people were murdered with a firearm (irrespective of the number of additional
6 victims shot but not killed). The use of guns with LCMs was measured precisely
7 for the Syracuse, Baltimore, and Richmond analyses, which were based on data
8 sources having an indicator for magazine capacity, and some of the mass murder
9 incidents. For other analyses, use of guns with LCMs was approximated based on
10 recoveries of semiautomatic firearm models that are commonly manufactured and
11 sold with LCMs. I refer to these guns collectively as LCM firearms.

12 In short, the findings of this study reinforce many of the points made above
13 based on my earlier research. In the police databases, which covered varying time
14 periods from 2008 through 2014, LCM firearms generally accounted for 22-36% of
15 crime guns, with some estimates upwards of 40% for cases involving shootings.²⁵
16 Although these estimates may overstate LCM use somewhat (since some estimates
17 were based on measurement of LCM compatible firearms that may not all have
18 been equipped with LCMs), they suggest that LCMs are used in a substantial share
19 of gun crimes. Consistent with prior research, we also found that LCM firearms are
20 more heavily represented among guns used in murders of police and mass murders.
21 For the period of 2009 through 2013, LCM firearms constituted 41% of guns used
22 in murders of police, with annual estimates ranging from 35% to 48%. Further, our
23 analysis of a sample of 145 mass murders that occurred from 2009 through 2015
24 suggested that LCM firearms were involved in as many as 57% of these incidents

25 ²⁵ An exception is that crime guns were least likely to be equipped with LCMs in
26 Syracuse (14.6%). This may be attributable to New York State LCM restrictions
27 that have been in effect since the early 2000s, but our study did not address this
28 question.

1 based on cases for which a definitive determination could be made (as a caveat,
2 precise data on the guns and magazines used were not available for most cases).
3 The identified LCM cases typically occurred in public locations (80%) and resulted
4 in more than twice as many people shot on average as did other incidents—a
5 statistically significant difference that is not likely due to chance (13.7 victims on
6 average for LCM cases versus 5.2 for other cases).

7 Our study also revealed that LCM firearms have grown substantially as a share
8 of guns used in crime since the expiration of the federal LCM ban. This conclusion
9 is based on guns used in murders of police nationally (2003-2013) as well as guns
10 recovered by police in Baltimore (2004-2014), Richmond (2003-2009), and
11 Minneapolis (2006-2014).²⁶ For these data sources and time frames, the percentage
12 of guns that were LCM firearms increased (in relative terms) by 33-49% in the
13 Baltimore, Minneapolis, and national data, and by 112% in the Richmond data.²⁷

14 This upward trend in criminal use of LCM firearms implies possible increases
15 in the level of gunfire and injury per gun attack since the expiration of the federal
16 LCM ban. Consistent with this inference, national data that we compiled from the
17 federal Centers for Disease Control and Prevention and the Federal Bureau of
18 Investigation show that gun homicides and assault-related non-fatal shootings rose
19 by about 29% relative to the level of overall reported violent gun crimes
20 (homicides, assaults, and robberies) between 2003-2005 and 2010-2012.²⁸

21
22 ²⁶ Note that Maryland restricted LCMs with more than 20 rounds throughout this
period and extended these restrictions to LCMs with more than 10 rounds in 2013.

23 ²⁷ For example, the share of guns used in police murders that were LCM firearms
24 rose from 30.4% for the 2003-2007 period to 40.6% for the 2009-2013 period (a
relative increase of 33.6%). In the Richmond data, LCM firearms increased from
25 10.4% of guns recovered by police for the 2003-2004 period to 22% for the 2008-
2009 period (a relative increase of 111.5%).

26 ²⁸ See Koper et al., *supra* note 5. This trend was driven by assault-weapon-related
27 non-fatal shootings, which have been trending upward since the early 2000s and
recently reached their highest rates since 1995. See Katherine A. Fowler et al.,
28 *Firearm Injuries in the United States*, 79 *Preventive Med.* 5, 5-14 (Oct. 2015).

1 Although the correlation of these trends does not prove causation, they suggest the
2 possibility that greater use of LCM firearms has contributed to higher levels of
3 shootings in recent years.

4 **VI. SECTION 32310 -- CALIFORNIA'S LARGE-CAPACITY MAGAZINE**
5 **PROHIBITION**

6 **A. The LCM Ban**

7 On July 1, 2016, the State of California enacted Senate Bill No. 1446 (2015-
8 2016 Reg. Sess.), which prohibited the possession of LCMs (defined under Section
9 16740 as "a feeding device with the capacity to accept more than 10 rounds")
10 beginning on July 1, 2017. Cal. Stats. 2016, ch. 58 (SB 1446) § 1. SB 1446, which
11 went into effect on January 1, 2017, amended Section 32310 to state that, beginning
12 on July 1, 2017, any person possessing an LCM, with exemptions not relevant here,
13 would be guilty of an infraction punishable by a fine starting at \$100 for the first
14 offense. Cal. Stats. 2016, ch. 58 (S.B. 1446) § 1 (amending Section 32310 to add a
15 new subdivision (c)). The law also provided that anyone possessing an LCM may,
16 prior to July 1, 2017, dispose of the magazine by any of the following means: (1)
17 removing it from the state; (1) selling it to a licensed firearms dealer; (3) destroying
18 it; or (4) surrendering it to a law enforcement agency for destruction. Cal. Stats.
19 2016, ch. 58 (S.B. 1446) § 1 (amending Section 32310 to add a new subdivision
20 (d)). The Senate Bill Analysis noted that the amendments were necessary because
21 the prior version of the law, which did not prohibition possession of LCMs, was
22 "very difficult to enforce." Sen. Bill No. 1446, 3d reading Mar. 28, 2016 (2015-
23 2016 Reg. Sess.) (Cal. 2016)).

24 On November 8, 2016, California voters passed Proposition 63, the "Safety for
25 All Act of 2016." Prop. 63, § 1, as approved by voters (Gen. Elec. Nov. 8, 2016)).
26 The measure included several provisions—including amendments to Section
27 32310—intended to close "loopholes that leave communities throughout the state
28 vulnerable to gun violence and mass shootings." Prop. 63, § 2, ¶ 5. The

1 amendments to Section 32310 largely mirror the same amendments made under
 2 SB 1446. Both provisions prohibit the possession of LCMs on or after July 1,
 3 2017, and list options for the disposal of LCMs before that date. Prop. 63 also
 4 increased the potential consequence for violations of the possession ban, from an
 5 infraction to an infraction or a misdemeanor. Prop. 63, § 6.1. References to
 6 Section 32310 in this brief are to the statute as amended by Proposition 63.

7 **B. The Potential Impact and Efficacy of California's Ban on**
 8 **Possession of LCMs**

9 California's ban on possession was only recently passed, and I have not
 10 undertaken any study or analysis of this law. Nevertheless, it is my considered
 11 opinion that, based on the similarities of Section 32310 to the federal ban, the
 12 impacts of the federal ban and the ways in which Section 32310 address some of
 13 the weaknesses of the federal ban, Section 32310 is likely to advance California's
 14 interest in protecting public safety.²⁹

15
 16 ²⁹ A few studies of state-level assault weapon and LCM bans have examined the
 17 effects of these laws on gun violence and other crimes. In those studies that have
 18 examined gun homicides and other shootings (the crimes that are logically most
 19 likely to be affected by LCM bans), evidence has been mixed. Although states with
 20 assault weapon and LCM laws tend to have lower gun murder rates, this association
 21 is not statistically significant when controlling for other social and policy factors.
 22 However, other evidence from these studies suggests these laws may produce
 23 statistically significant reductions in fatalities from public mass shootings. See
 24 Gius 2013 at 265-67; see also Gius 2014 at 281-84; Eric W. Fleegler et al., *Firearm*
 25 *legislation and firearm-related fatalities in the United States*, 173 JAMA Internal
 26 Med. 732, 732-40 (2013); Christopher S. Koper & Jeffrey A. Roth, *The Impact of*
 27 *the 1994 Federal Assault Weapon Ban on Gun Violence Outcomes: an Assessment*
 28 *of Multiple Outcome Measures and Some Lessons for Policy Evaluation*, 17 Journal
 of Quantitative Criminology 33-74 (2001); see also *Updated Assessment of the*
Federal Assault Weapons Ban at 81 n.95. Nonetheless, it is difficult to draw
 definitive conclusions from these studies for several reasons including the
 following. For one, there is little evidence on how state LCM bans affect the
 availability and use of LCMs over time. Further, studies have not generally
 accounted for important differences in state assault weapons laws—most notably,
 whether they include LCM bans—and changes in these provisions over time.
 Perhaps most importantly, to the best of my knowledge, there have not been any
 studies examining the effects of LCM laws that ban LCMs without grandfathering,
 as done by the new California statute. Hence, these studies have limited value in
 assessing the potential effectiveness of California's new law.

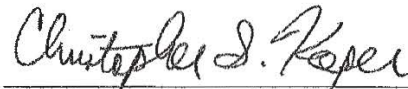
1 California's LCM ban is more robust than the expired federal ban, and may be
2 more effective more quickly due to its elimination of grandfathering for previously
3 owned LCMs. While the LCM ban was arguably the most important feature of the
4 1994 federal ban (given that LCMs are the key feature contributing to an assault
5 weapon's firepower, and that the reach of the LCM ban was much greater than the
6 assault weapons ban as many semiautomatic guns that were not banned could still
7 accept LCMs), my studies as to the effects of the federal ban indicated that the
8 LCM ban was likely not as efficacious in reducing the use of these magazines in
9 crime as it otherwise might have been because of the large number of pre-ban
10 LCMs which were exempted from the ban. *The Washington Post's* investigation of
11 recovered guns with LCMs in Virginia, which showed an increasing decline in the
12 number of recovered guns with LCMs the longer the ban was in effect, similarly
13 suggests that the grandfathering of pre-ban LCMs delayed the full impact of the
14 federal ban. See Fallis, *supra*, attached as Exhs. E & F. In my opinion, eliminating
15 the grandfathering of pre-ban LCMs, as done by California's new law, would have
16 improved the efficacy of the federal ban.

17 In my opinion, based on the data and information contained in this report and
18 the sources referred to herein, a complete ban on the possession of LCMs has the
19 potential to: (1) reduce the number of crimes committed with LCMs; (2) reduce the
20 number of shots fired in gun crimes; (3) reduce the number of gunshot victims in
21 such crimes; (4) reduce the number of wounds per gunshot victim; (5) reduce the
22 lethality of gunshot injuries when they do occur; and (6) reduce the substantial
23 societal costs that flow from shootings.

24 Through Section 32310 (c) and (d), California has enacted a ban on the
25 possession of LCMs. Like federal restrictions on fully automatic weapons and
26 armor piercing ammunition, I believe this measure has the potential to help prevent
27 the use and spread of particularly dangerous weaponry, and is a reasonable and
28

1 well-constructed measure that is likely to advance California's interest in protecting
2 its citizens and its police force.

3 Respectfully Submitted,

4 
5

6 Dr. Christopher S. Koper
7 October 5, 2017
8 Ashburn, Virginia
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DECLARATION OF SERVICE BY E-MAIL and U.S. Mail

Case Name: **Duncan, Virginia et al v. Xavier Becerra**
No.: **17-cv-1017-BEN-JLB**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter. I am familiar with the business practice at the Office of the Attorney General for collection and processing of correspondence for mailing with the United States Postal Service. In accordance with that practice, correspondence placed in the internal mail collection system at the Office of the Attorney General is deposited with the United States Postal Service with postage thereon fully prepaid that same day in the ordinary course of business.

On October 6, 2017, I served the attached **EXPERT REPORT OF DR. CHRISTOPHER S. KOPER** by transmitting a true copy via electronic mail. In addition, I placed a true copy thereof enclosed in a sealed envelope, in the internal mail system of the Office of the Attorney General, addressed as follows:

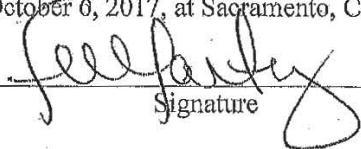
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I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on October 6, 2017, at Sacramento, California.

Chris McCartney
Declarant


Signature

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Exhibit A

Exhibit 4
Page 00150

ER000425

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Education

1995	Ph.D., Criminology and Criminal Justice, University of Maryland
1992	M.A., Criminology and Criminal Justice, University of Maryland
1988	B.A. (Summa cum Laude), Criminal Justice, University of Maryland

Career Brief

Dr. Christopher S. Koper is an Associate Professor in the Department of Criminology, Law and Society at George Mason University and the Principal Fellow of George Mason's Center for Evidence-Based Crime Policy. Dr. Koper holds a Ph.D. in criminology and criminal justice from the University of Maryland and has nearly 30 years of experiencing conducting criminological research at George Mason, the Police Executive Research Forum, the University of Pennsylvania, the Urban Institute, the RAND Corporation, the Police Foundation, and other organizations. He has written and published extensively on issues related to firearms, policing, federal crime prevention efforts, research methods, and other topics. Dr. Koper has served as a lead or senior-level investigator for numerous projects funded by the U.S. Department of Justice, including Congressionally-mandated assessments of the 1994 federal assault weapons ban and the federal Community Oriented Policing Services (COPS) program. He is the co-creator of the Evidence-Based Policing Matrix, a tool used by local and national organizations including the federal Bureau of Justice Assistance and the National Policing Improvement Agency of the United Kingdom to visualize research results on police effectiveness and translate those results for practitioners and policymakers. Dr. Koper's work on the methods of patrolling crime hot spots (often referred to as the "Koper curve" principle) is also used by numerous police agencies in the United States and abroad.

Professional Background

Associate Professor:	Department of Criminology, Law and Society, George Mason University (Aug. 2011-present)
	Interim Graduate Director /Associate Chair (Jan.-Jun. 2016)
Director of Research:	Police Executive Research Forum (May 2010-Aug. 2011)
Deputy Director of Research:	Police Executive Research Forum (Dec. 2007 – May 2010)
Behavioral / Social Scientist:	RAND Corporation (2007)

Senior Research Associate:	Jerry Lee Center of Criminology, University of Pennsylvania (2001 – 2006)
Research Associate:	The Urban Institute (1997 – 2001)
Faculty Research Scientist:	Department of Criminology and Criminal Justice, University of Maryland (1997)
Research Scientist:	Crime Control Institute (1994-1997)
Graduate Assistant:	Department of Criminology and Criminal Justice, University of Maryland: (1989-1994)
Social Science Program Specialist (Graduate Intern):	National Institute of Justice, U.S. Department of Justice (1990)
Consultant:	Police Foundation (1988-1989)

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Translational Publications and Tools

Additional publications and works for practitioner, policymaker, and general audiences

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Lum, Cynthia, Christopher S. Koper, William Johnson, Megan Stoltz, Xiaoyun Wu, and James Carr. 2017. "Measuring Police Proactivity." *The Police Chief* August 2017: 16-17.

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Roush, Jamie and Christopher Koper. 2012. "From Research to Practice: How the Jacksonville, Florida Sheriff's Office Institutionalized Results from a Problem-Oriented, Hot Spots Experiment." *Translational Criminology: The Magazine of the Center for Evidence-Based Crime Policy (George Mason University)*. Winter 2012: 10-11. <http://cebcp.org/wp-content/TCmagazine/TC2-Winter2012>

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Appears in Koper, Christopher, et al. 2010. *Developing a St. Louis Model for Reducing Gun Violence: A Report from the Police Executive Research Forum to the St. Louis Metropolitan Police Department*. Washington, D.C.: Police Executive Research Forum.

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Also includes Koper, Christopher S. 2008. "PERF's Homicide Gunshot Survey." Presentation summarized in *Violent Crime in America: What We Know About Hot Spots Enforcement*, pp. 25-27. Washington, DC: Police Executive Research Forum. http://policeforum.org/library/critical-issues-in-policing-series/HotSpots_v4.pdf

Koper, Christopher S. 2004. "Disassembling the Assault-Gun Ban." Editorial. *The Baltimore Sun*: September 13.

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Other Publications, Reports, and Working Papers

Lum, Cynthia, Christopher S. Koper, and Daniel Nagin. 2017. *Methodological Issues in Detecting Cost Benefits of the Use of License Plate Readers (LPRs) in Investigations*. Discussion paper for the New York University Policing Project, Cost-Benefit Analysis Lab and Conference. New York City: February 2017.

Koper, Christopher S. 2007. *Assessments of Corporate Culture and Prosecutorial Decisions by U.S. Attorneys: A Draft Research Proposal*. Concept paper prepared for the LRN-RAND Corporation Center for Corporate Ethics, Law, and Governance.

Koper, Christopher S. 2003. *Police Strategies for Reducing Illegal Possession and Carrying of Firearms: A Systematic Review Protocol Prepared for the Campbell Collaboration*. Published by the Campbell Collaboration Crime and Justice Group. <http://campbellcollaboration.org/lib>

Koper, Christopher S. 2002. *Testing the Generalizability of the Concealed Carry Hypothesis: Did Liberalized Gun Carrying Laws Reduce Urban Violence, 1986-1998?* Working Paper. Philadelphia: Jerry Lee Center of Criminology, University of Pennsylvania.

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Koper, Christopher S. 1995. Review essay on *The Politics of Gun Control* by Robert J. Spitzer. *The Criminologist* 20:32-33.

Koper, Christopher S. 1992. *The Deterrent Effects of Police Patrol Presence upon Criminal and Disorderly Behavior at Hot Spots of Crime.* M.A. Thesis. College Park, MD: Department of Criminology and Criminal Justice, University of Maryland.

Koper, Christopher S. 1989. *Quality Leadership and Community-Oriented Policing in Madison: A Progress Report on the EPD (Experimental Police District).* Report prepared for the Police Foundation (Washington, D.C.).

Portions reprinted in *Community Policing in Madison: Quality from the Inside Out* (1993). Report to the National Institute of Justice, U.S. Department of Justice by Mary Ann Wycoff and Wesley G. Skogan. Washington, D.C.: Police Foundation.

Koper, Christopher S. 1989. *The Creation of Neighborhood-Oriented Policing in Houston: A Progress Report.* Report prepared for the Police Foundation (Washington, D.C.).

Koper, Christopher S. 1989. *External Resources for Police.* Report prepared for the Police Foundation (Washington, D.C.).

Funded Research

Selected projects as a principal or senior-level investigator

Principal Investigator (with Cynthia Lum, PI). "The Proactive Policing Lab." \$348,111 grant from the Laura and John Arnold Foundation. Awarded 2016.

Principal Investigator (with Cynthia Lum, PI). "Creating a Blueprint Document to Guide Implementation of the President's Task Force on 21st Century Policing Report." \$168,821 subcontract from the Laura and John Arnold Foundation and the International Association of Chiefs of Police to George Mason University. Awarded 2015.

Principal Investigator (with Cynthia Lum, PI): "A Systematic Development of a Research Agenda for Body Worn Camera Research." \$174,552 grant from the Laura and John Arnold Foundation. Awarded 2015.

Principal Investigator (with Cynthia Lum, PI): Extension of "The Evidence-Based Policing Matrix Demonstration Project." \$499,999 extension grant from the Bureau of Justice Assistance (U.S. Department of Justice) to George Mason University. Awarded 2014.

Principal investigator (with Cynthia Lum, PI): "Evaluating the Crime Control and Cost-Benefit Effectiveness of License Plate Recognition (LPR) Technology in Patrol and Investigations." \$553,713 grant from the National Institute of Justice (U.S. Department of Justice) to George Mason University. Awarded 2013.

Principal investigator (with Cynthia Lum, PI). "Violent Gun and Gang Crime Reduction Program (Project Safe Neighborhoods), Fiscal Year 2013." \$29,997 research partner subcontract from the U.S. Attorney's Office (District of Columbia) funded through the Bureau of Justice Assistance (U.S. Department of Justice). Awarded 2013.

Principal Investigator (with Cynthia Lum, PI): "The Evidence-Based Policing Matrix Demonstration Project." \$749,237 grant from the Bureau of Justice Assistance (U.S. Department of Justice) to George Mason University. Awarded 2011.

Principal Investigator: "Realizing the Potential of Technology for Policing: A Multi-Site Study of the Social, Organizational, and Behavioral Aspects of Implementing Policing Technologies." \$592,151 grant from the National Institute of Justice (U.S. Department of Justice) to the Police Executive Research Forum and George Mason University (subcontractor). Awarded 2010.

Principal Investigator (2009-Aug. 2011) and consultant (Aug. 2011-Dec. 2013): "Hiring of Civilian Staff in Policing: An Assessment of the 2009 Byrne Program." \$549,878 grant from the National Institute of Justice (U.S. Department of Justice) to the Police Executive Research Forum. Awarded 2009.

Principal Investigator (Jan. 2011-Aug. 2011): "Community Policing Self-Assessment Tool Short Form, COPS Hiring Recovery Program Administration." \$85,444 subcontract from ICF International and the Office of Community Oriented Policing Services (U.S. Department of Justice) to the Police Executive Research Forum. Awarded 2011.

Principal Investigator: "National Study of Gun Enforcement and Gun Violence Prevention Practices Among Local Law Enforcement Agencies." \$70,400 grant from the Joyce Foundation to the Police Executive Research Forum. Awarded 2010.

Principal Investigator: "Development of the Community Policing Self-Assessment Tool Short Form." \$53,907 subcontract from ICF International and the Office of Community Oriented Policing Services (U.S. Department of Justice) to the Police Executive Research Forum. Awarded 2010.

Principal Investigator: "A Systematic Review of Research on Police Strategies to Reduce Illegal Gun Carrying." \$15,600 subcontract from George Mason University and the National Policing Improvement Agency of the United Kingdom to the Police Executive Research Forum. Awarded 2010.

Co-Principal Investigator (2005-2010): "Understanding and Monitoring the 'Whys' Behind Juvenile Crime Trends." \$2,249,290 grant from the Office of Juvenile Justice and Delinquency Prevention (U.S. Department of Justice) to the University of Pennsylvania (with subcontracts to the Police Executive

Research Forum, 2009-2010). Initial and continuation awards, 2001-2005.

Principal Investigator: "Police Interventions to Reduce Gun Violence: A National Examination." Supported through \$200,000 in funding from the Motorola Foundation to the Police Executive Research Forum. Awarded 2009.

Principal Investigator: "The Varieties and Effectiveness of Hot Spots Policing: Results from a National Survey of Police Agencies and a Re-Assessment of Prior Research." Supported through \$80,000 in funding from the Motorola Foundation to the Police Executive Research Forum. Awarded 2008.

Co-Principal Investigator: "Assessment of Technology Needs in Law Enforcement." \$185,866 contract from the Lockheed Martin Corporation to the Police Executive Research Forum. Awarded 2008.

Co-Principal Investigator (for research partner subcontract): "An Evaluation of the Jacksonville Data Driven Reduction of Street Violence Project." \$650,008 grant from the Bureau of Justice Assistance (U.S. Department of Justice) to the Jacksonville, FL Sheriff's Office and the Police Executive Research Forum (subcontractor). Awarded 2007.

Co-Principal Investigator: "A Randomized Experiment Assessing License Plate Recognition Technology in Mesa, Arizona." \$474,765 grant from the National Institute of Justice (U.S. Department of Justice) to the Police Executive Research Forum. Awarded 2007.

Evaluation Director (for research partner subcontract): "Developing a St. Louis Model for Reducing Gun Violence." \$500,000 grant from the Bureau of Justice Assistance (U.S. Department of Justice) to the St. Louis Metropolitan Police Department and the Police Executive Research Forum (subcontractor). Awarded 2007.

Co-Principal Investigator: "Evaluation Study of the Prince William County Police Immigration Enforcement Policy." \$282,129 contract from the Prince William County Police Department to the University of Virginia and the Police Executive Research Forum (subcontractor). Awarded 2008.

Principal Investigator: "Crime Gun Risk Factors: The Impact of Dealer, Firearm, Transaction, and Buyer Characteristics on the Likelihood of Gun Use in Crime." \$103,514 grant from the U.S. Department of Justice to the University of Pennsylvania. Awarded 2004.

Principal Investigator: "A Reassessment of the Federal Assault Weapons Ban." \$38,915 grant from the U.S. Department of Justice to the University of Pennsylvania. Awarded 2003.

Co-Principal Investigator: "Pennsylvania Fair Share Tax Project." \$100,000 grant from the Jerry Lee Foundation to the University of Pennsylvania. Awarded 2003.

Principal Investigator: "The Impact of Dealer and Firearm Characteristics on the Likelihood of Gun Use in Crime." \$60,000 grant from the Smith Richardson Foundation to the University of Pennsylvania. Awarded 2001.

Principal Investigator: "Police Hiring and Retention Study." \$250,000 grant from the U.S. Department of Justice to the Urban Institute. Awarded 1999.

Co-Principal Investigator: "Analysis of Title XI Effects." \$301,826 grant from the U.S. Department of Justice to the Urban Institute. Awarded 1998.

Co-Principal Investigator: "Illegal Firearms Markets." \$499,990 grant from the U.S. Department of Justice to Northeastern University and the Urban Institute (subcontractor). Awarded 1997.

Co-Principal Investigator (director of national survey and evaluation task leader), 1997-2001: "Evaluation of Title I of the 1994 Crime Act." \$3,356,156 grant from the U.S. Department of Justice to the Urban Institute.

Co-Principal Investigator: "Impact Evaluation of the Public Safety and Recreational Firearms Use Protection Act of 1994." \$150,000 grant from the U.S. Department of Justice to the Urban Institute (subcontract later awarded to the Crime Control Institute). Awarded 1995.

Principal Investigator: "Gun Density versus Gun Type: Did More, or More Lethal, Guns Drive Up the Dallas Homicide Rate, 1978-1992?" \$49,714 grant from the U.S. Department of Justice to the Crime Control Institute. Awarded 1994.

Selected Presentations

Invited presentations, lectures, and policy briefings

"Assessing the State of Research on Police Body-Worn Cameras." Symposium on Body-Worn Cameras: Building a Secure and Manageable Program for Law Enforcement (sponsored by the Major Cities Chiefs Association, the International Association of Chiefs of Police, the Police Foundation, and SafeGov). Washington, DC, 2016. Video: <http://www.policefoundation.org/2016-body-worn-camera-symposium/>

Lectures for the Contemporary Issues in Criminology series of the Osher Lifelong Learning Institute, George Mason University.

- "Hot Spots Policing." Fall 2016.
- "Gun Crime and Gun Policy." Fall 2015.

"Evidence Based Policing Strategies." Missouri Attorney General's Urban Crime Summit. University of Missouri, Kansas City, 2013.

"Putting Hot Spots Research into Practice." 6th International Conference on Evidence-Based Policing. Cambridge University, United Kingdom, 2013. Video: <http://www.crim.cam.ac.uk/events/conferences/ebp/2013/>

"America's Experience with the Federal Assault Weapons Ban, 1994-2004: Key Findings and Implications." Summit on Reducing Gun Violence in America: Informing Policy with Evidence and Analysis. Johns Hopkins University, 2013. Video: C-SPAN (<http://www.c-spanvideo.org/clip/4304369>) and the Johns Hopkins University Bloomberg School of Public Health (<http://www.jhsph.edu/events/gun-policy-summit/video-archive>).

"Assessing Police Efforts to Reduce Gun Crime: Results from a National Survey."

- Federal Government Accountability Office's Homeland Security and Justice speaker series.

Washington, D.C., 2013.

- Firearms Committee of the International Association of Chiefs of Police, 2012

"Police Strategies for Reducing Gun Violence." 2013 Summit to Combat Gun Violence hosted by the City of Minneapolis and the City of Milwaukee. Minneapolis, 2013.

"A Randomized Trial Comparing Directed Patrol and Problem-Solving at Violent Crime Hot Spots"

- 4th International Conference on Evidence-Based Policing. Cambridge University, United Kingdom, 2011
- 12th Annual Jerry Lee Symposium on Criminology and Public Policy. Washington, D.C. (held in the U.S. Senate Russell Office Building), 2011
- Annual Symposium of the Center for Evidence-Based Crime Policy, George Mason University. Fairfax, VA, 2010

"Evaluation Study of Prince William County's Illegal Immigration Enforcement Policy"

- Prince William County, Virginia Board of County Supervisors, November 16, 2010 (co-presented with Thomas Guterbock)
- Briefings for senior staff of the Prince William County Police Department and Prince William County Government, October-November 2010 (co-presented with Thomas Guterbock)

"Police Strategies for Reducing Gun Violence." Congressional briefing on "Evidence-Based Policy: What We Know, What We Need to Know," organized by the Center for Evidence-Based Crime Policy, George Mason University. Washington, D.C. (U.S. Capitol Visitors' Center), 2009. Video: <http://cebcp.org/outreach-symposia-and-briefings/evidence-based-crime-policy/>

"Hot Spots Policing: A Review of the Evidence." 2nd International Conference on Evidence-Based Policing (sponsored by the National Policing Improvement Agency of the United Kingdom and Cambridge University). Cambridge University, United Kingdom, 2009.

"Assessments of Corporate Culture and Prosecutorial Decisions by U.S. Attorneys." Presentation to the advisory board of the LRN-RAND Center for Corporate Ethics, Law, and Governance. New York, 2007.

"Risk Factors for Crime Involvement of Guns Sold in Maryland." Center for Injury Research and Policy, Johns Hopkins School of Public Health. Baltimore, 2007

"Police Strategies for Reducing Illegal Possession and Carrying of Firearms"

- Annual Jerry Lee Crime Prevention Symposium. Washington, D.C. (U.S. Senate Dirksen Office Building), 2005
- Firearm and Injury Center at Penn (FICAP) Forum Series. University of Pennsylvania, Philadelphia, 2005

"The Impacts of the 1994 Federal Assault Weapons Ban on Gun Markets and Gun Violence"

- Briefings for the Associate Attorney General of the United States and other staff of the U.S. Department of Justice and the U.S. Department of the Treasury. Washington, D.C., 1997
- National Research Council, Committee to Improve Research Information and Data on Firearms. Washington, D.C., 2002
- Firearm and Injury Center at Penn (FICAP) Forum Series. Philadelphia, 2003

- Jerry Lee Center of Criminology (University of Pennsylvania) Colloquium. Philadelphia, 2001

"Federal Legislation and Gun Markets: An Assessment of Recent Initiatives Affecting Licensed Firearms Dealers." Jerry Lee Center of Criminology (University of Pennsylvania) Colloquium. Philadelphia, 2003.

"Juvenile Gun Acquisition." Philadelphia Interdisciplinary Youth Fatality Review Team (A Project of the Philadelphia Departments of Public Health and Human Services). Philadelphia, 2002.

"A National Study of Hiring and Retention Issues in Police Agencies." Briefing for staff of the Office of Community Oriented Policing Services (U.S. Department of Justice) and the National Institute of Justice (U.S. Department of Justice). Washington, D.C., 2001.

"COPS and the Level, Style, and Organization of American Policing: Findings of the National Evaluation"

- Press briefing sponsored by the Urban Institute. Washington, D.C., September 2000
- Briefings for staff of the Office of Community Oriented Policing Services (U.S. Department of Justice) and the National Institute of Justice (U.S. Department of Justice). Washington, D.C., 1998 and 1999

Other conference presentations

(Summary list)

- Annual meeting of the American Society of Criminology (1991-2001, 2003-2006, 2008-2016)
- Annual Stockholm Criminology Symposium (2006, 2010, 2014)
- Annual meeting of the Police Executive Research Forum (2008-2009)
- 14th World Congress of Criminology (2005)
- Annual meeting of the Academy of Criminal Justice Sciences (1995, 1997, 1999-2001, 2012)
- U.S. Department of Justice Annual Conference on Criminal Justice Research and Evaluation (1995-1997, 1999, 2002)
- U.S. Department of Justice National Conference on Community Policing (1998)
- National Institute of Justice (U.S. Department of Justice) Firearms Cluster Conference (1996)

Workshops and other events

Speaker: 2017 Symposium on Evidence-Based Crime Policy held by the Center for Evidence-Based Crime Policy. George Mason University, Arlington, VA, 2017.

Professional training sessions on evidence-based policing (co-taught with Cynthia Lum)

- National Institute of Justice LEADS (Law Enforcement Advancing Data and Science) Scholars Program (June 2017)
- New York City Police Department (June 2017)
- Hollywood, FL Police Department (March 2016)
- Sheboygan, WI Police Department (June 2015)
- Milwaukee Police Department (and other nearby agencies) (April 2014)
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Invited speaker and participant: Violent Crime Strategy Executive Session held by the Police Foundation and Major City Chiefs Police Association. Washington, DC, 2016.

Speaker and session organizer: 2014 Symposium on Challenges in Evidence-Based Crime Policy held by the Center for Evidence-Based Crime Policy and the Inter-American Development Bank. George Mason University, Arlington, VA, 2014.

Co-organizer and speaker: Seminar on Evidence-Based Policing Leadership Training for Supervisors held by the Center for Evidence-Based Crime Policy and the Center for Justice Leadership and Management. George Mason University, Arlington, VA, 2014. Video:
<http://www.youtube.com/playlist?list=PLoaqclcHgvlin4vK1bM7DMXPBmeWX69IT>.

Co-organizer, speaker, and session leader: Center for Evidence-Based Crime Policy's Evidence-Based Policing Workshop. George Mason University, Fairfax, VA, 2012. Presentation materials:
<http://cebc.org/cebc-symposium-2012/>. Video:
<http://www.youtube.com/playlist?list=PL4E509820FD3010E9&feature=plcp>

Organizer and speaker: Congressional briefing on "Reducing Gun Violence: Lessons from Research and Practice." Sponsored by the Center for Evidence-Based Crime Policy, George Mason University. Washington, D.C. (Rayburn Building of the U.S. House of Representatives), 2012. Video:
<http://cebc.org/outreach-symposia-and-briefings/reducing-gun-violence/>

Speaker and session leader: Center for Evidence-Based Crime Policy's Evidence-Based Policing Workshop. George Mason University, Fairfax, VA, 2011. Presentation slides and video:
<http://cebc.org/evidence-based-policing/evidence-based-policing-workshop/>

Speaker: Police Executive Research Forum symposium, "How are Innovations in Technology Transforming Policing?" (Critical Issues in Policing Series). Washington, D.C., 2011

Co-organizer, speaker, and session leader: Police Executive Research Forum and Lockheed Martin Law Enforcement Future Technologies Workshop. Suffolk, Virginia, 2008.

Speaker: Police Executive Research Forum symposium on "Hot Spots" (2008 Critical Issues in Policing Series). Washington, D.C., 2008.

Speaker and participant: Firearm Injury Center at Penn (FICAP, University of Pennsylvania) Workshop on Existing and Innovative Methods in the Study of Gun Violence. Bryn Mawr, Pennsylvania, 2003

Academic Teaching

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CRIM 781: Justice Program Evaluation (George Mason University)
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CRIM 491/492: Undergraduate Honors Seminar (George Mason University)
CRIM 797: Professionalization Seminar (co-taught by all CLS faculty at George Mason University)

2016 International Graduate Summer School for Policing Scholarship, hosted by the Scottish Institute for Policing Research and George Mason University with the University of St. Andrews (co-taught with other

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Professional Service

Editorships

- Associate editor, *Journal of Experimental Criminology* (fall 2016-present)
- Co-editor of *Translational Criminology* briefs series (in progress for Springer-Verlag)
- Editorial advisory board member, *Cambridge Journal of Evidence-Based Policing*
- Editorial committee member for *Epidemiologic Reviews*, 2016 theme issue on Gun Violence: Risk, Consequences, and Prevention (Oxford Journals, editor-in-chief Michel A. Ibrahim)
- Area editor for police strategies and practices, *Encyclopedia of Criminology and Criminal Justice* (Springer Verlag, Gerben Bruinsma and David Weisburd, editors-in-chief). Published 2014.
- Topic editor for *Criminology and Public Policy*, Feb. 2016 issue on police use of deadly force

Reviews of manuscripts, reports, and proposals

- *Journal of Experimental Criminology* (2004, 2009, 2011, 2012, 2015-2017)

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- *Police Quarterly* (2002-2004, 2011, 2016-2017)
- *Criminology* (2006, 2010, 2015, 2017)
- *American Journal of Preventive Medicine* (2017)
- *University of Tasmania Law Review* (2017)
- Laura and John Arnold Foundation (2016)
- *Justice Quarterly* (2008, 2016)
- *Policing: A Journal of Policy and Practice* (2013-2016)
- *Epidemiologic Reviews* (2015)
- *Justice Research and Policy* (2012, 2016)
- *Policing: An International Journal of Police Strategies and Management* (2013, 2015)
- *Victims and Offenders* (2015)
- *Criminology and Public Policy* (2005, 2013-2015)
- *Journal of Urban Health* (2015)
- *Evaluation Review* (2014)
- *Journal of Criminal Law and Criminology* (2014)
- *Journal of Policy Analysis and Management* (2014)
- *Injury Prevention* (2004-2005, 2014)
- *Australian and New Zealand Journal of Criminology* (2013)
- *Police Practice and Research* (2013)
- National Institute of Justice, U.S. Department of Justice (2001, 2013)
- *Sociological Quarterly* (2012)
- Oxford University Publishing (2011, 2013)
- *Homicide Studies* (2008)
- Population Reference Bureau (1994)

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- Principal Fellow, Center for Evidence-Based Crime Policy, George Mason University
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 - o Program committee member for 2016-2017 conferences
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- Member, ASC Division of Experimental Criminology
 - o Executive Counselor, 2013-2015
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 - o Executive Counselor (Nov. 2016-present)
- Member of the Research Advisory Board of the Police Foundation (2012-2015) and current consultant
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- Consultant to the New York State Office of the Attorney General
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- Consultant to the Office of the City Attorney of the City of San Francisco (California)
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- Consultant to the Police Executive Research Forum (2011-2014)
- Contributor to the Crime and Justice Group of the Campbell Collaboration
- Former Associate of the Jerry Lee Center of Criminology, University of Pennsylvania

- Former Associate of the Firearm and Injury Center at Penn, University of Pennsylvania Health System
- Participant in the National Research Collaborative on Firearm Violence convened by the Firearm and Injury Center at Penn (2005)
- Participant in National Institute of Justice (U.S. Department of Justice) focus group on identity theft research (2005)
- Participant in annual fellowship fundraiser for the American Society of Criminology (1993-2006, 2012-2015)
- Member of the Advisory Committee for the National Criminal History Improvement Program State Firearms Research Project of the Justice Research and Statistics Association (1996)

Selected Honors and Awards

Fellow of the Academy of Experimental Criminology (2013)

Excellence in Law Enforcement Research Bronze Award from the International Association of Chiefs of Police, 2012 (for co-authorship of *Evaluation Study of Prince William County's Illegal Immigration Enforcement Policy*)

Scholar-in-Residence of the Firearm and Injury Center at Penn (University of Pennsylvania Health System), 2004 – 2006

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Graduate Assistant Award, Department of Criminology and Criminal Justice, University of Maryland, 1989-1994

Honors, Ph.D. Theory Comprehensive Examination, Department of Criminology and Criminal Justice, University of Maryland, 1993

Summa cum Laude, University of Maryland, 1988

Peter P. Lejins Award for Top Graduate in Criminal Justice, Department of Criminology and Criminal Justice, University of Maryland, 1988

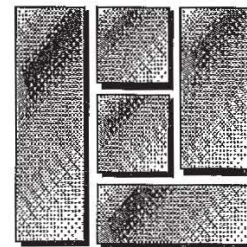
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IMPACT EVALUATION OF THE PUBLIC SAFETY AND RECREATIONAL FIREARMS USE PROTECTION ACT OF 1994

Final Report



THE URBAN INSTITUTE
2100 M STREET, N.W.
WASHINGTON, DC 20037

March 13, 1997

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1. OVERVIEW

Title XI of the Violent Crime Control and Law Enforcement Act of 1994 (the Crime Control Act) took effect on September 13, 1994. Subtitle A banned the manufacture, transfer, and possession of designated semiautomatic assault weapons. It also banned “large-capacity” magazines, which were defined as ammunition feeding devices designed to hold more than 10 rounds. Finally, it required a study of the effects of these bans, with particular emphasis on violent and drug trafficking crime, to be conducted within 30 months following the effective date of the bans. To satisfy the study requirement, the National Institute of Justice (NIJ) awarded a grant to The Urban Institute for an impact evaluation of Subtitle A. This report contains the study findings.

In defining assault weapons, Subtitle A banned 8 named categories of rifles and handguns. It also banned *exact copies* of the named guns, revolving cylinder shotguns, and guns with detachable magazines that were manufactured with certain features such as flash suppressors and folding rifle stocks. The ban specifically exempted *grandfathered* assault weapons and magazines that had been manufactured before the ban took effect. Implicitly, the ban exempts all other guns; several of these, which we treated as *legal substitutes*, closely resemble the banned guns but are not classified as exact copies.

Among other characteristics, ban proponents cited the capacity of these weapons, most of which had been originally designed for military use, to fire many bullets rapidly. While this capacity had been demonstrated in several highly publicized mass murders in the decade before 1994, ban supporters argued that it was largely irrelevant for hunting, competitive shooting, and self-defense. Therefore, it was argued, the ban could prevent violent crimes with only a small burden on law-abiding gun owners. Some of our own analyses added evidence that assault weapons are disproportionately involved in murders with multiple victims, multiple wounds per victim, and police officers as victims.

To reduce levels of these crimes, the law must increase the scarcity of the banned weapons. Scarcity would be reflected in higher prices not only in the *primary markets* where licensed dealers create records of sales to legally eligible purchasers, but also in *secondary markets* that lack such records. Although most secondary-market transfers are legal, minors, convicted felons, and other ineligible purchasers may purchase guns in them (usually at highly inflated prices) without creating records. In theory, higher prices in secondary markets would discourage criminal use of assault weapons, thereby reducing levels of the violent crimes in which assault weapons are disproportionately used.

For these reasons, our analysis considered potential ban effects on gun markets, on assault weapon use in crime, and on lethal consequences of assault weapon use. However, the statutory schedule for this study constrained our findings to short-run effects, which are not necessarily a reliable guide to long-term effects. The timing also limited the power of our statistical analyses to detect worthwhile ban effects that may have occurred. Most fundamentally, because the banned guns and magazines were never used in more than a fraction of all gun murders, even the maximum theoretically achievable preventive effect of the ban on gun murders is almost certainly too small to detect statistically with only one year of post-ban crime data.

With these cautions in mind, our analysis suggests that the primary-market prices of the banned guns and magazines rose by upwards of 50 percent during 1993 and 1994, while the ban was being debated, as gun distributors, dealers, and collectors speculated that the banned weapons would become expensive collectors’ items. However, production of the banned guns also surged, so that more than an extra year’s normal supply of assault weapons and legal substitutes was manufactured during 1994. After the ban took effect, primary-market prices of the banned guns and most large-capacity magazines fell to nearly pre-ban levels and remained there at

least through mid-1996, reflecting both the oversupply of grandfathered guns and the variety of legal substitutes that emerged around the time of the ban.

Even though the expected quick profits failed to materialize, we found no strong evidence to date that licensed dealers have increased “off the books” sales of assault weapons in secondary markets and concealed them with false stolen gun reports. Stolen gun reports for assault weapons did increase slightly after the ban took effect, but by less than reported thefts of unbanned large-capacity semiautomatic handguns, which began rising well before the ban.

The lack of an increase in stolen gun reports suggests that so far, the large stock of grandfathered assault weapons has remained largely in dealers’ and collectors’ inventories instead of leaking into the secondary markets through which criminals tend to obtain guns. In turn, this speculative stockpiling of assault weapons by law-abiding dealers and owners apparently reduced the flow of assault weapons to criminals, at least temporarily. Between 1994 and 1995, the criminal use of assault weapons, as measured by law enforcement agency requests for BATF traces of guns associated with crimes, fell by 20 percent, compared to an 11 percent decrease for all guns. BATF trace requests are an imperfect measure because they reflect only a small percentage of guns used in crime. However, we found similar trends in data on all guns recovered in crime in two cities. We also found similar decreases in trace requests concerning guns associated with violent and drug crimes.

At best, the assault weapons ban can have only a limited effect on total gun murders, because the banned weapons and magazines were never involved in more than a modest fraction of all gun murders. Our best estimate is that the ban contributed to a 6.7 percent decrease in total gun murders between 1994 and 1995, beyond what would have been expected in view of ongoing crime, demographic, and economic trends. However, with only one year of post-ban data, we cannot rule out the possibility that this decrease reflects chance year-to-year variation rather than a true effect of the ban. Nor can we rule out effects of other features of the 1994 Crime Act or a host of state and local initiatives that took place simultaneously. Further, any short-run preventive effect observable at this time may ebb in the near future as the stock of grandfathered assault weapons and legal substitute guns leaks to secondary markets, then increase as the stock of large-capacity magazines gradually dwindles.

We were unable to detect any reduction to date in two types of gun murders that are thought to be closely associated with assault weapons, those with multiple victims in a single incident and those producing multiple bullet wounds per victim. We did find a reduction in killings of police officers since mid-1995. However, the available data are partial and preliminary, and the trends may have been influenced by law enforcement agency policies regarding bullet-proof vests.

The following pages explain these findings in more detail, and recommend future research to update and refine our results at this early post-ban stage.

1.1. PRIMARY-MARKET EFFECTS

1.1.1. Prices and Production

1.1.1.1. Findings

We found clear peaks in legal-market prices of the banned weapons and magazines around the effective date of the ban, based on display ads in the nationally distributed periodical Shotgun News between 1992 and mid-1996. For example, a price index of banned SWD semiautomatic pistols rose by about 47 percent during the year preceding the ban, then fell by about 20 percent the following year, to a level where it remains. Meanwhile, the

prices of non-banned Davis and Lorcin semiautomatic pistols remained virtually constant over the entire period. Similarly, a price index for banned AR-15 rifles, exact copies, and legal substitutes at least doubled in the year preceding the ban, then fell after the ban nearly to 1992 levels, where they have remained. Prices of unbanned semiautomatic rifles (e.g., the Ruger Mini-14, Maadi, and SKS) behaved similarly to AR-15 prices, presumably due to pre-ban speculation that these guns would be included in the final version of the Crime Act.

Like assault weapon prices, large-capacity magazine prices generally doubled within the year preceding the ban. However, trends diverged after the ban depending on what gun the magazine was made for. For example, magazines for non-banned Glock handguns held their new high levels, while magazines for banned Uzi and unbanned Mini-14 weapons fell substantially from their peaks. AR-15 large-capacity magazine prices also fell to 1993 levels shortly after the ban took effect, but returned to their 1994 peak in mid-1996. We believe that demand for grandfathered Glock and AR-15 magazines was sustained or revived by continuing sales of legal guns that accept them.

Production of the banned assault weapons surged in the months leading up to the ban. Data limitations preclude precise and comprehensive counts. However, we estimate that the annual production of five categories of assault weapons (AR-15s and models by Intratec, SWD, AA Arms, and Calico) and legal substitutes rose by more than 120 percent, from an estimated 1989–93 annual average of 91,000 guns to about 204,000 in 1994 — more than an extra year's supply. In contrast, production of non-banned Lorcin and Davis pistols, which are among the guns most frequently seized by police, fell by about 35 percent, from a 1989–93 annual average of 283,000 to 184,000 in 1994.

Our interpretation of these trends is that the pre-ban price and production increases reflected speculation that grandfathered weapons and magazines in the banned categories would become profitable collectors' items after the ban took effect. Instead, however, assault weapon prices fell sharply within months after the ban took effect, apparently under the combined weight of the extra year's supply of grandfathered guns, along with legal substitute guns that entered the distribution chain around the time of the ban. While large-capacity magazine prices for several banned assault weapons followed similar trends, those for unbanned Glock pistols sustained their peaks, and those for the widely-copied AR-15 rifle rebounded at least temporarily to peak levels in 1996, after an immediate post-ban fall.

1.1.1.2. Recommendations

To establish our findings about legal-market effects more definitively, we have short-term (i.e., 12-month) and long-term research recommendations for consideration by NIJ. In the short term, we recommend entering and analyzing large-capacity magazine price data that we have already coded but not entered, in order to study how the prices and legal status of guns affect the prices of large-capacity magazines as economic complements. We also recommend updating our price and production analyses for both the banned firearms and large-capacity magazines, to learn about retention of the apparent ban effects we identified. For the long term, we recommend that NIJ and BATF cooperate in establishing and maintaining time-series data on prices and production of assault weapons, legal substitutes, other guns commonly used in crime, and the respective large and small capacity magazines; like similar statistical series currently maintained for illegal drugs, we believe such a price and production series would be a valuable instrument for monitoring effects of policy changes and other influences on markets for weapons that are commonly used in violent and drug trafficking crime.

1.2. SECONDARY-MARKET EFFECTS

1.2.1. Findings

In addition to the retail markets discussed above, there are secondary gun markets in which gun transfers are made without formal record keeping requirements. Secondary market transfers are by and large legal transactions. However, prohibited gun purchasers such as minors, felons, and fugitives tend to acquire most of their guns through secondary markets and pay premiums of 3 to 5 times the legal-market prices in order to avoid eligibility checks, sales records, and the 5-day waiting period required by the Brady Act. We were unable to observe secondary-market prices and quantities directly. Anecdotally, however, the channels through which guns “leak” from legal to secondary markets include gun thieves, unscrupulous licensed dealers who sell guns on the streets and in gun shows more or less exclusively to prohibited purchasers (who may resell the guns), as well as “storefront” dealers who sell occasionally in secondary markets, reporting the missing inventories to BATF inspectors as “stolen or lost.” Since two of these channels may lead to theft reports to the FBI’s National Crime Information Center (NCIC), we tested for an increase in reported assault weapon thefts after the ban.

To this point, there has been only a slight increase in assault weapon thefts as a share of all stolen semiautomatic weapons. Thus, there does not appear to have been much leakage of assault weapons from legal to secondary markets.

In order to assess the effects of the large-capacity magazine ban on secondary markets, we examined thefts of Glock and Ruger handgun models that accept these magazines. Theft of these guns continued to increase after the ban, despite the magazine ban, which presumably made the guns less attractive. Yet we also did not find strong evidence of an increase in thefts of these guns relative to what would have been predicted based on pre-ban trends. This implies that dealers have not been leaking the guns to illegitimate users on a large scale.

1.2.2. Recommendations

To monitor possible future leakage of the large existing stock of assault weapons into secondary markets, we recommend updating our analyses of trends in stolen gun reports. We also recommend that BATF and NCIC encourage reporting agencies to ascertain and record the magazines with which guns were stolen. Also, because stolen gun reports are deleted from NCIC files when the guns are recovered, we recommend that analyses be conducted on periodic downloads of the database in order to analyze time from theft to recovery. For strategic purposes, it would also be useful to compare dealer patterns of assault weapon theft reports with patterns of occurrence in BATF traces of guns recovered in crime.

1.3. EFFECTS ON ASSAULT WEAPON USE IN CRIME

1.3.1. Findings

Requests for BATF traces of assault weapons recovered in crime by law enforcement agencies throughout the country declined 20 percent in 1995, the first calendar year after the ban took effect. Some of this decrease may reflect an overall decrease in gun crimes; total trace requests dropped 11 percent in 1995 and gun murders dropped 12 percent. Nevertheless, these trends suggest an 8–9 percent additional decrease due to substitution of other guns for the banned assault weapons in 1995 gun crimes. We were unable to find similar assault pistol reductions in states with pre-existing assault pistol bans. Nationwide decreases related to violent and drug crimes were at least as great as that in total trace requests in percentage terms, although these categories were quite small

in number. The decrease we observed was evidently not a spurious result of a spurt of assault-weapon tracing around the effective date of the ban, because there were fewer assault weapon traces in 1995 than in 1993.

Trace requests for assault weapons rose by 7 percent in the first half of 1996, suggesting that the 1995 effect we observed may be temporary. However, data limitations have prevented us from attributing this rebound to changes in overall crime patterns, leakage of grandfathered assault weapons to secondary markets, changes in trace request practices, or other causes. Data from two cities not subject to a pre-existing state bans suggested that assault weapon use, while rare in those cities both before and after the ban, also tapered off during late 1995 and into 1996.

With our local data sources, we also examined confiscations of selected unbanned handguns capable of accepting large-capacity magazines. Criminal use of these guns relative to other guns remained stable or was higher during the post-ban period, though data from one of these cities were indicative of a recent plateau. However, we were unable to acquire data on the magazines with which these guns were equipped. Further, trends in confiscations of our selected models may not be indicative of trends for other unbanned large-capacity handguns. It is therefore difficult to make any definitive statements about the use of large-capacity magazines in crime since the ban. Nevertheless, the contrasting trends for these guns and assault weapons provide some tentative hints of short-term substitution of non-banned large-capacity semiautomatic handguns for the banned assault weapons.

1.3.2. Recommendations

Although BATF trace request data provide the only national trends related to assault weapon use, our findings based on them are subject to limitations. Law enforcement agencies request traces on only a fraction of confiscated guns that probably does not represent the entire population. Therefore, we recommend further study of available data on all guns recovered in crime in selected cities that either were or were not under state assault weapon bans when the Federal ban took effect. Beyond that, we recommend analyzing BATF trace data already in-house to compare trends for specific banned assault weapon models with trends for non-banned models that are close substitutes. Most strongly, we also recommend updating our trend analysis, to see if the early 1996 rebound in BATF trace requests for assault weapons continued throughout the year and to relate any change to 1996 trends in gun crime and overall trace requests.

From a broader and longer-term perspective, we share others' concerns about the adequacy of BATF trace data, the only available national data, as a basis for assessing the effects of firearms policies and other influences on the use of assault weapons and other guns in violent and drug trafficking crime. Therefore, we commend recent BATF efforts to encourage local law enforcement agencies to request traces on more of the guns they seize from criminals. As a complement, however, we recommend short-term research on departmental policies and officers' decisions that affect the probability that a specific gun recovered in crime will be submitted for tracing.

Unfortunately, we have been unable to this point to assemble much information regarding trends in the criminal use of large-capacity magazines or guns capable of accepting these magazines. This gap is especially salient for the following reasons: the large-capacity magazine is perhaps the most functionally important distinguishing feature of assault weapons; the magazine ban affected more gun models than did the more visible bans on designated assault weapons; and based on 1993 BATF trace requests, non-banned semiautomatic weapons accepting large-capacity magazines were used in more crimes than were the banned assault weapons. For these reasons, we recommend that BATF and state/local law enforcement agencies encourage concerted efforts to record the magazines with which confiscated firearms are equipped — information that frequently goes unrecorded under present practice — and we recommend further research on trends, at both the national and local levels, on the

criminal use of guns equipped with large-capacity magazines. Finally, to support this research and a variety of strategic objectives for reducing the consequences of violent and drug trafficking crime, consideration should be given to studying the costs and benefits of legislative and administrative measures that would encourage recording, tracing, and analyzing magazines recovered in crimes, with or without guns.

1.4. CONSEQUENCES OF ASSAULT WEAPON USE

1.4.1. Findings

A central argument for special regulation of assault weapons and large-capacity magazines is that the rapid-fire/multi-shot capabilities they make available to gun offenders increase the expected number of deaths per criminal use, because an intended victim may receive more wounds, and more people can be wounded, in a short period of time. Therefore, we examined trends in three consequences of gun use: gun murders, victims per gun homicide incident, and wounds per gunshot victim.

Our ability to discern ban effects on these consequences is constrained by a number of facts. The potential size of ban effects is limited because the banned weapons and magazines were used in only a minority of gun crimes — based on limited evidence, we estimate that 25% of gun homicides are committed with guns equipped with large-capacity magazines, of which assault weapons are a subset. Further, the power to discern small effects statistically is limited because post-ban data are available for only one full calendar year. Also, a large stock still exists of grandfathered magazines as well as grandfathered and legal-substitute guns with assault weapon characteristics.

Our best estimate of the impact of the ban on state level gun homicide rates is that it caused a reduction of 6.7% in gun murders in 1995 relative to a projection of recent trends. However, the evidence is not strong enough for us to conclude that there was any meaningful effect (i.e., that the effect was different from zero). Note also that a true decrease of 6.7% in the gun murder rate attributable to the ban would imply a reduction of 27% in the use of assault weapons and large-capacity guns and no effective substitution of other guns. While we do not yet have an estimate of large-capacity magazine use in 1995, our nationwide assessment of assault weapon utilization suggested only an 8 to 20 percent drop in assault weapon use in 1995.

Using a variety of national and local data sources, we found no statistical evidence of post-ban decreases in either the number of victims per gun homicide incident, the number of gunshot wounds per victim, or the proportion of gunshot victims with multiple wounds. Nor did we find assault weapons to be overrepresented in a sample of mass murders involving guns (see Appendix A).

The absence of stronger ban effects may be attributable to the relative rarity with which the banned weapons are used in violent crimes. At the same time, our chosen measures reflect only a few of the possible manifestations of the rapid-fire/multi-shot characteristics thought to make assault weapons and large-capacity magazines particularly dangerous. For example, we might have found the use of assault weapons and large-capacity magazines to be more consequential in an analysis of the number of victims receiving any wound (fatal or non-fatal), in broader samples of firearm discharge incidents. Moreover, our comparisons did not control for characteristics of incidents and offenders that may affect the choice of weapon, the consequences of weapon use, or both.

Recommendations: First, we recommend further study of the impact measures examined in this investigation. Relatively little time has passed since the implementation of the ban. This weakens the ability of statistical tests — particularly those in our time-series analyses — to discern meaningful impacts. Moreover, the

ban's effects on the gun market are still unfolding. Hence, the long term consequences of the ban may differ substantially from the short term consequences which have been the subject of this investigation.

Therefore, we recommend updating the state-level analysis of gun murder rates as more data become available. Similarly, investigations of trends in wounds per gunshot victim could be expanded to include longer post ban periods, larger numbers of jurisdictions, and, wherever possible, data on both fatal and non-fatal victims. Examination of numbers of total wounded victims in both fatal and non-fatal gunshot incidents may also be useful. In some jurisdictions, it may also be possible to link trends in the types of guns seized by police to trends in specific weapon-related consequence measures.

Second, we recommend further research on the role of assault weapons and large-capacity magazines in murders of police officers. Our analysis of police murders has shown that the fraction of police murders involving assault weapons is higher than that for civilian murders. This suggests that gun murders of police should be more sensitive to the ban than gun murders in general. Yet, further research, considering such factors as numbers of shots fired, wounds inflicted, and offender characteristics, is necessary for a greater understanding of the role of the banned weaponry in these murders.

Along similar lines, we strongly recommend in-depth, incident-based research on the situational dynamics of both fatal and non-fatal gun assaults to gain greater understanding of the roles of banned and other weapons in intentional deaths and injuries. A goal of this research should be to determine the extent to which assault weapons and guns equipped with large-capacity magazines are used in homicides and assaults and to compare the fatality rates of attacks with these weapons to those with other firearms. A second goal should be to determine the extent to which the properties of the banned weapons influence the outcomes of criminal gun attacks after controlling for important characteristics of the situations and the actors. In other words, how many homicides and non-fatal gunshot wound cases involving assault weapons or large-capacity magazines would not occur if the offenders were forced to substitute other firearms and/or small capacity magazines? In what percentage of gun attacks, for instance, does the ability to fire more than 10 rounds without reloading influence the number of gunshot wound victims or determine the difference between a fatal and non-fatal attack? In this study, we found some weak evidence that victims killed with guns having large-capacity magazines tend to have more bullet wounds than victims killed with other firearms, and that mass murders with assault weapons tend to involve more victims than those with other firearms. However, our results were based on simple comparisons; much more comprehensive research should be pursued in this area.

Future research on the dynamics of criminal shootings, including various measures of the number of shots fired and wounds inflicted, would provide information on possible effects of the assault weapon and magazine ban that we were unable to estimate, as well as useful information on violent gun crime generally. Such research requires linking medical and law enforcement data sets on victim wounds, forensic examinations of recovered firearms and magazines, and police incident reports.

2. BACKGROUND FOR THE IMPACT ASSESSMENT

Title XI of the Violent Crime Control and Law Enforcement Act of 1994 (the Crime Control Act), took effect on its enactment date, September 13, 1994. Subtitle A, which is itself known as the Public Safety and Recreational Firearms Use Protection Act, contains three provisions related to “semiautomatic assault weapons.” Section 110102 (the assault weapons ban) made unlawful the manufacture, transfer, or possession of such weapons under 18:922 of the United States Code. Section 110103 (the magazine ban) made unlawful the transfer or possession of “large-capacity ammunition feeding devices”: detachable magazines that accept more than 10 rounds¹ and can be attached to semi- or automatic firearms. Section 110104 (the evaluation requirement) required the Attorney General to study the effect of these prohibitions and “in particular...their impact, if any, on violent and drug trafficking crime.” The evaluation requirement specified a time period for the study: an 18-month period beginning 12 months after the enactment date of the Act. It also required the Attorney General to report the study results to Congress 30 months after enactment of the Crime Control Act — March 13, 1997. The National Institute of Justice awarded a grant to the Urban Institute to conduct the mandated study, and this report contains the findings.

This chapter first explains the legislation in additional detail, then discusses what is already known about the role of the banned weapons in crime, and finally explains certain relevant features of firearms markets.

2.1. THE LEGISLATION

Effective on its enactment date, September 13, 1994, Section 110102 of Title XI banned the manufacture, transfer, and possession of “semiautomatic assault weapons.” It defined the banned items defined in four ways:

- 1) Named guns: specific rifles and handguns, available from ten importers and manufacturers: Norinco, Mitchell, and Poly Technologies (all models, popularly known as AKs); Israeli Military Industries UZI and Galil models, imported by Action Arms; Beretta Ar 70 (also known as SC-70); Colt AR-15; Fabrique National FN/FAL, FN/LAR, FN/FNC), SWD M-10, M-11, M-11/9, and M-12; Steyr AUG; and INTRATEC TEC-9, TEC-DC9, and TEC-22;
- 2) Exact copies: “Copies or duplicates of the [named guns] in any caliber”;
- 3) Revolving cylinder shotguns: Large-capacity shotguns, with the Street Sweeper and Striker 12 named as examples; and
- 4) Features-test guns: semiautomatic weapons capable of accepting detachable magazines and having at least two named features.²

Several provisions of the ban require further explanation because they affected our approach to this study. First, the ban exempted several categories of guns: a long list of specific models specified in Appendix A to Sec.

¹ Or “that can be readily restored or converted to accept.”

² For rifles, the named features were: a folding or telescoping stock; a pistol grip that protrudes below the firing action; a bayonet mount; a flash suppressor or threaded barrel designed to accommodate one; a grenade launcher. For pistols, the features were: a magazine outside the pistol grip; a threaded barrel (capable of accepting a barrel extender, flash suppressor, forward handgrip, or silencer); a heat shroud that encircles the barrel; a weight of more than 50 ounces unloaded; and a semiautomatic version of an automatic firearm. For shotguns, named features included the folding or telescoping stock, protruding pistol grip, fixed magazine capacity over 5 rounds, and ability to accept a detachable magazine.

110102; bolt- or pump-action, inoperable, and antique guns; semiautomatic rifles and shotguns that cannot hold more than 5 rounds; and firearms belonging to a unit of government, a nuclear materials security organization, a retired law enforcement officer, or an authorized weapons tester.

Second, the prohibitions exempted weapons and magazines that met the definitional criteria but were legally owned (by manufacturers, distributors, retailers, or consumers) on the effective date of the Act. Such “grandfathered” guns may legally be sold, resold, and transferred indefinitely. Estimates of their numbers are imprecise. However, a 1992 report by the American Medical Association reported an estimate of 1 million semiautomatic assault weapons manufactured for civilian use, plus 1.5 million semiautomatic M-1 rifles sold as military surplus (AMA Council, 1992). To distinguish grandfathered guns from exempt guns that might be stolen or diverted to illegal markets, the ban required the serial numbers of guns in the banned categories to clearly indicate their dates of manufacture.

Third, the ban on exact copies of the named guns did not prohibit the manufacture, sale, or transfer of legal substitutes, most of which first appeared around or after the effective date of the ban. Legal substitutes differ from banned exact copies by lacking certain named features or by incorporating minimal design modifications such as slight reductions of pistol barrel length, thumbholes drilled in a rifle stock, or the like. Manufacturers named some legal substitutes by adding a designation such as “Sporter,” “AB,” (After Ban), or “PCR” (Politically Correct Rifle) to the name of the corresponding banned weapon.

Section 110103 of Title XI banned large-capacity magazines, i.e., magazines that accept ten or more rounds of ammunition. Its effective date, exemptions, and grandfathering provisions correspond to those governing firearms under Section 110102. This provision exempts attached tubular devices capable of operating only with .22 caliber rimfire ammunition.

Section 110104 required the study that is the subject of this report: a study of the effect of the ban, citing impacts on violent crime and drug trafficking in particular. It also specified the time period of the study: to begin 12 months after enactment, to be conducted over an 18-month period, and to be reported to Congress after 30 months. Finally, Title XI included a “sunset provision” for the ban, repealing it 10 years after its effective date.

Subtitles B and C of Title XI are relevant to this study because they took effect at the same time, and so special efforts are needed to distinguish their effects from those effects of the assault weapon and magazine bans in Subtitle A. With certain exemptions, Subtitle B bans the sale, delivery, or transfer of handguns to juveniles less than 18 years old. This juvenile handgun possession ban applies, of course, to assault pistols and to other semiautomatic handguns that are frequently recovered in crimes. Subtitle C requires applicants for new and renewal Federal Firearms Licenses — the Federal dealers’ licenses — to submit a photograph and fingerprints with their applications and to certify that their businesses will comply with all state and local laws pertinent to their business operations. These subtitles gave force of law to practices that BATF had begun early in 1994, to require the fingerprints and photographs, and to cooperate with local law enforcement agencies in investigations of Federal Firearms Licensees’ (FFLs) compliance with local sales tax, zoning, and other administrative requirements. These BATF practices are believed to have contributed to an 11 percent reduction in licensees (from 281,447 to 250,833) between January and the effective date of the Crime Act, and a subsequent 50 percent reduction to about 124,286 by December 1996 (U.S. Department of Treasury, 1997). These practices and subtitles were intended to discourage license applications and renewals by the subset of licensees least likely to comply with laws governing sales to felons, juveniles, and other prohibited purchasers.

2.2. CONTEXT FOR THE ASSAULT WEAPONS BAN

At least three considerations appear to have motivated the Subtitle A bans on assault weapons and large-capacity magazines: arguments over particularly dangerous consequences of their use, highly publicized incidents that drew public attention to the widespread availability of military-style weapons, and the disproportionate use of the banned weapons in crime.

The argument over dangerous consequences is that the ban targets a large array of semiautomatic weapons capable of accepting large-capacity magazines (i.e., magazines holding more than 10 rounds). Semiautomatic firearms permit a somewhat more rapid rate of fire than do non-semiautomatics. When combined with large-capacity magazines, semiautomatic firearms enable gun offenders to fire more times and at a faster rate, thereby increasing the probability that offenders hit one or more victims at least once.

There is very little empirical evidence, however, on the direct role of ammunition capacity in determining the outcomes of criminal gun attacks (see Koper 1995). The limited data which do exist suggest that criminal gun attacks involve three or fewer shots on average (Kleck 1991, pp.78-79; McGonigal et al. 1993, p.534). Further, there is no evidence comparing the fatality rate of attacks perpetrated with guns having large-capacity magazines to those involving guns without large-capacity magazines (indeed, there is no evidence comparing the fatality rate of attacks with semiautomatics to those with other firearms). But in the absence of substantial data on the dynamics of criminal shootings (including the number of shots fired and wounds inflicted per incident), it seems plausible that offenders using semiautomatics, especially assault weapons and other guns capable of accepting large-capacity magazines, have the ability to wound more persons, whether they be intended targets or innocent bystanders (see Sherman et al. 1989). This possibility encouraged us to attempt to estimate the effect of the ban on both the number of murder victims per incident and the number of wounds per murder victim.

The potential of assault weapons to kill multiple victims quickly was realized in several dramatic public murder incidents that occurred in the decade preceding the ban and involved assault weapons or other semiautomatic firearms with large-capacity magazines (e.g., see Cox Newspapers 1989; Lenett 1995). In one of the worst mass murders ever committed in the United States, for example, James Huberty killed 21 persons and wounded 19 others in a San Ysidro, California, McDonald's on July 18, 1984, using an Uzi handgun and a shotgun. On September 14, 1989, Joseph T. Wesbecker killed seven persons and wounded thirteen others at his former workplace in Louisville, Kentucky before taking his own life. Wesbecker was armed with an AK-47 rifle, two MAC-11 handguns, and a number of other firearms. One of the most infamous assault weapon cases occurred on January 17, 1989, when Patrick Edward Purdy used an AK-47 to open fire on a schoolyard in Stockton, California, killing 5 children.

There were additional high profile incidents in which offenders using semiautomatic handguns with large-capacity magazines killed large numbers of persons. In October of 1991, a gunman armed with a Glock 17, a Ruger P89 (both the Glock and Ruger models are semiautomatic handguns capable of accepting magazines with more than 10 rounds), and several large-capacity magazines killed 23 people and wounded another 19 in Killeen, Texas. In a December 1993 incident, six people were killed and another 20 were wounded on a Long Island commuter train by a gunman equipped with a semiautomatic pistol and large-capacity magazines.

These events have been cited as jarring the public consciousness, highlighting the public accessibility of weapons generally associated with military use, and demonstrating the apparent danger to public health posed by semiautomatic weapons with large-capacity magazines. These considerations, along with the claim that large-capacity magazines were unnecessary for hunting or sporting purposes, reportedly galvanized public support for the initiative to ban these magazines (Lenett, 1995).

Debate over assault weapons raged for several years prior to the passage of the 1994 Crime Act. Throughout that time, different studies, news reports, policy debates, and legal regulations employed varying definitions of assault weapons. Yet, in general terms, the firearms targeted in these debates and those ultimately prohibited by the federal government's ban consist of various semiautomatic pistols, rifles, and shotguns, most of which accept detachable ammunition magazines and have military-style features. Mechanically, the most important features of these guns are their semiautomatic firing mechanisms and the ability to accept detachable magazines, particularly large-capacity magazines. However, these traits do not distinguish them from many other semiautomatic weapons used for hunting and target shooting. Therefore, some have argued that assault weapons differ only cosmetically from other semiautomatic firearms (Kleck 1991; Cox Newspapers 1989).

Nonetheless, proponents of assault weapons legislation argued that these weapons are too inaccurate to have much hunting or sporting value. Furthermore, they argued that various features of these weapons, such as folding stocks and shrouds surrounding their barrels, have no hunting or sporting value and serve to make these weapons more concealable and practical for criminal use (Cox Newspapers 1989). To the extent that these features facilitated criminal use of long guns or handguns with large-capacity magazines, one could hypothesize that there would be an increase in the deadliness of gun violence. Proponents also claimed that some of these weapons, such as Uzi carbines and pistols, could be converted rather easily to fully automatic firing.³

To buttress these arguments, proponents of assault weapons legislation pointed out that assault weapons are used disproportionately in crime. According to estimates generated prior to the federal ban, assault weapons represented less than one percent of the over 200 million privately-owned guns in the United States; yet they were reported to account for 8% of all firearms trace requests submitted to BATF from 1986 to 1993 (Lenett 1995; also see Zawitz 1995). Moreover, these guns were perceived to be especially attractive to offenders involved in drug dealing and organized crime, as evidenced by the relatively high representation of these weapons among BATF gun trace requests for these crimes. To illustrate, a late 1980s study of BATF trace requests reported that nearly 30% of the guns tied to organized crime cases were assault weapons, and 12.4% of gun traces tied to narcotics crimes involved these guns (Cox Newspapers 1989, p.4).

Further, most assault weapons combine semiautomatic firing capability with the ability to accept large-capacity magazines and higher stopping power (i.e., the ability to inflict more serious wounds).⁴ Thus, assault weapons would appear to be a particularly lethal group of firearms. However, this is also true of many non-banned semiautomatic firearms. Moreover, there have been no studies comparing the fatality rate of attacks with assault weapons to those committed with other firearms.

³ Fully automatic firearms, which shoot continuously as long as the trigger is held down, have been illegal to own in the U.S. without a federal permit since 1934. BATF has the responsibility of determining whether particular firearm models are too easily convertible to fully automatic firing. Earlier versions of the SWD M series assault pistols made by RPB Industries were met with BATF disapproval for this reason during the early 1980s.

⁴ Determinants of firearm stopping power include the velocity, size, shape, and jacketing of projectiles fired from a gun. Notwithstanding various complexities, the works of various forensic, medical, and criminological researchers suggest we can roughly categorize different types of guns as inflicting more or less lethal wounds (see review in Koper 1995). At perhaps the most general level, we can classify shotguns, centerfire (high-velocity) rifles, magnum handguns, and other large caliber handguns (generally, those larger than .32 caliber) as more lethal firearms and small caliber handguns and .22 caliber rimfire (low velocity) rifles as less lethal firearms. Most assault weapons are either high velocity rifles, large caliber handguns, or shotguns.

Nonetheless, the involvement of assault weapons in a number of mass murder incidents such as those discussed above provided an important impetus to the movement to ban assault weapons. Commenting on Patrick Purdy's murder of five children with an AK-47 rifle in Stockton, California in 1989, one observer noted, "The crime was to raise renewed outcries against the availability of exotic military-style weapons in our society. This time police forces joined forces with those who have traditionally opposed the widespread ownership of guns" (Cox Newspapers 1989, p.i). Later that year, California became the first state in the nation to enact an assault weapons ban, and the federal government enacted a ban on the importation of several foreign military-style rifles.

2.3. ASSAULT WEAPONS AND CRIME

Table 2-1 describes the named guns banned by Subtitle A in terms of their design, price, pre-ban legal status, and examples of legal substitutes for the banned guns. The table also reports counts of BATF trace requests — law enforcement agency requests for BATF to trace the recorded purchase history of a gun. Trace counts are commonly used to compare the relative frequencies of gun model uses in crime, although they are subject to biases discussed in the next chapter. Together, the named guns and legal substitutes accounted for 3,493 trace requests in 1993, the last full pre-ban year. This represented about 6.3 percent of all 55,089 traces requested that year.

Of the nine types of banned weapons shown in Table 2-1, five are foreign-made: AKs, UZI/ Galil, Beretta Ar-70, FN models, and the Steyr AUG. Together they accounted for only 394 BATF trace requests in 1993, and 281 of those concerned Uzis. There are at least three reasons for these low frequencies. First, imports of all of them had been banned under the 1989 assault weapon importation ban. Second, the Blue Book prices of the UZI, FN models, and Steyr AUG were all high relative to the prices of guns typically used in crime. Third, the FN and Steyr models lack the concealability that is often desired in criminal uses.

Among the four domestically produced banned categories, two handgun types were the most frequently submitted for tracing, with 1,377 requests for TEC models and exact copies, and 878 traces of SWD's M-series. Table 2-1 also reports 581 trace requests for Colt AR-15 rifles, 99 for other manufacturers' exact copies of the AR-15, and a handful of trace requests for Street Sweepers and Berettas.

Table 2-1. Description of firearms banned in Title XI

<i>Name of firearm</i>	<i>Description</i>	<i>1993 Blue Book price</i>	<i>Pre-ban Federal legal status</i>	<i>1993 trace request count</i>	<i>Examples of legal substitutes</i>
Avtomat Kalashnikov (AK)	Chinese, Russian, other foreign and domestic: .223 or 7.62x39mm cal., semi-auto Kalashnikov rifle, 5, 10*, or 30* shot mag., may be supplied with bayonet.	\$550 (plus 10-15% for folding stock models)	Imports banned in 1989	87	Norinco NHM 90/91
ÚZI, Galil	Israeli: 9mm, .41, or .45 cal. semi-auto carbine, mini-carbine, or pistol. Magazine capacity of 16, 20, or 25, depending on model and type (10 or 20 on pistols).	\$550-\$1050 (UZI) \$875-\$1150 (Galil)	Imports banned in 1989	281 UZI 12 Galil	
Beretta Ar-70	Italian: .222 or .223 cal., semi-auto paramilitary design rifle, 5, 8, or 30 shot mag.	\$1050	Imports banned in 1989	1	
Colt AR-15	Domestic: .Primarily 223 cal. paramilitary rifle or carbine, 5-shot magazine, often comes with two 5-shot detachable mags. Exact copies by DPMS, Eagle, Olympic, and others.	\$825-\$1325	Legal (civilian version of military M-16)	581 Colt 99 Other manufacturers	Colt Sporter, Match H-Bar, Target. Olympic PCR Models.
FN/FAL, FN/LAR, FNC	Belgian design: .308 Winchester cal., semi-auto rifle or .223 Remington combat carbine with 30-shot mag. Rifle comes with flash hider, 4-position fire selector on automatic models. Manufacturing discontinued in 1988.	\$1100-\$2500	Imports banned in 1989	9	L1A1 Sporter (FN, Century)
SWD M-10, M-11, M-11/9, M-12	Domestic: 9mm paramilitary semi-auto pistol, fires from closed bolt, 32-shot mag. Also available in fully automatic variation.	\$215	Legal	878	Cobray PM-11, PM12 Kimel AP-9, Mini AP-9
Steyr AUG	Austrian: .223 Remington/5.56mm cal., semi-auto paramilitary design rifle.	\$2500	Imports banned in 1989	4	
TEC-9, TEC*DC-9, TEC-22	Domestic: 9mm semi-auto paramilitary design pistol, 10** or 32** shot mag.; .22 LR semi-auto paramilitary design pistol, 30-shot mag.	\$145-\$295	Legal	1202 Intratec 175 Exact copies	TEC-AB
Revolving Cylinder Shotguns	Domestic: 12 gauge, 12-shot rotary mag., paramilitary configuration, double action.	\$525***	Legal	64 SWD Street Sweepers	

* The 30-shot magazine was banned by the 1994 Crime Act, and the 10-shot magazine was introduced as a result.

** The 32-shot magazine was banned by the 1994 Crime Act, and the 10-shot magazine was introduced as a result.

*** Street Sweeper

Source: *Blue Book of Gun Values*, 17th Edition, by S.P. Fjestad, 1996.

Although the banned weapons are more likely than most guns to be used in crime, they are so rare that only 5 models appeared among the BATF National Tracing Center list of the 50 most frequently traced guns in 1993: the SWD M-11/9 (659 trace requests, ranked 8), the TEC-9 (602 requests, ranked 9), the Colt AR-15 (581 requests, ranked 11), the TEC-DC9 (397 requests, ranked 21), and the TEC-22 (203, ranked 48). In addition, the list named eight unbanned guns that accept banned large-capacity magazines: the Glock 17 pistol (509 requests, ranked 13), the Ruger P85 pistol (403 requests, ranked 20), the Ruger P89 pistol (361 requests, ranked 24), the

Glock 19 pistol (339 requests, ranked 28), the Taurus PT92 (282 requests, ranked 31), the Beretta/FI Industries Model 92 pistol (270 requests, ranked 33), the Beretta Model 92 (264 requests, ranked 34), and the Ruger Mini-14 rifle (255 requests, ranked 36).

In contrast, the list of ten most frequently traced guns is dominated by inexpensive small-caliber semiautomatic handguns not subject to the ban. These included the Raven P-25 (1,674 requests, ranked 1), the Davis P380 (1,539 requests, ranked 2), the Lorcin L-380 (1,163 requests, ranked 3), the Jennings J-22 (714 requests, ranked 6), and the Lorcin L-25 (691 requests, ranked 7). Other guns among the 1993 top ten list were: the Norinco SKS, a Chinese-made semi-automatic rifle (786 requests, ranked 4); the Mossberg 500 .12-gauge shotgun (742 requests, ranked 5), and the Smith & Wesson .38 caliber revolver (596 requests, ranked 10). None of these are subject to the assault weapon ban.

The relative infrequency of BATF trace requests for assault weapons is consistent with other findings summarized in Koper (1995). During the two years preceding the 1989 import ban, the percentage of traces involving assault weapons reportedly increased from 5.5 to 10.5 percent for all crimes (Cox Newspapers, n.d., p.4), and was 12.4 percent for drug crimes. Because law enforcement agencies are thought to request BATF traces more frequently in organized crime and drug crime cases, many criminal researchers (including ourselves) believe that raw trace request statistics overstate the criminal use of assault weapons in crime. Based on more representative samples, Kleck (1991) reports that assault weapons comprised 3.6 percent or less of guns confiscated from most of the Florida agencies he surveyed, with only one agency reporting as high as 8 percent. Similarly, Hutson et al. (1994) report that assault weapons were involved in less than one percent of 1991 Los Angeles drive-by shootings with juvenile victims. Based on his reanalysis of 1993 New York City data, Koper (1995) concluded that assault weapons were involved in only 4 percent of the 271 homicides in which discharged guns were recovered and 6.5 percent of the 169 homicides in which ballistics evidence positively linked a recovered gun to the crime.

Koper (1995) also summarizes findings which suggest that criminal self-reporting of assault weapon ownership or use may have become "trendy" in recent years, especially among young offenders. The percentages of offenders who reported ever using weapons in categories that may have included assault weapons was generally around 4 percent in studies conducted during the 1980s, but rose to the 20- to 30-percent range in surveys of youth reported since 1993, when publicity about such weapons was high (see, e.g., Knox et al., 1994; Sheley and Wright, 1993).

2.4. MARKETS FOR ASSAULT WEAPONS AND OTHER FIREARMS

Predicting effects of the bans on assault weapons and large-capacity magazines requires some basic knowledge of firearms markets. The Federal Bureau of Alcohol, Tobacco and Firearms (BATF) licenses persons to sell or repair firearms, or accept them as a pawnbroker under the Gun Control Act of 1968. Cook et al. (1995, p.73) summarized the relevant characteristics of a Federal firearms licensee (FFL) as follows. Licenses are issued for three years renewable, and they allow Federal Firearm licensees to buy guns mail-order across state lines without a background check or a waiting period. Starting well before the 1994 Crime Act, applicants had to state that they were at least 21 years old and provide a Social Security number, proposed business name and location, and hours of operation. Since the 1968 Omnibus Crime Control and Safe Streets Act, FFL applicants have had to state that they were not felons, fugitives, illegal immigrants, or substance abusers, and that they had never renounced their American citizenship, been committed to a mental institution, or dishonorably discharged from the military.

The Gun Control Act of 1968 made these same categories of persons ineligible to purchase a gun from a licensee and required would-be purchasers to sign statements that they were not ineligible purchasers. The 1968

Act also requires FFLs to retain the records of each sale and a running log of acquisitions and dispositions of all guns that come into their possession. In 1993, the Brady Handgun Violence Prevention Act added several more requirements on handgun sales by FFLs; the focus on handguns reflected their disproportionate involvement in crime. Under the Brady Act, licensed dealers⁵ became required to obtain a photo ID from each would-be handgun purchaser, to verify that the ID described the purchaser, to notify the chief law enforcement officer (CLEO) of the purchaser's home of the attempt to purchase, and to wait five business days before completing the sale, allowing the CLEO to verify eligibility and notify the seller if the purchaser is ineligible. The Brady Act also raised the fee for the most common license, Type 1 (retail), from \$10.00 per year to \$200.00 for the first three years and \$90.00 for each three-year renewal.

Subtitle C of Title XI which took effect simultaneously with the 1994 assault weapons ban strengthened the requirements on FFLs and their customers in several ways, including the following. To facilitate fingerprint-based criminal history checks and to deter applicants who feared such checks, Subtitle C required FFL applicants to submit fingerprints and photographs; this ratified BATF practice that had begun in early 1994. To make FFLs more visible to local authorities, Subtitle C required applicants to certify that within 30 days they would comply with applicable local laws and required the Secretary of the Treasury to notify state and local authorities of the names and addresses of all new licensees. To help local law enforcement agencies recover stolen guns and to discourage licensees from retroactively classifying firearms they had sold without following Federally required procedures as "stolen," Subtitle C introduced requirements for FFLs to report the theft or loss of a firearm to BATF and to local authorities within 48 hours.

Assault weapons and other firearms are sold in primary and secondary markets whose structure was described by Cook et al. (1995). Primary markets include transactions by FFLs. At the wholesale level, licensed importers and distributors purchase firearms directly from manufacturers and advertise them through catalogs and display ads in nationally distributed publications such as *Shotgun News*. Under the law, purchasers may include walk-ins who reside in the distributor's state and FFLs from anywhere who can order guns by telephone, fax, or mail. Primary-market retailers include both large discount stores and smaller-volume independent firearms specialists who offer advice, gun service, sometimes shooting ranges, and other professional services of interest to gun enthusiasts. Some 25,000 independent dealers are organized as the National Alliance of Stocking Gun Dealers. At both the wholesale and retail level, primary-market sellers are legally required to verify that the purchaser is eligible under Federal laws, to maintain records of sales for possible future use in BATF traces of guns used in crime, and, since the effective date of the Crime Act, to report thefts of guns to BATF.

Cook et al. (1995, p.68) also designated "secondary markets," in which non-licensed persons sell or give firearms to others. Sellers other than FFLs include collectors or hobbyists who typically resell used guns through classified ads in newspapers or "consumer classified sheets," through newsletters oriented toward gun enthusiasts, or through word of mouth to family and friends. The secondary market also includes gun shows, "street sales", and gifts or sales to family, friends, or acquaintances. Secondary transfers are not subject to the record-keeping requirements placed on FFLs.

Gun prices in the primary markets are widely publicized, and barriers to entry are few, so that the market for legal purchasers is fairly competitive. For new guns, distributors' catalogs and publications such as *Shotgun News* disseminate wholesale prices. Prices of used guns are reported annually in a *Blue Book* catalog (Fjestad, 1996). Based on interviews with gun market experts, Cook et al. (1995, p.71) report that retail prices track

⁵ The Brady Act exempted sellers in states that already had similar requirements to verify the eligibility of would-be gun purchasers.

wholesale prices quite closely. They estimate that retail prices to eligible purchasers generally exceed wholesale (or original-purchase) prices by 3–5 percent in the large chain stores, by about 15 percent in independent dealerships, and by about 10 percent at gun shows because overhead costs are lower.

In contrast, purchasers who wish to avoid creating a record of the transaction and ineligible purchasers, including convicted felons who lack convincing false identification and wish to avoid the Brady Act eligibility check or waiting period, must buy assault weapons and other guns in the secondary markets, which are much less perfect. Prices for banned guns with accurate and complete descriptions are rarely advertised, for obvious reasons. Sellers do not supply catalogues and reference books that would help an untrained buyer sort out the bewildering array of model designations, serial numbers, and detachable features that distinguish legal from illegal guns. And competition is limited because sellers who are wary of possible undercover purchases by law enforcement agencies prefer to limit “off-the-books” sales either to persons known or personally referred to them, or to settings such as gun shows and streets away from home, where they themselves can remain anonymous.

In general, ineligible purchasers face premium prices some 3 to 5 times legal retail prices.⁶ Moreover, geographic differentials persist that make interstate arbitrage, or trafficking, profitable from “loose regulation” states to “tight regulation” states. Among the banned assault weapons, for example, Cook et al. (1995, p.72, note 56) report TEC-9s with an advertised 1991 price of \$200 in the Ohio legal retail market selling for \$500 on the streets of Philadelphia. By 1995, they report a legal North Carolina price of \$300 compared to a street price of \$1,000 in New York City. In 1992 interviews with Roth (1992), local and state police officers reported even higher premiums in secondary submarkets in which ineligible purchasers bartered drugs for guns: prices in terms of the street value of drugs reportedly exceeded street cash prices by a factor of about 5.

The attraction that the higher premiums hold for FFLs as sellers has been noted by both researchers and market participants. Cook et al. (1995, p.72) note that licensed dealers willing to sell to ineligible purchasers or without Federal paperwork offer buyers the combined advantages of the primary and secondary markets: “they have the ability to choose any new gun in the catalog, but without the paperwork, delays, fees, and restrictions on who can buy.” Their data raise the possibility that up to 78 percent of FFLs in the Raleigh/Durham/Chapel Hill area of North Carolina may operate primarily or exclusively in secondary markets, since 40 percent had not given BATF a business name on their application, and an additional 38 percent provided “business” numbers that turned out to be home numbers (Cook et al., 1995:75). They note the consistency of their findings with a national estimate by the Violence Policy Center (1992 — More Gun Dealers than Gas Stations) that 80 percent of dealers nationwide do not have storefront retail firearms businesses. Jacobs and Potter (1995, p.106) note that because resource constraints have restricted BATF inspections to storefronts, dealers without storefronts may operate without regard to the Brady Act requirements, or presumably to other requirements as well.

The opportunities for FFLs, whether operating from storefronts or not, to sell firearms in both the primary and secondary markets, were colorfully described in the 1993 statement of the National Alliance of Stocking Gun Dealers (NASGD) to the House and Senate Judiciary Committees regarding Subtitle C. After noting the substantial price premium for selling guns directly felons to and others on the street, the statement continues:

Should you feel a little queasy about the late night hours and the face-to-face negotiations with the street folk, then you can become a “gun-show cowboy.” Simply drive by your friendly “distributor”..., load up 250 handguns, and hit the weekend circuit of gun shows...If you choose

⁶ There are exceptions. Guns fired in crimes may sell at substantial discounts on the street because ballistic “fingerprints” may incriminate the subsequent owner. Drug addicts who find and steal guns during burglaries may sell or trade them for drugs at prices far below market.

to do the “cash and carry” routine then you will command higher prices than those who insist on selling lawfully with all the attendant ID and paperwork. However, since you will most probably be selling at gun shows in states other than where you are licensed, it is unlawful for you to sell and deliver on the spot, so you will not want to identify yourself either. Attendees (purchasers) at gun shows include the entire spectrum of the criminal element — felons, gangs who don’t have their own armorer, underage youth, buyers for underage youth, multistate gun runners and such...Though the gun show cowboy won’t achieve quite as high a profit as the street seller, he can sell in very high volume and easily earn the same dollar amount and feel a lot safer. (NASGD, 1993:2-3).

Pierce et al. (1995) made an initial effort to investigate the extent and distribution of FFLs’ transactions in secondary submarkets through which firearms flow to criminal uses. Using the automated Firearms Tracing System (FTS) recently developed by BATF’s National Tracing Center, they explored several covariates of the distribution of traces in which a given FFL holder is named. They reported the highest mean number of traces for dealers in Maryland, Vermont, and Virginia. Other cross-tabulations indicated that currently active dealers operating at the addresses previously used by out-of-business dealers were more likely than average to be named in traces, which suggests that dealers who are active in secondary markets tend to reapply for licenses under new names. Finally, they reported a very high concentration of dealers in trace requests. While 91.6 percent of the dealers in the FTS database had never been named in a trace, 2,133 dealers, 0.8 percent of the total, had been named in 10 or more traces. Together, they were named in 65.7 percent of all traces conducted. An even smaller handful of 145 dealers’ names surfaced in 30,850 traces — 25.5 percent of the entire trace database. These findings indicated that the channels through which guns flow from FFLs to criminal users are more heavily concentrated than previously recognized.

The channels described above through which firearms flow from licensed dealers (FFLs) and eligible purchasers to ineligible purchasers vary in terms of visibility.⁷ In primary markets, ineligible purchasers may buy guns from FFLs using fake identification themselves or using “straw purchasers” (eligible buyers acting as agents for ineligible buyers, unbeknownst to the FFL). In Cook and Leitzel’s (1996) terminology, these are “formal” transactions that create official records, but the records do not identify the actual consumer.

We use the term “leakage” to designate channels through which guns flow from legal primary and secondary markets to ineligible purchasers. No leakage channel creates valid sales records; however, at least since 1994, all are likely to generate stolen gun reports to BATF. Ineligible purchasers may buy guns informally (i.e., without paperwork) from unethical FFLs at gun shows or through “street” or “back door” sales. To prevent informal sales from creating discrepancies between actual inventories and the acquisition/disposition records, the FFL may report them as stolen. Such transactions are indistinguishable from actual thefts, the other leakage channel.

Guns may also leak from eligible non-FFL gun owners to ineligible owners through direct sales on the street or at gun shows, or through thefts. While non-FFL owners are not required to record sales or transfers of their guns, they may also wish to report a gun that they sell to an ineligible purchaser as stolen if they suspect it may be recovered in a future crime. Therefore, leakage in secondary markets may also be reflected in theft reports.

⁷ While the law presumes ineligible purchasers to be more likely than eligible purchasers to use guns during crimes, eligible purchasers have, in fact, committed viable crimes with large-capacity firearms.

3. ANALYSIS PLAN

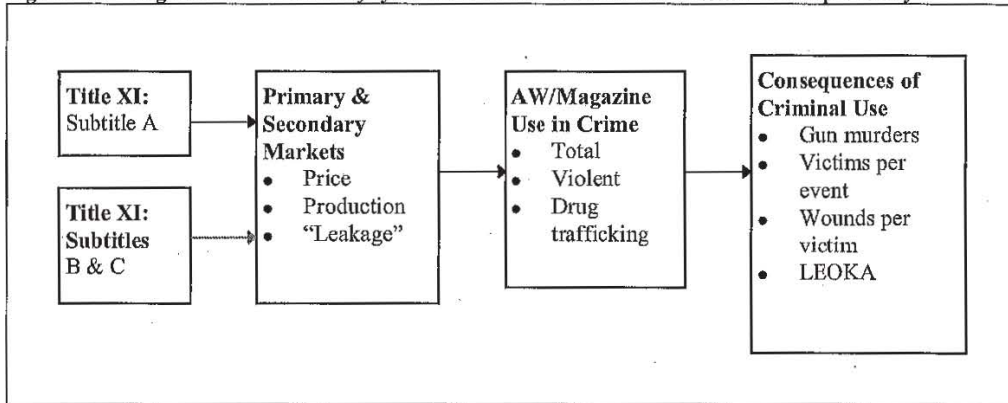
Subtitle A of Title XI banned the manufacture, transfer, and possession of assault weapons and large-capacity magazines. We hypothesized that the ban would produce direct effects in the primary markets for these weapons, that related indirect effects in secondary markets would reduce the frequency of their criminal use, and that the decrease in use would reduce such consequences as gun homicides, especially incidents involving multiple victims, multiple wounds, and killings of law enforcement officers. In this chapter, we explain our general strategy testing these hypotheses.

3.1. POTENTIAL BAN EFFECTS

Figure 3-1 displays the ban effects that we hypothesized and the measures that we used to test those effects. As shown there, we anticipated potential effects on primary and secondary markets for the banned guns and magazines, potential reductions in their use in crime, and subsequent reductions in the consequences of criminal use. Although the available measures of any single effect are problematic, the problems differ by measure. Therefore, our approach was to conduct several small studies, each subject to different error sources, and then to integrate the findings of the separate studies.

As shown in Figure 3-1, the **market effects** of interest included indicators of price, production, and “leakage” between primary and secondary markets. If the Subtitle A bans are to be effective in reducing criminal uses of the banned weapons and magazines, they must increase the prices of those items. Our **price** indicators were collected for banned guns, selected legal substitutes, large-capacity magazines, and, as comparison groups, comparable guns that should not have been directly affected by the ban. The data were the nationally advertised prices of distributors who ran display ads in *Shotgun News* continuously from January 1992 through mid-1996. Because these distributors sell guns simultaneously at the wholesale and retail levels, and because primary-market retail margins are small, we believe these prices offer a useful index of primary-market prices. We used hedonic price analysis to study trends. Annual **production** data were obtained from the Violence Policy Research Project, an organization that compiles BATF manufacturing data. We lacked post-ban data because release of the production statistics is delayed two years by law. Also, we had to make certain approximations because production statistics are not reported for specific models. Therefore, findings from our tabular analyses of production are less complete and more tentative than those about price. Finally, as discussed in Section 3.2, we defined “**leakage**” as the transfer of firearms to ineligible purchasers from licensed dealers and eligible purchasers. Because we argued there that leakage is likely to generate theft reports (either because the guns were transferred by theft or because a false theft report was used to conceal a sale to an ineligible purchaser), we measured leakage using counts of stolen gun reports to the FBI’s National Crime Information Center (NCIC).

Our primary indicator of assault weapon **use in crime** is the volume of requests for BATF traces of guns recovered in crime. **Trace request** data have the advantage of providing a national picture, and they allow us to focus on two of the Congressional priorities for this study, violent crime and drug trafficking crime. They require special caution in interpretation, however, since trace requests are a small and unrepresentative sample of guns recovered in crime. We believe that our tabular analyses provide a defensible estimate of the short-term effects of Title XI on criminal use of the banned weapons. We attempted to supplement the national analysis with analyses of **local trends in recovered assault weapons** in representative samples of recovered guns from a number of law enforcement agencies, but could obtain the necessary data for only a few cities.

Figure 3-1. Logic model for *Public Safety and Recreational Firearms Use Protection Act* impact study

Finally, as shown in Figure 3-1, we used four indicators of the **consequences** of criminal use of assault weapons and semiautomatic weapons with large-capacity magazines: total gun murders by state, victims per criminal event involving gun murder, entry wounds per gunshot wound victim, and law enforcement officers killed in action. While these indicators all have logical relationships to use of the banned items, all have difficulties. Total gun murders is an insensitive indicator because attacks with assault weapons and other semiautomatics with large-capacity magazines account for only a fraction of all murders. Other consequences such as victims per event and wounds per victim are more specific to the banned weapons and magazines, as supporters argued during the ban debates, and assault weapons are more disproportionately used in killings of law enforcement officers than in other murders. However, available databases for measuring those impacts are difficult to analyze because they contain such small numbers of cases. And, for all the indicators, the existence of only one full post-ban year in available data may make the estimates too imprecise to discern short-run impacts even if they are large enough to be of policy interest. As a result, our findings about ban effects on consequences are especially tentative.

We anticipated that market effects during the short-term period allowed for this study would be heavily influenced by expectations. Enactment of the ban was preceded by extensive publicity and debate, which afforded time for manufacturers, distributors, retailers, and collectors to speculate that the firearms being considered for ban coverage would eventually become expensive collectors' items. Analogous experience from 1989 seemed instructive, because that year saw both a Federal ban on importation of assault rifles and a California ban analogous to Title XI. During the three months leading up to the importation ban, import license requests for assault rifles, which had numbered 40,000 in 1987 and 44,000 in 1988, swelled 10-fold to an annual rate of 456,000 (AMA Council, 1992). It is not clear how rapidly the import surge flowed through the distribution chain from importers to consumers in the primary and secondary markets. Yet six months later, during the period leading up to a California ban and sentence enhancement, several police agencies reported sharp decreases in criminal use of assault rifles. At the time, observers attributed this seeming paradox to advance publicity that may have left the misimpression that the ban took effect when enacted, judicial anticipation of the enhancements in setting bond and imposing sentence, tips to police from law-abiding gun dealers sensitive to the criminal gun use that motivated the ban, and owners' reluctance to risk confiscation for misuse of their assault weapons, which had become more valuable in anticipation of the ban (Mathews, 1989). However, it is equally plausible that the speculative price increases for the banned weapons in formal markets at least temporarily bid assault weapons

away from ineligible purchasers who would more probably have used them in crimes (Cook and Leitzel, 1996).⁸ Whether these short-run conditions would hold for the long run would depend on the extent to which grandfathered guns in the banned categories leaked into secondary markets over time through gun shows, “back door” sales, and thefts.

Therefore, our objectives became to estimate ban-related effects on price, supply responses, and leakage from formal to informal markets; to estimate how these market effects influenced criminal assault weapon use; and to estimate trends in the consequences of that use. In accordance with the statutory study requirement, we placed special emphasis on the use of assault weapons in violent crime and drug trafficking crime wherever available data permitted.

3.2. GENERAL DESIGN STRATEGY

Our general design strategies are to test whether the assault weapon and magazine bans interrupted trends over time in the outcome measures listed above. A variety of techniques exist for this general problem. They differ in terms of desirable qualities such as statistical power, robustness against various threats to the validity of findings, and precision; unfortunately, the techniques with more desirable properties are generally more demanding in terms of data requirements. Because of different data constraints, we employed a variety of methods, including various forms of time series and multiple regression analysis (i.e., pooled, cross-sectional time series analysis, hedonic price analysis, and Box-Jenkins interrupted time series models), simple before and after comparisons, and graphical displays. As a result, our conclusions about some measures are stronger than about others.

Because we anticipated these circumstances, our approach to the Congressional mandate was to conduct a number of small-scale analyses of more-or-less readily available data, then to synthesize the results into our best judgment concerning the impacts of Title XI.⁹ We carried out three kinds of analyses of market effects:

- Hedonic price analyses of 1992–96 primary-market price trends for banned semiautomatic firearms, comparable unbanned firearms, and large-capacity magazines, using national distributors’ prices;
- Tabular analyses of gun production data through 1994, the latest available year;
- Pre-ban/post-ban comparisons and time series analyses of 1992–96 trends in “leakage” to illegal markets, as measured by guns reported stolen to FBI/NCIC.

We carried out two kinds of analyses of assault weapon use:

- Graphical and tabular analyses of 1992–96 trends in requests for BATF traces of assault weapons recovered in crime, in both absolute terms and as a percentage of all requests;

⁸ While unbanned, widely available, inexpensive semiautomatic pistols made by Lorcin, Davis, and other manufacturers are good (and perhaps superior) substitutes for the banned assault weapons in most criminal uses, they are not substitutes for speculative purposes.

⁹ During the project, we abandoned early plans for several additional impact studies that we had contemplated. It proved impossible to analyze trends in enforcement of the ban because of the small numbers of matters referred to U.S. Attorneys and cases filed in U.S. District Court. We were forced to abandon plans to measure secondary-market prices of banned weapons from classified advertisements for two reasons: back issues of consumer classifieds proved unavailable, and the ads describe the weapons too imprecisely for consistent classification. Finally, we dropped plans to analyze multi-city assault weapon use data from the gun module of the Drug Use Forecasting (DUF) program for two reasons. Data exist only for the post-ban period, and we had concerns about the validity of respondents’ reports of assault weapon ownership and use.

- Pre-ban/post-ban comparisons and time series analyses of 1992–96 trends in counts of guns recovered in crime by selected local law enforcement agencies.

We carried out the following analyses of the consequences of using assault weapons and semiautomatics with large-capacity magazines in crime:

- An analysis of state-level time-series data on gun murders which controls for potential influences of legal, demographic, and criminological importance;
- Pre-ban/post-ban comparisons and time series analyses of 1980–95 trends in victims per gun-homicide incident as measured nationally from Supplementary Homicide Reports;
- Descriptive analysis of the use of assault weapons in mass murders in the U.S. from 1992-present (see Appendix A);
- Graphical analyses and pre-ban/post-ban comparisons of 1992–96 trends in the number of wounds per gunshot victim using medical data from medical examiners and one hospital emergency department in selected cities, following Webster et al. (1992) and McGonigal et al. (1993);
- A tabular analysis of 1992–96 trends in law enforcement officers killed in action (LEOKA) with assault weapons.

3.2.1. Threats to Validity and Use of Comparison Groups

The validity of the techniques we applied depends on comparisons of trends between meaningful treatment and comparison groups, and we used two approaches to defining comparison groups. In general, to estimate ban effects on markets and uses, we compared trends between types of guns and magazines that were differentially affected by the ban. To estimate effects on the consequences of assault weapon use, we used pre-existing state-level bans on assault weapons and juvenile handgun possession to define comparison groups, because we assumed that such laws would attenuate the effects of the Federal ban.¹⁰

Table 3-1 describes our general classification scheme for types of guns affected by the ban and the corresponding comparison groups.¹¹ The comparisons are not always precise, and, as later chapters will make clear, they differ from measure to measure depending on the gun descriptors used in available databases.

¹⁰ Although in theory, comparisons of markets and uses could be made simultaneously by weapon and jurisdiction, the disaggregation often leaves too little data for meaningful analysis.

¹¹ To be considered a potential comparison gun, we had to have at least anecdotal evidence that it had appeal beyond the community of sportsmen and collectors and/or evidence that it was among the 50 guns most commonly submitted for BATF traces. Without that constraint, it would have been unreasonable to consider it as being functionally similar to any banned gun, and data on prices and uses would have involved numbers too small to analyze. The trade-off is that the comparison guns may well have been subject to indirect substitution effects from the ban.

Table 3-1. Banned weapons and examples of unbanned comparison weapons

<i>Banned weapon</i>	<i>Examples of Comparison weapon</i>
<u>Named Domestic Assault Pistols</u> -SWD M-10, M-11, M-11/9, M-12, exact copies under other names, legal substitutes -TEC-9, TEC-DC9, TEC-22, exact copies by AA Arms, legal substitutes	-Lorcin, Davis semiautomatic pistols (less expensive) -Glock, Ruger semiautomatic pistols (more expensive)
<u>Named Domestic Assault Rifles</u> -Colt AR-15, exact copies and legal substitutes	-Ruger Mini-14 (unbanned domestic) -Maadi (legal import)
<u>Named Foreign Assault Weapons</u> -UZI carbines and pistols -AK models	-SKS (recently restricted, widely available import)
<u>"Features Test" Guns</u> Calico Light Weapons pistols and rifles Feather rifles	See pistols and rifles above.
<u>Rare Banned Weapons</u> Beretta Ar-70, FN models, Steyr AUG, revolving cylinder shotguns	No comparisons defined.

Of the banned weapons named in Table 3-1, the named domestic assault pistols are of greatest interest because they are more widely used in crime than rifles. We used two categories of pistols as comparison groups: the cheap small-caliber pistols by Lorcin and Davis that are among the most widely used guns in crime, and the more expensive Glock and Ruger pistols. The Glock and Ruger models took on additional significance by serving as indicators of non-banned handguns capable of accepting large-capacity magazines. For the AR-15 family of assault rifles, we used the Ruger Mini-14, SKS, and/or Maadi rifles in various comparisons. All are legally and widely available.

We performed relatively few comparative analyses of named foreign assault weapons, the UZI, Galil, and AK weapons, because the 1989 import ban limited their availability during our observation period, and their legal status was unchanged by the Title XI ban. Nevertheless, because these guns remain in criminal use, we performed price analyses for their large-capacity magazines, which are also widely available from foreign military surplus. The SKS semiautomatic rifle, which was imported from China and Russia in fairly large numbers¹² until recently, served as an unbanned comparison weapon for the banned foreign rifles. We carried out no analyses concerning the rarest assault weapons shown in Table 3-1.

Because few available databases relate the consequences of assault weapon use to the make and model of weapon, most of our analyses of consequences are based on treatment and comparison jurisdictions defined in terms of their legal environments. Four states — California, Connecticut, Hawaii, and New Jersey — already

¹² Although a 1994 ban on Chinese imports of many goods including firearms nominally covered SKS rifles, large numbers continued to enter the country under Craig Amendment exemptions for goods already "on the water" at the time of the import ban.

banned assault weapons before the Federal ban was enacted. Although state bans can be circumvented by interstate traffickers, we hypothesized that their existence would reduce the effects of the Federal ban in their respective states.

The following chapters report findings of the analyses described here. Each chapter also explains in detail the tailoring of this general analysis plan to data constraints associated with each comparison.

4. GUN AND MAGAZINE MARKET EFFECTS

The discussion of gun markets in Chapter 2 led us to several hypotheses. First, assuming that the primary and secondary markets were in equilibrium before Congress took up serious discussion of a ban on assault weapons and large-capacity magazines, we hypothesized that the opening of debate would stimulate speculative demand for the banned guns and magazines, leading to price increases in primary markets well in advance of the effective date of the ban. Second, we hypothesized that for the makes and models of assault weapons whose prices increased, quantities produced would also increase before the ban took effect. These “grandfathered guns” were exempted from the ban.

Having been advised by a gun market expert¹³ that legal substitutes for many of the banned weapons appeared in primary markets around the effective date of the ban, it seemed doubtful that the speculative pre-ban price increases could hold under the combined weight of stockpiled grandfathered guns and the flows of new legal substitute models. Therefore, our third hypothesis was that the post-ban prices of banned guns and their legal substitutes would return to their pre-debate equilibrium levels.

We presumed that assault weapons and large-capacity magazines are economic complements, so that, like bread and butter, an increase in the supply of either one should decrease its price and increase the price of the other. Therefore, our fourth hypothesis was that, for the oversupplied assault weapons and legal substitutes whose prices fell from their speculative peaks, their magazine prices¹⁴ should rise over time, as the stock of grandfathered magazines dwindled.

Finally, we believed that for banned makes and models whose prices experienced a speculative price bubble around the time of the ban and then returned to pre-ban levels, speculative demand would fall eventually in both primary and secondary markets as expectations receded for a price “rebound” in primary markets. In contrast, demand by ineligible purchasers intending to use the banned weapons in crime should be relatively unaffected. Therefore, at least in the short run, relative prices should rise in secondary markets, where such “crime demand” is concentrated. We could not directly observe secondary-market prices. However, a price rise in secondary relative to primary markets should cause increased “leakage” to secondary markets, reflected in rising theft reports of assault weapons during post-ban periods of low prices in primary markets.

The following sections report the methods we used to test these hypotheses about market effects of the ban, and our findings.

4.1. FINDINGS OF PRICE ANALYSIS

4.1.1. Collection of Price Data

To test our hypotheses about price trends, we sought to approximate the prices at which the banned items could be legally purchased throughout the country. After considering available data sources, we decided that monthly data would be sufficient and that the distributors’ prices advertised in national publications would offer a

¹³ William R. Bridgewater, personal communication, September 1995.

¹⁴ Magazines are make and model-specific, so that in general a magazine made for a specific rifle will not fit other rifles. However, a magazine made for a banned assault rifle like the Colt AR-15 will fit an exact copy like the Olympic Arms AR-15 and a legal substitute like the Colt AR-15 Sporter, which has the same receiver.

suitable index. Those prices are available to any FFL, and, as discussed in Chapter 2, primary-market FFLs generally re-sell within 15 percent of the distributors' price.

To collect the necessary data, we developed two forms. The first was designed to collect data on base price and accessorized price on 47 makes and models of guns. These included all guns named in Subtitle A along with selected legal substitutes and functional substitutes (e.g., low-capacity semiautomatic pistols that are commonly used in crimes). The second form recorded make, model, capacity, and price of any advertised large-capacity magazines. Both forms also recorded the distributors' names and, for verification purposes, a citation to the location of the advertisements.

We selected twelve gun and magazine distributors that had display ads on a monthly basis in *Shotgun News* throughout the entire period from April 1992 through June 1996. This period was selected to permit observation of rumored "Clinton election" price effects (i.e., increased speculative demand based on concern over possible new gun controls under a Democratic administration) as well as the entire period of debate over Subtitle XI and as long a post-ban period as possible. Display ad prices were coded on a monthly basis throughout the period except immediately around the ban, from August 1994 to October 1994, when prices were coded on a weekly basis to maximize statistical power during the period when we expected the largest price variances. The *Shotgun News* issue to be coded for each month was selected randomly, to avoid any biases that might have occurred if a particular part of the month was coded throughout the period. The number of advertised-price observations for any given gun varied from month to month over the period, as distributors chose to feature different makes and models. The number of price observations for a given make and model bears an unknown relationship to the number of transactions occurring at that price. The advertised prices should be considered approximations for at least three reasons. Advertised prices simultaneously represent wholesale prices to retail dealers and retail prices to "convenience dealers" who hold licenses primarily to receive guns for personal use by mail from out-of-state sources. There is anecdotal evidence of discounts from advertised prices for purchases in large quantities or by long-time friends of the distributors. Finally, the ads did not permit us to accurately record such price-relevant features as finish, included gun cases, and included magazines.

4.1.2. Analysis

Price trends for a number of firearms and large-capacity magazines were analyzed using hedonic price analysis (Berndt 1990, pp.102-149; also see Chow 1967). This form of analysis examines changes over time in the price of a product while controlling for changes over time in the characteristics (i.e., quality) of the product. Hedonic analysis employs a model of the form:

$$Y = a + b * X + c_1 * T_1 + \dots c_n * T_n + e$$

where Y is the logarithmic price of the product, X represents one or more quality characteristics affecting the price of the product, T_1 through T_n are dummy variables for the time periods of interest, a is an intercept term, and e is an error term with standard properties. The coefficients c_1 through c_n provide quality-adjusted estimates of changes over time in the price of the product.

In the analysis that follows, all price data were first divided by quarterly values of the gross domestic product price deflator as provided in *Economic Indicators* (August 1996). This quantity was then logged. In all models, we have omitted the time dummy for the period when the ban went into effect. Thus, the time coefficients are interpreted relative to the prices at the time of ban implementation. Because the outcome variable is logged, the coefficients on the time period indicators can be interpreted as multiplier effects (we illustrate this in more

detail below). Whenever possible, we examined quarterly price trends. In a number of instances, however, sample size considerations required us to use semi-annual or annual periods.

Our quality variables correspond to factors such as manufacturer, model, distributor, and, in some cases, weapon caliber. In addition, some of the models include an indicator variable denoting whether the firearm had special features or enhancements or was a special edition of any sort.¹⁵ We have used these variables as proxy variables for quality characteristics in the absence of more detailed measures of weapon characteristics. Further, we cannot fully account for the meaning of significant distributor effects. Distributor effects may represent unmeasured quality differentials in the merchandise of different distributors, or they may represent other differences in stock volume or selling or service practices between the distributors.¹⁶ Nevertheless, we included distributor because it was often a significant predictor of price. Thus, our models provide price trends after controlling for the mix of products and distributors advertised during each time period. Finally, the models presented below are parsimonious models in which we have retained only those quality indicators which proved meaningful in preliminary analyses.¹⁷

4.1.2.1. Gun Prices

For the analysis of firearm prices, we chose groups of weapons based on both theoretical importance and data availability (a number of the guns included on our coding form appeared infrequently in the ads examined by project staff). We examined price trends in banned assault pistols and compared them to price trends for unbanned semiautomatic handguns commonly used in crime. In addition, we analyzed the price trend for the banned AR-15 assault rifle and its variations and compared it to trends for a number of similar semiautomatic rifles not subject to the ban.

Our findings for handguns were consistent with our hypotheses. For the banned SWD group of assault pistols, the average advertised price peaked at the time the ban took effect, having risen from 68 percent of the peak a year earlier; within a year, the mean price fell to about 79 percent of peak. In contrast, advertised prices of unbanned Davis and Lorcin semiautomatic pistols commonly used in crime were essentially constant over the entire period.

Rifle price trends were only partially consistent with our hypotheses. For semiautomatic rifles, prices of both the banned AR-15 family of assault rifles and a comparison group of unbanned semiautomatic rifles showed evidence of speculative peaks around the time the ban took effect, followed by a decrease to approximately pre-speculation levels.

We interpret these findings as evidence of substantial speculative pre-ban demand for guns that were expected to be banned as assault weapons, while the underlying primary market for guns more commonly used in crime remained stable. While no plausible definition of assault weapon was ever likely to include the Davis and

¹⁵ We note, however, that recording special features of the weapons was a secondary priority in the data collection effort; for this reason, and because the ads do not follow a consistent format, this information may not have been recorded as consistently as other data elements.

¹⁶ We have heard speculations but have no evidence that distributors' prices for a given quantity of a specific gun may be inversely related to the rigor of their verification of purchasers' eligibility.

¹⁷ We eliminated control variables that had t values less than one in absolute value. This generally improved the standard errors for the coefficients of interest (i.e., the coefficients for the time period indicators).

Lorcin pistols, Lenett (1995) describes considerable uncertainty during the Crime Act debate over precisely which rifles were to be covered.

Assault pistols: The analysis of assault pistol prices focused on the family of SWD M10/M11/M11-9/M12 weapons.^{18 19} Our coders did not find enough ads for these weapons to conduct a quarterly price trend analysis; therefore, we examined semi-annual prices. Results are shown in Table 4-1. In general, the M10, M11, and M11/9 models were significantly more expensive than the M12 model and the new PM11 and PM12 models. Models with the Cobray trademark name had lower prices, while weapons made in .380 caliber commanded higher prices. Finally, two distributors selling these weapons had significantly lower prices than did the other distributors.

¹⁸ Over the years, this class of weapons has been manufactured under a number of different names (i.e., Military Armaments Corp., RPB Industries, Cobray, SWD, and FMJ).

¹⁹ Initially, we had also wished to analyze the prices of banned Intratec weapons and their copies. However, project staff found few ads for these guns among the chosen distributors, particularly in the years prior to the ban's implementation.

Table 4-1. Regression of SWD handgun prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
Source	DF	Sum of squares	Mean square	F value	Prob>F
Model	16	16.26086	1.01630	13.376	0.0001
Error	132	10.02900	0.07598		
C Total	148	26.28986			
Root MSE		0.27564		R-square	0.6185
Dep Mean		0.87282		Adj R-square	0.5723
Parameter Estimates					
Variable	DF	Parameter estimate	Standard error	T for H0 parameter = 0	Prob> T
INTERCEP	1	1.00876	0.073205	13.78	0.0001
T1	1	-0.17097	0.130798	-1.307	0.1935
T2	1	-0.29236	0.109943	-2.659	0.0088
T3	1	-0.26949	0.078477	-3.434	0.0008
T4	1	-0.38309	0.086909	-4.408	0.0001
T5	1	-0.1881	0.12957	-1.452	0.1489
T7	1	-0.04368	0.076185	-0.573	0.5674
T8	1	-0.23376	0.108602	-2.152	0.0332
T9	1	0.108787	0.205848	0.528	0.5981
CAL380	1	0.200609	0.06946	2.888	0.0045
DIST 3	1	-0.26216	0.128954	-2.033	0.0441
DIST 5	1	0.331378	0.224065	1.479	0.1415
DIST 6	1	-0.18987	0.059367	-3.198	0.0017
COBRAY	1	-0.18832	0.053756	-3.503	0.0006
M10	1	0.771313	0.131932	5.846	0.0001
M11	1	0.308675	0.057351	5.382	0.0001
M119	1	0.110174	0.077347	1.424	0.1567

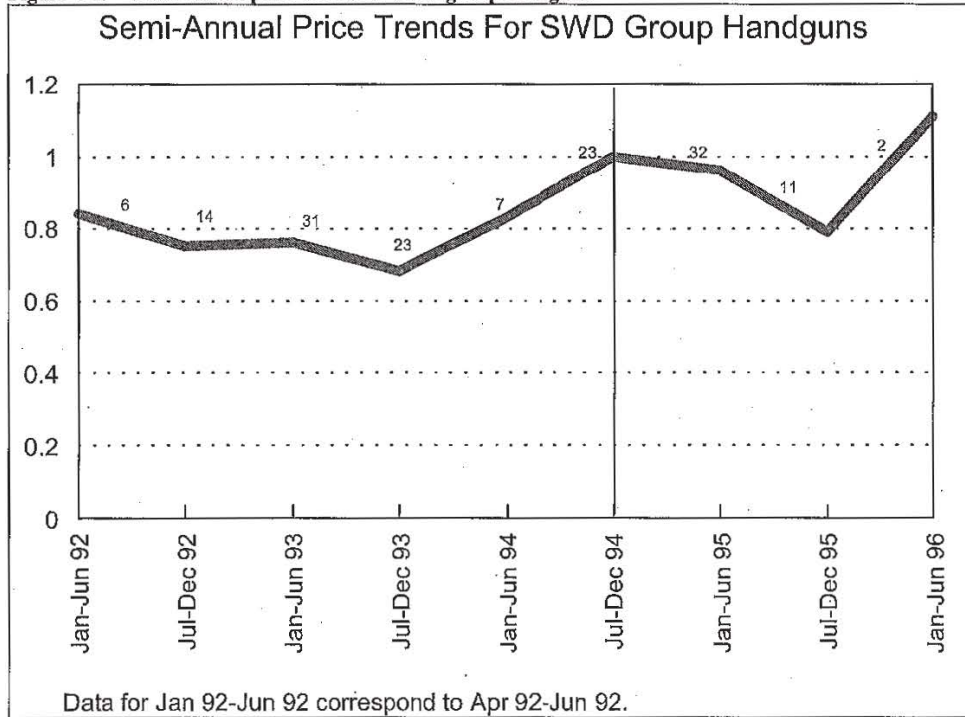
The coefficients for the time indicator variables provide quality-adjusted price trends. The time indicator t_6 has been omitted from the equation.²⁰ This indicator corresponds to the period of July 1994 through December 1994 which encompasses the ban implementation date of September 13, 1994. The coefficients on the time dummy variables are all negative and most are significant, indicating that prices for these weapons were at their highest during the six month period when the ban took effect. To interpret the time variables, we exponentiate the coefficients (i.e., take their antilogs). To illustrate, the coefficient for the first time period (January 1992 through June 1992) is -0.170966.²¹ Exponentiating this coefficient yields approximately 0.84, indicating that the average price of these weapons at time 1 (January 1992 through June 1992) was 84 percent of the average price at time 6

²⁰ In this and all other price analyses, time dummies are defined to omit the time period that includes the effective date of the ban. This restricts the coefficient to 0 and $\exp(0) = 1$. Therefore, the effective date is the reference period for prices in all other periods.

²¹ Data collection began with April 1992 issues of Shotgun News. Consequently, the first data point is based on data for April through June of 1992 rather than a full six-month period.

(July 1994 through December 1994). Conversely, the average quality-adjusted price of these firearms was 17 percent less during the January 1992-June 1992 period than during the July 1994-December 1994 period.

Figure 4-1. Semi-annual price trends for SWD group handguns



The time effects are displayed graphically in Figure 4-1 (sample sizes are shown for each time period).²² During the semi-annual periods prior to the ban's implementation, prices of these weapons ranged from 68 to 83 percent of their price during the period of the ban's implementation. Prices peaked when the ban became effective in the latter part of 1994 and remained high through the first half of 1995. In the second half of 1995, however, the prices dropped off dramatically, falling to levels comparable to the pre-ban period. Prices may have rebounded again during the first half of 1996, but the apparent "rebound" was based on only two advertisements and should be treated very cautiously. If one assumes that wholesale markets were in equilibrium before debates about the ban started, then these data reflect a ban-related, speculative peak of up to 47 percent in price, followed by a decline of about 20 percent. Parenthetically, we note that contrary to some anecdotes, we found no evidence of speculation related to the 1992 election.

Comparison handguns: For comparison, we also examined price trends for a number of unbanned semiautomatic handgun models: the Davis P32 and P380 and the Lorcin L25 and L380. By a number of accounts, these models are among the guns most frequently used in crime (BATF 1995; Kennedy et al. 1996; Wintemute 1994, Chapter 2 *supra*). Because of small sample size, this model was estimated using semi-annual data spanning from 1992 through 1995. Referring to Table 4-2, two of the handgun models were significantly less expensive than the others, and one distributor offered statistically significant discounts for these guns.

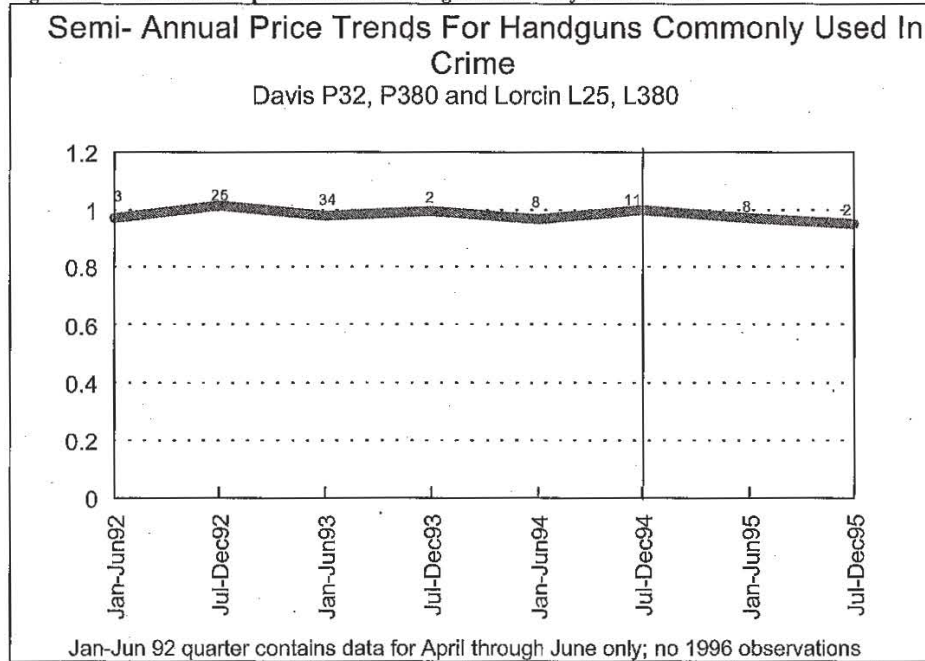
²² Sample sizes are defined in terms of number of price observations available during the period. The number of transactions that took place at each recorded price is, of course, unavailable to us.

Table 4-2. Regression of Lorcin and Davis handgun prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
Source	DF	Sum of squares	Mean square	F value	Prob>F
Model	11	3.60246	0.32750	30.678	0.0001
Error	81	0.86469	0.01068		
C Total	92	4.46716			
Root MSE		0.10332		R-square	0.8064
Dep Mean		-0.60396		Adj R-square	0.7801
C.V.		-17.10713			
Parameter Estimates					
Variable	DF	Parameter estimate	Standard error	T for H0 parameter = 0	Prob> T
INTERCEP	1	-0.44243	0.034043	-12.996	0.0001
T1	1	-0.03004	0.069877	-0.43	0.6684
T2	1	0.014817	0.040258	0.368	0.7138
T3	1	-0.0198	0.037239	-0.532	0.5964
T4	1	-0.00259	0.082314	-0.031	0.975
T5	1	-0.03162	0.048582	-0.651	0.517
T7	1	-0.02753	0.048576	-0.567	0.5724
T8	1	-0.05041	0.082314	-0.612	0.542
P32	1	-0.22559	0.033404	-6.753	0.0001
L25	1	-0.55562	0.034119	-16.285	0.0001
DIST 2	1	-0.06434	0.030256	-2.127	0.0365
DIST 6	1	-0.05723	0.042414	-1.349	0.181

The time period coefficients indicate that prices for these weapons were unaffected by the assault weapons ban. Most of the time dummies have negative signs, but their t score values are very small, indicating that prices during these periods did not differ meaningfully from those at the time when the ban was implemented. This is underscored graphically in Figure 4-2.

Figure 4-2. Semi-annual price trends for handguns commonly used in crime



Assault rifles: To investigate the ban's effect on assault rifle prices, we examined quarterly price trends for the Colt AR15 family, which includes the AR15 as well as Colt's Sporter, H-Bar, and Target models.²³ Referring to Table 4-3, the AR15 model was more expensive than other models. Further, guns which had special features/enhancements or a special designation of some sort had somewhat higher prices. Models in 7.62mm caliber were lower in price than other models, though this effect was not quite statistically significant. Finally, one distributor stood out as having lower prices than other distributors.

²³ A number of other manufacturers also made exact copies of the Colt AR15 (e.g., Essential Arms, Olympic Arms, and SGW Enterprises). We included a number of these copies on our price coding form before the ban and legal substitutes thereafter, but we did not find advertisements for these non-Colt versions in *Shotgun News*.

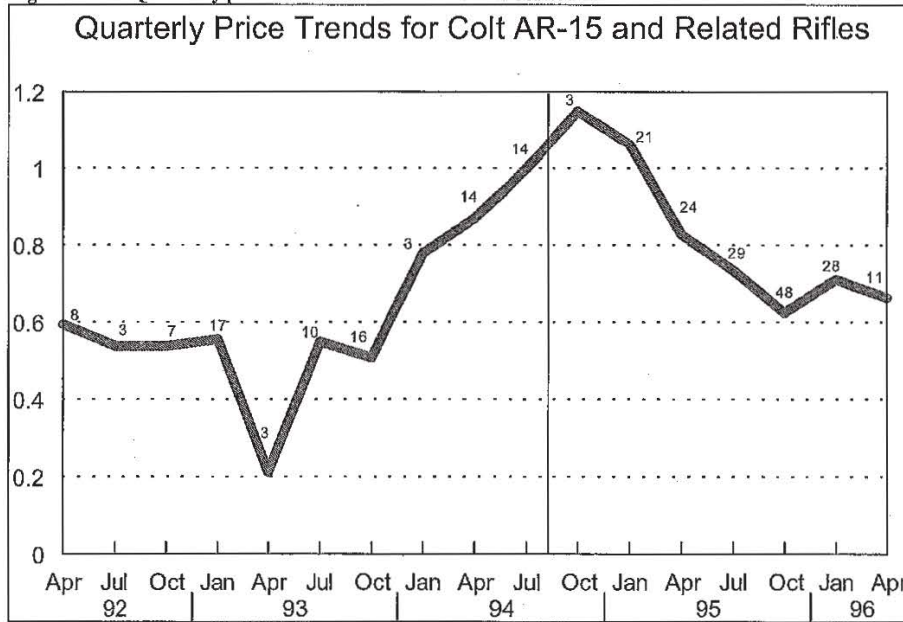
Table 4-3. Regression of Colt AR15 group prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
Source	DF	Sum of squares	Mean square	F value	Prob>F
Model	23	21.67729	0.94249	18.161	0.0001
Error	235	12.19537	0.05190		
C Total	258	33.87266			
Root MSE		0.22781		R-square	0.6400
Dep Mean		2.13335		Adj R-square	0.6047
C.V.		10.67826			
Parameter Estimates					
Variable	DF	Parameter estimate	Standard error	T for H0 parameter = 0	Prob> T
INTERCEP	1	2.714668	0.066599	40.762	0.0001
Q1	1	-0.52079	0.107749	-4.833	0.0001
Q2	1	-0.62023	0.149137	-4.159	0.0001
Q3	1	-0.62368	0.116786	-5.34	0.0001
Q4	1	-0.58506	0.083154	-7.036	0.0001
Q5	1	-1.54569	0.150793	-10.25	0.0001
Q6	1	-0.60339	0.095035	-6.349	0.0001
Q7	1	-0.68488	0.084707	-8.085	0.0001
Q8	1	-0.25158	0.14673	-1.715	0.0877
Q9	1	-0.14066	0.087217	-1.613	0.1081
Q11	1	0.143282	0.148951	0.962	0.3371
Q12	1	0.059189	0.082263	0.72	0.4725
Q13	1	-0.18904	0.07715	-2.45	0.015
Q14	1	-0.3144	0.075984	-4.138	0.0001
Q15	1	-0.46528	0.069595	-6.686	0.0001
Q16	1	-0.33741	0.079461	-4.246	0.0001
Q17	1	-0.40788	0.093078	-4.382	0.0001
DIST 5	1	-0.16586	0.044717	-3.709	0.0003
SPORTERL	1	-0.26691	0.042783	-6.239	0.0001
SPORTERC	1	-0.27709	0.057987	-4.778	0.0001
MATCH H-BAR	1	-0.28594	0.041454	-6.898	0.0001
TARGET	1	-0.30664	0.05565	-5.51	0.0001
FEATURE	1	0.1039	0.040315	2.577	0.0106
CAL762	1	-0.14924	0.092373	-1.616	0.1075

Turning to the quarterly indicator variables, the omitted period is quarter ten (July 1994 through September 1994). Most of the quarterly dummy variables have coefficients which are negative and significant, indicating that prices rose significantly at the time of the ban's implementation. Indeed, prices during the 1992–93 period were 41 to 79 percent lower than those at the time of the ban. The prices then began rising during 1994 and peaked during the quarter after the ban's implementation (however, prices during the latter period were not significantly different from those when the ban went into effect). These data reflect price increase of 69 to 100 percent over typical quarters during the 1992–93 period, and a 376 percent increase over the lowest price quarter during that period.

Quality-adjusted prices began to fall significantly during the second quarter of 1995. During the first two quarters of 1996, prices were 29 to 33 percent less than at the time of the ban.²⁴ These trends are illustrated in Figure 4-3.²⁵

Figure 4-3. Quarterly price trends for Colt AR-15 and related rifles.



Other Semiautomatic Rifles: A comparison price series was constructed for a small number of semiautomatic rifles not prohibited by the ban. The rifles selected for this analysis, the Ruger Mini-14 and Maadi rifles are arguably useful substitutes for the banned rifles for many purposes. The Mini-14 is a semiautomatic rifle which is relatively common among guns submitted to ATF for tracing.²⁶ The Maadi is an Egyptian semiautomatic rifle which is loosely patterned after the AK-47, but it is a legal gun, according to BATF experts.

²⁴ Colt has discontinued its AR15 models, but the company has continued to make post-ban, modified versions of other weapons in the AR15 family (e.g., the Sporter). We considered the possibility that the AR15 model would follow a different pre/post ban trend from the other Colt models. Based on the number of available observations, we estimated a yearly model for the AR15. Yearly prices for the AR15 followed the same basic pattern as did the entire AR15 group. Relative to 1994, prices for the AR15 were 57 percent lower in 1993 ($p < .01$), 39 percent lower in 1995 ($p = .02$), and 37 percent lower in 1996 ($p = .06$). In addition, we estimated a model containing dummy variables for the AR15 and the post-ban period and an interaction term between these dummy variables (no other time period dummies were included in the model). The interaction term was very small and insignificant, leading us to include that the price differential between the AR15 model and the other Colt models remained constant throughout the period under study.

²⁵ Because some quarterly estimates were based on very small numbers of advertisements, the exact values of the quarterly coefficients should be treated cautiously. Nevertheless, a semi-annual model produced the same pattern of results.

²⁶ Based upon figures provided by ATF, the Mini-14 ranked as the 23rd most common firearm submitted to ATF for tracing in 1992 and the 36th most common firearm submitted in 1993. The Ruger Mini-14 was also featured as a common assault weapon in an early study of assault weapons published by *Cox Newspapers* (1989). However, the Crime Act specifically exempts Mini-14's without folding stocks from assault weapons status.

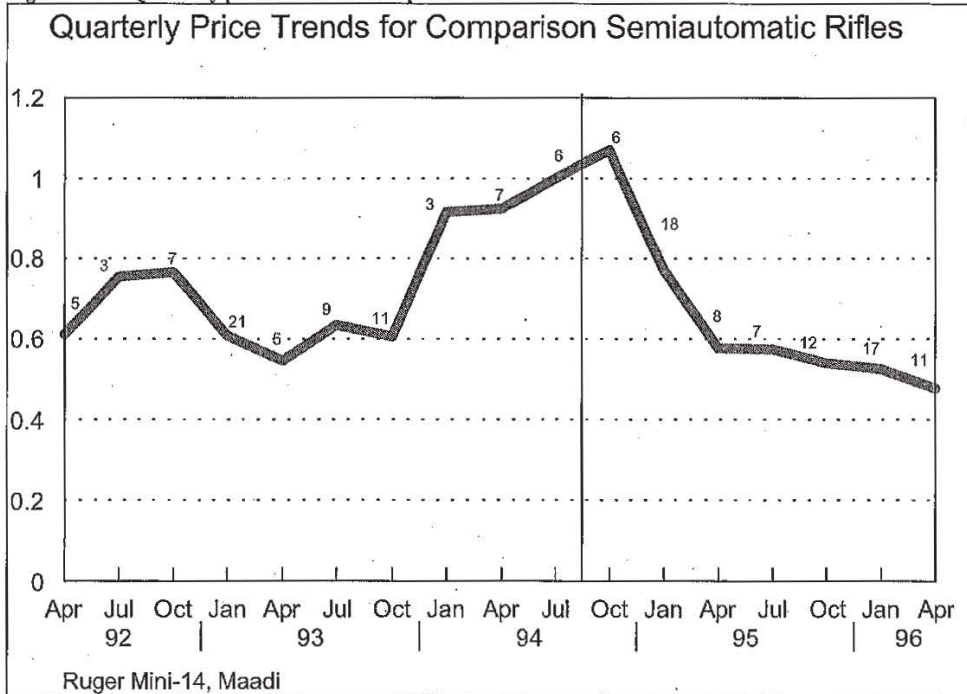
Further, the Maadi rifle has not been affected by import restrictions as have a number of other potential substitute rifles.

Table 4-4 and Figure 4-4 present trends for prices of these rifles (N=156) measured on a quarterly basis. The Ruger Mini-14 was significantly more expensive than was the Maadi, and a number of distributors had substantially lower or higher prices for these weapons. Guns having some sort of special feature or classification were somewhat less expensive than were other weapons.

Table 4-4. Regression of Ruger Mini-14 and Maadi rifle prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
Source	DF	Sum of squares	Mean square	F value	Prob>F
Model	23	15.72251	0.68359	12.468	0.0001
Error	132	7.23741	0.05483		
C Total	155	22.95993			
Root MSE		0.23416		R-square	0.6848
Dep Mean		1.11132		Adj R-square	0.6299
C.V.		21.06999			
Parameter Estimates					
Variable	DF	Parameter estimate	Standard error	T for H0 parameter = 0	Prob> T
INTERCEP	1	1.348039	0.096025	14.038	0.0001
Q1	1	-0.49339	0.150985	-3.268	0.0014
Q2	1	-0.28143	0.170394	-1.652	0.101
Q3	1	-0.26618	0.145198	-1.833	0.069
Q4	1	-0.49586	0.1189	-4.17	0.0001
Q5	1	-0.60429	0.149813	-4.034	0.0001
Q6	1	-0.45337	0.12651	-3.584	0.0005
Q7	1	-0.50108	0.123093	-4.071	0.0001
Q8	1	-0.08801	0.166538	-0.528	0.598
Q9	1	-0.07736	0.131103	-0.59	0.5561
Q11	1	0.06801	0.139693	0.487	0.6272
Q12	1	-0.26056	0.114103	-2.284	0.024
Q13	1	-0.55108	0.128193	-4.299	0.0001
Q14	1	-0.5565	0.137519	-4.047	0.0001
Q15	1	-0.61763	0.120067	-5.144	0.0001
Q16	1	-0.64124	0.119303	-5.375	0.0001
Q17	1	-0.73806	0.123765	-5.963	0.0001
RUGER	1	0.672197	0.055061	12.208	0.0001
DIST 2	1	-0.17779	0.079666	-2.232	0.0273
DIST 3	1	-0.08717	0.054575	-1.597	0.1126
DIST 4	1	-1.66399	0.242712	-6.856	0.0001
DIST 5	1	-0.19243	0.0727	-2.647	0.0091
DIST 7	1	0.235402	0.131826	1.786	0.0764
FEATURES	1	-0.08813	0.047131	-1.87	0.0637

Figure 4-4. Quarterly price trends for comparison semiautomatic rifles



The temporal price trends for these weapons mirror those found for the AR15 family rifles. Relative to the period of the ban's implementation, prices were significantly lower during periods before and after the ban's implementation. During 1992 and 1993, prices ranged from 23 to 45 percent lower than during the reference period. Prices were at their highest during 1994, with the peak occurring during the quarter following the ban's effective date, reflecting an increase of 82 percent from the 1992-93 low point to the immediate post-ban period. However, prices for the first, second, and fourth quarters of 1994 were not discernibly different from those during the third quarter. Prices began to fall significantly in 1995, and by the second quarter of 1996, prices were approximately 52 percent lower than during the quarter when the ban took effect.²⁷

Alternative Comparison for Semiautomatic Rifles: As a final test of price trends for potential substitute semiautomatic rifles, we added the SKS rifle to the semiautomatic rifles model. The SKS rifle is imported (there are Russian and Chinese versions) and is occasionally mistaken for an AK-47. The SKS was not covered by either the 1989 import ban or the Crime Act. We initially excluded it as a comparison semiautomatic rifle because importation was nominally restricted in 1994 as part of U.S. trade sanctions directed against China. However, SKS rifles have continued to enter the U.S. under the Craig Amendment exemption for goods already "on the water" when the trade sanctions were imposed. We added it to subsequent analysis because it has been relatively

²⁷ Because some of the quarterly periods yielded few observations, we also estimated a semi-annual model for these gun prices. The results of this model paralleled those of the quarterly model; prices were at their highest during the latter half of 1994 and were significantly lower throughout 1992, 1993, 1995, and early 1996.

common among gun traces submitted to BATF²⁸ and because our coders found over 550 ads for SKS rifles, making that gun the most frequently advertised weapon in *Shotgun News* from among those guns chosen for the analysis.

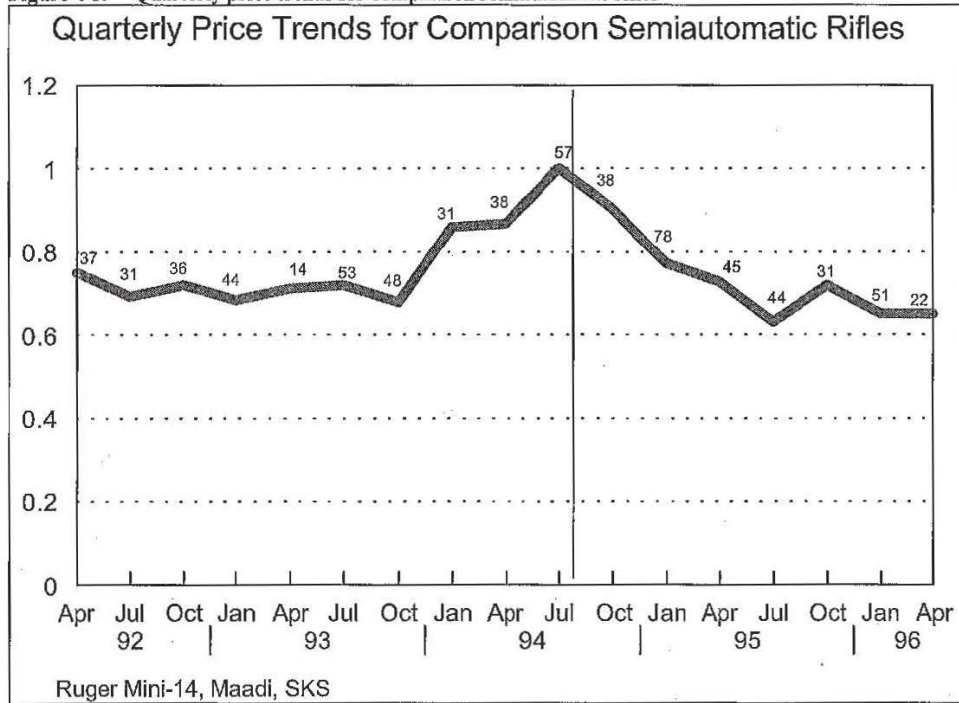
Results from a quarterly price trend model for 698 SKS, Ruger Mini-14, and Maadi AK-type advertisements are presented in Table 4-5 and Figure 4-5. Again, the results indicate that prices were highest during 1994 and peaked during the quarter of the ban's implementation (quarter ten). Prices during the 1992-93 period were generally 32 to 25 percent less than they were during the quarter of the ban's implementation. Following the ban, however, prices fell rather quickly, and by 1996 they were approximately 35 percent less than they had been at the time of the ban.

²⁸ Figures provided to us by BATF show that the SKS was the 10th most common firearm traced in 1992 and the 4th most common in 1993.

Table 4-5. Regression of Ruger Mini-14, Maadi, and SKS rifle prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
Source	DF	Sum of squares	Mean square	F value	Prob>F
Model	19	145.53206	7.65958	105.960	0.0001
Error	678	49.01094	0.07229		
C Total	697	194.54300			
Root MSE		0.26886		R-square	0.7481
Dep Mean		0.32139		Adj R-square	0.7410
C.V.		83.65546			
Parameter Estimates					
Variable	DF	Parameter estimate	Standard error	T for H0 parameter = 0	Prob> T
INTERCEP	1	0.320571	0.037047	8.653	0.0001
Q1	1	-0.29288	0.056985	-5.14	0.0001
Q2	1	-0.36758	0.060234	-6.103	0.0001
Q3	1	-0.32732	0.057937	-5.65	0.0001
Q4	1	-0.37657	0.056037	-6.72	0.0001
Q5	1	-0.33581	0.08099	-4.146	0.0001
Q6	1	-0.32629	0.051373	-6.351	0.0001
Q7	1	-0.39266	0.052767	-7.441	0.0001
Q8	1	-0.15306	0.060298	-2.538	0.0114
Q9	1	-0.13647	0.056349	-2.422	0.0157
Q11	1	-0.09587	0.056591	-1.694	0.0907
Q12	1	-0.25553	0.047168	-5.417	0.0001
Q13	1	-0.32473	0.053753	-6.041	0.0001
Q14	1	-0.457	0.054492	-8.387	0.0001
Q15	1	-0.32702	0.06053	-5.403	0.0001
Q16	1	-0.43303	0.052708	-8.216	0.0001
Q17	1	-0.42588	0.068581	-6.21	0.0001
MAADI	1	0.855348	0.032324	26.462	0.0001
RUGER	1	1.363013	0.036904	36.934	0.0001
FEATURES	1	0.093431	0.02203	4.241	0.0001

Figure 4-5. Quarterly price trends for comparison semiautomatic rifles



4.1.3. Magazine Prices

Since the Crime Act permanently capped the stock of large-capacity magazines at the number produced before September 13, 1994, our long-run expectations about price trends for the banned magazines depend on whether or not the ban prevented increases in the supply of “compatible” guns that accept the magazine. For compatible guns whose supply continued to increase — such as the unbanned Ruger Mini-14 rifle and Glock pistols and the AR-15 family of rifles, for which legal substitutes emerged — we expect a gradual long-run increase in the price of the large-capacity magazines. Only for compatible guns such as Uzi models, whose supply was capped because legal substitutes did not emerge, do we expect stable or declining long-run magazine prices as the operational stock of banned guns gradually declines.

In the short run, which is all we can observe at this time, we expect at least three confounding factors to divert large-capacity magazine prices from these trends. First, as with the banned guns, speculative demand for the banned magazines may have caused prices to rise and then fall around the time of the ban. Second, because guns and magazines are economic complements, their prices may be likely to move in opposite directions. Third, for banned guns such as the AR-15 and Uzi models, which are mechanically identical to military weapons, there are military surplus supplies that we believe are huge relative to civilian demand. For these reasons, short-run price trends are a poor guide to long-run price trends for large-capacity magazines.

With these reservations in mind, we examined price trends for large-capacity magazines (i.e., magazines holding more than 10 rounds) manufactured for use with banned firearms and compared them to trends for large-capacity magazines made for unbanned semiautomatic weapons. Selection of firearm models was based on both theoretical relevance and available sample sizes. To improve the generalizeability of the results, we attempted to

analyze magazine prices for both handguns and long guns and for both banned and non-banned weapons. The methodology for the magazine price analysis was essentially the same as that used in the firearm price analysis.²⁹ As in the firearm price analysis, our quality control variables consisted primarily of indicator variables corresponding to manufacturers and distributors. An additional key variable for the magazine analysis was the number of rounds held by the magazine (logged).³⁰

Assault weapon handgun magazines—Uzi: Our analysis of large-capacity magazines prices for assault weapons focused upon the 9mm Uzi handgun.³¹ Though importation of the Uzi handgun had been discontinued in 1993 (Fjestad 1996, p.1049), our coders found ads for Uzi magazines (N=117) more frequently than for other assault weapon handguns.³² Even so, the number of observations was as low as 1-2 for some quarterly periods, and we therefore grouped the data into semi-annual time periods. There is no legal substitute for the banned Uzis that accepts the same magazine.

Regression results for Uzi magazine prices are presented in Table 4-6 and price trends are displayed in Figure 4-6. Controlling for the number of rounds held by the magazine, semi-annual prices during the January 1992 through June 1994 period ranged from approximately 52 to 62 percent of their value during the latter half of 1994. Prices peaked in the first half of 1995, rising another 56 percent, to a tripling of their 1992–94 lowest prices. Prices began to fall in the latter half of 1995 and the first half of 1996, but they did not differ significantly from prices during the latter half of 1994.

²⁹ Project staff recorded information on all advertisements for magazines holding more than 10 rounds which appeared in the selected issues of *Shotgun News*. However, the volume of collected data required us to pursue a data reduction strategy. Based on informal inspection of the hardcopy data, therefore, we chose a group of magazines which appeared relatively more frequently and which had relevance as a banned weapon or legal substitute.

³⁰ Other potentially important characteristics are whether the magazine was new or used and the type of metal from which the magazine was made. Ads often did not state whether magazines were new or used, and our research staff did not record this information. Our working assumption is that the magazines were new or in good working condition. If an ad featured the same magazine manufactured with different types of metals, we used the base price magazine. If the coding form indicated that the advertisement featured only magazines made from special materials (e.g., stainless steel), we made note of this characteristic. There were very few such cases, and preliminary analyses using an indicator variable for the presence of a special metal showed the variable to have no impact in any of the models discussed in the main text.

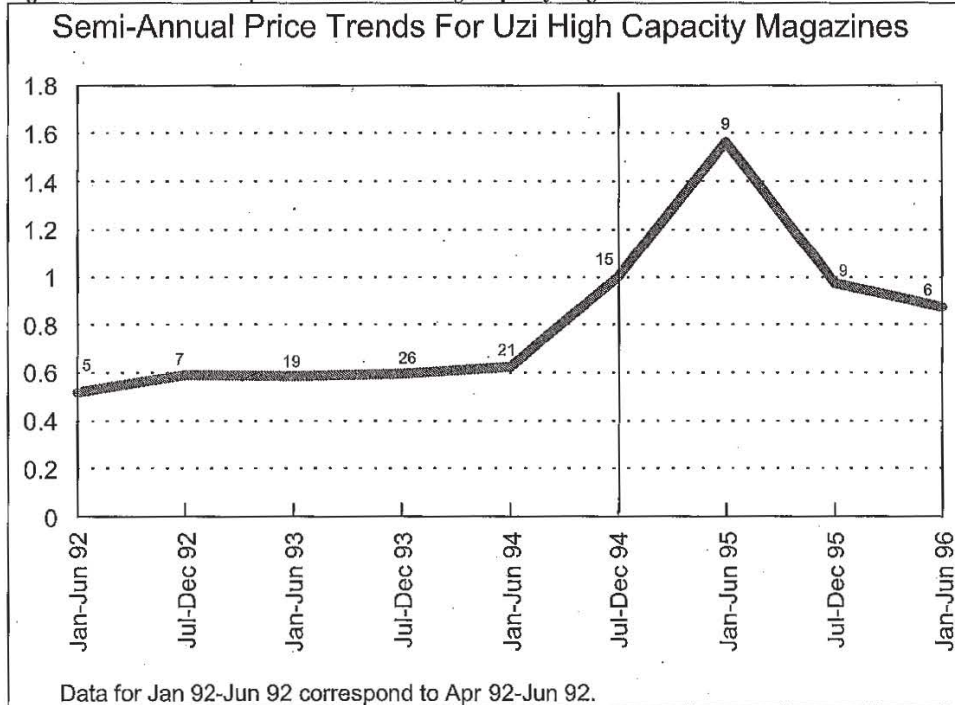
³¹ The Uzi was previously manufactured and imported to the U.S. in both carbine and handgun versions, but the carbine versions were banned from importation in 1989.

³² The relative frequency of Uzi magazine advertisements is probably due to the fact that the Uzi is a military weapon. Firearms experts have informed us that good quality, military surplus magazines are commonly available and are often sold cheaply.

Table 4-6. Regression of Uzi large-capacity magazine prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	9	12.80484	1.42276	9.670	0.0001
Error	107	15.74298	0.14713		
C Total	116	28.54782			
Root MSE		0.38358		R-square	0.4485
Dep Mean		-1.65739		Adj R-square	0.4022
C.V.		-23.14337			
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	-3.835055	0.54716949	-7.009	0.0001
ROUNDS	1	0.729783	0.15350538	4.754	0.0001
T1	1	-0.661263	0.19914123	-3.321	0.0012
T2	1	-0.525479	0.17560540	-2.992	0.0034
T3	1	-0.536934	0.13325422	-4.029	0.0001
T4	1	-0.515880	0.12659037	-4.075	0.0001
T5	1	-0.474834	0.12970256	-3.661	0.0004
T7	1	0.447430	0.16646042	2.688	0.0083
T8	1	-0.027967	0.16286070	-0.172	0.8640
T9	1	-0.137577	0.18908164	-0.728	0.4684

Figure 4-6. Semi-annual price trends for Uzi large-capacity magazines



Other Handgun Magazines: To provide price trends for large-capacity magazines manufactured for non-banned handguns, we examined large-capacity magazines for Glock 9mm handguns. Prior to the Crime Act, Glock sold several handgun models with large-capacity magazines. The most common, the Glock 17, was among the ten firearm models submitted most frequently to ATF for tracing in 1994 (BATF 1995a). Guns currently manufactured by Glock are capable of accepting Glock's pre-ban large-capacity magazines, but the supply is limited to magazines made before the ban.

Project staff found 74 advertisements for Glock magazines, but the large majority of these ads were placed after the ban (only nine ads were pre-ban) and there were no ads for 1992. It was therefore necessary to group the advertisements into yearly periods rather than quarterly or semi-annual periods. Regression results and price trends for 1993 through 1996 are shown in Table 4-7 and Figure 4-7 respectively. In general, magazines with greater numbers of rounds were more expensive. In addition, a number of distributors had higher prices for these magazines, and magazines for one particular model were more expensive at a moderate level of statistical significance.³³

³³ For the model dummy variables, the excluded category included magazines for which no model was indicated.

Table 4-7. Regression of Glock large-capacity handgun magazine prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	10	29.85755	2.98575	28.020	0.0001
Error	91	9.69680	0.10656		
C Total	101	39.55434			
Root MSE		0.32643		R-square	0.7548
Dep Mean		-0.86656		Adj R-square	0.7279
C.V.		-37.66991			
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	-3.37422	0.56384	-5.984	0.0001
ROUNDS	1	0.618327	0.197724	3.127	0.0024
Y93	1	-0.95884	0.17246	-5.56	0.0001
Y95	1	0.064606	0.108817	0.594	0.5542
Y96	1	0.2227	0.143595	1.551	0.1244
DIST 10	1	0.529244	0.279526	1.893	0.0615
DIST 12	1	0.601322	0.162505	3.7	0.0004
DIST 3	1	0.37606	0.17071	2.203	0.0301
DIST 5	1	0.980483	0.101626	9.648	0.0001
M17	1	0.198804	0.108878	1.826	0.0711
M19	1	0.169323	0.112614	1.504	0.1362

Figure 4-7. Yearly price trends for Glock large-capacity handgun magazines



Most importantly, prices for large-capacity Glock magazines were 62 percent lower in 1993 than they were in 1994. Prices remained high through 1995, and they increased another 25 percent in 1996 (relative to 1994), though this increase was not statistically significant by conventional standards.

Assault rifle magazines — AR15 Family: Pre-ban large-capacity magazines manufactured by Colt for their AR15's and related rifles can be utilized with the post-ban, modified versions of these rifles. Consequently, we expected that there would be a continuing demand for these magazines.

Project staff recorded 364 ads for large-capacity magazines (.223 caliber) made to fit the AR15 and related rifles. Results from our analysis of quarterly price trends for these magazines are shown in Table 4-8 and Figure 4-8. Magazines having larger ammunition capacities were more expensive as were those magazines for which Colt was listed explicitly as the manufacturer.³⁴ In addition, prices tended to differ significantly between distributors.

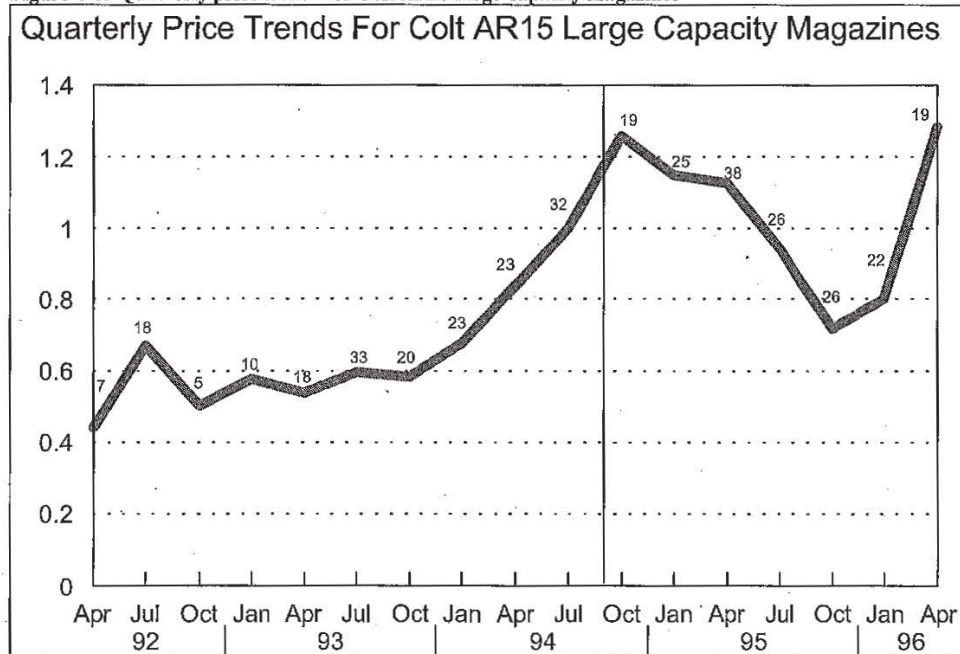
During the quarters of 1992 and 1993, prices were anywhere from 33 to 56 percent lower than during the third quarter of 1994. Prices rose further during the last quarter of 1994 and remained high through the first three quarters of 1995. In the last quarter of 1995 and the first quarter of 1996, prices fell though they remained higher than their pre-ban levels. Prices then rebounded in the second quarter of 1996, reaching a peak value comparable to the last quarter of 1995 (prices were approximately 29 percent higher than during the quarter when the ban took effect). Gun market experts have suggested to us that these short-run fluctuations reflect intermittent availability of military surplus M-16 magazines, which are compatible with the AR-15 family of rifles.

³⁴ Though firearms usually require magazines made by the same manufacturer, a number of manufacturers other than Colt make magazines which can fit Colt rifles.

Table 4-8. Regression of Colt AR15 group large-capacity magazine prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
Source	DF	Sum of squares	Mean square	F value	Prob>F
Model	26	122.28012	4.70308	33.836	0.0001
Error	337	46.84153	0.13900		
C Total	363	169.12165			
Root MSE		0.37282		R-square	0.7230
Dep Mean		-1.65183		Adj R-square	0.7017
C.V.		-22.57021			
Parameter Estimates					
Variable	DF	Parameter estimate	Standard error	T for H0: parameter = 0	Prob> T
INTERCEP	1	-5.34744	0.194896	-27.437	0.0001
ROUNDS	1	1.025757	0.046243	22.182	0.0001
CLT	1	0.184123	0.063507	2.899	0.004
DIST 2	1	0.385288	0.283893	1.357	0.1756
DIST 3	1	0.10778	0.078807	1.368	0.1723
DIST 4	1	-0.40188	0.129797	-3.096	0.0021
DIST 5	1	0.134623	0.068759	1.958	0.0511
DIST 7	1	-0.41214	0.13435	-3.068	0.0023
DIST 10	1	0.137861	0.080196	1.719	0.0865
DIST 11	1	-0.36298	0.168942	-2.149	0.0324
DIST 12	1	0.215247	0.085722	2.511	0.0125
Q1	1	-0.82099	0.158248	-5.188	0.0001
Q2	1	-0.39767	0.115668	-3.438	0.0007
Q3	1	-0.68998	0.181038	-3.811	0.0002
Q4	1	-0.55199	0.137727	-4.008	0.0001
Q5	1	-0.61893	0.115858	-5.342	0.0001
Q6	1	-0.52304	0.093025	-5.623	0.0001
Q7	1	-0.54396	0.107619	-5.055	0.0001
Q8	1	-0.38921	0.102709	-3.789	0.0002
Q9	1	-0.17713	0.104247	-1.699	0.0902
Q11	1	0.229259	0.11575	1.981	0.0484
Q12	1	0.13716	0.107928	1.271	0.2047
Q13	1	0.115077	0.099774	1.153	0.2496
Q14	1	-0.05869	0.106556	-0.551	0.5821
Q15	1	-0.32639	0.107409	-3.039	0.0026
Q16	1	-0.21758	0.109759	-1.982	0.0482
Q17	1	0.252132	0.117683	2.142	0.0329

Figure 4-8. Quarterly price trends for Colt AR15 large-capacity magazines



Comparison Semiautomatic Rifle Magazines — Ruger Mini-14: Quarterly price regression results for large-capacity magazines made for the Ruger Mini-14 rifle are shown in Table 4-9. Magazines with the Ruger name and larger magazines were more expensive than other magazines.³⁵ Further, prices differed significantly among distributors.

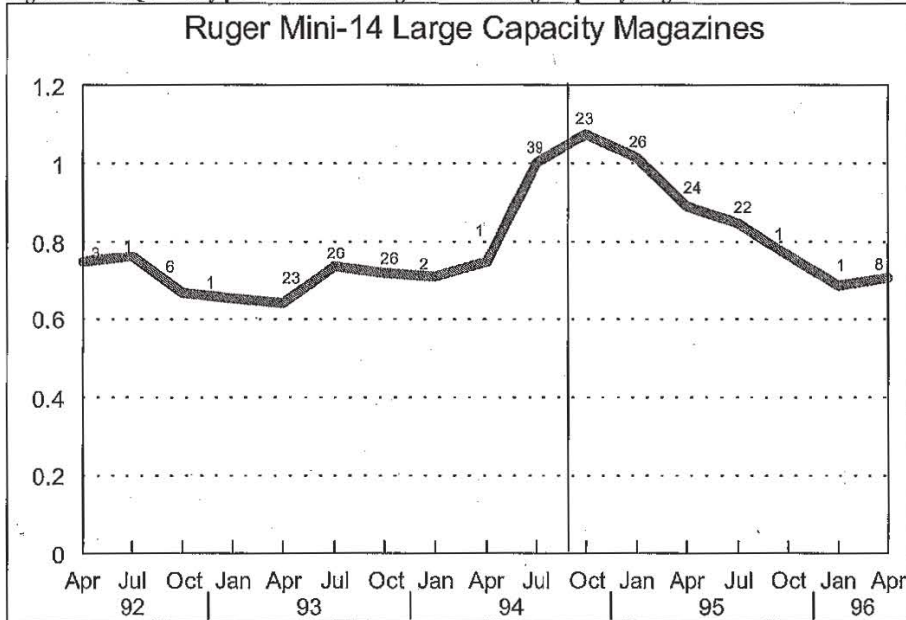
³⁵ A number of manufacturers besides Ruger made large-capacity magazines to fit the Mini-14.

Table 4-9. Regression of Ruger Mini-14 large-capacity magazine prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
Source	DF	Sum of squares	Mean square	F value	Prob>F
Model	26	64.39474	2.4672	34.029	0.0001
Error	303	22.05342	0.07278		
C Total	329	86.44816			
Root MSE		0.26978		R-square	0.7449
Dep Mean		-1.72827		Adj R-square	0.7230
C.V.		-15.61009			
Parameter Estimates					
Variable	DF	Parameter estimate	Standard error	T for H0 parameter = 0	Prob> T
INTERCEP	1	-4.41607	0.145547	-30.341	0.0001
ROUNDS	1	0.836435	0.036639	22.829	0.0001
RUG	1	0.264903	0.061061	4.338	0.0001
DIST 2	1	-0.3889	0.17264	-2.253	0.025
DIST 3	1	-0.13012	0.072105	-1.805	0.0721
DIST 4	1	-0.57328	0.126483	-4.532	0.0001
DIST 5	1	-0.40885	0.066235	-6.173	0.0001
DIST 7	1	-0.5319	0.278193	-1.912	0.0568
DIST 10	1	-0.26988	0.074589	-3.618	0.0003
DIST 11	1	-0.1793	0.164002	-1.093	0.2751
DIST 12	1	0.324892	0.094116	3.452	0.0006
Q1	1	-0.29169	0.178205	-1.637	0.1027
Q2	1	-0.27167	0.08733	-3.111	0.002
Q3	1	-0.40486	0.122507	-3.305	0.0011
Q4	1	-0.425	0.082811	-5.132	0.0001
Q5	1	-0.44577	0.073027	-6.104	0.0001
Q6	1	-0.30726	0.070368	-4.366	0.0001
Q7	1	-0.33086	0.069189	-4.782	0.0001
Q8	1	-0.34428	0.074365	-4.63	0.0001
Q9	1	-0.29213	0.078927	-3.701	0.0003
Q11	1	0.071176	0.074263	0.958	0.3386
Q12	1	0.013922	0.07447	0.187	0.8518
Q13	1	-0.11436	0.073432	-1.557	0.1204
Q14	1	-0.1658	0.075341	-2.201	0.0285
Q15	1	-0.26924	0.081055	-3.322	0.001
Q16	1	-0.37783	0.084169	-4.489	0.0001
Q17	1	-0.34628	0.111216	-3.114	0.002

The quarterly indicators in Table 4-9 and the graphic illustration in Figure 4-9 show that quarterly prices prior to the ban were 64 to 76 percent of their level at the time of the ban. By late 1995, prices of these magazines were falling significantly, and by 1996 they had fallen to levels comparable to pre-ban prices.

Figure 4-9. Quarterly price trends for Ruger Mini-14 large-capacity magazines



4.1.4. Summary of Large-Capacity Magazine Price Trends

In summary, short-run price trends for four examples of banned large-capacity magazines appeared to depend on the legal status of the guns they fit, speculative demand for the guns and magazines, and the availability of military surplus magazines. All four magazine prices rose substantially during the period of debate over the ban, reflecting anticipatory demand. However, their price trends diverged substantially after that point. For a banned assault pistol (the 9mm Uzi) for which no legal substitute emerged, the post-ban magazine price fell to a level between its peak and its pre-speculation level and remained there. For a banned rifle (Colt AR-15) for which legal substitutes emerged and the gun price fell sharply after the ban, post-ban magazine prices fluctuated dramatically, apparently because of variations in the availability of military surplus M-16 magazines. For unbanned Glock pistols, whose supply continued to grow, the post-ban magazine price continued to rise throughout the post-ban period, though at a slower rate than during the pre-ban speculation; this is consistent with the expected long-term price trend. Finally, prices for large-capacity Ruger Mini-14 magazines appear to have followed speculative trends similar to those for the rifles themselves.

4.2. PRODUCTION TRENDS

Analyses reported in Section 4.1 found substantial pre-ban price increases for two major categories of assault weapons that were examined: SWD and related handguns (+47 percent), the AR-15 assault rifle family (+69 percent to +100 percent, at minimum). A comparison group of unbanned semiautomatic rifles including the domestically produced Ruger Mini-14 showed a pre-ban price increase of 82 percent. But strikingly, a comparison group of inexpensive Davis and Lorcin semiautomatic handguns showed no discernible price change during the 4-year period that included the effective date of the ban.

In the introduction to this chapter, we hypothesized that weapons whose prices increased during the pre-ban period would also show increases in production. To test that hypothesis, we were able to obtain annual

production data from the Violence Policy Center for three of the four weapon categories above: the SWD, AR-15, and Davis/Lorcin groups.³⁶ The data extend through 1994, the year of the ban and the last year for which production data are available.

The production data for these three groups are shown in Figure 4-10, Figure 4-11, and Figure 4-12, and they strongly support the hypothesis that pre-ban price speculation was associated with increases in production. As shown there, the SWD and AR-15 groups show substantial increases in production in 1993 and 1994, the years when prices were increasing in advance of the ban. Production increases of similar magnitude appear for two other categories of banned assault weapons that could not be included in the price analysis: the Intratec/AA Arms group, and Calico and Feather Industries rifles, which are banned by the features test.³⁷ In contrast, the Davis/Lorcin handgun group showed decreased production relative to both 1993 and their 1989–93 average.

Table 4-10 summarizes production data for five typical groups of banned assault weapons and the Lorcin/Davis comparison group of small-caliber semiautomatic pistols. For each weapon type, the table reports 1994 production, average 1989–93 production, and the ratio of 1994 production to the average over the period. On average, 1994 assault weapon production exceeded the 1989–93 average by a ratio of 2.233 during the nine months before the ban took effect. In contrast, 1994 production for the Lorcin/Davis comparison group was only 65.2 percent of the 1989–93 average.

Table 4-10. Production trends for banned assault weapons and comparison guns

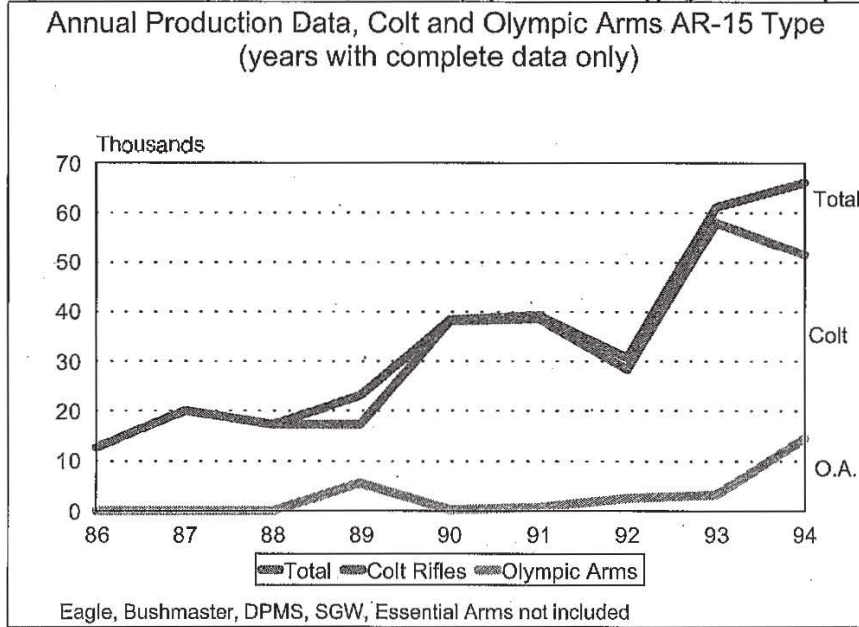
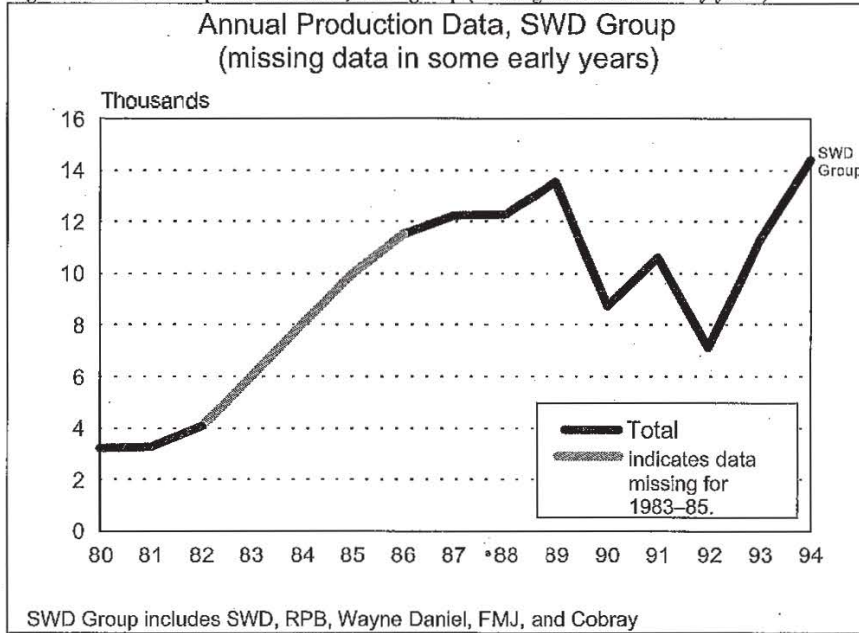
<i>Firearm type</i>	(1) <i>1994 production</i>	(2) <i>1989–93 average production</i>	(3) <i>Ratio [(1)/(2)]</i>	(4) <i>"Excess" production [(1)-(2)]</i>
AR-15 group	66,042	38,511	1.714	27,531
Intratec 9mm, 22	102,682	33,578	3.058	69,104
SWD family (all) & MAC (all)	14,380	10,508	1.368	3,872
AA Arms	17,280	6,561	2.633	10,719
Calico 9mm, 22	3,194	1,979	1.613	1,215
Lorcin, Davis	184,139	282,603	0.652	
Assault Weapon Total*	203,578	91,137	2.233	112,441

*Assault weapon total excludes Lorcin/Davis group

Table 4-10 also displays "excess" production, the difference between 1994 production and 1989–93 average production. Excess 1994 production for the five assault weapon types shown in the table was approximately 112,000, which were added to the stock of grandfathered assault weapons eligible for resale after the ban took effect.

³⁶ BATF production data for rifles are not disaggregated by model or caliber. While we could be confident that nearly all Colt's rifles belong to the AR-15 family and could therefore use Colt's rifle production data as an index of AR-15 production, Sturm, Ruger produces too many rifles besides the Mini-14 for us to have a reliable index of Mini-14 production.

³⁷ It may be of interest that the Intratec, SWD, and Calico/Feather groups, but not the AR-15 group, also had production peaks in 1989, the year of the assault weapon import ban.

Figure 4-10. Annual production data, Colt and Olympic Arms AR-15 type (years with complete data only)**Figure 4-11. Annual production data, SWD group (missing data in some early years)**

CERTIFICATE OF SERVICE

Case Name: **Duncan, Virginia et al v. Xavier** No. **19-55376**
Becerra _____

I hereby certify that on July 15, 2019, I electronically filed the following documents with the Clerk of the Court by using the CM/ECF system:

APPELLANT'S EXCERPTS OF RECORD VOLUME TWO

I certify that **all** participants in the case are registered CM/ECF users and that service will be accomplished by the CM/ECF system.

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on July 15, 2019, at Los Angeles, California.

Beth L. Gratz
Declarant

s/ Beth L. Gratz
Signature

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