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UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

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

Plaintiffs,

v.

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

Defendants.

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

EXHIBITS HH-RR TO THE DECLARATION OF ANNA M. BARVIR IN SUPPORT OF PLAINTIFFS' MOTION FOR PRELIMINARY INJUNCTION

EXHIBITS

TABLE OF CONTENTS

Exhibit Letter	Description	Page Numbers
E	Gun Digest 2013 (Jerry Lee ed., 67th ed. 2012)	000028-118
F	Website pages for Glock "Safe Action" Gen4 Pistols, Glock; M&P®9 M2.0™, Smith & Wesson; CZ 75 B, CZ-USA; Ruger® SR9®, Ruger; P320 Nitron Full-Size, Sig Sauer	000119-157
G	Pages 73-97 from The Complete Book of Autopistols: 2013 Buyer's Guide (2013)	000158-183
H	David B. Kopel, The History of Firearm Magazines and Magazine Prohibitions, 78 Albany L. Rev. 849	000184-220
I	Pages 168-70 of Lewis Winant, Firearms Curiosa (2009) (1st pub. 1954)	000221-226
J	Pages 716-18 of Clayton E. Cramer & Joseph Olson, Pistols, Crime, and Public Safety in Early America, 44 Willamette L. Rev. 699 (2008)	000227-230
K	Pages 91-103 of Jim Garry, Weapons of the Lewis and Clark Expedition (2012)	000231-246
L	Pages 69-70 of John Plaster, The History of Sniping and Sharpshooting (2008)	000247-251
M	Page 31 of Jim Supica, Doug Wicklund & Philip Shreier, Treasures of the NRA National Firearms Museum (2013)	000252-255
N	Wikipedia page for the Girandoni Air Rifle	000256-259
O	Pages 682-83 of Norm Flayderman, Flayderman's Guide to Antique American Firearms and Their Values (9th ed. 2007)	000260-264

P	Page 33 of Jim Supica, Doug Wicklund & Philip Shreier, Treasures of the NRA National Firearms Museum (2013)	000265-268
Q	Pages 148-49 and 167 of Jack Dunlap, American British and Continental Pepperbox Firearms (1964)	000269-274
R	Page 250 from Lewis Winant, Firearms Curiosa (2009) (1st pub. 1954)	000275-278
S	Pages 711, 713, and 716 of Norm Flayderman, Flayderman's Guide to Antique American Firearms and Their Values (9th ed. 2007)	000279-284
T	Pages 13 and 25 of Harold F. Williamson, Winchester: The Gun That Won the West (1952)	000285-289
U	Pages 304-06 of Norm Flayderman, Flayderman's Guide to Antique American Firearms and Their Values (9th ed. 2007)	000290-295
V	Pages 11 and 32 of R.L. Wilson, Winchester: An American Legend (1991)	000296-300
W	Pages 128-29 of Louis A. Garavaglia & Charles G. Worman, Firearms of the American West (1985)	000301-305
X	Pages 307-12 of Norm Flayderman, Flayderman's Guide to Antique American Firearms and Their Values (9th ed. 2007)	000306-314
Y	Pages 137, 1240-41 of the 2014 Standard Catalogue of Firearms (Jerry Lee ed. 2013)	000315-320
Z	Pages 122-23 of Norm Flayderman, Flayderman's Guide to Antique American Firearms and Their Values (9th ed. 2007)	000321-325

AA	Pages 60-63, 67-71, 204-208, 244-45 of Lewis Winant, Firearms Curiosa (2009) (1st pub. 1954)	000326-344
BB	Pages 708-09 of the 2014 Standard Catalog of Firearms	000345-349
CC	Pages 191-92 of Jim Perkins, American Boys Rifles 1890-1945 (1976)	000350-354
DD	Page 84 of the 2014 Standard Catalog of Firearms (Jerry Lee ed. 2013)	000355-358
EE	Page 859 of David B. Kopel, The History of Firearm Magazines and Magazine Prohibitions, 78 Albany L. Rev. 849	000359-361
FF	Page 104 of Patrick Sweeney, Gun Digest Book of the AR-15 (2005)	000362-365
GG	Page 294 of Gun Digest 24th Anniversary Deluxe Edition (John T. Amber ed. 1969)	000366-369
HH	Page 1102 of 2014 Standard Catalogue of Firearms (Jerry Lee ed. 2013)	000370-373
II	Page 1173 of the 2014 Standard Catalog of Firearms (Jerry Lee ed. 2013)	000374-377
JJ	Pages 182-183, 432-433 of the 2014 Standard Catalogue of Firearms (Jerry Lee ed. 2013)	000378-384
KK	Pages 464-66 of the 2014 Standard Catalogue of Firearms (Jerry Lee ed. 2013)	000385-390
LL	Pages 72-73 of the 2014 Standard Catalogue of Firearms and pages 216-17 of Joseph J. Shroeder, Jr., System Mauser, a Pictorial History of the Model 1896 Self-Loading Pistol (1967)	000391-399
MM	Pages 121-26 of the 2014 Standard Catalogue of Firearms	000400-408

NN	Page 184 of the 2014 Standard Catalogue of Firearms (Jerry Lee ed. 2013)	000409-412
OO	What Should America Do About Gun Violence? Full Comm. Hr'g Before U.S. Sen. Jud. Comm., 113th Cong. at 11 (2013)	000413-449
PP	Pages 1-3, 14-19, 61-67, 80-97 of Christopher S. Koper, Daniel J. Woods & Jeffrey A. Roth, An Updated Assessment of the Federal Assault Weapons Ban: Impacts on Gun Markets and Gun Violence, 1994-2003 (Nat'l Instit. J. 2004)	000450-486
QQ	Gary Kleck, Large-Capacity Magazines and the Casualty Counts in Mass Shootings: The Plausibility of Linkage, 17 J. Research & Pol'y 28 (2016)	000487-507
RR	U.S. Dept. of Justice, Bureau of Justice Statistics, National Crime Victimization Survey, Criminal Victimization in the United States, 2008 Statistical Tables, Table 37 (Mar. 2009)	000508-511
SS	Five Gunfighting Myths Debunked by Massad Ayoob, Personal Defense World (Oct. 14, 2014)	000512-519
TT	Jacob Sullum, *The Threat Posed by Gun Magazine Limits* (Jan. 13, 2016)	000520-522
UU	Massad Ayoob, *Why Good People Need Semiautomatic Firearms and "High Capacity" Magazines, Part I*, backwoodshome.com (Dec. 29, 2012)	000523-546
VV	Charles Remsberg, *Why One Cop Carries 145 Rounds of Ammo on the Job*, PoliceOne (Apr. 17, 2013)	000547-550

WW	Gus G. Sentementes & Julie Bykowicz, *Documents Detail Cross Keys Shooting*, Balt. Sun (Mar. 21, 2006)	000551-553
XX	*Gun Shop Owner Shoots, Kills Man During Attempted Robbery*, WIS TV (Aug. 9, 2012)	000554-556
YY	Nieson Himmel, *Police Say Watch Shop Owner Kills 4th, 5th Suspects*, L.A. Times (Feb. 21, 1992)	000557-559
ZZ	*Jewelry Store Burglarized, Scene of Deadly 1994 Robbery Attempt*, nbc12.com (2012)	000560-562
AAA	*The UT Tower Shooting*, Tex. Monthly	000563-564
BBB	Mark Obmascik, Marilyn Robinson & David Olinger, *Columbine - Tragedy and Recovery: Officials Say Girlfriend Bought Guns*, denverpost.com (Apr. 27, 1999)	000565-567
CCC	Rong Gong Lin II, *Gunman Kills 12 at 'Dark Knight Rises' Screening in Colorado*, L.A. Times (Jul. 20, 2012)	000568-571
DDD	Associated Press, *Ft. Hood shooter Nidal Hasan Used Private, Legally-bought Pistol - Not Military Weapon - In Rampage*, N.Y. Daily News (Nov. 7, 2009)	000572-573
EEE	Steve Almasy, *Newtown Shooter's Guns: What We Know*, cnn.com (last updated Dec. 19, 2012 10:11 a.m. EST)	000574-579
FFF	*Virginia Tech Review Panel, Mass Shootings at Virginia Tech April 16, 2007: Report of the Review Panel* 89, 101 (Aug. 2007)	000580-581
GGG	Richard Winton, Rosanna Xia & Rong-Gong Lin II, *Isla Vista Shooting: Read Elliot Rodger's Graphic, Elaborate, Attack Plan*, L.A. Times (May 25, 2014)	000582-594
HHH	*2014 Isla Vista Killings*, Wikipedia (last updated May 25, 2017 to correct typo)	000595-596

III	*Umpqua Community College Shooting*, Wikipedia (last updated May 25, 2017 to undo prior revision)	000597-598
JJJ	Spencer Kimball, *San Bernardino: Guns, Mass Shootings and Fears of Terrorism*, www.dw.com (Apr. 12, 2015)	000599-602
KKK	Bart Jansen, *Weapons Gunman Used in Orlando Shooting Are High-Capacity, Common*, USA Today (Jun. 14, 2016)	000603-605
LLL	WFTV-Orlando, *Law Enforcement Source: 202 Rounds Fired During Pulse Nightclub Shooting in Orlando*, wscotv.com (Jun. 13, 2016)	000606-608

EXHIBIT HH

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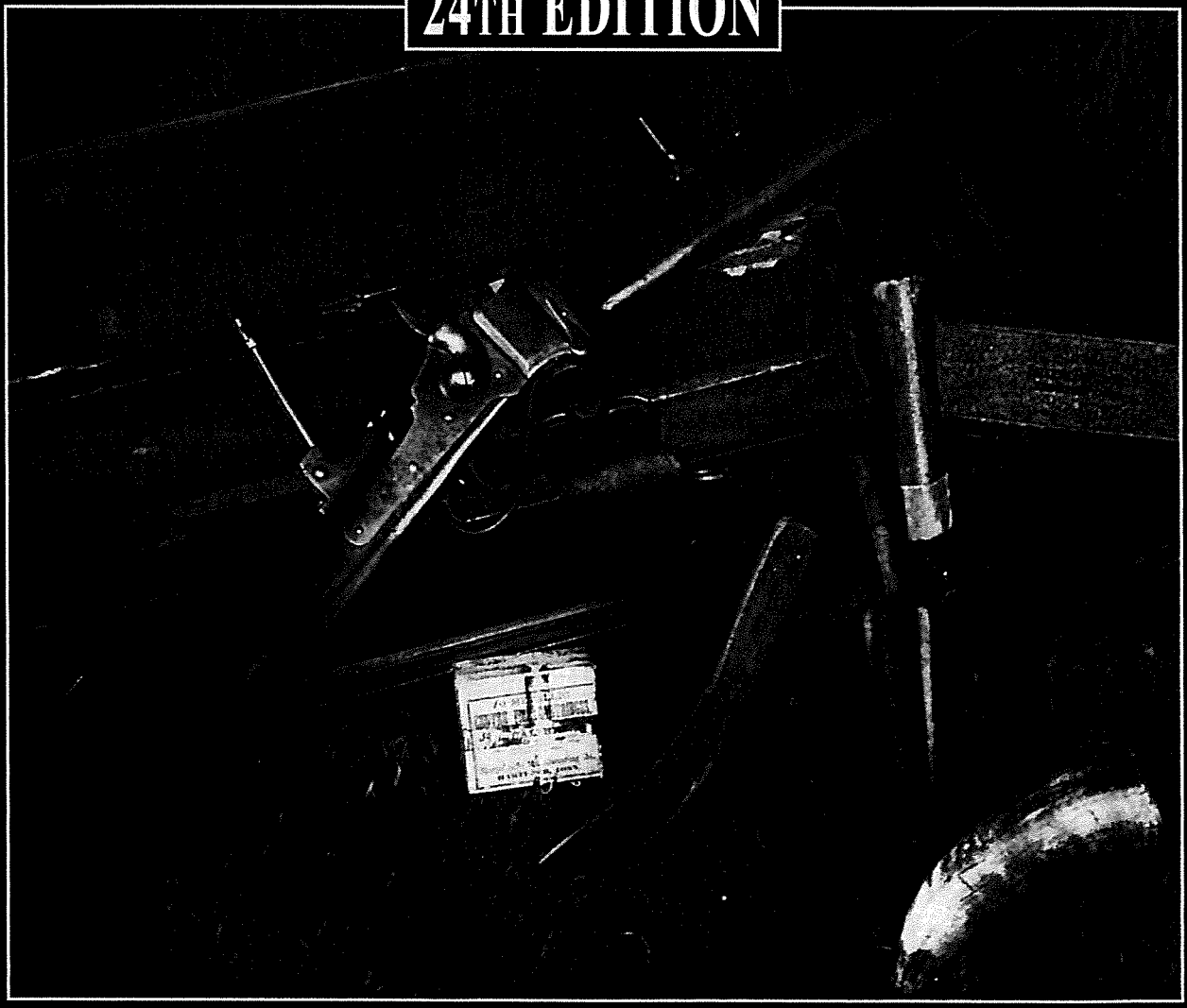

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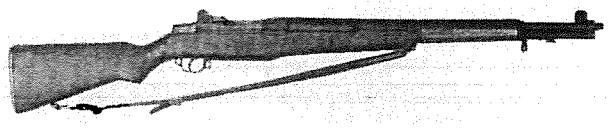


Courtesy Milwaukee Public Museum, Milwaukee, Wisconsin

NIB	Exc.	V.G.	Good	Fair	Poor
—	1000	825	550	400	300

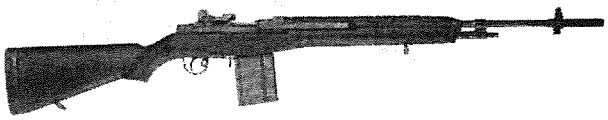
Iwo Jima M1 Garand

Similar to standard M1 Model but shipped in reproduction WWII-era crate with signed decorative lithograph. Introduced 2006.

NIB	Exc.	V.G.	Good	Fair	Poor
1600	1300	1000	800	400	200

M1A Basic Rifle

Chambered for .308 Win. and fitted with a painted black fiberglass stock. Barrel length is 22" without flash suppressor. Front sights are military square post and rear military aperture (battle sights). Magazine capacity is 5, 10, or 20 box. Rifle weighs 9 lbs.



NIB	Exc.	V.G.	Good	Fair	Poor
1250	1000	850	650	400	250

D-Day M1 Garand Limited Edition

Introduced in 2005 this model is chambered for the .30-06 cartridge and fitted with a 24" barrel. Military style sights. Two-stage military trigger. Limited to 1,944 rifles, each with a military-style wooden crate. Each side of the buttstock has stamped memorials to D-Day.

NIB	Exc.	V.G.	Good	Fair	Poor
1600	1200	925	675	425	250

M1A Standard Rifle

This model is chambered for the .308 Win. or .243 cartridge. Also fitted with a 22" barrel but with adjustable rear sight. Fitted with a walnut stock with fiberglass hand guard, it comes equipped with a 20-round box magazine. Weighs 9 lbs.

NIB	Exc.	V.G.	Good	Fair	Poor
1500	1100	850	650	400	250

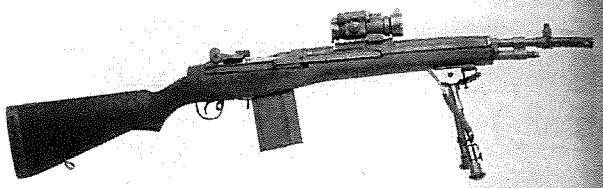
M1A-A1 Bush Rifle

Chambered for .308 or .243 cartridge with choice of walnut stock, black fiberglass, or folding stock (no longer produced). Fitted with 18.25" barrel. Rifle weighs 8.75 lbs. **NOTE:** Add $250 for folding stock.

NIB	Exc.	V.G.	Good	Fair	Poor
1400	1100	850	650	400	250

M1A Scout Squad Rifle

This .308 model is fitted with an 18" barrel and a choice of fiberglass or walnut stock. Military sights. Supplied with 10-round magazine. Weight with fiberglass stock is about 9 lbs., with walnut stock about 9.3 pounds.



NIB	Exc.	V.G.	Good	Fair	Poor
1800	1100	750	550	300	175

M1A National Match

Chambered for .308 as standard or choice of .243 cartridge. Fitted with a medium weight National Match 22" glass bedded barrel and walnut stock. Special rear sight adjustable to half minute of angle clicks. Weighs 10.06 lbs.

NIB	Exc.	V.G.	Good	Fair	Poor
2050	1400	1000	700	500	250

M1A Super Match

This is Springfield's best match grade rifle. Chambered for .308 as standard and also .243 cartridge. Fitted with special oversize heavy walnut stock, heavy Douglas match glass bedded barrel, and special rear lugged receiver. Special rear adjustable sight. Weighs 10.125 lbs. **NOTE:** For walnut stock and Douglas barrel add $165. For black McMillan stock and Douglas stainless steel barrel add $600. For Marine Corp. camo stock and Douglas stainless steel barrel add $600. For adjustable walnut stock and Douglas barrel add $535. For adjustable walnut stock and Krieger barrel add $900.

NIB	Exc.	V.G.	Good	Fair	Poor
2500	1850	1350	900	600	300

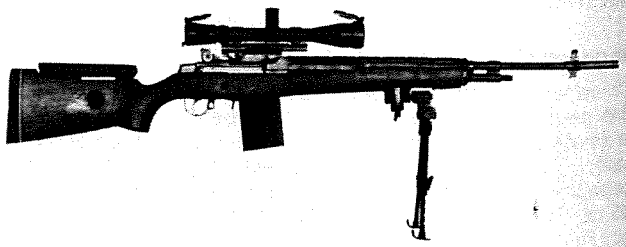
M1A Model 25 Carlos Hathcock

Introduced in 2001 this model features a match trigger, stainless steel heavy match barrel, McMillan synthetic stock with adjustable cheek pad, Harris Bi-pod, and other special featirtes. Chambered for the .308 cartridge. Weight is about 12.75 lbs. A special logo bears his signature.

NIB	Exc.	V.G.	Good	Fair	Poor
4650	3450	2500	1750	800	400

M21 Law Enforcement/Tactical Rifle

Similar to the Super Match with the addition of a special stock with rubber recoil pad and height adjustable cheekpiece. Available as a special order only. Weighs 11.875 lbs.



NIB	Exc.	V.G.	Good	Fair	Poor
3000	2600	2000	1500	650	350

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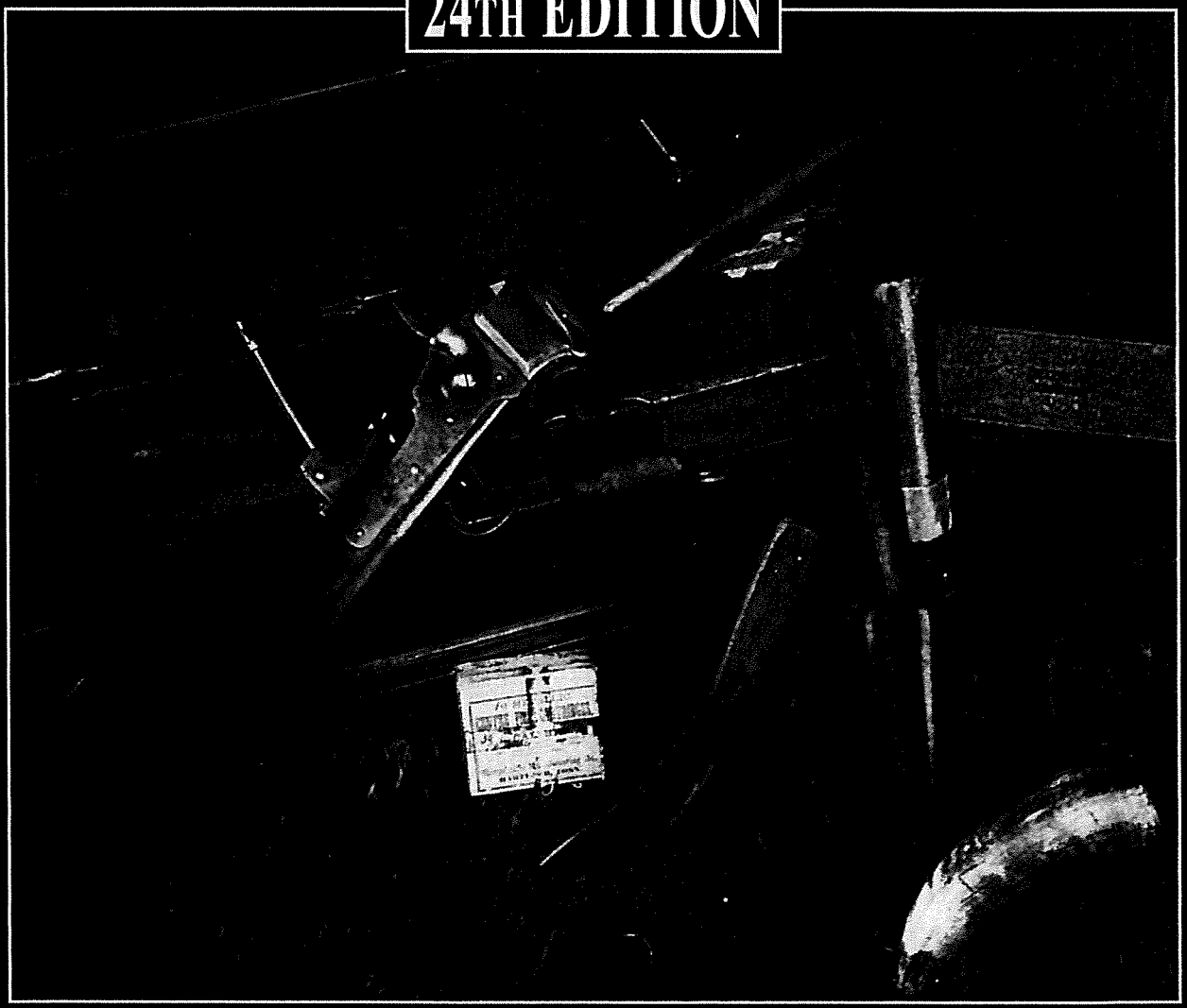

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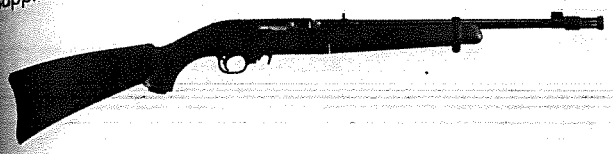
carry bag. **NOTE:** Add $20 for threaded 16.6" barrel and flash suppressor.



NIB	Exc.	V.G.	Good	Fair	Poor
365	320	280	235	225	200

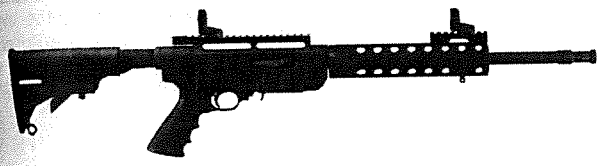
Model 10/17

Introduced in 2004. Chambered for .17 HMR cartridge. Fitted with 20" barrel. Magazine capacity 9 rounds. Weight about 6.5 lbs. Discontinued.

NIB	Exc.	V.G.	Good	Fair	Poor
600	475	300	200	150	100

SR-22 Rifle

AR-style semi-auto rifle chambered in .22 LR, based on 0/22 action. Features include all-aluminum chassis replicating the AR-platform dimensions between the sighting plane, buttstock height, and grip; Picatinny rail optic mount includes a six-position, telescoping M4-style buttstock (on a Mil-Spec diameter tube); Hogue Monogrip pistol grip; buttstocks and grips interchangeable with any AR-style compatible option; round, mid-length hand-guard mounted on a standard-thread AR-style barrel nut; precision-rifled, cold hammer forged 16-1/8-inch alloy steel barrel capped with an SR-556/Mini-14 flash suppressor.



NIB	Exc.	V.G.	Good	Fair	Poor
535	460	385	325	250	150

Model 44 Carbine

This model is a short, 18.5" barreled, gas-operated carbine chambered for the .44 Magnum cartridge. It has a 4-shot, nondetachable magazine, a folding rear sight, and a plain walnut stock. This is a handy deer hunting carbine manufactured between 1961 and 1985.

NIB	Exc.	V.G.	Good	Fair	Poor
550	450	350	300	200	150

Deerstalker Model

The same as the Model 44 Carbine with "Deerstalker" stamped on it. This model was manufactured in 1961 and 1962 only.

NIB	Exc.	V.G.	Good	Fair	Poor
950	800	600	400	300	200

Model 44 RS

This is the Model 44 with sling swivels and an aperture sight. **NOTE:** "Liberty" -marked 44RS carbines are extremely rare and will bring a premium.

NIB	Exc.	V.G.	Good	Fair	Poor
—	600	550	350	200	150

Model 44 Sporter (Finger Groove Old Model)

This version has a Monte Carlo stock, finger groove fore-end, and no barrel band. It was manufactured until 1971. **NOTE:** Factory hand checkered models will bring at least a 75 percent premium.

NIB	Exc.	V.G.	Good	Fair	Poor
—	750	600	400	250	200

Model 44 International Carbine

This version features a full-length, Mannlicher-style stock. It was discontinued in 1971 and is quite collectible. **NOTE:** Factory hand checkered models will bring at least a 50 percent premium.

NIB	Exc.	V.G.	Good	Fair	Poor
—	800	600	425	350	275

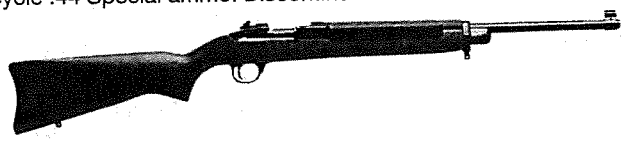
Model 44 25th Anniversary Model

This version is lightly engraved, has a medallion in the stock and was only made in 1985, the last year of production.

NIB	Exc.	V.G.	Good	Fair	Poor
550	400	350	300	250	200

Model 99/44 Deerfield Carbine

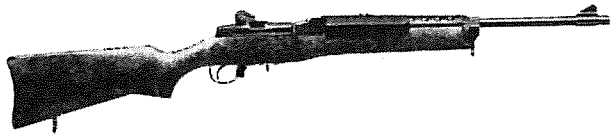
A new and improved version, introduced in 2000, of the original Model 44 Carbine. Fitted with a 18.5" barrel this gas operated rifle has a hardwood stock and 4-round magazine capacity. Adjustable rear sight. Blued finish. Weight is about 6.2 lbs. This rifle will not cycle .44 Special ammo. Discontinued.



NIB	Exc.	V.G.	Good	Fair	Poor
700	525	400	275	200	150

Mini-14

This is a paramilitary-style carbine chambered for the .223 Remington and on a limited basis for the .222 cartridge. It has an 18.5" barrel and is gas-operated. The detachable magazines originally offered held 5, 10 or 20 rounds. The high-capacity magazines are now discontinued, and prices of them are what the market will bear. The Mini-14 has a military-style stock and aperture sight. It was introduced in 1975. 20-round magazine added 2009.



NIB	Exc.	V.G.	Good	Fair	Poor
600	500	400	275	200	150

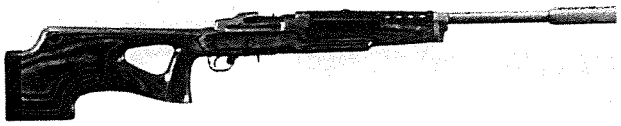
Mini-14 Stainless Steel

The same as the Mini-14 except constructed of stainless steel.

NIB	Exc.	V.G.	Good	Fair	Poor
650	550	450	300	200	150

Mini-14 Target Rifle

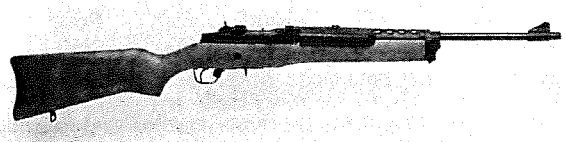
Acccurized version of the Mini-14 but with matte stainless barrel and reciver, black laminated thumbhole stock, adjustable harmonic dampener. No sights. Also available with non-thumbhole synthetic stock. Introduced in 2007.



NIB	Exc.	V.G.	Good	Fair	Poor
1025	900	775	600	400	250

Mini-14 Ranch Rifle

This model is similar to the standard Mini-14, with a folding rear sight and the receiver milled to accept the Ruger scope-ring system. The rings are supplied with the rifle. 6.8 Remington chambering also available. **NOTE:** Models chambered in .222 caliber will bring a premium.



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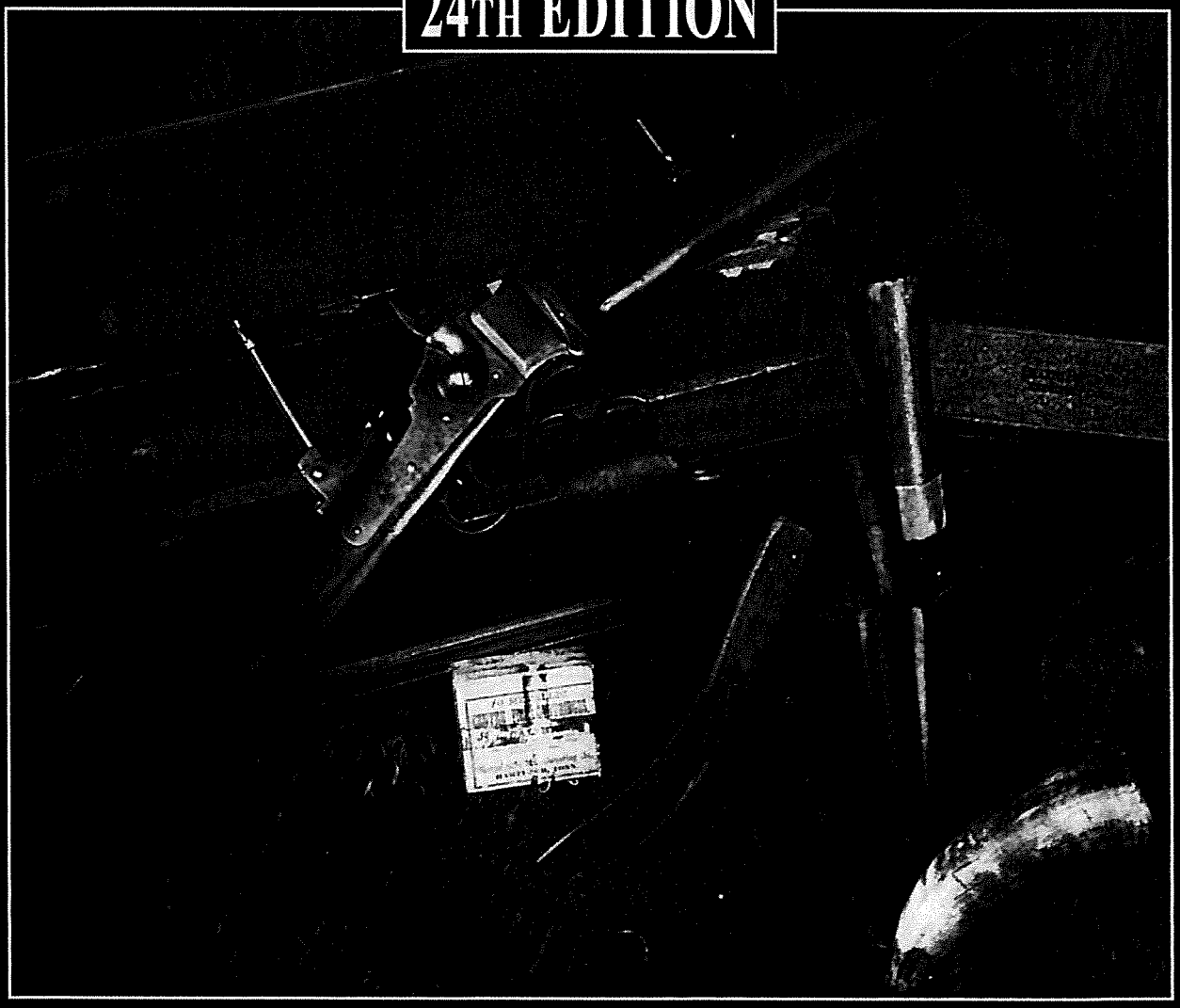

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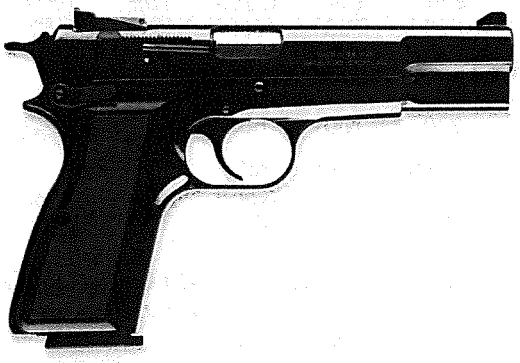
Hi-Power Modern Production

This version of FN Model 1935 is quite similar in appearance to original described in FN section. Chambered for 9mm Parabellum cartridge. Has 4.75" barrel. Models built before passage of crime bill have double column, 13-round detachable box magazine, blued, with checkered walnut grips. Has fixed sights and been produced in its present configuration since 1954. Add 10 percent premium for adjustable sights. Matte-nickel version offered between 1980 and 1984 was also available and would be worth approximately 15 percent additional. From 1994 to 2010 available in .40 S&W. **NOTE:** Add $60 for adjustable sights; 35 percent for internal extractor.



Hi-Power with spur hammer and adjustable sights

Spur Hammer Version

NIB	Exc.	V.G.	Good	Fair	Poor
875	750	600	500	300	150

Round Hammer Version

NIB	Exc.	V.G.	Good	Fair	Poor
1050	900	725	600	450	200

Hi-Power—.30 Luger

Version similar to standard Hi-Power, except chambered for .30 Luger cartridge. Approximately 1,500 imported between 1986 and 1989. Slide marked "FN". Browning-marked versions are quite rare and worth approximately 30 percent additional.

NIB	Exc.	V.G.	Good	Fair	Poor
1000	900	725	450	300	200

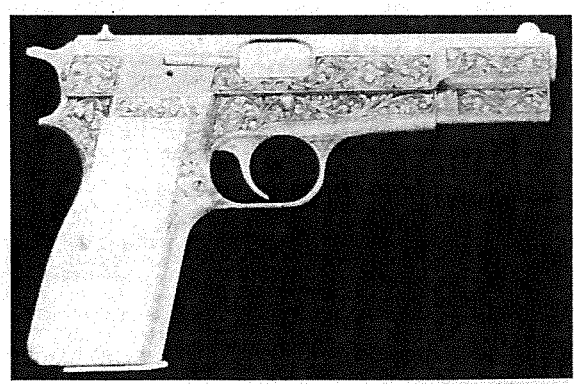
Tangent Sight Model

Version similar to standard Hi-Power, with addition of adjustable rear sight calibrated to 500 meters. Approximately 7,000 imported between 1965 and 1978. **NOTE:** If grip frame is slotted to accept a detachable shoulder stock add approximately 20 percent to value; but be wary of fakes. Add an additional 10 percent for "T" series serial numbers.

NIB	Exc.	V.G.	Good	Fair	Poor
1200	1050	900	650	450	200

Renaissance Hi-Power

Heavily engraved version, with matte-silver finish. Features synthetic-pearl grips and gold-plated trigger. Import ended in 1979.



Spur Hammer Model

NIB	Exc.	V.G.	Good	Fair	Poor
2950	2600	2100	1750	1000	600

Ring Hammer Model

NIB	Exc.	V.G.	Good	Fair	Poor
3100	2850	2400	2000	1500	900

Adjustable Sight Spur Hammer Model

NIB	Exc.	V.G.	Good	Fair	Poor
3000	2650	2100	1750	1000	600

Renaissance .25 Caliber

NIB	Exc.	V.G.	Good	Fair	Poor
2400	2100	1700	1500	1000	600

Renaissance .380 Caliber

With pearl grips.

NIB	Exc.	V.G.	Good	Fair	Poor
2700	2400	2000	1600	1000	600

Renaissance .380 Caliber (Model 1971)

With wood grips and adjustable sights.

NIB	Exc.	V.G.	Good	Fair	Poor
2300	2000	1700	1500	900	500

Cased Renaissance Set

Features **one** example of fully engraved and silver-finished .25 ACP "Baby", .380 ACP pistol and Hi-Power. Set furnished in a fitted walnut case or black leatherette. Imported between 1955 and 1969. **NOTE:** Early coin finish sets add 30 percent.

Courtesy Rock Island Auction Company

NIB	Exc.	V.G.	Good	Fair	Poor
9500	8000	6000	3000	—	—

Louis XVI Model

Heavily engraved Hi-Power pistol. Features leaf-and-scroll pattern, satin-finished, checkered walnut grips. Furnished in fitted walnut case. To realize its true potential, this pistol must be NIB. Imported between 1980 and 1984.

Diamond Grip Model

NIB	Exc.	V.G.	Good	Fair	Poor
3150	2500	2000	800	400	300

Medallion Grip Model

NIB	Exc.	V.G.	Good	Fair	Poor
1950	1750	1600	800	400	300

Hi-Power Centennial Model

Version similar to standard fixed-sight Hi-Power. Chrome-plated, with inscription "Browning Centennial/1878-1978" engraved on slide. Furnished with fitted case. There were 3,500 manufactured in 1978. As with all commemorative pistols, in order to realize its collector potential, this model should be NIB with all supplied material. Prices for pistols built in Belgium

NIB	Exc.	V.G.	Good	Fair	Poor
1075	875	700	450	300	200

Hi-Power Capitan

New version of Hi-Power model. Fitted with tangent sights. Introduced in 1993. Furnished with walnut grips. Weighs about 32 oz. Assembled in Portugal.

NIB	Exc.	V.G.	Good	Fair	Poor
750	575	450	400	250	200

Hi-Power Practical

First introduced in 1993. Furnished with blued slide and chrome frame. Has Pachmayr wraparound rubber grips, round-style serrated hammer and removable front sight. Available with adjustable sights. Weighs 36 oz. Assembled in Portugal.

NIB	Exc.	V.G.	Good	Fair	Poor
845	625	500	300	200	175

Hi-Power Silver Chrome Model

Furnished in hard chrome. Fitted with wraparound Pachmayr rubber grips. Weighs 36 oz. Assembled in Portugal. Add 10 percent for models with all Belgian markings. Introduced in 1981. Dropped from Browning product line in 1984. Reintroduced in 1991.

NIB	Exc.	V.G.	Good	Fair	Poor
750	575	500	425	225	200

Hi-Power .40 S&W

Introduced in 1994. New version of Hi-Power furnished with adjustable sights, molded grips, 5" barrel and 10-round magazine. Weighs about 35 oz. Discontinued 2010.

NIB	Exc.	V.G.	Good	Fair	Poor
800	600	450	300	200	150

Hi-Power Mark III

Introduced in 1991. Matte blued or green finish, low-profile fixed sights and two-piece molded grips, with thumb rest. Weighs 32 oz.

NIB	Exc.	V.G.	Good	Fair	Poor
900	700	500	300	200	175

Baby Browning

.25 caliber semi-automatic is same as FN Baby Model. Made by Fabrique Nationale in Belgium from 1931 until 1983. Many were imported into U.S., with Browning rollmark from 1954 to 1968. See "Baby" Model under Fabrique Nationale section for more details. Prices shown for Browning-marked model.

NIB	Exc.	V.G.	Good	Fair	Poor
650	550	500	450	350	200

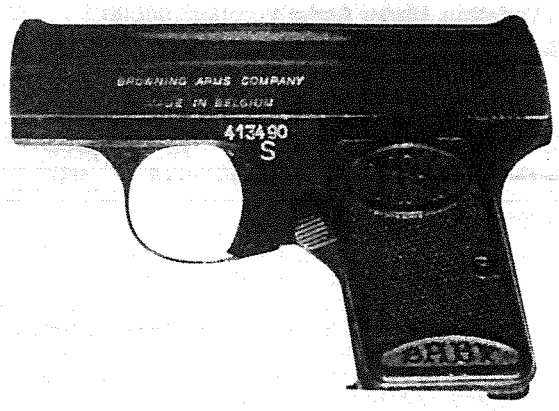
Browning Model 1955

Semi-automatic pistol same as FN Model 1910. From 1912 to 1983 in .32 ACP and .380 ACP. See Fabrique Nationale section for more information. Imported into U.S. by Browning from 1954 to 1968. Prices shown for Browning-marked pistols. **NOTE:** Add $200 for .32 ACP

NIB	Exc.	V.G.	Good	Fair	Poor
750	650	550	450	350	200

Pro-9/Pro-40

9mm or .40 S&W double-action pistol fitted with 4" barrel. Stainless steel slide. Grips are composite, with interchangeable backstrap inserts. Magazine capacity 16 rounds 9mm; 14 rounds .40 S&W. Weight about 30 oz.



NIB	Exc.	V.G.	Good	Fair	Poor
800	650	500	300	225	150

MODEL 1935/HI-POWER/GP

Last design from John Browning developed between 1925 and 1935. Pistol known as Model 1935, P-35, Hi-Power or HP and also GP (which stood for "Grand Puissance") and referred to by all those names at one time or another. HP is essentially an improved version of Colt 1911 design. Swinging link replaced with fixed cam, which was less prone to wear. Chambered for 9mm Parabellum and has a 13-round detachable magazine. Only drawback to the design, that the trigger pull is not as fine as that of the 1911, as there is a transfer bar instead of stirrup arrangement. This is necessary, due to increased magazine capacity resulting in thicker grip. Barrel is 4.75" in length. External hammer with manual and magazine safety. Available with various finishes and sight options. Furnished with shoulder stock. Model 1935 used by many countries as their service pistol, as there are many variations. We list these versions and their approximate values.

Pre-War Commercial Model

Found with sliding tangent rear sight and slotted for detachable shoulder stock. Manufactured from 1935 until 1940.

Tangent Sight Version

NOTE: Wood holster stock add 50 percent.

NIB	Exc.	V.G.	Good	Fair	Poor
—	2000	1800	1500	1000	400

Pre-War Military Contract

Model 1935 adopted by many countries as a service pistol. Following, is a list:

Belgium

NIB	Exc.	V.G.	Good	Fair	Poor
—	3000	2600	2000	600	375

Canada and China

NIB	Exc.	V.G.	Good	Fair	Poor
—	2500	2000	950	650	400

Great Britain

NIB	Exc.	V.G.	Good	Fair	Poor
—	2500	1700	1000	550	325

Estonia

NIB	Exc.	V.G.	Good	Fair	Poor
—	3000	2600	2000	600	375

Holland

NIB	Exc.	V.G.	Good	Fair	Poor
—	3000	2600	2000	650	400

Latvia

NIB	Exc.	V.G.	Good	Fair	Poor
—	3000	2600	2000	775	500

Lithuania

NIB	Exc.	V.G.	Good	Fair	Poor
—	2800	2000	1200	650	400

Romania

NIB	Exc.	V.G.	Good	Fair	Poor
—	3000	2600	2000	775	500

German Military Pistole Model 640(b)

In 1940, Germany occupied Belgium and took over the FN plant. Production of Model 1935 continued, with Germany taking the output. FN plant was assigned production code "ch" and many thousands were produced. Finish on these Nazi guns runs from as fine as Pre-war Commercial series to downright crude. Possible to see how war was progressing for Germany by finish on their weapons. One must be cautious with some of these guns as there have been fakes noted, with their backstraps cut for shoulder stocks, producing what would appear to be a more expensive variation. Individual appraisal should be secured if any doubt exists.

Fixed Sight Model

NIB	Exc.	V.G.	Good	Fair	Poor
—	1000	750	400	300	250

Tangent Sight Model

50,000 manufactured.

Courtesy Orvel Reichert

NIB	Exc.	V.G.	Good	Fair	Poor
—	1500	1000	700	550	400

Captured Pre-war Commercial Model

These pistols were taken over when plant was occupied. Slotted for stocks and have tangent sights. Few produced between serial number 48,000 and 52,000. All noted have WA613 Nazi proof mark. Beware of fakes!

NIB	Exc.	V.G.	Good	Fair	Poor
—	1700	1400	1150	750	500

Post-War Military Contract

Manufactured from 1946, they embody some design changes—such as improved heat treating and barrel locking. Pistols produced after 1950, do not have barrels that can interchange with earlier model pistols. Earliest models have an "A" prefix on serial number and do not have the magazine safety. Pistols were produced for many countries and there were many thousands manufactured.

Fixed Sight

NIB	Exc.	V.G.	Good	Fair	Poor
—	750	425	375	300	250

Tangent Sight

NIB	Exc.	V.G.	Good	Fair	Poor
—	1000	675	575	400	300

Slotted and Tangent Sight

NIB	Exc.	V.G.	Good	Fair	Poor
—	1500	1050	750	500	400

Post-War Commercial Model

Introduced in 1950 and 1954. Those imported into U.S.A. are marked Browning Arms Co. These pistols have commercial polished finish.

Fixed Sight

NIB	Exc.	V.G.	Good	Fair	Poor
—	850	500	350	300	250

Tangent Sight

NIB	Exc.	V.G.	Good	Fair	Poor
—	1000	650	500	400	350

Slotted and Tangent Sight

NIB	Exc.	V.G.	Good	Fair	Poor
—	1500	1100	800	550	450

RIFLES

Model 1889

NIB	Exc.	V.G.	Good	Fair	Poor
—	350	250	200	125	100

Model 1949 or SAFN 49

NIB	Exc.	V.G.	Good	Fair	Poor
—	600	500	300	225	150

Model 30-11 Sniper Rifle

NIB	Exc.	V.G.	Good	Fair	Poor
—	5000	4500	3500	2750	2000

FN-FAL

50.00—21" Rifle Model

NIB	Exc.	V.G.	Good	Fair	Poor
3000	2750	2250	2000	1850	1000

50.63—18" Paratrooper Model

NIB	Exc.	V.G.	Good	Fair	Poor
3800	3350	2950	2750	2450	1100

50.64—21" Paratrooper Model

NIB	Exc.	V.G.	Good	Fair	Poor
3300	3000	2700	2200	1900	1000

50.41—Synthetic Butt H-Bar

NIB	Exc.	V.G.	Good	Fair	Poor
2800	2400	2000	1800	1200	1000

50.42—Wood Butt H-Bar

NIB	Exc.	V.G.	Good	Fair	Poor
2800	2400	2000	1800	1200	1000

FN-FAL "G" Series (Type I Receiver)

Standard

NIB	Exc.	V.G.	Good	Fair	Poor
6500	5000	4000	3000	2000	1000

Lightweight

NIB	Exc.	V.G.	Good	Fair	Poor
6500	5000	4000	3000	2000	1000

FN CAL

NIB	Exc.	V.G.	Good	Fair	Poor
7000	6500	5000	3000	1500	1000

FNC

NOTE: Prices are for Belgian-made guns only.

Standard

Fixed stock, 16" or 18" barrel.

NIB	Exc.	V.G.	Good	Fair	Poor
3000	2800	2500	2000	1500	1000

Paratrooper Model

Folding stock, 16" or 18" barrel.

NIB	Exc.	V.G.	Good	Fair	Poor
3000	2800	2500	2000	1500	1000

Musketeer Sporting Rifles

Bolt-action rifle built on Mauser-action. Chambered for various popular cartridges. Has a 24" barrel and blued, with checkered walnut stock. Manufactured between 1947 and 1963.

NIB	Exc.	V.G.	Good	Fair	Poor
—	450	350	300	250	200

Deluxe Sporter

Higher-grade version of Musketeer, with same general specifications. Manufactured between 1947 and 1963.

NIB	Exc.	V.G.	Good	Fair	Poor
—	550	450	400	275	200

FN Supreme

Chambered for popular standard calibers. Has a 24" barrel, with an aperture sight and checkered walnut stock. Manufactured between 1957 and 1975.

NIB	Exc.	V.G.	Good	Fair	Poor
—	800	650	500	450	400

Supreme Magnum Model

Similar to standard Supreme, except chambered for .264 Win. Magnum, 7mm Rem. Magnum and .300 Win. Magnum. Furnished with recoil pad. Manufactured between same years as standard model.

NIB	Exc.	V.G.	Good	Fair	Poor
—	800	650	500	400	400

FAIRBANKS, A. B.

Boston, Massachusetts

Fairbanks All Metal Pistol

Odd pistol was produced of all metal. A one-piece cast brass frame, handle, an iron barrel and lock system. Chambered for .33-caliber and utilizes percussion ignition system. Barrel lengths noted are 3" to 10". Barrels are marked "Fairbanks Boston. Cast Steel". Manufactured between 1838 and 1841.

NIB	Exc.	V.G.	Good	Fair	Poor
—	—	1050	350	150	75

EXHIBIT KK

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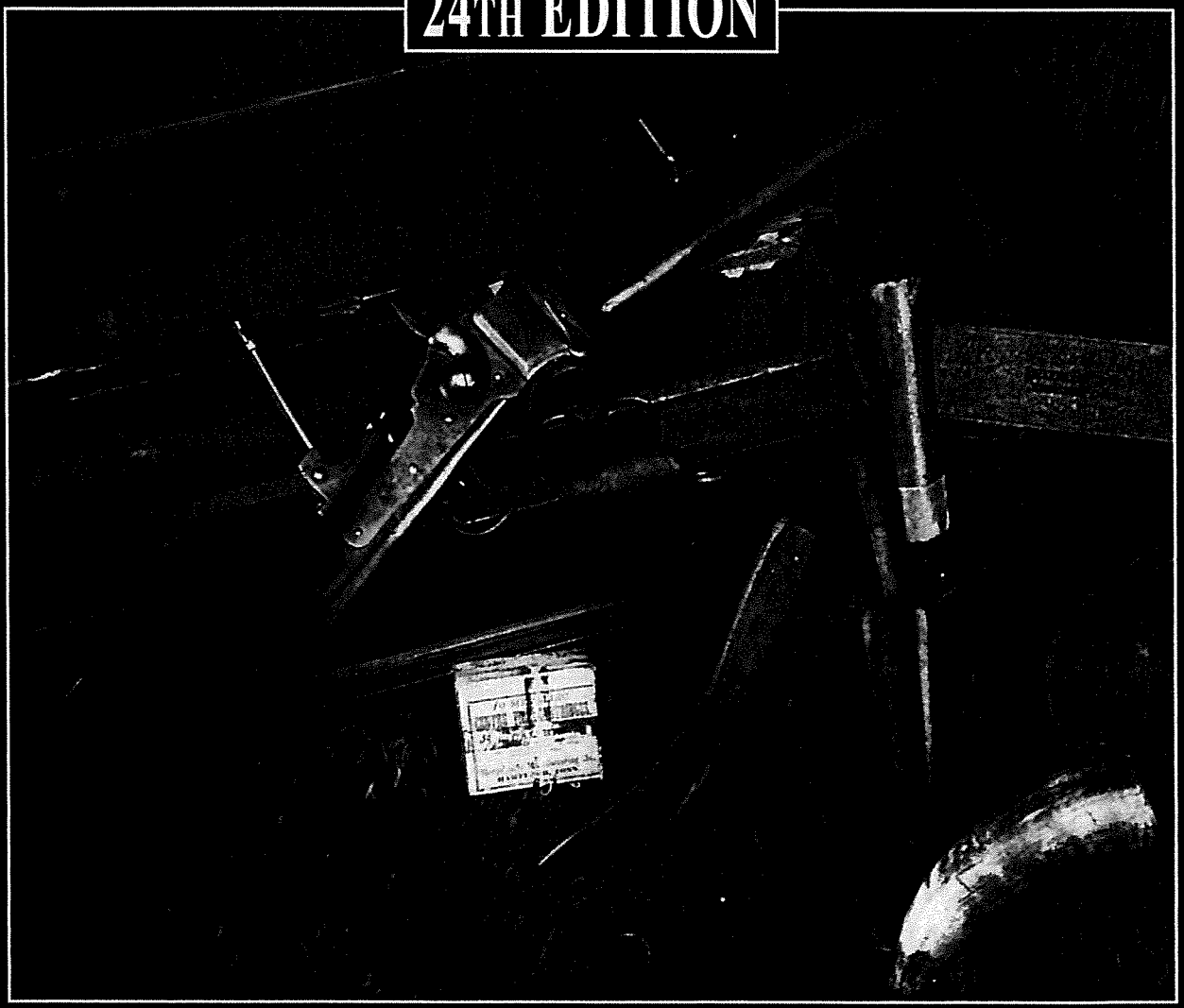
24TH EDITION



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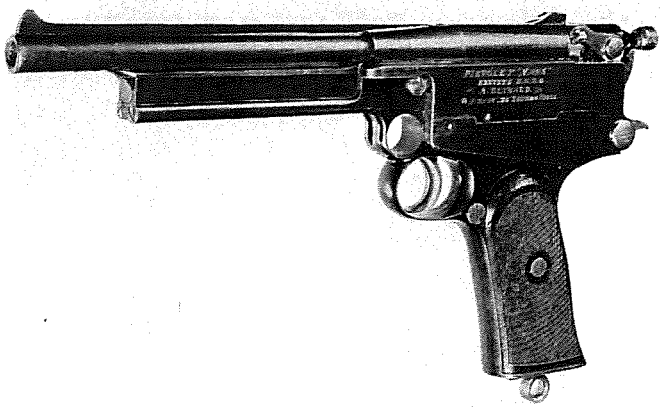
G

GABBET-FAIRFAX, H.
Birmingham, England

Mars

Designed by Hugh Gabbet-Fairfax, this semi-automatic pistol first produced on an experimental basis by Webley & Scott Revolvers in the 1890s. After Webley gave up on the idea an extremely limited number were built by Mars Automatic Pistol Syndicate, Ltd., 1897 to 1905. Pistol produced in four calibers; 8.5mm Mars, 9mm Mars, .45 Mars Short Case, and .45 Mars Long Case. Most powerful handgun cartridge of its time and remained so until well after World War II. It is estimated that only about 80 of these pistols were ever produced. **NOTE:** Webley examples are worth a premium.



Courtesy James Rankin

NIB	Exc.	V.G.	Good	Fair	Poor
—	45000	30500	19500	9200	6000

GABILONDO Y CIA
See—Llama

GABILONDO Y URRESTI
Guernica, Spain
Elgoibar, Spain

See—Llama

Spanish firm founded in 1904 to produce inexpensive revolvers of Velo-Dog type. Sometime around 1909 the firm began to manufacture Radium revolver. In 1914 the company produced a semi-automatic pistol distributed as Ruby. This pistol soon became the mainstay of the company, with orders of 30,000 pistols a month for the French army. End of WWI Gabilondo Y Urresti moved to Elgoeibar, Spain. Company produced a Browning 1910 replica pistol until early 1930s. It was at this point that Gabilondo began to manufacture a Colt Model 1911 copy that became known as Llama. For information of specific Llama models see Llama section. Pistols listed reflect pre-Llama period and are so marked, with the trade name of that particular model. Monogram "GC" frequently appears on grips but not on slide.

Velo-Dog Revolver

A 6.35mm double-action revolver with 1.5" barrel, folding trigger and concealed hammer. Blued with walnut grips. Manufactured from 1904 to 1914.

NIB	Exc.	V.G.	Good	Fair	Poor
—	295	195	125	75	50

Radium

Semi-automatic pistol in caliber 7.65mm. Produced both for commercial and military market in Ruby style. "Radium" stamped on slide as well as top of each grip plate.

Courtesy James Rankin

NIB	Exc.	V.G.	Good	Fair	Poor
—	295	195	125	100	70

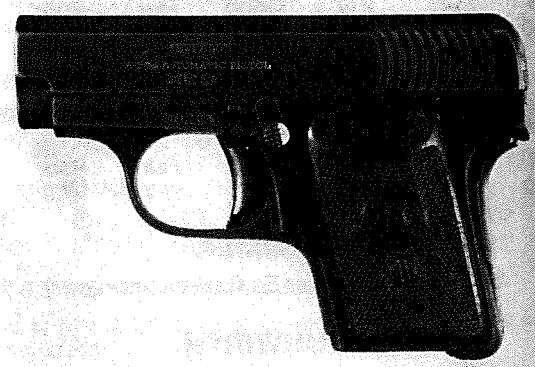
Ruby

A 7.65mm caliber semi-automatic pistol. Discontinued in 1930.

NIB	Exc.	V.G.	Good	Fair	Poor
—	250	175	150	100	75

Bufalo 6.35mm

Semi-automatic pistol in caliber 6.35mm. Copy of Browning Model 1906, with squeeze grip safety. Has "Bufalo" stamped on slide and Gabilondo logo along with a buffalo's head on each side of grip plates. Manufactured between 1918 and 1925. NOTE Spelling of "Bufalo" as it appears on pistol.



Courtesy James Rankin

NIB	Exc.	V.G.	Good	Fair	Poor
—	275	175	150	100	75

Bufalo 7.65mm

Semi-automatic pistol in caliber 7.65mm. Patterned after Browning Model 1910, with squeeze grip safety. There were two models, with either 7-round or 9-round magazine. Model with 9-round magazine usually fitted with wood grips and lanyard ring. Buffalo's head is inset in each grip plate. Manufactured between 1918 and 1925.

Courtesy James Rankin

NIB	Exc.	V.G.	Good	Fair	Poor
—	275	175	125	100	75

Bufalo 9mmK

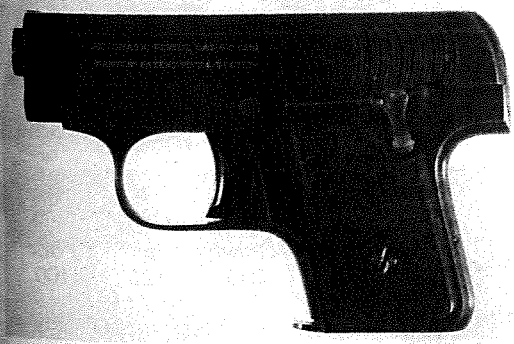
Semi-automatic pistol in caliber 9mmK. Nearly same pistol as 7.65mm model, but fitted with grip safety. "Bufalo" stamped on slide and Gabilondo logo and buffalo's head are on each grip plate. Manufactured between 1918 and 1925.

Courtesy James Rankin

NIB	Exc.	V.G.	Good	Fair	Poor
—	295	205	145	105	70

Danton 6.35mm

Semi-automatic pistol in caliber 6.35mm. Patterned after Browning Model 1906, with grip safety. "Danton" appears on slide as well as grips. Gabilondo logo on each grip plate. Manufactured between 1925 and 1931.

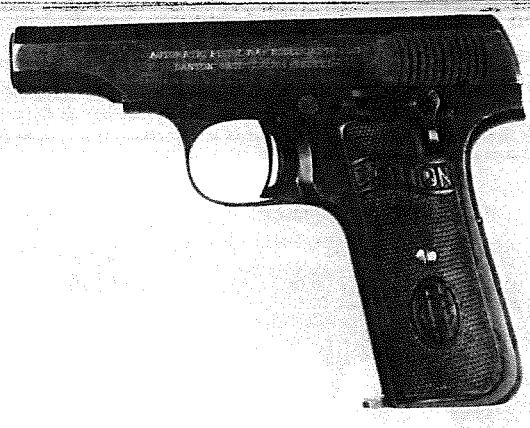


Courtesy James Rankin

NIB	Exc.	V.G.	Good	Fair	Poor
—	275	175	125	100	75

Danton War Model

Semi-automatic pistol in caliber 7.65mm. Similar to Bufalo above and made with-/without grip safety. Came in two models, with 9- and 20-round magazines. Fitted with lanyard ring. "Danton" stamped on slide and grips. Gabilondo logo on each side of grip plate. Manufactured between 1925 and 1931.



Courtesy James Rankin

Nine-Round Magazine

NIB	Exc.	V.G.	Good	Fair	Poor
—	275	175	125	100	75

Twenty-Round Magazine

NIB	Exc.	V.G.	Good	Fair	Poor
—	550	325	250	200	100

Perfect

Semi-automatic pistol chambered for 6.35mm and 7.65mm cartridges. Cheap low-priced pistol marketed by Mugica. Pistols usually have the word "Perfect" on grips. Slide may be stamped with the name MUGICA, but many are not.

NIB	Exc.	V.G.	Good	Fair	Poor
—	275	175	125	100	75

Plus Ultra

Pistol chambered for 7.65mm cartridge and built from 1925 to 1933. Had a 20-round magazine that gave the pistol an unusual appearance. "Plus Ultra" appears on slide and grips. Gabilondo logo on each grip plate. Equipped with lanyard ring.

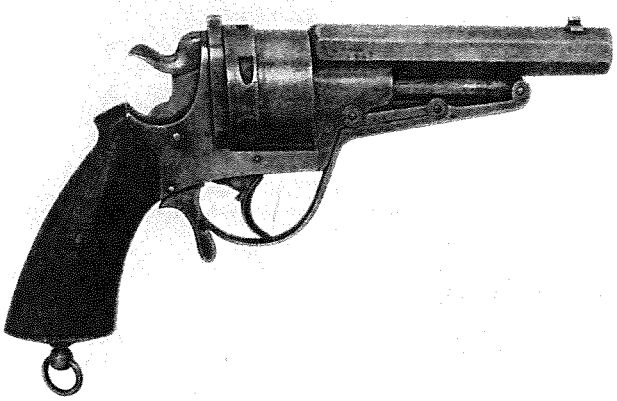
Courtesy James Rankin

NIB	Exc.	V.G.	Good	Fair	Poor
—	1200	875	650	425	250

GALAND, C.F.
Liege, Belgium

Galand, Galand & Sommerville, Galand Perrin (Galand M1872)

A 7mm, 9mm and 12mm caliber double-action revolver, with 6-shot cylinder and open frame. A unique ejection system that by means of rotating a lever downward from the trigger guard, causes barrel and cylinder to slide forward leaving ejector and spent cases behind. Circa 1872.



Courtesy Bonhams & Butterfields

NIB	Exc.	V.G.	Good	Fair	Poor
—	—	1350	875	550	150

Velo-Dog

A 5.5mm Velo-Dog caliber fixed trigger and guard double-action revolver, with open-top design. Later models (.22 and 6.35mm caliber) feature folding triggers and no trigger guards.

NIB	Exc.	V.G.	Good	Fair	Poor
—	250	165	125	75	50

Le Novo

As above, with concealed hammer and in 6.35mm caliber.

NIB	Exc.	V.G.	Good	Fair	Poor
—	250	165	125	75	50

Tue-Tue

A .22 short 5.5mm Velo-Dog and 6.35mm caliber double-action revolver. Concealed hammer, folding trigger and swing-out cylinder, with central extractor. Introduced in 1894.

NIB	Exc.	V.G.	Good	Fair	Poor
—	250	165	125	75	50

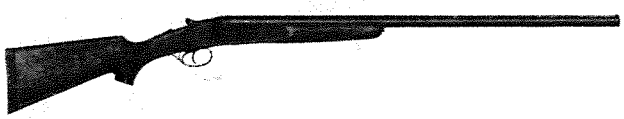
GALAND & SOMMERVILLE
Liege, Belgium

See—Galand

GALEF (ZABALA)
Zabala Hermanos & Antonio Zoli
Spain

Zabala Double

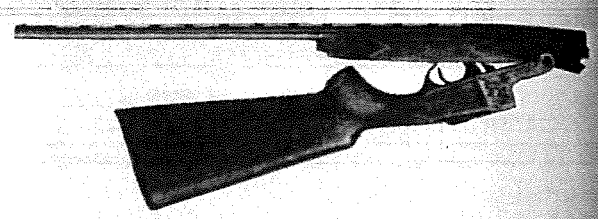
A 10, 12, 16 and 20 caliber boxlock shotgun, with 22" to 30" barrel and various chokes. Hardwood stock. Add 50 percent for 10 gauge.



NIB	Exc.	V.G.	Good	Fair	Poor
—	450	300	175	100	75

Companion

Folding 12 to .410 bore single-shot underlever shotgun, with 28" or 30" barrel.



NIB	Exc.	V.G.	Good	Fair	Poor
—	200	145	105	50	25

Monte Carlo Trap

A 12 gauge underlever single-shot shotgun, with 32" ventilated rib barrel.

NIB	Exc.	V.G.	Good	Fair	Poor
—	325	275	150	100	75

Silver Snipe, Golden Snipe, and Silver Hawk

See—Antonio Zoli

GALENA INDUSTRIES INC.
Sturgis, South Dakota

In 1998, Galena Industries purchased the rights to use AMT trademark and manufacturing rights to many, but not all, AMT designs. For AMT models made by AMT see that section. This company's designs have been acquired by Crusader/High Standard of Houston, Texas.

AMT Backup

Model features double-action-only trigger system and offered in both stainless steel and matte black finish. Small frame .380 Backup weighs 18 oz. with its 2.5" barrel. Large frame Backups are fitted with 3" barrel and offered in 9mm, .38 Super, .357 Sig, .40 S&W, .400 CorBon and .45 ACP. Weights are approximately 23 oz. and magazine capacity 5 to 6 rounds, depending on caliber. **NOTE:** Add $50 for .38 Super, .357 Sig, and .400 CorBon.

Galena .380 DAO Backup

NIB	Exc.	V.G.	Good	Fair	Poor
525	375	275	200	125	100

Automag II

Semi-automatic pistol chambered for .22 WMR cartridge. Offered in 3.38", 4.5" or 6" barrel lengths. Magazine capacity 9 rounds, except for 3.38" model where capacity is 7 rounds. Weight about 32 oz.

EXHIBIT LL

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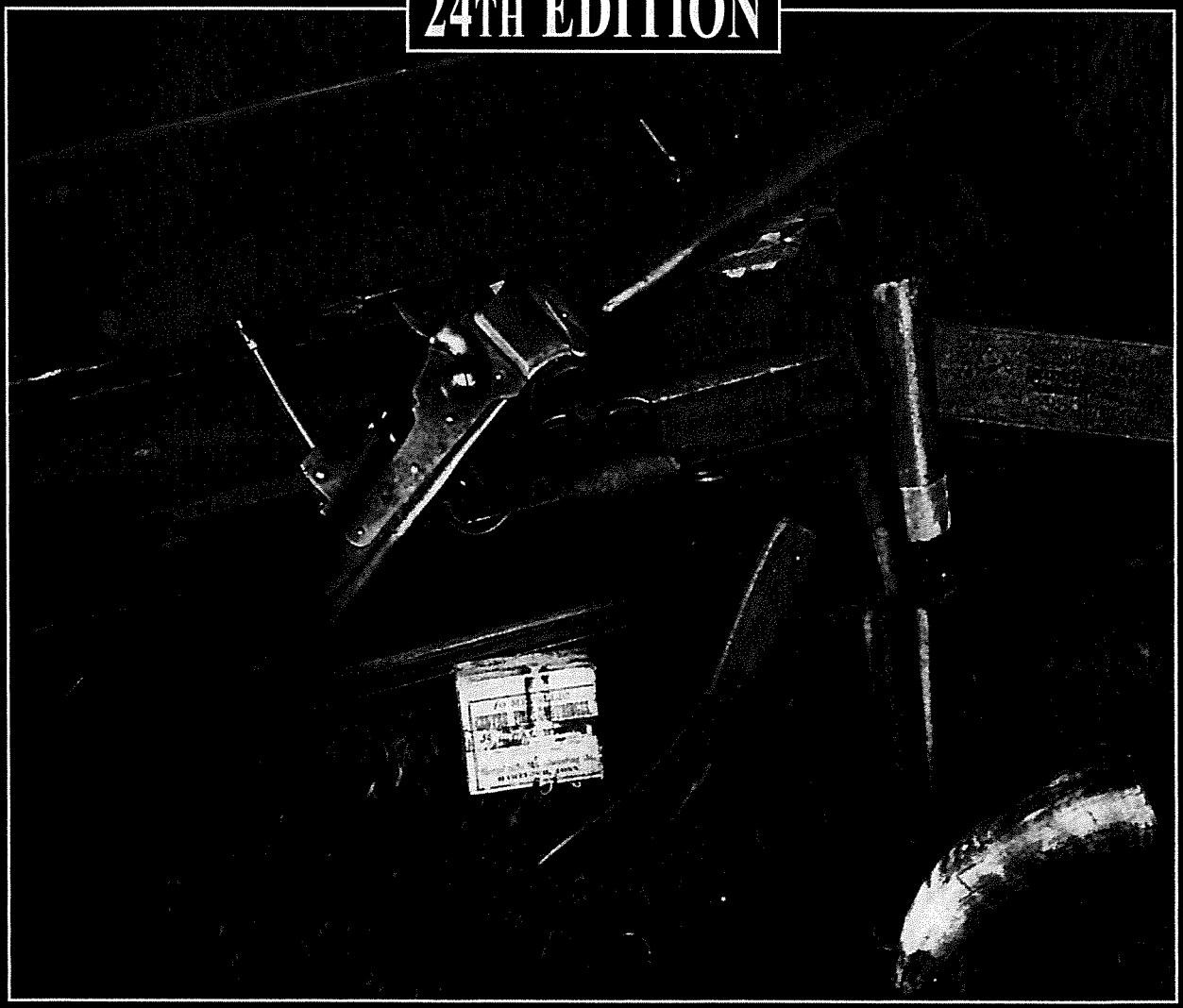

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Printed in the United States of America

NIB	Exc.	V.G.	Good	Fair	Poor
6300	5000	3250	2500	1750	300

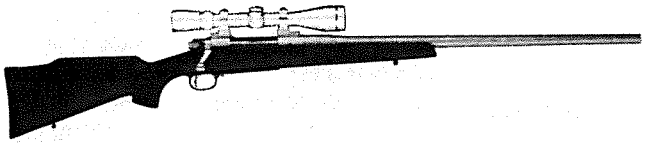
Grand African

Similar to Safari rifle, with addition of Exhibition Grade wood. Calibers .338 to .458.

NIB	Exc.	V.G.	Good	Fair	Poor
7600	6100	5000	3900	1650	325

Serengeti Synthetic

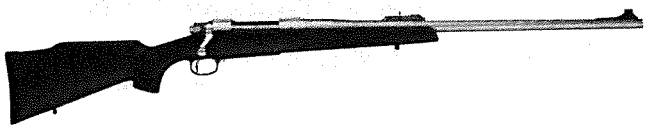
Similar to Safari rifle, with fibergrain stock in classic or Monte Carlo style. Checkering or stipple finish. Calibers .243 to .300 Magnum. Introduced in 1996.



NIB	Exc.	V.G.	Good	Fair	Poor
2600	2100	1600	1150	700	225

African Synthetic

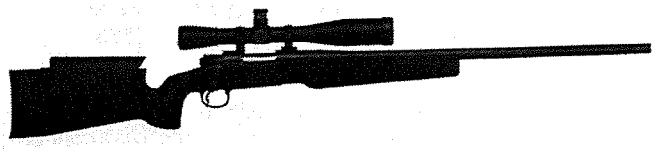
Similar to Safari rifle, with fibergrain stock, checkering or stipple finish. Calibers .338 Magnum to .458 Magnum.



NIB	Exc.	V.G.	Good	Fair	Poor
3300	2600	1800	1400	750	250

Neutralizer Mark I

Built on Remington 700 or Winchester action. Bolt-action rifle chambered in choice of calibers from .223 to .300 Win. Magnum. Barrel length 24" to 26" depending on caliber, with Magnum barrels up to 28". A fiberglass tactical stock, with adjustable cheekpiece and buttplate is standard in various finishes. **NOTE:** Winchester action $400 less.



NIB	Exc.	V.G.	Good	Fair	Poor
2900	2300	1700	1300	700	275

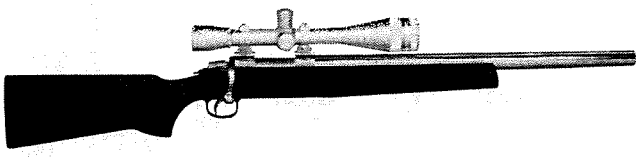
Neutralizer Mark II

Same as above, with Apollo action.

NIB	Exc.	V.G.	Good	Fair	Poor
4000	3200	2250	1700	900	325

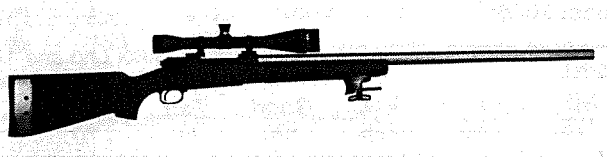
Benchrest Rifles

Custom built. Unable to price individual rifles.



Prone Rifles

Custom built. Unable to price individual rifles.

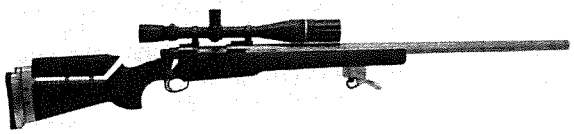


X-Course Rifles

Custom built. Unable to price individual rifles.

1,000 Yard Match Rifles

Custom built. Unable to price individual rifles.



Fully Accurized Production Rifles

Rifles offered in standard blue or stainless steel, with walnut or synthetic stock. Chambered from .223 to .338 Win. Magnum. Built on Remington, Ruger or Winchester actions.

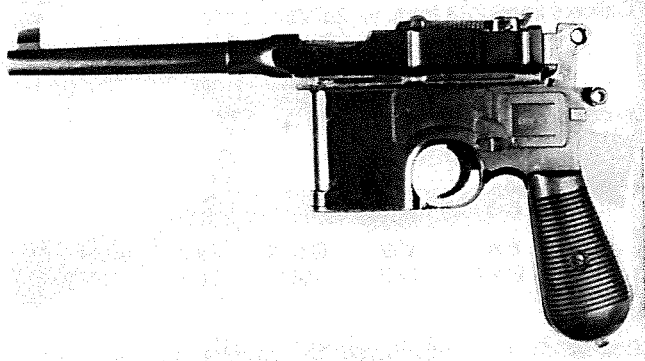
NIB	Exc.	V.G.	Good	Fair	Poor
1250	1100	750	600	400	200

AROSTEGUI, EULOGIO

Eibar, Spain

Azul Royal (Model 31)

Semi-automatic or fully automatic pistol in calibers 7.63 Mauser, 9mm Bergmann or .38 ACP. Manufactured between 1935 and 1940. Fitted with 10-round integral magazine. **NOTE:** Add 300 percent for fully automatic machine pistol version. NFA/BATFE regulations apply.

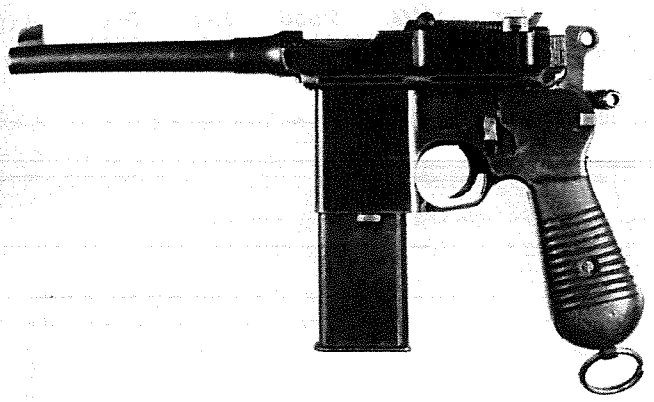


Courtesy James Rankin

NIB	Exc.	V.G.	Good	Fair	Poor
—	3000	2500	1000	500	300

Super Azul (M-34)

Semi-automatic or fully automatic pistol in 7.63mm Mauser, 9mm Bergmann and .38 ACP. Manufactured between 1935 and 1940. Has removable box magazine with capacity of 10, 20 or 30 rounds. Also known as the War Model or Standard Model. **NOTE:** Add 300 percent for fully automatic machine pistol version. NFA/BATFE regulations apply.



Courtesy James Rankin

NIB	Exc.	V.G.	Good	Fair	Poor
—	3000	2500	1000	500	300

Azul 6.35mm

6.35mm semi-automatic pistol. Copied after Model 1906 Browning. Frame marked with letters "EA" in a circle. A retriever is molded in the grips. Magazine capacity 6 or 9 rounds.

NIB	Exc.	V.G.	Good	Fair	Poor
—	250	200	150	100	75

Azul 7.65mm

7.65mm semi-automatic pistol. Copied after Model 1910 FN. Magazine capacity 7 or 9 rounds.

NIB	Exc.	V.G.	Good	Fair	Poor
—	250	200	150	100	75

Velo-Dog

Folding trigger 5.5mm or 6.35mm revolver bearing trademark "EA" on grips.

NIB	Exc.	V.G.	Good	Fair	Poor
—	175	100	75	50	30

ARRIETA S.L.

Elgoibar, Spain

Company produces a wide variety of double-barrel shotguns. Price range from $450 to more than $30,000. It is recommended that highly engraved examples, as well as small bore arms, be individually appraised. **NOTE:** For 20- or 28-gauge and .410 bore, add 10 percent to values shown.

490 Eder

Double-barrel boxlock shotgun, with double triggers and extractors. Discontinued in 1986.

NIB	Exc.	V.G.	Good	Fair	Poor
—	550	425	325	250	100

500 Titan

Holland & Holland-style sidelock double-barrel shotgun, with French case hardened and engraved locks. Double triggers on extractors. No longer imported after 1986.

NIB	Exc.	V.G.	Good	Fair	Poor
—	675	500	400	300	150

501 Palomara

As above, but more finely finished. Discontinued in 1986.

NIB	Exc.	V.G.	Good	Fair	Poor
—	800	600	500	400	200

505 Alaska

As above, but more intricately engraved. Discontinued in 1986.

NIB	Exc.	V.G.	Good	Fair	Poor
—	900	750	600	500	250

510 Montana

Holland & Holland-style sidelock double-barrel shotgun, with internal parts gold-plated.

NIB	Exc.	V.G.	Good	Fair	Poor
3200	2750	1250	850	500	250

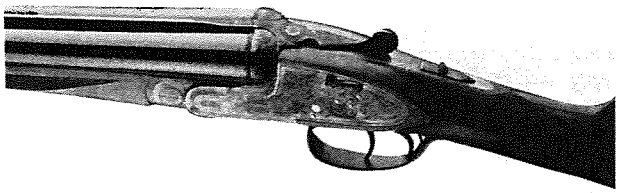
550 Field

As above, without internal parts gold-plated.

NIB	Exc.	V.G.	Good	Fair	Poor
3200	2750	1250	850	500	250

557 Standard

As above, but more finely finished.



NIB	Exc.	V.G.	Good	Fair	Poor
4000	3200	2200	1500	750	500

558 Patria

As above, but more finely finished.

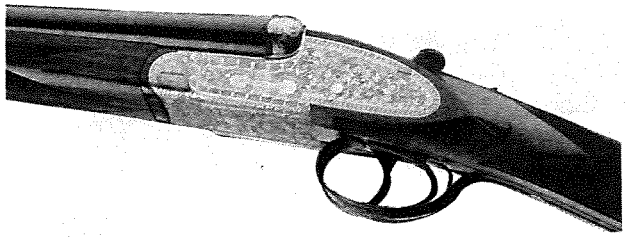
NIB	Exc.	V.G.	Good	Fair	Poor
3650	3150	1750	1250	800	400

560 Cumbre

As above, but featuring intricate engraving.

NIB	Exc.	V.G.	Good	Fair	Poor
3800	3200	1800	1200	800	400

570 Lieja



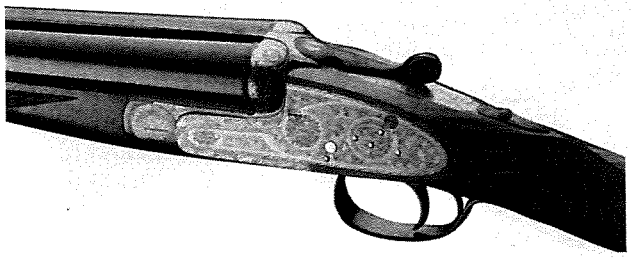
NIB	Exc.	V.G.	Good	Fair	Poor
4500	3750	2600	1800	900	550

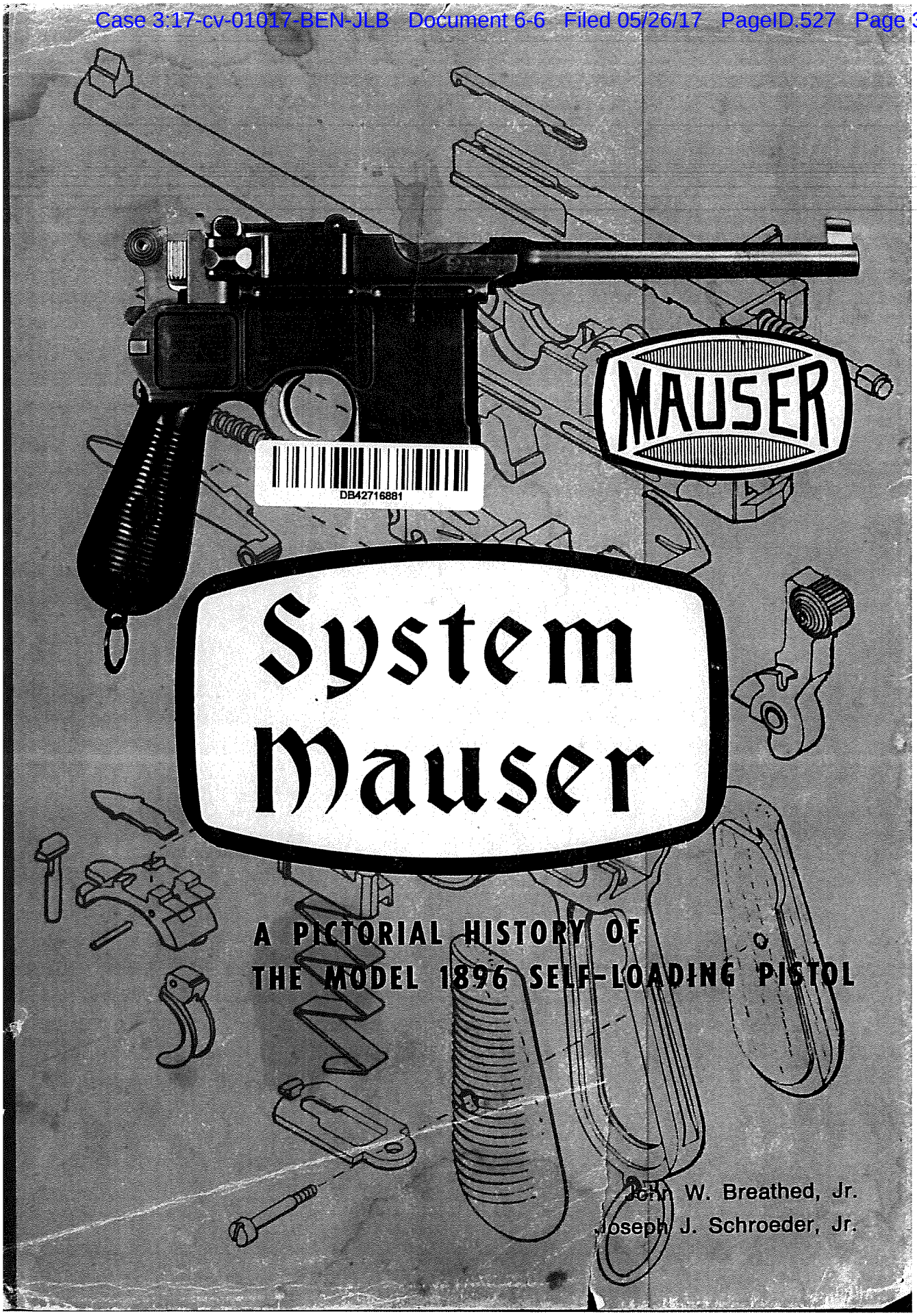
575 Sport

NIB	Exc.	V.G.	Good	Fair	Poor
4750	3750	2250	1700	1200	750

578 Victoria

Engraved in the English manner, with floral bouquets.





System Mauser

A PICTORIAL HISTORY OF THE MODEL 1896 SELF-LOADING PISTOL

John W. Breathed, Jr.
Joseph J. Schroeder, Jr.

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SPAIN

AZUL AND SUPER AZUL

Unlike either the Astra or Royal Mauser copies, the Azul and Super Azul are actually very faithful reproductions of the Mauser design. The manufacturer was Eulogio Arostegui of Eibar, though at least some of the weapons were, like the Royal, marketed by Beistegui Hermanos.

The Azul version is semi-automatic only, while the designation of "Super Azul" was applied to any of the several selector-switch pistols. Quite a few of these guns seem to have been made, but as most of them have the full-automatic feature they are rarely seen in the United States. They have a reputation for reliable functioning and durability, though neither internal nor external finish is on a par with that of the Mauser or the Astra.

AZUL MM 31

EXHIBIT LL

Azul and Super
ser design. The
least some of
Hermanos.

designation of
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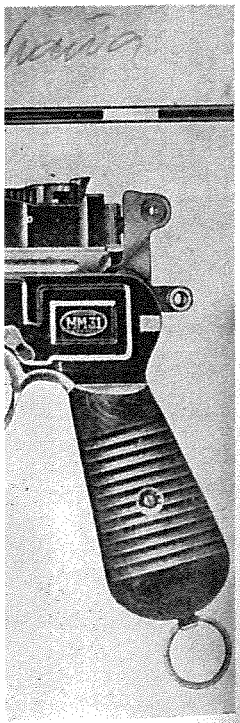
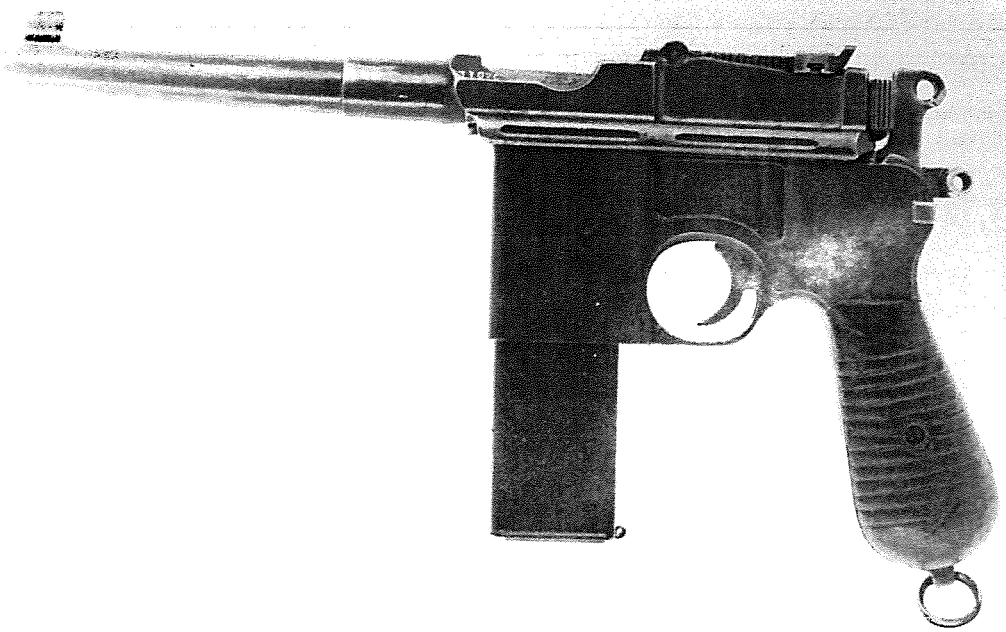
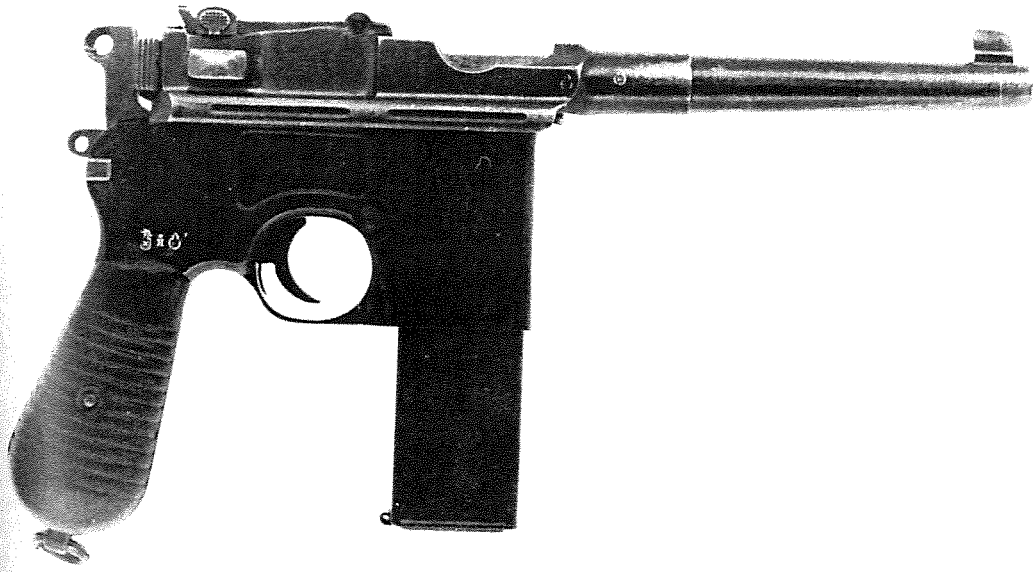


SEMI-AUTOMATIC AZUL





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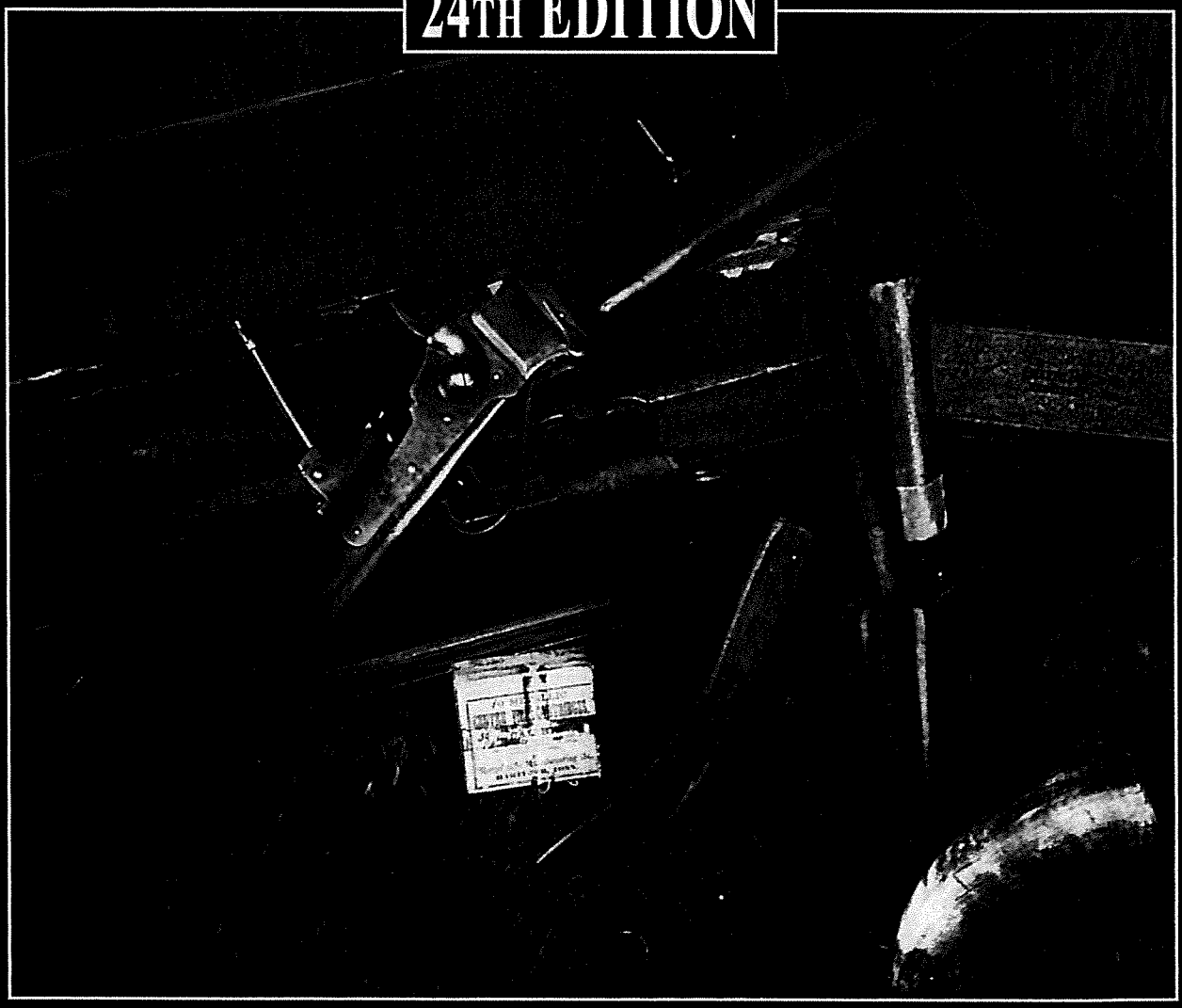

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Printed in the United States of America

Model 92

9mm caliber double-action semi-automatic pistol, with 5" barrel, fixed sights and 16-round double-stack magazine. Blued, with plastic grips. Introduced in 1976. Now discontinued.

NIB	Exc.	V.G.	Good	Fair	Poor
800	600	500	400	250	200

Model 92SB-P

As above, with polished finish. Manufactured from 1980 to 1985.

NIB	Exc.	V.G.	Good	Fair	Poor
625	475	400	325	250	200

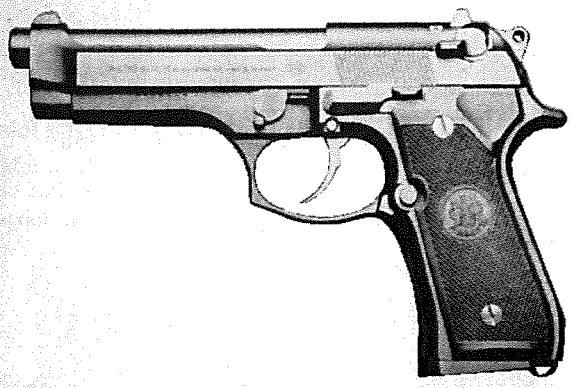
Model 92SB Compact

As above, with 4.3" barrel and shortened grip frame that holds a 14-shot magazine. Blued or nickel-plated, with wood or plastic grips. Nickel version worth additional 15 percent. Wood grips add $20 to value. Introduced in 1980. Discontinued in 1985.

NIB	Exc.	V.G.	Good	Fair	Poor
500	425	375	325	250	200

Model 92FS

Current production Model 92 chambered for 9mm Parabellum cartridge. Barrel length 4.9". Rear sight is 3-dot combat drift adjustable. Magazine capacity 15 rounds. Semi-automatic pistol features double-/single-action operation. Safety is manual type. Frame is light alloy sandblasted and anodized black. Barrel slide is steel. Grips are plastic checkered, with black matte finish. Equipped with spare magazine cleaning rod and hard carrying case. Pistol weighs 34.4 oz. empty.



NIB	Exc.	V.G.	Good	Fair	Poor
550	450	350	300	200	150

Model 92FS Inox

Introduced in 2001. Chambered for 9mm cartridge. Fitted with 4.9" barrel. Slide is black stainless steel, with lightweight frame and combat-style trigger guard, reversible magazine release and ambidextrous safety. Gray wrap-around grips. Weight about 34 oz.

NIB	Exc.	V.G.	Good	Fair	Poor
695	575	425	350	225	175

Model 96

Identical to Model 92FS. Fitted with 10-round magazine. Chambered for .40 S&W. Introduced in 1992.

NIB	Exc.	V.G.	Good	Fair	Poor
550	450	350	300	200	150

Model 96 Combat

Introduced in 1997. Single-action-only, with competition tuned trigger. Developed for practical shooting competition. Barrel length 5.9". Supplied with weight as standard. Rear sight is adjustable target type. Tool kit included as standard. Weight 40 oz.

NIB	Exc.	V.G.	Good	Fair	Poor
1700	1300	950	575	350	175

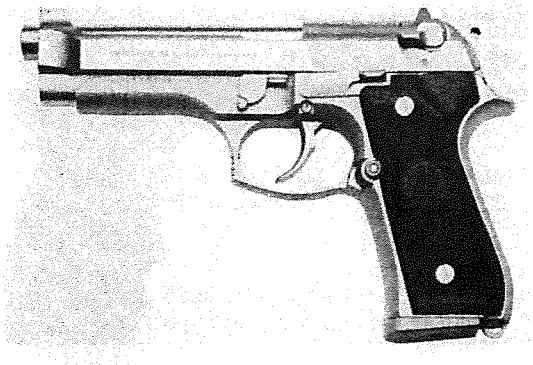
Model 96 Stock

Similar to Model 96 in double-/single-action, with half-cock notch for cocked and locked carry. Fitted with 4.9" barrel with fixed sights. Three interchangeable front sights are supplied as standard. Weight 35 oz. Introduced in 1997. No longer in U.S. product line.

NIB	Exc.	V.G.	Good	Fair	Poor
1350	950	775	500	325	150

Model 92/96FS Inox

Same as above except barrel, slide, trigger, extractor and other components are made of stainless steel. Frame made of lightweight anodized aluminum alloy. Model 96FS discontinued in 1993.



NIB	Exc.	V.G.	Good	Fair	Poor
650	550	450	350	300	200

Model 92/96FS Centurion

Chambered for 9mm or .40 S&W (Model 96). Features 4.3" barrel, but retains full grip to accommodate 15-round magazine (9mm); 10 rounds (.40 S&W). Weighs about 33.2 oz. Introduced in 1993. Black sandblasted finish.

NIB	Exc.	V.G.	Good	Fair	Poor
550	450	400	300	200	150

Model 92FS/96 Brigadier

Same as 92FS and 96, with heavier slide to reduce felt recoil. Removable front sight. Weight about 35 oz.

NIB	Exc.	V.G.	Good	Fair	Poor
700	550	400	300	150	75

Model 92FS/96 Brigadier Inox

Same as above, with stainless steel finish. Introduced in 2000.

NIB	Exc.	V.G.	Good	Fair	Poor
750	600	475	325	175	100

Model 92G-SD/96G-SD

Introduced in 2003. Features a decock mechanism built around single-/double-action trigger system. In addition, pistol has an integral accessory rail on frame. Fitted with 9mm or .40 S&W, 4.9" barrel, with heavy slide and 3-dot tritium sights. Weight about 35 oz.

NIB	Exc.	V.G.	Good	Fair	Poor
1000	750	500	350	195	125

Model 92F

9mm Parabellum caliber double-action semi-automatic pistol, with 4.9" barrel, fixed sights and 15-shot double-stack magazine and an extended base. Matte blued finish, with walnut or plastic grips. Introduced in 1984. No longer in production.

NIB	Exc.	V.G.	Good	Fair	Poor
500	400	350	300	200	150

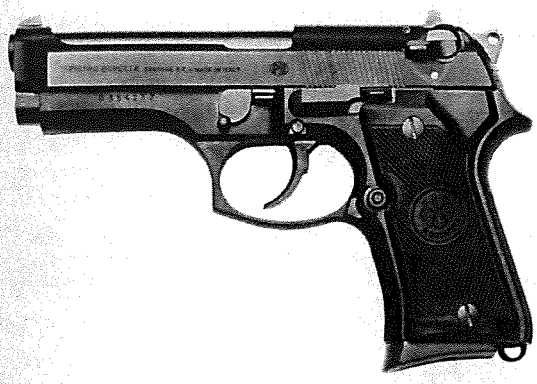
Model 92F Compact

As above, with 4.3" barrel and 13-shot magazine. No longer in production.

NIB	Exc.	V.G.	Good	Fair	Poor
500	400	350	300	200	150

Model 92/96 Compact "Type M"

Essentially same as Model 92FS Compact, with exception of single column magazine that holds 8 rounds and reduces grip thickness of pistol. Weighs 30.9 oz. Discontinued in 1993, reintroduced in 1998. Model 96 version (.40 S&W) introduced in 2000. **NOTE:** Add $90 for Tritium night sights.



NIB	Exc.	V.G.	Good	Fair	Poor
700	550	350	300	200	150

Model 92/96M Compact Inox

Same as above, with stainless steel slide and frame. Introduced in 2000.

NIB	Exc.	V.G.	Good	Fair	Poor
700	550	450	350	300	200

Model 92D Compact "Type M"

Same as above, with double-action-only trigger function. **NOTE:** Add $90 for Tritium night sights.

NIB	Exc.	V.G.	Good	Fair	Poor
550	450	350	300	200	150

Model 92FS Deluxe

Identical dimensions to full size Model 92FS. Addition of gold-plated engraved frame and gold-plated extra magazine. In fitted leather presentation hard case. Grips walnut briar, with gold initial plate. Introduced in 1993.

NIB	Exc.	V.G.	Good	Fair	Poor
5500	4500	3000	2000	1500	1000

Model 92FS "470th Anniversary" Limited Edition

Limited to only 470 pistols worldwide. Features high polish finish, with stainless steel gold-filled engravings, walnut grips, Anniversary logo on top of slide and on back of chrome plated magazine. Supplied with walnut case.

NIB	Exc.	V.G.	Good	Fair	Poor
2075	1300	800	600	375	200

Model 92/96D

Same specifications as standard Model 92 and Model 96. Variation has no visible hammer. Double-action-only. No manual safety. Weighs 33.8 oz.

NIB	Exc.	V.G.	Good	Fair	Poor
425	375	325	275	200	150

Model 92/96DS

Same as above, with same manual safety as found on 92FS pistol. Introduced in 1994.

NIB	Exc.	V.G.	Good	Fair	Poor
425	375	325	275	200	150

Model 92G/96G

Designed for French Gendarmerie. This model has now been adopted for French Air Force as well as other government agencies. Features hammer drop lever that does not function as safety when lever is released, but lowers hammer and returns to ready to fire position automatically. Offered to law enforcement agencies only.

NIB	Exc.	V.G.	Good	Fair	Poor
650	550	475	400	250	100

Model 92/96 Vertec

Introduced in 2002. Chambered for 9mm or .40 S&W cartridges. Fitted with 4.7" barrel. Double-/single-action trigger. Features a new vertical grip design, with shorter trigger reach and thin grip panels. Removable front sight and integral accessory rail on frame. Magazine capacity 10 rounds. Weight about 32 oz.

NIB	Exc.	V.G.	Good	Fair	Poor
700	575	425	300	225	165

Model 92 Competition Conversion Kit

Kit includes 7.3" barrel, with counterweight and elevated front sight, semi-automatic, walnut grips and fully adjustable rear sight. Comes in special carrying case, with basic pistol. **NOTE:** Kit Price Only.

NIB	Exc.	V.G.	Good	Fair	Poor
500	350	300	200	150	100

Model 92/96 Combo

Features specially designed Model 96 pistol, with extra 92FS slide and barrel assembly. Barrel lengths are 4.66". Sold with one 10-round magazine in both 9mm and .40 S&W.

NIB	Exc.	V.G.	Good	Fair	Poor
850	725	600	425	275	200

Model M9 Limited Edition

Introduced in 1995 to commemorate 10th Anniversary of U.S. military's official sidearm. This 9mm pistol limited to 10,000 units. Special engraving on slide with special serial numbers. Slide stamped "U.S. 9mm M9-BERETTA U.S.A.-65490".

Standard Model

NIB	Exc.	V.G.	Good	Fair	Poor
825	700	450	300	200	100

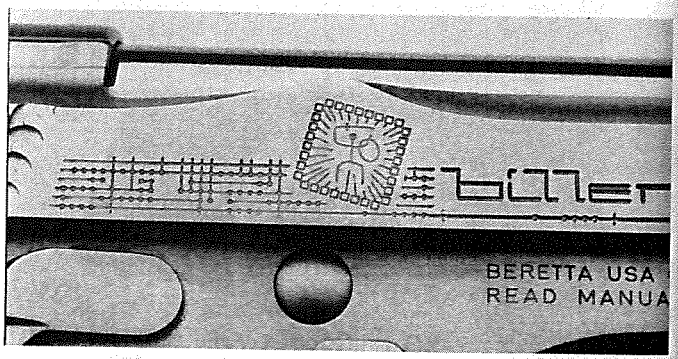
Deluxe Model

Walnut grips, with gold plated hammer and grip screws.

NIB	Exc.	V.G.	Good	Fair	Poor
875	750	500	350	200	100

Model 92 Billennium

Introduced in 2001. Limited production pistol of 2,000 units world wide. Chambered for 9mm cartridge. Steel frame, with checkered front and backstrap. Nickel alloy finish, with unique engraving. Carbon fiber grips. Interchangeable sights, with adjustable rear sight. Carry case standard. Single action.



NIB	Exc.	V.G.	Good	Fair	Poor
1200	1000	800	600	475	325

92 Steel-I

Steel-frame semi-automatic in 9mm or .40 S&W. Single- or

single-/double-action. 15+1 capacity, 4.7" barrel, weight 42.3 oz. IDPA certified. Fixed 3-dot sights. Introduced 2006.

NIB	Exc.	V.G.	Good	Fair	Poor
1075	850	600	475	300	150

M9A1

Semi-automatic single-/double-action in 9mm developed for U.S. Marine Corps. Capacity 10+1 or 15+1. Fixed sights. Introduced 2006.

NIB	Exc.	V.G.	Good	Fair	Poor
825	650	450	300	195	125

ELITE TEAM SERIES

In 1999, Beretta introduced a new series of pistols based on company's M92/96 pistol. Each of these pistols has specific features for specific shooting requirements.

Model 92/96 Custom Carry

Fitted with 4.3" barrel, shortened grip and low profile control levers. Safety lever is left side only. Magazine capacity 10 rounds. "CUSTOM CARRY" engraved on slide. Chambered for 9mm or .40 S&W calibers.

NIB	Exc.	V.G.	Good	Fair	Poor
625	500	400	300	200	100

Model 92/96 Border Marshall

Commercial version of pistol built for Immigration and Naturalization Service. Fitted with heavy-duty steel slide and short 4.7" I.N.S. style barrel. Rubber grips and night sights are standard. "BORDER MARSHALL" engraved on slide. Offered in 9mm or .40 S&W calibers.

NIB	Exc.	V.G.	Good	Fair	Poor
750	600	475	350	225	150

Model 92G/96G Elite

Chambered for 9mm or .40 S&W calibers. Fitted with 4.7" stainless steel barrel and heavy-duty Brigadier-style slide. Action is decock only. Slide has both front and rear serrations. Hammer is skeletonized. Beveled magazine well. Special "ELITE" engraving on slide. Weight about 35 oz.

NIB	Exc.	V.G.	Good	Fair	Poor
825	650	450	375	250	165

Model 92G Elite II

Version of Elite was developed for competition shooter. Fitted with 4.7" barrel and heavy slide. Has skeletonized hammer. Beveled magazine well and extended release. Checkered front and backstrap grip. Weight about 35 oz.

NIB	Exc.	V.G.	Good	Fair	Poor
925	725	550	395	275	150

Model 92FS Inox Tactical

Model has satin matte finish on its stainless steel slide. Frame is anodized aluminum. Black rubber grips and night sights are standard. Offered in 9mm only.

NIB	Exc.	V.G.	Good	Fair	Poor
775	625	500	350	225	100

COUGAR SERIES

Model 8000/8040/8045 Cougar

Compact size pistol using a short recoil rotating barrel. Features a firing pin lock, chrome lined barrel, anodized aluminum alloy frame, with Bruniton finish. Overall length 7"; barrel length 3.6"; overall height 5.5"; unloaded weight 33.5 oz. Offered in double-/single-action as well as double-action-only. Magazine holds 10 rounds. Available in 9mm or .40 S&W. In 1998 Beretta added .45 ACP caliber. **NOTE:** Add $50 for .45 ACP models

NIB	Exc.	V.G.	Good	Fair	Poor
625	525	400	350	250	150

Model 8000/8040/8045 Mini Cougar

Introduced in 1997. Similar in design to full size model. Offered in 9mm, .40 S&W or .45 ACP. Fitted with 3.6" barrel (3.7" on .45 ACP). Empty weight 27 oz. Offered in double-/single-action or double-action-only. Magazine capacity: 10 rounds for 9mm; 8 rounds for .40 S&W. Weight between 27 oz. and 30 oz. depending on caliber. **NOTE:** Add $50 for .45 ACP models.

NIB	Exc.	V.G.	Good	Fair	Poor
500	450	350	225	125	75

Model 8000F—Cougar L

Similar to above. Fitted with a shortened grip frame. Chambered for 9mm cartridge. Fitted with a 3.6" barrel. Overall height as been reduced by .4". Weight about 28 oz. Introduced in 2003.

NIB	Exc.	V.G.	Good	Fair	Poor
600	500	400	300	175	95

Model 9000F

Introduced in 2000. Chambered for 9mm or .40 S&W cartridge. Fitted with 3.4" barrel. Has polymer frame. "F" type has single-/double-action trigger. Fixed sights. Magazine capacity 10 rounds. Weight about 27 oz.; overall length 6.6"; overall height 4.8". External hammer and black finish.

EXHIBIT NN

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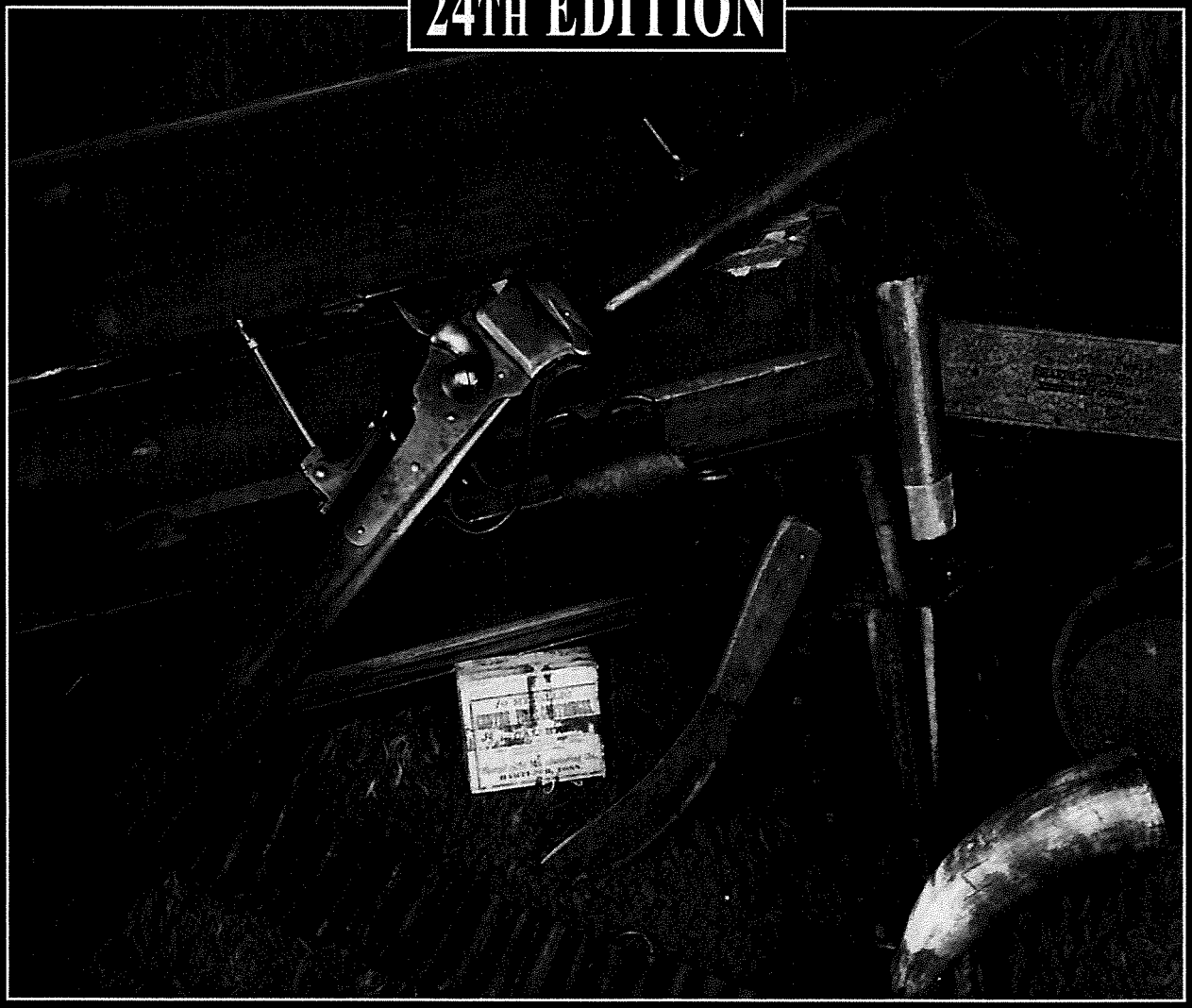

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NIB	Exc.	V.G.	Good	Fair	Poor
725	500	375	—	—	—

BDA-380

Double-action semi-automatic pistol. Chambered for .380 ACP cartridge. Features 3.75" barrel, with 14-round double-stack detachable magazine. Finish blued or nickel-plated, with smooth walnut grips. Manufactured in Italy by Beretta. Introduced in 1977. **NOTE:** Add 10 percent for nickel finish.

NIB	Exc.	V.G.	Good	Fair	Poor
625	400	325	275	200	150

BDA

Double-action semi-automatic pistol. Manufactured between 1977 and 1980 for Browning by SIG-Sauer of Germany. Identical to SIG-Sauer Model 220. Chambered for 9mm Parabellum, .38 Super and .45 ACP cartridges. **NOTE:** .38 Super would be worth approximately 30 percent additional.

NIB	Exc.	V.G.	Good	Fair	Poor
—	525	425	375	300	235

BDM Pistol

Double-action semi-automatic pistol. Chambered for 9mm cartridge. Fitted with selector switch that allows shooter to choose between single-/double-action model. Features 4.75" barrel, with adjustable rear sight. Magazine capacity 15 rounds. Weighs 31 oz. First introduced in 1991.

NIB	Exc.	V.G.	Good	Fair	Poor
560	450	350	250	200	150

BDM Silver Chrome

Variation of BDM introduced in 1997. Features silver chrome finish on slide and frame, balance in contrasting matte blue finish.

NIB	Exc.	V.G.	Good	Fair	Poor
560	450	350	250	200	150

BDM Practical

Introduced in 1997. Same as above, with silver chrome on frame only.

NIB	Exc.	V.G.	Good	Fair	Poor
560	450	350	250	200	150

BPM-D

Introduced in 1997. New version of BDM (Browning Pistol Model Decocker) features double-action pistol, with first shot fired double-action and subsequent shots fired single-action. No manual safety. Decock lever also releases slide.

NIB	Exc.	V.G.	Good	Fair	Poor
525	400	300	250	200	150

BRM-DAO

9mm pistol is a redesigned version of Model BDM. Initials stand for "Browning Revolver Model Double-Action-Only". Has finger support trigger guard for two-handed control. All other features same as BPM-D pistol. Weight about 31 oz.

NIB	Exc.	V.G.	Good	Fair	Poor
525	400	300	250	200	150

Nomad

Blowback-operated semi-automatic pistol. Chambered for .22 LR cartridge. Offered with 4.5" or 6.75" barrel. Has 10-round detachable magazine, with adjustable sights and all-steel construction. Finish blued, with black plastic grips. Manufactured between 1962 and 1974 by FN.

NIB	Exc.	V.G.	Good	Fair	Poor
500	360	275	150	75	50

EXHIBIT OO

United States Senate Judiciary Committee

Full Committee Hearing

"What Should America Do About Gun Violence?"

January 30, 2013
10:00 AM
Hart Senate Office Building, Room 216

Written Testimony of David B. Kopel

Research Director, Independence Institute, Golden, Colorado.

Associate Policy Analyst, Cato Institute, Washington, D.C.[1]

Adjunct Professor of Advanced Constitutional Law, Denver University, Sturm College of Law. www.davekopel.org.

"[W]e cannot clearly credit the [1994 'assault weapons'] ban with any of the nation's recent drop in gun violence."—U.S. Department of Justice 2004 study.[2]

"Passing a law like the assault weapons ban is a purely symbolic move in that direction [to disarm the citizenry]. . . . [T]hat change in mentality starts with the symbolic yielding of certain types of weapons. The real steps, like the banning of handguns, will never occur unless this one is taken first. . . ."—Charles Krauthammer[3]

"The ['assault'] weapons' menacing looks, coupled with the public's confusion over fully automatic machine guns versus semi-automatic assault weapons—anything that looks like a machine gun is assumed to be a machine gun—can only increase the chance of public support for restrictions on these weapons."—Josh Sugarmann, Founder, Violence Policy Center[4]

The Political Attack on Firearms Ownership

On December 14, 2012, a deranged and hate-filled mass-murderer first killed his own mother and then snuffed out 26 additional lives at Sandy Hook Elementary School in Newtown, Connecticut. It was one of the worst mass murders at school since 1927, when a defeated school board candidate set off explosives at an elementary school in Bath Township, Michigan, killing 38 children and five adults. The horrific crime at Sandy Hook tore the heart out of the nation. It filled every life-loving American—every parent, grandparent, aunt, and uncle—with anger, dread, and anguish.

In the aftermath of this crime, many Americans are exploring ways to responsibly and realistically reduce the possibility of another such attack, such as by better-addressing mental illness,[5] training people how to more-effectively respond to "active shooters,"[6] and allowing teachers and other responsible adults to carry concealed handguns in schools—something already successfully implemented in Utah and parts of Texas, Ohio, and Colorado.[7]

Unfortunately, others are promoting repressive laws which would have done nothing to prevent Sandy Hook, and would do nothing to prevent the inevitable copycat crimes that may take place in the near future. The demands for symbolic but useless anti-gun laws are accompanied by an aggressive culture war against dissenters. A *Des Moines Register* journalist declared that well-known defenders of gun rights should be dragged behind pickup trucks, that the Second Amendment should be repealed, that the National Rifle Association (NRA) should be declared a "terrorist organization," and that membership in the NRA should be outlawed.[8] A writer for the *Huffington Post* declared that anyone who believes guns may

legitimately be owned for self-defense—or that the Second Amendment protects that right—is a "menace" and "a danger to your children."[9]

Unfortunately, such mean-spirited and unjust demonization and scapegoating of law-abiding American gun owners has become a central feature of the political campaign to ban or restrict semi-automatic guns and the magazines that go with them. Even worse, the Newtown murders are being politically exploited

Prohibitionists use the false and inflammatory labels of "assault weapon" and "high-capacity magazine" to mischaracterize ordinary firearms and their standard accessories.

The AR-15 rifle has for years been the most popular, best-selling firearm in the United States. Millions of law-abiding Americans own AR-15s and similar guns. In an article for *Slate*, Justin Peters estimates that there may be nearly four million AR-15 rifles in the country—and that's just one brand of rifle.[10] Contrary to media claims, these ordinary citizens are not psychopaths intent on mass murder. Rather, Americans own so-called "assault weapons" for all the legitimate reasons that they own any type of firearm: lawful defense of self and others, hunting, and target practice. They do not own these firearms to "assault" anyone. To the contrary, rifles such as the AR-15, and standard capacity magazines of 11-19 rounds (for handguns) and up to 30 rounds (for rifles) are commonly used by rank and file police officers, because such firearms and magazines are often the best choice for the lawful protection of self and others.

That is why the police choose them so often. At Sen. Feinstein's press conference introducing her new prohibition bill, Rev. Hale, of the National Cathedral, asserted that the guns and magazines are useful only for mass murder. This is a mean-spirited insult to the many police officers who have chosen these very same guns and magazines as the best tools for the most noble purpose of all: the defense of innocent life.

What Is An "Assault Weapon?"

Gun prohibition advocates have been pushing the "assault weapon" issue for a quarter century. Their political successes on the matter have always depended on public confusion. The guns are *not* machine guns. They do *not* fire automatically. They fire only one bullet each time the trigger is pressed, just like every other ordinary firearm. They are *not* more powerful than other firearms; to the contrary, their ammunition is typically intermediate in power, less powerful than guns and ammunition made for big game hunting.

The difference between automatic and semi-automatic

For an automatic firearm (commonly called a "machine gun"), if the shooter presses the trigger and holds it, the gun will fire continuously, automatically, until the ammunition runs out.[11] Ever since the National

Firearms Act of 1934, automatics have been very strictly regulated by federal law: Every person who wishes to possess one must pay a $200 federal transfer tax, must be fingerprinted and photographed, and must complete a months-long registration process with the federal Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATFE). In addition, the transferee must be granted written permission by local law enforcement, via ATF Form 4. Once registered, the gun may not be taken out of state without advance written permission from BATFE.

Since 1986, the manufacture of new automatics for sale to persons other than government agents has been forbidden by federal law.[12] As a result, automatics in U.S. are rare (there are about a hundred thousand legally registered ones), and expensive, with the least expensive ones costing nearly ten thousand dollars.

The automatic firearm was invented in 1883 by Hiram Maxim. The early Maxim Guns were heavy and bulky, and required a two-man crew to operate. In 1943, a new type of automatic was invented, the "assault rifle." The assault rifle is light enough for a soldier to carry for long periods of time. Soon, the assault rifle became the ubiquitous infantry weapon. Examples include the U.S. Army M-16, the Soviet AK-47, and the Swiss militia SIG SG 550. The AK-47 (and its various updates, such as the AK-74 and AKM) can be found all over the Third World, but there are only a few hundred in the United States, mostly belonging to firearms museums and wealthy collectors.

The precise definition of "assault rifle" is supplied by the Defense Intelligence Agency.[13] If you use the term "assault rifle," persons who are knowledgeable about firearms will know precisely what kinds of guns you are talking about. The definition of "assault rifle" has never changed, because the definition describes a particular type of thing in the real world—just like the definitions of "apricot" or "Minnesota."

In contrast, the definition of "assault weapon" has never been stable. The phrase is merely an epithet. It has been applied to things which are not even firearms (namely, air guns). It has been applied to double-barreled shotguns, to single-shot guns (guns whose ammunition capacity is only a single round), and to many other sorts of ordinary handguns, shotguns, and rifles.

The first "assault weapon" ban in the United States, in California in 1989, was created by legislative staffers thumbing through a picture book of guns, and deciding which guns looked bad. The result was an incoherent law which, among other things, outlawed certain firearms that do not exist, since the staffers just copied the typographical errors from the book, or associated a model by one manufacturer with another manufacturer whose name appeared on the same page.

Over the last quarter century, the definition has always kept shifting. One recent version is Sen. Dianne Feinstein's new bill. Another is the pair of bills defeated in the January 2013 lame duck session of the Illinois legislature

which would have outlawed most handguns (and many long guns as well) by dubbing them "assault weapons."

While the definitions of what to ban keep changing, a few things remain consistent: The definitions do *not* cover automatic firearms, such as assault rifles. The definitions do *not* ban guns based on how fast they fire, or how powerful they are. Instead, the definitions are based on the name of a gun, or on whether a firearm has certain superficial accessories (such as a bayonet lug, or a grip in the "wrong" place).

Most, but not all, of the guns which have been labeled "assault weapons" are semi-automatics. Many people think that a gun which is "semi-automatic" must be essentially the same as an automatic. This is incorrect.

Semi-automatic firearms were invented in the 1890s, and have been common in the United States ever since. Today, about three-quarters of new handguns are semi-automatics. A large share of rifles and shotguns are also semi-automatics. Among the most popular semi-automatic firearms in the United States today are the Colt 1911 pistol (named for the year it was invented, and still considered one of the best self-defense handguns), the Ruger 10/22 rifle (which fires the low-powered .22 Long Rifle cartridge, popular for small game hunting or for target shooting at distances less than a hundred yards), the Remington 1100 shotgun (very popular for bird hunting and home defense), and the AR-15 rifle (popular for hunting game no larger than deer, for target shooting, and for defense). All of these guns were invented in the mid-1960s or earlier. All of them have, at various times, been characterized as "assault weapons."

Unlike an automatic firearm, a semi-automatic fires only one round of ammunition when the trigger is pressed. (A "round" is one unit of ammunition. For a rifle or handgun, a round has one bullet. For a shotgun, a single round contains several pellets).

In some other countries, a semi-automatic is usually called a "self-loading" gun. This accurately describes what makes the gun "semi"-automatic. When the gun is fired, the bullet (or shot pellets) travel from the firing chamber, down the barrel, and out the muzzle. Left behind in the firing chamber is the now empty case or shell that contained the bullets (or pellets) and the gunpowder.

In a semi-automatic, some of the energy from firing is used to eject the empty shell from the firing chamber, and then load a fresh round of ammunition into the firing chamber. Then, the gun is ready to shoot again, when the user is ready to press the trigger.

In some other types of firearms, the user must perform some action in order to eject the empty shell and load the next round. This could be moving a bolt back and forth (bolt action rifles), moving a lever down and then up (lever action rifles), or pulling and then pushing a pump or slide (pump action and slide action rifles and shotguns). A revolver (the second-most popular

type of handgun) does not require the user to take any additional action in order to fire the next round.[14]

The semi-automatic has two principle advantages over lever action, bolt action, slide action, and pump action guns. First, many hunters prefer it because the semi-automatic mechanism allows a faster second shot. The difference may be less than a second, but for a hunter, this can make all the difference.

Second, and more importantly, the semi-automatic's use of gunpowder energy to eject the empty case and then to load the next round substantially reduces how much recoil is felt by the shooter. This makes the gun much more comfortable to shoot, especially for beginners, or for persons without substantial upper body strength and bulk.

The reduced recoil also make the gun easier to keep on target for the next shot, which is important for hunting and target shooting, and extremely important for self-defense.

Semi-automatics also have their disadvantages. They are much more prone to misfeeds and jams than are simpler, older types of firearms, such as revolvers or lever action.

Contrary to the hype of anti-gun advocates and less-responsible journalists, there is no rate of fire difference between a so-called "assault" semi-automatic gun and any other semi-automatic gun.

How fast does a semi-automatic fire?

Here is a report on the test-firing of a new rifle:

> *187 shots were fired in three minutes and thirty seconds and one full fifteen shot magazine was fired in only 10.8 seconds.*

Does that sound like a machine gun? A "semi-automatic assault weapon"? Actually it is an 1862 test report of the then-new lever-action Henry rifle, manufactured by Winchester. If you have ever seen a Henry rifle, it was probably in the hands of someone at a cowboy re-enactment, using historic firearms from 150 years ago.

The Winchester Henry is a lever-action, meaning that after each shot, the user must pull out a lever, and then push it back in, in order to eject the empty shell casing, and then load a new round into the firing chamber.

The lever-action Winchester is not an automatic. It is not a semi-automatic. It was invented decades before either of those types of firearms. And yet that old-fashioned Henry lever action rifle can fire one bullet per second.

By comparison, the murderer at Sandy Hook fired 150 shots over a 20 minute period, before the police arrived. In other words, a rate of fewer than 8 shots per minute. This is a rate of fire far slower than the capabilities of a lever-action Henry Rifle from 1862, or a semi-automatic AR-15 rifle from

2010. Indeed, his rate of fire could have been far exceeded by a competent person using very old technology, such as a break-open double-barreled shotgun.

Are semi-automatics more powerful than other guns?

The power of a firearm is measured by the kinetic energy it delivers. Kinetic energy is based on the mass (the weight) of the projectile, and its velocity.[15] So a heavier bullet will deliver more kinetic energy than a lighter one. A faster bullet will deliver more kinetic energy than a slower bullet.[16]

How much kinetic energy a gun will deliver has nothing to do with whether it is a semi-automatic, a lever action, a bolt action, a revolver, or whatever. What matter is, first of all, the weight of the bullet, how much gunpowder is in the particular round of ammunition, and the length of the barrel.[17]

None of this has anything to do with whether the gun is or is not a semi-automatic. Manufacturers typically produce the same gun in several different calibers, sometimes in more than a dozen calibers.

Regarding the rifles which some people call "assault weapons," they tend to be intermediate in power, as far as rifles go. Consider the AR-15 rifle in its most common caliber, the .223. The bullet is only a little bit wider than the puny .22 bullet, but it is longer, and thus heavier.

Using typical ammunition, an AR-15 in .223 would have 1,395 foot-pounds of kinetic energy.[18] That's more than a tiny rifle cartridge like the .17 Remington, which might carry 801 foot-pounds of kinetic energy. In contrast, a big-game cartridge, like the .444 Marlin, might have 3,040.[19] This is why rifles like the AR-15 are suitable and often used for hunting small to medium animals (such as rabbits or deer), but are not suitable for the largest animals, such as elk or moose.[20]

Many (but not all) of the ever-changing group of guns which are labeled "assault weapons" use detachable magazines (a box with an internal spring) to hold their ammunition. But this is a characteristic shared by many other firearms, including many non-semiautomatic rifles (particularly, bolt-actions), and by the large majority of handguns. Whatever the merits of restricting magazine size (and we will discuss this below), the size of the magazine depends on the size the magazine. If you want to control magazine size, there is no point in banning certain guns which can take detachable magazines, while not banning other guns which also take detachable magazines.

Bans by name

Rather than banning guns on rate of fire, or firepower, the various legislative attempts to define an "assault weapon" have taken two approaches: banning guns by name, and banning guns by whether they have certain superficial features.

After a quarter century of legislative attempts to define "assault weapon," the flagship bill for prohibitionists, by Senator Dianne Feinstein, still relies on banning 157 guns by name. This in itself demonstrates that "assault weapons" prohibitions are not about guns which are actually more dangerous than other guns.

After all, if a named gun really has physical characteristics which make it more dangerous than other guns, then legislators ought to be able to describe those characteristics, and ban guns (regardless of name) which have the supposedly dangerous characteristics.

Banning guns by name violates the Constitution's prohibition on Bills of Attainder. It is a form of legislative punishment, singling out certain politically disfavored companies for a prohibition on their products.

Bans by features

An alternative approach to defining "assault weapon" has been to prohibit guns which have one or more items from a list of external features. These features have nothing to do with a gun's rate of fire, its ammunition capacity, or its firepower. Below are various items from Senator Feinstein's 1994 and/or 2013 bills.

Bayonet lugs. A bayonet lug gives a gun a military appearance. But to say the least, it has nothing to do with any real-world issue. Drive-by bayonetings are not a problem in this country.

Attachments for rocket launchers and grenade launchers. Since nobody makes guns for the civilian market that have such features, these bans would affect nothing. Putting the words "grenade launcher" and "rocket launcher" into the bill gives readily-gulled media the opportunity to ask indignantly "How can anyone support guns made to shoot grenades!?!" Besides that, grenades and rockets are subject to extremely severe controls, and essentially impossible for civilians to acquire.

Folding or telescoping stocks. Telescoping stocks are extremely popular because they allow shooters to adjust the gun to their own size and build, to the clothing they're wearing, or to their shooting position. Folding stocks make a rifle or shotgun much easier to carry in a backpack while hunting or camping. Even with a folding stock, the gun is still far larger, and less concealable, than a handgun.

Grips. The Feinstein bills outlaw any long gun that has a grip, or anything which can function as a grip. Of course, all guns have grips—or they couldn't be held in the hand to fire at all. While this means that some bills would presumptively ban nearly all semi-autos, the likely intent is to ban pistol-style grips. This reflects the fact that gun prohibitionists learn much of what

they know about guns by watching movies made by other gun prohibitionists, such as the "Rambo" series by Sylvester Stallone. So they think that the purpose of a "pistol grip" is to enable somebody to "spray fire" a gun. And, of course, the prohibitionists imagine that semiautomatic rifles *are* exactly the same as the machine guns in the Rambo movies.

In truth, a grip helps a responsible shooter stabilize the rifle while holding the stock against his shoulder. It is particularly useful in hunting, where the shooter will not have sandbags or a benchrest, or perhaps anything else on which to rest the forward part of the rifle. Accurate hunting is humane hunting. And should a long gun be needed for self-defense, accuracy can save the victim's life.

The gun prohibition lobbies, though, oppose firearms accuracy. On the January 16, 2013, PBS Newshour, Josh Horwitz (an employee of the Coalition to Stop Gun Violence) said that grips should be banned because they prevent "muzzle rise" and thereby allow the shooter to stay on target.

Well, yes, a grip helps stabilize the gun so that a second shot (whether at a deer or a violent attacker) will go where the first shot went. Horowitz was essentially saying that guns which are easy to fire accurately should be banned.

This is backwards. It is like claiming that history books which are especially accurate should be banned, while less-accurate books could still be allowed.

Guns which are more accurate are better for all the constitutionally-protected uses of firearms, including self-defense, hunting, and target shooting. To single them out for prohibition is flagrantly unconstitutional.

Barrel covers. For long guns that do not have a forward grip, the user may stabilize the by holding the barrel with her non-dominant hand. A barrel cover or shroud protects the user's hand. When a gun is fired repeatedly, the barrel can get very hot. This is not an issue in deer hunting (where no more than a few shots will be fired in a day), but it is a problem in some other kinds of hunting, and it is a particular problem in target shooting, where dozens of shots will be fired in a single session.

Threaded barrel for safety attachments. Threading at the end of a gun barrel can be used to attach muzzle brakes or sound suppressors.

When a round is fired though a gun barrel, the recoil from the shot will move the barrel off target, especially for a second, follow-up shot. Muzzle brakes reduce recoil and keep the gun on target. It is very difficult to see how something which makes a gun more accurate makes it so "bad" that it must be banned.

A threaded barrel can also be used to attach as sound suppressor. Suppressors are legal in the United States; buying one requires the same very severe process as buying a machine gun. They are sometimes,

inaccurately, called "silencers." They typically reduce a gunshot's noise by about 15-20 decibels, which still leaves the gun four times louder than a chainsaw.

But people who only know about firearms by watching movies imagine that a gun with a "silencer" is nearly silent, and is only used by professional assassins. In real life, sound suppressors are used by lots of people who want to protect their hearing, or to reduce the noise heard by neighbors of a shooting range. Many firearms instructors choose suppressors in order to help new shooters avoid the "flinch" that many novices display because of a gun's loudness.

The bans on guns with grips, folding stocks, barrel covers, or threads focus exclusively on the relatively minor ways in which a feature might help a criminal, and completely ignore the feature's utility for legitimate sports and self-defense. The reason that manufacturers include these features on firearms is because millions of law-abiding firearms owners choose them for entirely legitimate purposes.

Sen. Dianne Feinstein's 2013 Legislation

Sen. Feinstein attempts to reassure gun owners by also including an appendix of guns which she is not banning. In 1994, she exempted 670 "recreational" firearms. In 2013, the exempted guns list grows to over 2,200. Notably, not a single handgun appears on either of Sen. Feinstein's lists. The basis for a gun being exempted is because it is, supposedly, suitable for recreational uses. This ignores the holding of *District of Columbia v. Heller* that self-defense is the core of the Second Amendment.

The exemption list is meaningless. It is inflated by naming certain models repeatedly. For example, the Remington 870 pump action shotgun appears 16 different times, in its various configurations. Besides that, none of the exempted guns are covered by the bill's ban on guns by name or by feature.

Regarding grandfathered guns, Sen. Feinstein makes them non-transferable, thus imposing a slow-motion form of uncompensated confiscation.

Grandfathering with slow-motion confiscation may be a way-station to immediate confiscation, when political circumstances allow. As Sen. Feinstein told CBS 60 Minutes in 1995, "If it were up to me, I would tell Mr. and Mrs. America to turn them in—turn them all in."[21]

Would a ban do any good?

Connecticut banned so-called "assault weapons" in 1993, and the ban is still on the books. The Bushmaster rifle used by the Sandy Hook murderer was not an "assault weapon" under Connecticut law. Nor was it an "assault weapon" under the 1994-2004 Feinstein ban.[22] The new Feinstein ban would cover that particular model of Bushmaster. But it would allow Bushmaster (or any other company) to manufacture other semi-automatic rifles, using a

different name, which fire just as fast, and which fire equally powerful bullets.

To reiterate, the Sandy Hook murderer's rate of fire (150 shots in 20 minutes) could be duplicated by any firearm produced in the last century and a half.

We do not have to speculate about whether "assault weapon" bans do any good. A Department of Justice study commissioned by the Clinton administration found that they do not.

In order to pass the 1994 federal ban, proponents had to accept two related provisions. First, the ban would sunset after 10 years. Second, the Department of Justice would have to commission a study of the ban's effectiveness. The study would then provide Congress with information to help decide whether to renew the ban.

The Justice Department of Attorney General Janet Reno chose the Urban Institute to conduct the required study. The Urban Institute is well-respected and long-established progressive think tank in Washington. The study found the Feinstein ban to be a complete failure. There was no evidence that lives were saved, no evidence that criminals fired fewer shots during gun fights, no evidence of any good accomplished. Given the evidence from the researchers selected by the Clinton-Reno Department of Justice, it was not surprising that Congress chose not to renew the 1994 ban.

The final report was published by the U.S. Department of Justice's research arm, the National Institute of Justice, in 2004, based on data through 2003. The authors were Christopher S. Koper, Daniel J. Woods, and Jeffrey A. Roth.[23] The 2004 final report replaced two preliminary papers by Roth and Koper, one of which was published in 1997, and the other in 1999.[24]

The 2004 final report concludes: "we cannot clearly credit the ban with any of the nation's recent drop in gun violence. . . . Should it be renewed, the ban's effects on gun violence are likely to be small at best and perhaps too small for reliable measurement."

As the paper noted, "assault weapons" "were used in only a small fraction of gun crimes prior to the ban: about 2% according to most studies and no more than 8%." Most of those that were used in crime were pistols, not rifles.

Recall that "assault weapons" are arbitrarily categorized guns that are functionally equivalent to other guns. Thus, criminals, to the degree that the ban affects them at all, can and did easily substitute other guns for so-called "assault weapons."

Regarding the ban's impacts on crime, the 2004 paper concludes that "the share of crimes involving" so-called "assault weapons" declined, due "primarily to a reduction in the use of assault pistols," but that this decline "was offset throughout at least the late 1990s by steady or rising use of other guns equipped with" magazines holding more than ten rounds. In other words, as anyone with common sense could have predicted, criminals easily

substituted some guns for others. (Magazines are discussed in the next section.)

Unfortunately, Senator Feinstein's website is somewhat inaccurate in claiming that the 1994 ban was helpful. The Senator's web page on "assault weapons" lists five sources that allegedly show the "effectiveness" of the 1994 ban. However, four of those sources pertain, not to changes in crime rates, but to changes in weapon and magazine use. Such trends do not show that the 1994 ban was effective. Instead, they show, among other things, that the ban took place in a period of declining crime rates. Crime was declining before the imposition of the ban, and it continued to decline after the ban was lifted. The shift in gun use in crime also shows that criminals can easily replace "assault" semi-automatic guns with other, functionally equivalent semi-automatic guns.[25]

The four cited sources show that if you make it illegal to manufacture a gun with a certain name, then firearms companies will make guns with different names. Then, guns with the "bad" names will become a smaller fraction of the total U.S. gun supply. Some of the guns in the legal pool of guns are eventually acquired by criminals. (The principal means are thefts, and "straw purchases," in which a confederate who does not have a criminal record purchases a firearm on behalf of a convicted criminal. Straw purchases are federal felonies.) So over time, criminals have fewer guns with the "bad" name, and more guns with other names. Changing the names of the guns that criminals use does not make anyone any safer.

For the fifth source, the website makes the following claim:

> In a Department of Justice study, Jeffrey Roth and Christopher Koper find that the 1994 Assault Weapons Ban was responsible for a 6.7 percent decrease in total gun murders, holding all other factors equal. . . .
>
> Original source (page 2): Jeffrey A. Roth & Christopher S. Koper, "Impact Evaluation of the Public Safety and Recreational Firearms Use Protection Act of 1994," The Urban Institute (March 1997).

Attentive readers will notice that Roth and Koper are two of the authors of the 2004 study discussed above. So why does the website cite the 1997 study by these researchers, but not their 1999 study or (regarding this point) their 2004 study? The later studies repudiated the preliminary guess in the 1997 study.

Here is what the 1997 study actually said:

> 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.[26]

So initially, the researchers mistook a "year-to-year variation"—actually part of a long-term decline in crime rates—for the effects of the "assault weapons ban." They corrected this error in their subsequent reports—a fact that Senator Feinstein's website does not acknowledge.

What about state-level "assault weapons bans?" Remember that Connecticut has had such a ban since 1993. The Newtown murders are a vivid illustration that such bans do not save lives.

Economist John Lott examined data for the five states with "assault weapon" bans in his 2003 book, *The Bias Against Guns*. Controlling for sociological variables, and testing the five states with bans against the other 45 states, he found no evidence of a reduction in crime. To the contrary, the bans were associated with increased crime in some categories.[27] Whether the adverse effect Lott reports is a phantom of statistical analyses or random factors, or whether it is the result of criminals feeling relatively empowered due to state governments cracking down on law-abiding gun owners, the state-level data do not support the claim that "assault weapons" bans reduced crime rates.

It is ridiculous to claim that banning some semi-automatic guns, while leaving other, functionally equivalent semi-automatic guns legal, will reduce violent crime. It is analogous to banning knives with black handles, but not knives with brown handles, and expecting that to reduce knife-related crime.

Regarding mass murders in particular, *Mother Jones* examined 62 mass shootings since 1982, finding that 35 of the total 142 guns used were designated as "assault weapons."[28] To take one example not involving an "assault weapon," in 1991 a man murdered 22 people at a Texas cafeteria using a pair of ordinary semi-automatic pistols, not an "assault weapon." He reloaded the gun multiple times.[29] Tragically, in order to comply with laws against concealed carry, Suzanna Hupp had locked her own handgun in her vehicle before entering the cafeteria, rendering her defenseless as the attacker murdered her parents and many others.[30]

Obviously criminals need not limit themselves to semi-automatic guns. Consider first the potential lethality of shotguns. The Winchester Model 12 pump action shotgun (defined as a "recreational" firearm by the 1994 federal "assault weapons" ban) can fire six 00 buckshot shells, each shell containing twelve .33 caliber pellets, in three seconds. Each of the pellets is larger in diameter than the bullet fired by an AKS (a semiautomatic look-alike of an AK-47 rifle). In other words, the Winchester Model 12 pump action shotgun can in three seconds unleash seventy-two separate projectiles, each single one capable of causing injury or death. The Remington Model 1100 shotgun (a common semiautomatic duck-hunting gun, also defined as a "recreational" firearm under the 1994 ban) can unleash the same seventy-two projectiles in

2.5 seconds. In contrast, an AKS would take about a minute to fire forty aimed shots (or perhaps twice that many without aiming).[31] Notably, a pump-action shotgun is extremely easy to reload without lowering the gun from firing position, and each additionally loaded shell can be fired immediately. When mass murderers target victims in tightly-packed venues, a "recreational" shotgun could be particularly deadly.

The purpose of gun bans is to ban guns

The only true utility of a ban on "assault weapons" is to condition the public to bans on more guns. For example, Douglas Anthony Cooper advocates a ban on "assault" semi-automatics and "high-capacity" magazines, though he grants such legislation makes little or no difference. His solution is to ban all semi-automatic rifles and all pump-action shotguns, writing that pump-action shotguns "are in some ways *more* useful than many often-banned weapons, if you intend to shoot a huge number of people, quickly."[32]

In the 1996 op-ed quoted above, Charles Krauthammer calls for government to "disarm its citizenry," and he sees the "assault weapons ban" as meaningful only as a step in that direction. Krauthammer argues, "The claim of the advocates that banning these 19 types of 'assault weapons' will reduce the crime rate is laughable. There are dozens of other weapons, the functional equivalent of these 'assault weapons,' that were left off the list and are perfect substitutes for anyone bent on mayhem." Nevertheless, Krauthammer sees the ban as useful insofar as it leads to "real steps, like the banning of handguns," down the road.[33]

Although writer Christian Chung does not offer a detailed plan on the legislation he would eventually like to see in place, he refers to Feinstein's newly proposed "assault weapons ban" as "only the start" of much more extensive legislation. One of Chung's complaints is that the "assault weapons ban" arbitrarily outlaws some semi-automatic guns because of some "cosmetic addition" while leaving functionally equivalent guns legal.[34]

Writing for the *Atlantic*, senior editor Robert Wright similarly complains about the "assault weapons ban," arguing that "the assault weapons issue is a red herring." As he points out, "there's no clear and simple definition of an assault weapon, and this fact has in the past led to incoherent regulation." What is Wright's preferred legislation? He advocates legislation to accomplish the following: "It's illegal to sell or possess a firearm—rifle or pistol—that can hold more than six bullets. And it's illegal to sell or possess a firearm with a detachable magazine."[35] In other words, Wright wants to outlaw the overwhelming majority of semi-automatic guns.

Magazines

Nationally, anti-gun advocates are calling for a ban on magazines holding more than 10 rounds. New York Governor Andrew Cuomo has gone even further, with a ban on anything holding more than seven.[36] These bans are unconstitutional, and harmful to public safety.

A magazine is the part of the firearm where ammunition is stored. Sometimes the magazine is part of the firearm itself, as in tube magazines underneath barrels. This is typical for shotguns.

For rifles and handguns, the typical magazine is detachable. A detachable magazine is a rectangular or curved box, made of metal or plastic. At the bottom of the magazine is a spring, which helps push a fresh round of ammunition into the firing chamber, after the empty shell from the previous round has been ejected. Some people use the word "clip," but this is incorrect.

The type or model of gun does not determine what size magazine can be used. Any gun that uses a detachable magazine can accommodate a detachable magazine of any size.

As detailed above, the 1994 Feinstein ban was predicated on the theory that "recreational" firearm use is legitimate, and other firearms use is not. The ban did in fact impede recreational firearms use. More importantly, the ban is plain a violation of *Heller*, which affirms the right of defensive gun ownership.

For target shooting competitions, there are many events which *require* the use of magazines holding more than 10 rounds. For hunting, about half the states limit the magazine size that a hunter can carry in the field, but about half the states do not.

In some scenarios, such as deer hunting, it is quite true that a hunter will rarely get off more than two shots at a particular animal. But in other situations, particularly pest control, the use of 11 to 30 round magazines is quite typical, because the hunter will be firing multiple shots. These include the hunting of packs of feral wild hogs (which are quite strong, and are often difficult to put down with a single shot), prairie dogs, and coyotes.

More generally, the rifle that might shoot only one or two shots at a deer might be needed for self-defense against a bear, or against human attackers. In 2012, Arizona repealed its limitations on magazine capacity for hunters precisely because of the need for self-defense against unexpected encounters with smuggling gangs in the southern part of the state. It is well-established that drug traffickers and human traffickers often use the same wild and lonely lands that hunters do.

For the firearms that are most often chosen for self-defense, asserting that any magazine over 10 (or seven) rounds is "high capacity" is incorrect. The term "high-capacity magazine" might have a legitimate meaning when it refers to a magazine that extends far beyond that intended for the gun's optimal operation. For example, although a semi-automatic handgun can

accept a 30-round magazine, such a magazine extends far beneath the gun grip, and it is therefore impractical to use with a concealed-carry permit, to take one example. For a handgun, a 30-round magazine may be a "high-capacity magazine."

The persons who have the most need for actual high-capacity magazines are persons who would have great difficulty changing a magazine—such as elderly persons, persons with handicaps, persons with Parkinson's disease, and so on. For a healthy person, changing a magazine takes only a second or two. How is this accomplished? Typically a gun's magazine-release button is near the trigger. To change a magazine, the person holding the gun presses the magazine-release button with a thumb or finger. The magazine instantly drops to the floor. While pushing the magazine-release button with one hand, the other hand grabs a fresh magazine (which might be carried in a special holster on a belt) and bringing it towards the gun. The moment the old magazine drops out, a fresh one is inserted.[37]

Although changing magazines is quick, persons being attacked by violent criminals will typically prefer not to spend even two seconds in a magazine change. This is why semi-automatic handguns often come factory-standard with a magazine of 11 to 19 rounds. For example, Rep. Gabrielle Giffords has said that she owns a 9mm Glock handgun. The most popular Glocks in this caliber come standard with 15 or 17 round magazines.[38]

For most other manufacturers as well, handgun magazines with a capacity of 11 to 19 rounds are factory standard. A ban on magazines with a capacity of more than 10 rounds means a ban on the most common and most useful magazines purchased for purposes of recreational target practice and self-defense.

One thing that proves the obvious usefulness of standard capacity magazines is the fact that most police officers use them. An officer typically carries a semi-automatic handgun on a belt holster as his primary sidearm. The magazine capacity is typically in the 11-19 range.

Likewise, the long gun that is carried in police patrol cars is quite often an AR-15 rifle with a 30-round magazine.[39]

True, a police officer is much more likely than other civilians to find him- or herself in a confrontation with violent criminals. Nevertheless, every civilian faces some risk of such a confrontation, and every law-abiding citizen has a moral right to own the best tools of self-defense should such a confrontation come to pass. Although different guns work better for different individuals in different circumstances, in many contexts the officer's advice is equally sound for non-police civilians who own a gun for self-defense.

Why might someone "need" a factory-standard fifteen-round magazine for a common 9 mm handgun? Beyond the fact that government should recognize and protect people's rights, not dictate to free Americans what they "need" to own, standard-capacity magazines can be extremely useful for self-defense. This is true in a variety of circumstances, such as if a defender faces multiple

attackers, an attacker is wearing heavy clothing or body armor, an attacker is turbo-charged by methamphetamine or cocaine, an attacker poses an active threat from behind cover, or a home invader cuts the lights to the home before entering at night. Especially because, in stressful circumstances, police as well as non-police civilians often miss when firing a handgun even at close range, having the extra rounds can be crucially important in some defensive contexts.

Consider the advantages a criminal has over his intended victims. The criminal often takes time to carefully prepare an attack; the victim is caught off-guard. The criminal has the element of surprise; the victim is the one surprised. The criminal can adapt his plans, as by selecting different weaponry; the victim must respond with what's at hand at the moment of attack. A criminal can, for instance, substitute a shotgun or a bag full of revolvers for a semi-automatic gun. A criminal can pack multiple magazines if he uses a semi-automatic gun. The intended victim, on the other hand, usually will have on hand at most a single defensive gun, carrying (if it is a semi-automatic) a single magazine. Thus, what legislation such as a ban on "high-capacity" magazines does is give the criminal a greater advantage over his intended victims.

Would a magazine ban do any good?

Recall that in 2004 the National Institute of Justice study found that the 1994-2004 ban on the manufacture or import of such magazines had no discernible benefit. As the authors noted, the existing supply of such magazines was so vast that criminals apparently had no trouble obtaining magazines of whatever size they wished.[40]

Since the September 2004 expiration of the ban on new magazines, the supply has grown vaster still. In other words, we know that the pre-1994 supply of magazines was so large that nine years of prohibition had no effect. The much larger supply of magazines as of 2013 means that the already-demonstrated period of nine years of futility would be far longer.

No one can say if a ban on new magazines would ever do any good. But we can be rather certain that a ban would be ineffectual for at least fifteen years, and perhaps many more. Preventing the next Newtown is something that requires solutions which will start working this year—and not futile laws which, in the best case scenario, might possibly begin to have their first benefits around 2030.

It is entirely possible to speculate what might happen if criminals did not have magazines with 11 or more rounds, just as one can speculate about what might happen if all criminals could not obtain stolen cars, or if criminals could not obtain guns, or if all criminals were left-handed. But there is no particular reason to think that any of these scenarios might ever come true.[41]

A national ban on the millions of currently owned "high capacity" magazines would require a heavy-handed police state to enforce. The new

Cuomo ban in New York will be enforceable only if the state's motto of "The Empire State" is changed to "The Police State."

It would be possible to outlaw the legal transfer of grandfathered magazines, but this would not remove "high-capacity" magazines from the black market.

Regarding "shootout" scenarios, the types of criminals most likely to get into shootouts with the police or with other criminals are precisely the types of criminals expert at acting on the black market. Although gun prohibitionists often link "assault weapons" to gang violence associated with the illegal drug trade,[42] they miss the irony of their argument. They are, in effect, claiming that gangs operating the black market in drugs will somehow be restricted from acquiring "high capacity" magazines by legislation limiting the manufacture and sale of such magazines. In short, their argument—at least as it pertains to career criminals—is ludicrous. If gangsters can obtain all the cocaine they want, despite a century of severely-enforced prohibition, they are going to be able to get 15 round magazines.

Besides that, magazines are not very difficult to build. Anyone with moderate machine shop skills can build a small metal box and put a spring in it. Building magazines is vastly easier than building guns, and we know that tribespeople in Ghana (who do not have access to high-quality machine shops) produce a hundred thousand working copies of the AK-47 per year.[43]

Moreover, 3-D printing technology has *already* produced "printed" plastic magazines.[44] It's not very hard—just a box in a particular shape, along with a spring. For manufacturing actual firearms, 3-D printing is currently just a hypothetical; a firearm needs to be strong enough to withstand (over the course of its use) many thousands of gunpowder explosions in the firing chamber. But for a mere magazine, the current strength of printed plastics is sufficient.

We can limit the discussion, then, to mass murders in which the perpetrator targets victims randomly, often seeking the global infamy the mass media so readily provide them. Of course some such people could still illegally purchase a "high capacity magazine" on the black market. Given that 36 percent of American high school seniors illegally acquire and consume marijuana,[45] it is unrealistic to think that someone intent on mass mayhem would be unable to find his magazine of choice on the black market.

Besides that, the truly high-capacity magazines (e.g., a 100 round drum), are very prone to malfunction. For example, during the mass murder at the movie theater in Aurora, the murderer's 100-round magazine malfunctioned, causing the killer to cease using the gun with the magazine.[46] Had the killer had numerous, smaller magazines, he would have been able to fire more rounds from that particular gun. Hundred round magazines are novelty items, and are not standard for self-defense by civilians or police.

Advocates of the ban on standard capacity magazines assert that while the attacker is changing the magazine, one of the victims can tackle him.

There are three known instances where something this may have happened: in Springfield, Oregon, in 1998; in Tucson, Arizona, in 2011;[47] and the Long Island Railroad in 1991.

Far more commonly, however, the victims are fleeing, and are not close enough to the shooter to tackle him during a two-second interval. At Newtown, the murderer changed magazines many times, firing only a portion of the rounds in each magazine.[48] At the 1991 murders at the Luby's Texas cafeteria (24 dead), the perpetrator changed magazines multiple times. In the Virginia Tech murders, the perpetrator changed magazines 17 times.[49]

The *Heller* decision teaches us that one does not decide on the constitutionality of banning something simply by looking at instances of misuse. Handguns are used in thousands of homicides annually, and in several hundred thousand other gun crimes. A ban on handguns (imagining it would be effective) would have orders of magnitude greater benefits than a ban on magazines holding more than 10 rounds (imagining that too to be effective).

Heller, however, reminds us that the Second Amendment has already done the cost-benefit analysis. The Framers were quite familiar with gun crime, and with lawful defensive gun use. The arms and accessories protected by the Second Amendment are those which are commonly used by law-abiding citizens for legitimate purposes, especially self-defense. In today's America, this certainly includes handguns and rifles with magazines that prohibitionists would consider "large."

International Comparisons

Some Americans, including Howard Dean, the former chair of the Democratic National Committee, have advocated the mass confiscation of firearms. Their model is the confiscations that took place in the past quarter-century in Great Britain.

This dystopian situation in Great Britain actually shows the perils of repressive anti-gun laws:

- A woman in Great Britain is three times more likely to be raped than an American woman.

- In the United States, only about 13% of home burglaries take place when the occupants are home, but in Great Britain, about 59% do. American burglars report that they avoid occupied homes because of the risk of getting shot. English burglars prefer occupied homes, because there will be wallets and purses with cash, which does not have to be fenced at a discount. British criminals have little risk of confronting a victim who possesses a firearm. Even the small percentage of British homes which have a lawfully-owned gun would

not be able to unlock the gun from one safe, and then unlock the ammunition from another safe, in time to use the gun against a home invader. It should hardly be surprising, then, that Britain has a much higher rate of home invasion burglaries than does the United States.[50]

- Overall, the violent crime rate in England and Wales is far above the American rate. (Using the standard definition for the four most common major violent crimes: homicide, rape, robbery, and aggravated assault.)

- According to the United Nations (not exactly a "pro-gun" organization), Scotland is the most violent nation in the developed world.[51]

In the early 20th century, the Great Britain had virtually no gun control, virtually no gun control. Today, it has a plethora of both.

What went wrong? Various minor and ineffectual gun controls were enacted in the late nineteenth and early twentieth centuries; proposals for more extensive controls ran into strenuous opposition in Parliament from MPs who still believed in natural rights. The advocacy for gun control was almost always accompanied by a bodyguard of lies, such as when the government, fearful of a workers rebellion, pushed through the Firearms Act of 1920. The government falsely told the public that gun crimes were rapidly increasing, and hid the law's true motive (political control) from the public, presenting the law as a mere anti-crime measure.[52] In practice, the law eliminated the right of British subjects to be armed, and turned it into a privilege. The Firearms Act also began a decades-long process of eliminating the public's duty to protect their society and right to protect themselves. By the late 20th century, Great Britain had one of the lowest rates of gun ownership in the Western World. Only 4% of British households would admit gun ownership to a telephone pollster.[53]

In 1998, after a known pedophile used a handgun to murder kindergarten children in Dunblane, Scotland, the Parliament banned non-government possession of handguns. As a result the Gun Control Network (a prohibition advocacy group) enthused that "present British controls over firearms are regarded as 'the gold standard' in many countries." According to GCN spokesperson Mrs. Gill Marshall-Andrews, "the fact that we have a gold standard is something to be proud of…."[54]

A July 2001 study from King's College London's Centre for Defence Studies found that handgun-related crime increased by nearly 40% in the two years following implementation of the handgun ban. The study also found that there had been "no direct link" between lawful possession of guns by licensed citizens and misuse of guns by criminals. According to the King's College report, although the 1998 handgun ban resulted in over 160,000 licensed handguns being withdrawn from personal possession, "the UK

appears not to have succeeded in creating the gun free society for which many have wished. Gun related violence continues to rise and the streets of Britain…seem no more safe."[55]

A few weeks before the King's College study was released, Home Office figures showed that violent crime in Great Britain was rising at the second fastest rate in the world, well above the U.S. rate, and on par with crime-ridden South Africa.[56] In February 2001, it was reported that 26 percent of persons living in England and Wales had been victims of crime in 1999.[57] Home Secretary Jack Straw admitted, "levels of victimisation are higher than in most comparable countries for most categories of crime." On May 4, 2001, *The Telegraph* disclosed that the risk of a citizen being assaulted was "higher in Britain than almost anywhere else in the industrialized world, including America."[58]

As King's College observed, with passage of the Firearms Act of 1997, "it was confidently assumed that the new legislation effectively banning handguns would have the direct effect of reducing certain types of violent crime by reducing access to weapons."[59] The news media promised that the "world's toughest laws will help to keep weapons off the streets."[60]

Yet faster than British gun-owners could surrender their previously-registered handguns for destruction, guns began flooding into Great Britain from the international black market (especially from eastern Europe and China), driven by the demands of the country's rapidly developing criminal gun culture.[61]

It is true that there are far fewer gun deaths in Great Britain than in the United States. Most of the difference is due to different methods of suicide; guns being scarce in Great Britain, suicides are perpetrated with other methods.

The one major criminal justice statistic in which Great Britain appears to be doing better than the U.S. is the homicide rate, with the U.S. rate at a little more than 4, and the England and Wales rate at 1.4. However, the U.S. rate is based on initial reports of homicides, and includes lawful self-defense killings (about 10-15% of the total); the England and Wales rate is based only on final dispositions, so that an unsolved murder, or a murder which is pleaded down to a lesser offense, is not counted a homicide. In addition, multiple murders are counted as only a single homicide for Scottish statistics.[62]

But let's assume that the entire difference is the homicide rates between the U.S. and Great Britain is due to gun control. The advocates of British-style controls in America ought to acknowledge the fearsome price that gun control has exacted on the British people: an astronomical rate of rape, of home invasions, and of violent crime in general.

Registration

An important difference between Great Britain and the United States is that in Great Britain, many people complied with gun confiscation because their guns were already registered.

The evidence is overwhelming that Americans will not comply with gun confiscation programs; a recent Rasmussen poll showed that 65 percent of American gun owners would not obey government orders to surrender their guns.

Nor will Americans obey laws which retroactively require them to register their guns. During the first phase of the "assault weapon" hoax, several states and cities passed bans, and allowed grandfathered owners to keep the guns legally by registering the guns. The non-compliance rates for retroactive registration were always at least 90%, and frequently much higher than that.[63]

Americans are quite aware that gun registration can be a tool for gun confiscation. That is why Congress has enacted three separate laws (1941, 1986, and 1993) to prohibit federal gun registration. Congress first acted in 1941 because Congress saw how Hitler and Stalin had been using gun registration for confiscation.[64] Since then, registration lists have been used in many countries, and in New York City, for confiscation. Indeed, even if we look only at registration laws enacted by democratic nations, in most countries gun registration lists have eventually been used for the confiscation of many firearms.

Congress cannot expand or contract the judicially-declared scope of a constitutional right;[65] but Congress can, under section 5 of the Fourteenth Amendment, enact "prophylactic" measures to prevent state and local governments from endangering civil rights,[66] provided that these laws are "congruent and proportional" to the problem that Congress is addressing.[67] Congress should use this power to prohibit all state and local registration of guns and gun owners, and to require the destruction of any existing records.

Persons who are advocating gun confiscation are irresponsible in the extreme. Confiscation would endanger the lives of law enforcement officers who were ordered to carry it out. We should remember that the political dispute between the American Colonies and Great Britain turned into a shooting war precisely at the moment when the British attempted house-to-house gun confiscation.[68]

Mass prohibitions of guns or gun accessories invite a repetition of the catastrophe of alcohol prohibition. Just as alcohol prohibition in the 1920s and drug prohibition in modern times have spawned vast increases in state power, and vast infringements on the Bill of Rights, another national war against the millions of Americans who are determined to possess a product which is very important to them is almost certain to cause tremendous additional erosion of constitutional freedom and traditional liberty. Legal and customary protections unreasonable search and seizure, against invasion of

privacy, against selective enforcement, and against harsh and punitive statutes would all suffer.[69]

What Can be Done?

Acknowledging success

Regarding firearms crime in general (and not just the highly-publicized mass homicides), we should start by acknowledging the success of policies of the last three decades. Since 1980, the U.S. homicide rate has fallen by over half, from more than 10 victims per 100,000 population annually, to under 5 today.[70]

Homicide, as horrifying as it is, did not make the top fifteen causes of death for 2011, according to preliminary data published by the Centers for Disease Control.[71] Of the 2,512,873 total deaths for that year, the large majority were caused by health-related problems. The fifth leading cause of death was accidents, at 122,777 deaths. Suicide made the top ten with 38,285 deaths.

Appropriately, the media tend to report homicides much more frequently and emphatically than they report deaths from other causes. The problem is that the uncritical consumer of media might develop a skewed perspective of the actual risks he or she faces.

In 2011, homicides numbered 15,953, or 0.63 percent of all deaths. Of those, 11,101 were caused by "discharge of firearms"—or nearly 70 percent of all homicides.

The vast majority of these were from handguns, which shotguns in second place. The FBI reports that in 2011, 13 percent of homicides were committed with "knives or cutting instruments," while nearly 6 percent were committed with "personal weapons" such "hands, fists, feet, etc."[72]

Most of the guns which are inaccurately called "assault weapons" are rifles. All types of rifles combined comprise only about two percent of homicide weapons—far less than "blunt instruments" such as hammers, clubs, and so on.

As for accidents in 2011, 34,676 deaths were caused by "motor vehicle accidents"; 33,554 deaths by "accidental poisoning and exposure to noxious substances"; 26,631 deaths by falls; 3,555 deaths by "accidental drowning and submersion"; and 851 deaths by "accidental discharge of firearms."[73]

Regarding violent crime in general, violent crime has been on a 20-year decline, so that today Americans are safer from violent crime than at any time since the early 1960s.[74]

The news is even better for young people. According to Bureau of Justice Statistics (part of the U.S. Department of Justice), "From 1994 to 2010, the overall rate of serious violent crime against youth declined by 77%."[75]

These successes have taken place during a period when American gun ownership has soared. In 1964, when crime was about the same as it is now,

per capita gun ownership was only .45, less than 1 gun per 2 Americans. In 1982, there were about .77 guns per capita. (About 3 guns per 4 Americans). By 1994, that had risen to .91 (9 guns per 10 Americans). Today, there are slightly more guns in America than Americans. We have increased from 232 million guns in 1982 to over 308 million in 2010.[76]

The causes of crime fluctuations are many. They include (among other things) changes in illegal drug activity and government enforcement thereof, changes in police tactics, changes in incarceration rates, changes in the average age of the population (which in the U.S. has been increasing), and changes in reporting (which can mask real changes in underlying crime trends).

It would not be accurate to say that increased gun ownership, and the spread of laws allowing the licensed carry of handguns is the only cause of progress that has been made in recent decades. We can say with certainty that "more guns" is not associated with "more crime." If anything, just the opposite is true.

Armed defenders

Sandy Hook Elementary School was a pretend "gun free zone": responsible adults were legally prohibited from effectively protecting the children in their care, while an armed criminal was could not be prevented from entering.

What did finally stop the murderer? He killed himself just before being confronted by men carrying guns, guns that no doubt included "assault weapons" with "high-capacity magazines." As the Associated Press reports, the murderer "shot himself in the head just as he heard police drawing near to the classroom where he was slaughtering helpless children."[77]

The Newtown murders took place in a state with a ban on "assault weapons," and with a strict system of gun owner licensing and registration—one of the most restrictive in the nation. Not even the most restrictive laws (short of complete prohibition of all legal gun ownership) can remedy the problems of an absent, divorced, and detached father, and a custodial mother who is so recklessly irresponsible that even while she tells people in town about her plans to have her son committed to a mental institution, she leaves her registered guns readily accessible to him.

Armed guards are generally successfully at deterring the robbery of diamond stores and banks, and they equally legitimate for preventing the murder of children, who are far more valuable than diamonds or greenbacks.

There are at least 10 cases in which armed persons have stopped incipient mass murder: Pearl High School in Mississippi; Sullivan Central High School in Tennessee; Appalachian School of Law in Virginia; a middle school dance in Edinboro, Pa.; Players Bar and Grill in Nevada; a Shoney's restaurant in Alabama; Trolley Square Mall in Salt Lake City; New Life Church in

Colorado; Clackamas Mall in Oregon (three days before Sandy Hook); Mayan Palace Theater in San Antonio (three days after Sandy Hook).

Sometimes the hero was an armed school guard (Sullivan Central High). Sometimes it was an off-duty police officer or mall security guard (Trolley Square, Mayan Theater, Clackamas Mall and the Appalachian Law School, where two law students, one of them a police officer and the other a former sheriff's deputy, had guns in their cars). Or a restaurant owner (Edinboro). Or a church volunteer guard with a concealed carry permit (Colorado). Or a diner with a concealed carry permit (Alabama and Nevada). At Pearl High School, it was the vice principal who had a gun in his car and stopped a 16-year-old, who had killed his mother and two students, before he could drive away, perhaps headed for the junior high.

For schools, Utah provides a model. In Utah, if a law-abiding adult passes a fingerprint-based check and a safety training class, then he or she is issued a permit to carry a concealed handgun throughout the state. Thus, teachers may carry at school. Several Texas school districts also encourage armed teachers. Connecticut, however, is similar to most of the other 40 other states that generally allow law-abiding adults to carry in public places: It limits where guns may be carried, and no civilian, not even teachers and principals, may carry at school.

Anti-gun ideologues invent all sorts of fantasy scenarios about the harms that could be caused by armed teachers. But the Utah law has been in effect since 1995, and Texas since 2008, with not a single problem.

Gun prohibitionists also insist that armed teachers or even armed school guards won't make a difference. But in the real world, they have — even at Columbine, where the armed "school resource officer" (a sheriff's deputy, in this case) was in the parking lot when the first shots were fired. The officer twice fired long-distance shots and drove the killers off the school patio, saving the lives of wounded students there. Unfortunately, however, the officer failed to pursue the killers into the building—perhaps due to a now-abandoned law enforcement doctrine of waiting for the SWAT team to solve serious problems.

Whatever should be done in the long run, the long gun will be much too late to stop the next copycat sociopath who attacks a school (or a mall or movie theater). More concealed carry laws like the ones in Utah and Texas are the best way to save lives right now. Teachers who are already licensed to carry a gun everywhere else in the state should not be prevented from protecting the children in their care.

Doing something effective

While armed defense is a necessity, in the short run, to thwart copycat killers, long-term solutions are also necessary.

A very large proportion of mass murders—and about one-sixth of "ordinary" murderers—are mentally ill. Better care, treatment, and stronger

laws for civil commitment could prevent many of these crimes. Of course any involuntary commitment must respect the Constitution which, as applied by the U.S. Supreme Court, requires proof by "clear and convincing evidence" that the individual is a danger to himself or others in order for the person to be committed. Better mental health treatment is expensive in the short run, but pays for itself in the long run, through reduced criminal justice and imprisonment costs, not to mention reduced costs to victims.[78]

Although "universal background checks" are, at the highest level of generality, a popular idea, one should pay attention to the details. Every "background check" bill introduced in Congress in the last several years has come from Michael Bloomberg's gun prohibition lobby, and has included a gun registration component. For the reasons detailed above, gun registration is anathema to the Second Amendment.

Consider, for example, the misnamed "Fix Gun Checks Act," from the previous Congress, S. 436 (sponsored by Sen. Schumer). Here is what the bill actually would have done:

- Create a national firearms registry.
- Make it a federal felony to temporarily allow someone to use or hold's one's firearm in the following circumstances:
    - While a friend visits your home.
    - While taking a friend target shooting on your property, or on public lands where target shooting is allowed.
    - While instructing students in a firearms safety class.
- Current law bans gun possession if there has been a formal determination that a person's mental illness makes him a danger to himself or others. S. 436 would abolish the requirement for a fair determination and a finding of dangerousness Instead, S. 436 would ban gun possession by anyone who has ever been ordered to receive counseling for any mental problem. This would include:
    - A college student who was ordered to get counseling because the school administration was retaliating against him for criticizing the administration.
    - An adult who when in fifth grade was ordered to receive counseling for stuttering, for attention deficit disorder, or for mathematics disorder.
    - A person who was once ordered to receive counseling for homosexuality, cross-dressing, or for belonging to some other sexual minority.
    - A women who was raped in an elevator, and who has therefore developed a phobia about elevators.
- S. 436 rejects the constitutional standards of due process and fair trial. S. 436 allows for the prohibition of gun ownership based on an arrest, rather than a conviction. Thus, S. 436 would make it gun possession a

felony for a person who was once arrested for marijuana possession, and was later found innocent because a police officer mistook tobacco for marijuana.

- Among the reasons that S. 436 was unconstitutional was because it:
  - Strips a person of a fundamental constitutional right because of an arrest, rather than a conviction.
  - Is purportedly based on the congressional power "to regulate Commerce . . . among the several States"—but its transfer bans apply solely to transfers that are not commerce, and are not interstate.
  - Violates the scope of gun control laws approved by the Supreme Court in *District of Columbia v. Heller*. The Heller Court approved of some "laws imposing conditions and qualifications on the commercial sale of arms." Yet S. 436 attempted to control non-retail "transfers" that are not even "commercial" or "sales"—such as letting a friend use a gun while target shooting.
  - Is unconstitutionally "overbroad" because rather than banning gun possession by persons who have been determined to pose a threat to themselves or others (current laws) bans gun possession by anyone who has been ordered to get counseling even for non-dangerous mental problems (such as nicotine dependence, or lack of interest in sex).
  - Violates the Fifth Amendment requirement of due process of law, because it imposes gun bans without due process—such as a mere arrest, or the mere order by a school employee or work supervisor that a person receive counseling. Regardless of whether that employee or supervisor offered the person a fair hearing, and regardless of whether the counselor eventually determined that the person had no mental problem at all.
  - Violates the equal protection of the laws guarantee which is implicit in the Fifth Amendment, because it bans possession for categories of persons who cannot rationally be classified as more dangerous than other persons. The victims of S. 436's unfair gun bans would include homosexuals and other sexual minorities, persons who have a phobia about elevators or diseases, and many other persons who are ordered into counseling for reasons that have nothing to do with dangerousness.

Today, the media are reporting that a backroom deal is being worked out in the Senate on "universal background checks." Senators who sincerely follow their oath to protect the United States Constitution would not support a bill which has a title of "Universal Background Checks," but which contains any of the poisonous anti-constitutional provisions of last session's Bloomberg "background checks" bill.

Moreover, without universal gun registration, mandated background checks on purely private sales (e.g., friends in a hunting club selling guns to each other) are impossible to enforce. Universal gun registration is impossible in practice, and would lead to massive resistance. When Canada tried to impose universal gun registration, the result was a complete fiasco. The registration system cost a hundred times more than promised. Non-compliance (by Canadians, who are much more compliant with government than Americans) was at least fifty percent. And the registration system proved almost entirely useless in crime solving or crime prevention. In 2012, the Canadian government repealed the registration law, and ordered all the registration records destroyed.

Obviously, criminals who are selling guns to each (which is completely illegal, and already subject to severe mandatory sentences) are not going to comply with a background check mandate. It will be irrelevant to them.

Ordinary law-abiding citizens who selling guns to each other might be happy to take the gun into a firearm store for a voluntary check, provided that the check is not subject to a special fee, that there is no registration, and that the check is convenient and expeditious. Changing statutes and regulations so that gun stores can carry out voluntary checks for private sellers is the most that can be expected, realistically. President Obama's order that the Bureau of Alcohol, Tobacco, Firearms and Explosives provide instructions to dealers on how to facilitate voluntary checks is a good idea. In light of this order, there is no need for Congress to enact additional legislation to impose a futile and unenforceable mandate.

"Doing something" is the slogan for politicians who seek merely to exploit terrible crimes for self-serving purposes. "Doing something effective" is the approach of people who want to save lives and protect the public, especially children.

The lives of Americans, especially schoolchildren, depend on the choice that elected officials make between these two alternatives.

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[1] Some of this testimony is based on a Policy Analysis which Kopel and co-author Ari Armstrong are writing for the Cato Institute. The published Cato version will include more complete endnotes, which were impossible to provide for this testimony, given the very short time available.

[2] Christopher S. Koper, Daniel J. Woods, and Jeffrey A. Roth, "An Updated Assessment of the Federal Assault Weapons Ban: Impacts on Gun Markets and Gun Violence, 1994-2003: Report to the National Institute of Justice, United States Department of Justice," University of Pennsylvania, June 2004, http://www.sas.upenn.edu/jerrylee/research/aw_final2004.pdf.

[3] Charles Krauthammer, "Disingenuous Debate on Repeal of Assault Weapons Ban," *Chicago Tribune*, April 8, 1996, http://articles.chicagotribune.com/1996-04-08/news/9604080024_1_assault-weapons-ban-gun-control-crime-rate.

[4] Josh Sugarmann, "Conclusion," *Assault Weapons and Accessories in America*, Violence Policy Center, 1988, http://www.vpc.org/studies/awaconc.htm.

[5] See, for example, David Kopel, "Guns, Mental Illness and Newtown," *Wall Street Journal*, December 17, 2012, http://online.wsj.com/article/SB10001424127887323723104578185271857424036.html.

[6] See Ari Armstrong, "Civilian Responses to Active Shooters," *Free Colorado*, July 21, 2012, http://ariarmstrong.com/2012/07/civilian-responses-to-active-attackers; *Active Shooter Survival* (DirectMeasures, 2012), Survival Edge Series, Disc 1, http://www.directmeasures.com/buy-ACT-LastResort.htm.

[7] Alexander Abad-Santos, "This Is What Teachers Learning to Shoot Guns Look Like," *Atlantic Wire*, December 28, 2012, http://www.theatlanticwire.com/national/2012/12/post-newtown-teacher-gun-training-classes/60409; Angela K. Brown, "Texas Town Allows Teachers to Carry Concealed Guns," Associated Press, December 20, 2012, http://www.usatoday.com/story/news/nation/2012/12/20/texas-town-teachers-guns/1781663; Cathy Lynn Grossman and Greg Toppo, "Trainer for Gun-Toting Teachers: 'Make it Hard to Kill a Kid,'" *USA Today*, December 28, 2012, http://www.usatoday.com/story/news/nation/2012/12/27/gun-classes-teachers-utah-ohio-shooting/1793773; Michelle Malkin, "The Gift of Self-Empowerment," December 26, 2012, http://michellemalkin.com/2012/12/26/the-gift-of-self-empowerment.

[8] Tim Graham, "Des Moines Register Publishes Gun-Ban Column Advocating Deadly Violence Against NRA, GOP Leaders," *Fox News*, January 2, 2013, http://www.foxnews.com/opinion/2013/01/02/liberal-ex-columnist-death-threats-published-in-des-moines-register.

[9] Douglas Anthony Cooper, "A Proven Way to End the Gun Slaughter: Will We Fight for It?", *Huff Post Politics*, December 26, 2012, http://www.huffingtonpost.com/douglas-anthony-cooper/proven-way-end-slaughter_b_2341815.html.

[10] Justin Peters, "How Many Assault Weapons Are There In America? How Much Would It Cost the Government To Buy Them Back?", *Slate*, December 20, 2012, http://www.slate.com/blogs/crime/2012/12/20/assault_rifle_stats_how_many_assault_rifles_are_there_in_america.html.

[11] Some machine guns are or may be set to fire a certain number of rounds with one pull of the trigger.

[12] "Fully-Automatic Firearms," NRA–ILA, July 29, 1999, http://www.nraila.org/news-issues/fact-sheets/1999/fully-automatic-firearms.aspx; "National Firearms Act (NFA)—Machine Guns," http://www.atf.gov/firearms/faq/national-firearms-act-machine-guns.html, accessed January 3, 2013.

[13] See David B. Kopel, *Guns: Who Should Have Them* (New York: Prometheus Books, 1995), p. 162; *Defense Intelligence Agency, Small Arms Identification and Operation Guide—Eurasian Communist Countries* (Washington, D.C.: Government Printing Office, 1988), p. 105.

[14] However, the energy which is used to turn the cylinder of the revolver (bringing the next round into place, ready to fire) comes from the user pulling the trigger. (The trigger is mechanically linked to the cylinder, and a trigger pull performs the "double action" of cocking the hammer and firing a round.) Thus, the revolver does not use gunpowder energy in order to load the next round. So even though a revolver is comparable to a semi-automatic handgun in that each pull of the trigger chambers and fires one round, a revolver is a not a semi-automatic.

[15] The formula is: $KE = \frac{1}{2} MV^2$. Or in words: one-half of mass times the square of the velocity.

[16] Rifles have longer barrels than handguns, and rifle cartridges generally burn more gunpowder. Thus, a bullet shot from a rifle spends more time traveling through the barrel than does a bullet shot from a handgun. As a result, the rifle bullet receives a longer, more powerful push from the expanding cloud of gunpowder in the barrel. So rifles generally deliver more kinetic energy than do handguns. (As for shotguns, the mass of shot pellets is much heavier than any single rifle or handgun bullet, so shotguns have very high kinetic

energy at short ranges. But their kinetic energy drops rapidly, because the round pellets rapidly lose speed due to air friction. Rifle and handgun bullets are far more aerodynamic than are shotgun pellets.)

[17] If the gun's caliber is .17, that means the gun's barrel is 17/100 of an inch wide, and can accommodate a bullet which is very slightly smaller than that. So a .38 caliber bullet is bigger than a .17 caliber bullet, and a .45 caliber bullet is bigger than either of them. (Calibers can also be expressed metrically. 9mm is nearly the same as .357, which is slightly smaller than .38).

The bullet's size depends on its width (caliber) and on its length. So one .45 caliber bullet might be longer, and hence heavier, than another .45 caliber bullet.

For any particular gun in any particular caliber, there are a variety of rounds available, some of which have more gunpowder than others. More gunpowder makes the bullet fly straighter for longer distances (especially important in many types of hunting or target shooting); less gunpowder reduces recoil, and makes the gun more comfortable to shoot and more controllable for many people.

[18] Measured at the muzzle. Kinetic energy begins declining as soon as the bullet leaves the barrel, because air friction progressively reduces velocity.

[19] For details, see David B. Kopel, *Guns: Who Should Have Them* (New York: Prometheus Books, 1995), pp. 168–70.

[20] The assertion that so-called "assault weapons" are "high-velocity" is true only in the trivial sense that most guns which are called "assault weapons" are rifles, and rifles are generally higher velocity than handguns or shotguns.

As for the handguns which are sometimes dubbed "assault weapons," they are necessarily lower velocity, with less powerful bullets, than the most powerful handguns. The most powerful handgun calibers, such as .44 magnum or .454 Casull (often carried by hikers for self-defense against bears) have so much gunpowder that the relatively delicate mechanisms of a semi-automatic handgun cannot handle them. These heavy-duty calibers are available only for revolvers.

[21] Quoted in Randy E. Barnett and Don B. Kates, "Under Fire: The New Consensus on the Second Amendment," *Emory Law Journal*, vol. 45, 1996, reproduced at http://www.bu.edu/rbarnett/underfire.htm#Document0zzFN_B535. Feinstein's quote is from an interview with Lesley Stahl on *60 Minutes* in February 1995.

[22] Jacob Sullum, "How Do We Know an 'Assault Weapon' Ban Would Not Have Stopped Adam Lanza? Because It Didn't," *Reason*, December 17, 2012, http://reason.com/blog/2012/12/17/how-do-we-know-an-assault-weapon-ban-wou.

[23] Christopher S. Koper, Daniel J. Woods & Jeffrey A. Roth, "An Updated Assessment of the Federal Assault Weapons Ban: Impacts on Gun Markets and Gun Violence, 1994-2003: Report to the National Institute of Justice, United States Department of Justice," University of Pennsylvania, June 2004, http://www.sas.upenn.edu/jerrylee/research/aw_final2004.pdf.

[24] Jeffrey A. Roth & Christopher S. Koper, "Impacts of the 1994 Assault Weapons Ban: 1994–96," National Institute of Justice Research in Brief, U.S. Department of Justice, March 1999, https://www.ncjrs.gov/pdffiles1/173405.pdf.

[25] "Stopping the Spread of Deadly Assault Weapons," http://www.feinstein.senate.gov/public/index.cfm/assault-weapons, accessed January 2, 2013. For another reply to Feinstein's claims, see Gregory J. Markle, "A Short Analysis of Senator Feinstein's 'Proof' of the Efficacy of the 1994 Assault Weapons Ban," December 29, 2012, http://pc3c.org/files/feinstein_fisking.pdf.

[26] Jeffrey A. Roth & Christopher S. Koper, "Impact Evaluation of the Public Safety and Recreational Firearms Use Protection Act of 1994: Final Report," Urban Institute, March 13, 1997, http://www.sas.upenn.edu/jerrylee/research/aw_final1997.pdf.

[27] John Lott, *The Bias Against Guns: Why Almost Everything You've Heard About Gun Control Is Wrong* (Washington, D.C.: Regnery Publishing, 2003), p. 214.

Looking at the raw crime data, Lott observes:

> The comparison group here is the forty-five states that did not adopt a ban. For both murder and robbery rates, the states adopting assault weapons bans were experiencing a relatively faster drop in violent crimes prior to the ban and a relatively faster increase in violent crimes after it. For rapes and aggravated assaults, the trends before and after the law seem essentially unchanged.

Based on the crime data, Lott concludes that it is "hard to argue that . . . banning assault weapons produced any noticeable benefit in terms of lower crime rates." In statistical analyses that seek to control for other possible factors in the fluctuations of crime rates, Lott finds that, if anything, the state-level "assault weapons" bans had an adverse effect on crime rates:

> Presumably if assault weapons are to be used in any particular crimes, they will be used for murder and robbery, but the data appears more supportive of an adverse effect of an assault weapons ban on murder and robbery rates . . . , with both crime rates rising after the passage of the bans. . . . Murder and robbery rates started off relatively high in the states that eventually adopted a ban, but the gap disappears by the time the ban is adopted. Only after instituting the ban do crime rates head back up. There is a very statistically significant change in murder and rape rate trends before and after the adoption of the ban. . . . It is very difficult to observe any systematic impact of the ban on rape and aggravated assault rates.

[28] Mark Follman, Gavin Aronsen, and Deanna Pan, "A Guide to Mass Shootings in America," *Mother Jones*, December 15, 2012, http://www.motherjones.com/politics/2012/07/mass-shootings-map; see also Mark Follman, Gavin Aronsen, and Deanna Pan, "US Mass Shootings, 1982–2012: Data from Mother Jones' Investigation," *Mother Jones*, December 28, 2012, http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data.
[29] Thomas C. Hayes, "Gunman Kills 22 and Himself in Texas Cafeteria," *New York Times*, October 17, 1991, http://www.nytimes.com/1991/10/17/us/gunman-kills-22-and-himself-in-texas-cafeteria.html.
[30] "About Suzanna," http://www.suzannahupp.com/?page_id=2, accessed January 13, 2013.
[31] Most of the text in this paragraph is adapted from David B. Kopel, *Guns: Who Should Have Them* (New York: Prometheus Books, 1995), p. 164. That book in turn cites William R. Magrath, "An Open Letter to American Politicians," *Police Marksman*, May–June 1989, p. 19; Edward Ezell, *The AK-47 Story* (Mechanicsburg, PA: Stackpole Books, 1986); Kent Jenkins Jr., "Calls for Ban Boost Assault Rifle Sales," *Washington Post*, March 6, 1989, p. B1; and "Assault Weapon Import Control Act of 1989," 1989: Hearings on H.R. 1154 before Subcommittee on Trade of the House Committee on Ways and Means, 101st Cong., 1st Sess. (1989).
[32] Douglas Anthony Cooper, "A Proven Way to End the Gun Slaughter: Will We Fight for It?", *Huff Post Politics*, December 26, 2012, http://www.huffingtonpost.com/douglas-anthony-cooper/proven-way-end-slaughter_b_2341815.html.
[33] Charles Krauthammer, "Disingenuous Debate on Repeal of Assault Weapons Ban," *Chicago Tribune*, April 8, 1996, http://articles.chicagotribune.com/1996-04-08/news/9604080024_1_assault-weapons-ban-gun-control-crime-rate.
[34] Christian Chung, "Dianne Feinstein New Assault Weapons Ban Doesn't Go Far Enough: It's Only the Start," *Policymic*, December 29, 2012, http://www.policymic.com/articles/21639/dianne-feinstein-new-assault-weapons-ban-doesn-t-go-far-enough-it-s-only-the-start.

[35] Robert Wright, "A Gun Control Law That Would Actually Work," *Atlantic*, December 17, 2012, http://www.theatlantic.com/national/archive/2012/12/a-gun-control-law-that-would-actually-work/266342.

[36] The "features" on semi-automatic shotguns under the ban are similar to the features list for rifles, with one important addition. Feinstein outlaws any semi-auto shotgun that has "A fixed magazine with the capacity to accept more than 5 rounds." This bans a wide variety of home defense shotguns. It also means that if you use a magazine extender to turn your 5-round Remington 1100 into a 7-round gun, you are now an instant felon.

[37] See Clayton E. Cramer, "High-Capacity-Magazine Bans," *National Review*, December 19, 2012, http://www.nationalreview.com/articles/336006/high-capacity-magazine-bans-clayton-e-cramer. (If the final round from the last magazine has been fired, the first round from the new magazine must be chambered before the gun will fire. Chambering a round involves "racking" the gun by manually operating the gun's slide mechanism, a process that typically takes fractions of a second.)

[38] The G17 (standard), G19 (compact), and G34 (competition). Optional magazines of 19 or 33 rounds are available. The subcompact G26 comes with a 10 round magazine, with 12, 15, 17, 19, and 33 round magazines available.

For a 9mm handgun standard-sized handgun, the 15 or 17 round magazine is "normal capacity," not "high capacity," whereas a 10-round magazine is "restricted capacity." The Glock 30 SF, a larger .45 caliber, comes standard with a 10-round magazine, with factory options of 9 and 13 rounds. Because the bullets are larger (.45 inch vs. 9 mm, which is about .35 inch), fewer can fit in a given space—hence, the smaller magazine capacity. Other Glock .45 handguns come standard with larger or smaller magazines, depending on the size of the gun. "Glock 19 Gen4," http://us.glock.com/products/model/g19gen4; "Glock 30 SF," http://us.glock.com/products/model/g30sf; "Glock 21 Gen4," http://us.glock.com/products/model/g21gen4; "Glock 36," http://us.glock.com/products/model/g36; each accessed January 3, 2013.

[39] A "high-capacity" magazine on his hip, and often he carries a pump-action shotgun or "assault" rifle (or both) in his trunk. A look at a forum thread at Officer.com, "What Gun Does Your Department Use" (see http://forums.officer.com/t138759), offers an insightful look at typical police weaponry—the list includes Glocks with 17-round magazines and AR-15 semi-automatic rifles.

Regarding magazine capacity, one veteran from a municipal police department in Texas advises:

> I would not carry a duty gun that carries fewer than 12 rounds in the magazine. One of the great advantages offered by semi-automatic handguns is the increased carrying capacity. Most manufacturers have increased the capacity of .45 pistols to at least 12 rounds, so this would be the minimum I would be comfortable with

"What is the Best Pistol for Police Officers?", *Spartan Cops*, March 30, 2009, http://www.spartancops.com/pistol-police-officers; "About," Spartan Cops, http://www.spartancops.com/about. Nashville Police can now carry their personal AR-15s in their vehicles while on duty. http://tnne.ws/ULB0HY.

[40] What about magazines? "The failure to reduce LCM use has likely been due to the immense stock of exempted pre-ban magazines, which has been enhanced by recent imports," the 2004 paper speculates. The paper notes that "millions" of "assault weapons" and "large-capacity magazines" were "manufactured prior to the ban's effective date."

[41] Still, if one wants to speculate, Koper, Woods, and Roth do so in an articulate fashion. Their 2004 report states:

> [S]emiautomatic weapons with LCMs [large-capacity magazines] enable offenders to fire high numbers of shots rapidly, thereby potentially increasing both the number of persons wounded per gunfire incident (including both intended targets and innocent bystanders) and the number of gunshot victims suffering multiple wounds, both of which would increase deaths and injuries from gun violence.

Because of this, the paper's writers speculate, "the LCM ban has greater potential for reducing gun deaths and injuries than does the AW [assault weapons] ban." They continue:

> [A] ban's impact on gun violence is likely to be small at best, and perhaps too small for reliable measurement. . . . Guns with LCMs are used in up to a quarter of gun crimes, but it is not clear how often the outcomes of gun attacks depend on the ability to fire more than 10 shots (the current limit on magazine capacity) without reloading.
>
> Nonetheless, reducing crimes with . . . LCMs could have non-trivial effects on gunshot victimizations. As a general matter, hit rates tend to be low in gunfire incidents, so having more shots to fire rapidly can increase the likelihood that offenders hit their targets, and perhaps bystanders as well. While not entirely consistent, the few available studies contrasting attacks with different types of guns and magazines generally suggest that attacks with semiautomatics—including AWs and other semiautomatics with LCMs—result in more shots fired, persons wounded, and wounds per victim than do other gun attacks.

The authors of the 2004 report, then, believe that a ban on magazines holding more than ten rounds likely would not reduce the number of crimes committed, but that such a ban might reduce the harm of certain types of rare crimes (presumably mass murders with many rounds fired and "shootouts"). The authors do not (and do not claim to) present convincing evidence that their hypothesis is correct; they present their claim as reasonable speculation.

However, a careful reading of the paragraphs cited above reveals one of the major flaws of the writers' argument. The writers claim that "attacks with semiautomatics"—whether or not they are used with "large capacity" magazines—result in greater harm. There are good reasons to think that, even if criminals could somehow be restricted to using ten-round magazines—and obviously they cannot—they could typically cause the same level of harm, and sometimes more harm.

The general problem with the claims of those who wish to ban magazines holding more than ten rounds is that such advocates fail to account for the adaptability of criminals. Such advocates assume they can hold "all other things equal," when clearly criminals thrive on adapting their plans in order to surprise and overwhelm their intended victims.

[42] Josh Sugarmann, "Drug Traffickers, Paramilitary Groups . . . ," *Assault Weapons and Accessories in America*, Violence Policy Center, 1988, http://www.vpc.org/studies/awadrug.htm.

[43] David B. Kopel, Paul Gallant & Joanne D. Eisen, "The Arms Trade Treaty: Zimbabwe, the Democratic Republic of the Congo, and the Prospects for Arms Embargoes on Human Rights Violators," 114 *Penn State Law Review* 891, at note 46 (2010).

[44] http://defcad.org/

[45] "Third of High School Seniors Take Marijuana," *News Medical*, December, 22, 2012, http://www.news-medical.net/news/20121222/Third-of-high-school-seniors-take-marijuana.aspx.

[46] Alicia A. Caldwell, "James Holmes' Gun Jammed During Aurora Attack, Official Says," *Associated Press*, July 22, 2012, http://www.huffingtonpost.com/2012/07/22/james-holmes-gun-jammed-aurora-colorado-dark-knight-shooting_n_1692690.html.

[47] An additional fact about this case is that, had the Arizona murderer not been tackled by bystanders, he would have faced armed opposition moments later. Joe Zamudio, another man who helped restrain the murderer, said the following during an MSNBC interview:

> I carry a gun, so I felt like I was a little bit more prepared to do some good than maybe somebody else would have been. . . . As I came out of the door of the Walgreens . . . I saw several individuals wrestling with him, and I came running. . . . I saw another individual holding the firearm, and I kind of assumed he was the shooter, so I grabbed his wrists, and . . . told him to drop it, and forced him to drop the gun on the ground. When he did that, everybody said, no, it's this guy . . . and I proceeded to help hold that man down. . . . When I came through the door, I had my hand on the butt of my pistol, and I clicked the safety off. I was ready to kill him. But I didn't have to do that, and I was very blessed I didn't have to go to that place. Luckily, they'd already begun the solution, so all I had to do is help. If they hadn't grabbed him, and he'd have been still moving, I would have shot him.

We were unable to locate the video on the MSNBC web page. It is reproduced at http://youtu.be/y-3GTwalrGY.

In return for this profoundly courageous act of heroism in which Zamudio ran toward gunfire, William Saletan libeled Zamudio in an article for Slate, wrongly claiming he "nearly shot the wrong man." William Saletan, "Friendly Firearms," *Slate*, January 11, 2011, http://www.slate.com/articles/health_and_science/human_nature/2011/01/friendly_firearms.html.

Obviously in the brief seconds of the incident, Zamudio considered the possibility that the man holding the gun might be the perpetrator of the crime—and then Zamudio acted with restraint, appropriately disarmed the man holding the gun, and helped restrain the perpetrator. Although police in Arizona likely are more responsible with their firearms than are police in New York, the recent incident in which New York police shot nine bystanders illustrates that Zamudio did the other man holding the gun—and everyone else in the crowd—a profound favor by forcing him to drop it.) "NYPD: 9 Shooting Bystander Victims Hit By Police Gunfire," *Associated Press*, August 25, 2012, http://www.foxnews.com/us/2012/08/25/nypd-shooting-bystander-victims-hit-by-police-gunfire.

[48] Philip Caulfield, "Sandy Hook Elementary School Shooter Adam Lanza Wore Earplugs, Rapidly Changed Clips, Shot Up Cars in Parking Lot: Report," New York *Daily News*, January 7, 2013, http://www.nydailynews.com/news/national/lanza-wore-earplugs-shot-cars-article-1.1234747.

[49] Will Grant, "Active Shooter Response: Lessons for Experts," *Blackwater*, January 6, 2013, http://blackwaterusa.com/active-shooter-response-lessons-from-experts.

Even if they resorted to revolvers, criminals could impose mass casualties. Recall that Robert Wright, a senior editor at the Atlantic, wants to ban all detachable magazines and all guns "that can hold more than six bullets." In other words, he wants to ban the large majority of guns in existence. (Like Cooper, Wright totally ignores the use of guns in self-defense.) Even if we assume that criminals could not still purchase their weapons of choice on the black market—an assumption that is obviously false—Wright's analysis of the likely results is faulty.

Wright tries to hold "other things equal" that cannot be held equal. Wright uses the example of the Newtown murders, noting that the criminal carried a rifle and two handguns and that he shot about twelve rounds before reaching the students. Wright supposes, "At that point, as he headed for the classrooms, he'd have six more rapid-fire bullets left, after which he'd have to reload his guns bullet by bullet." Robert Wright, "A Gun Control Law That Would Actually Work," *Atlantic*, December 17, 2012,

http://www.theatlantic.com/national/archive/2012/12/a-gun-control-law-that-would-actually-work/266342.

Wright ignores several obvious facts here. A criminal limited to six-round guns likely would choose larger-caliber guns and target each round more carefully. More significantly in a mass-murder scenario, a criminal would by no means be limited to three guns; he could easily carry many revolvers (or six-round semiautomatics). Like semi-automatics, double-action revolvers fire one round with each pull of the trigger.

For more on the effective firing rates of revolvers and other types of guns, see David B. Kopel, *Guns: Who Should Have Them* (New York: Prometheus Books, 1995), pp. 164–165 (The finger must accomplish more of the mechanical work with a double-action revolver.) Revolvers typically are extremely reliable, and often they are less expensive than other types of guns. Even a gun ban that banned most guns in existence—a far more ambitious proposal than legislation pertaining to the manufacture and sale of new "high capacity" magazines—would do nothing to curb black market sales, and it would have little or no impact on criminals' ability to commit violent atrocities.)

[50] David B. Kopel, "Lawyers, Guns, and Burglars," 43 *Arizona Law Review* 345 (2001).

[51] "Scotland Worst for Violence – UN," *BBC News*, Sept. 18, 2005 ("Scotland has been named the most violent country in the developed world by a United Nations Report.").

[52] Joyce Malcolm, *Guns and Violence: The English Experience* 141-142 (2002); Joseph Edward Olson & Clayton Cramer, "Gun Control: Political Fears Trump Crime Control," 61 *Maine Law Review* 57-81 (2009), http://ssrn.com/abstract=1083528.

[53] David B. Kopel & Joseph P. Olson, "All the Way Down the Slippery Slope: Gun Prohibition in England, and Some Lessons for America," 22 Hamline Law Review 399 (1999).

[54] House of Commons, Home Affairs – Second Report – Controls over Firearms, Session 1999-2000, Apr. 6, 2000, at ¶22, http://www.publications.parliament.uk/pa/cm199900/cmselect/cmhaff/95/9502.htm.

[55] Illegal Firearms in the United Kingdom, Centre for Defence Studies, King's College London, Jul. 2, 2001, Working Paper 4.

[56] Nick Paton Walsh, "UK Matches Africa in Crime Surge," *The Guardian*, Jun. 3, 2001.

[57] Sean O'Neill, "A Quarter of English are Victims of Crime," *The Telegraph*, Feb. 23, 2001.

[58] Philip Johnston, "Britain Leads the World on Risk of Being Assaulted," *The Telegraph*, May 4, 2001

[59] Illegal Firearms, Working Paper 1, at 7.

[60] Philip Johnston, "World's Toughest Laws Will Help to Keep Weapons off the Streets," *The Telegraph*, Nov. 2, 1996.

[61] *Illegal Firearms*, Working Paper 4, at 15.

[62] See Joyce Malcolm, *Guns and Violence: The English Experience* 228-31 (2002); Patsy Richards, Homicide Statistics, Research Paper 99/56, House of Commons Library Social and General Statistics Section, May 27, 1999, at 9. See also Statistics Release, Homicides in Scotland in 2001 – Statistics Published: A Scottish Executive National Statistics Publication, Nov. 28, 2002, http://www.scotland.gov.uk/stats/bulletins/00205-00.asp (visited May 16, 2006), at Note 2 ("A single case of homicide is counted for each act of murder or culpable homicide irrespective of the number of perpetrators or victims.")

[63] David B. Kopel, *Guns: Who Should Have Them?* (Prometheus Books, 1995).

[64] Stephen P. Halbrook, "Congress Interprets the Second Amendment: Declarations by a Co-Equal Branch on the Individual Right to Keep and Bear Arms," 61 Tenn. L. Rev. 597 (1994).

[65] City of Boerne v. Flores, 521 U.S. 507 (1997).

[66] Katzenbach v. Morgan, 384 U.S. 641 (1966).

[67] *E.g.*, Board of Trustees of Univ. of Alabama v. Garrett (2001); Nevada Dept. of Human Resources v. Hibbs (2003),

[68] David B. Kopel, "How the British Gun Control Program Precipitated the American Revolution," 38 *Charleston Law Review* 283 (2012), http://ssrn.com/abstract=1967702.

[69]. For more detailed analysis of the civil rights implications of gun prohibition laws, *see*, *e.g.*, David B. Kopel, *Peril or Protection? The Risks and Benefits of Handgun Prohibition*, 12 ST. LOUIS U. PUB. L. REV. 285, 319-23 (1993).

[70] "Estimated Crime in United States—Total," U.S. Department of Justice, Uniform Crime Reporting Statistics, http://www.ucrdatatool.gov/Search/Crime/State/RunCrimeStatebyState.cfm, accessed January 4, 2013.

[71] Donna L. Hoyert and Jiaquan Xu, "Deaths: Preliminary Data for 2011," *National Vital Statistics Reports*, vol. 61, no. 6, October 10, 2012, p. 28, http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_06.pdf.

[72] "Murder, by State, Types of Weapons, 2011," *Crime in the United States 2011*, Table 7, http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2011/crime-in-the-u.s.-2011/tables/expanded-homicide-data-table-7.

[73] Donna L. Hoyert and Jiaquan Xu, "Deaths: Preliminary Data for 2011," *National Vital Statistics Reports*, vol. 61, no. 6, October 10, 2012, pp. 41–42, http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_06.pdf.

[74] For example, the homicide rate in 1962 and 1963 was 4.6 deaths per 100,000 population. In 1964 it was 4.8

[75] Nicole White & Janet L. Lauritsen, Violent Crime Against Youth, 1994–2010, Bureau of Justice Statistics, NCJ 240106 (Dec. 2012), http://www.bjs.gov/content/pub/pdf/vcay9410.pdf.

[76] Nicholas J. Johnson, David B. Kopel, Michael P. O'Shea & George Moscary, *Firearms Law and the Second Amendment: Regulation, Rights, and Policy* (Aspen Publishers 2012), online chapter 12, forthcoming at http://firearmsregulation.org.

[77] Matt Apuzzo and Pat Eaton-Robb, "Conn. Gunman Had Hundreds of Rounds of Ammunition," Associated Press, December 17, 2012, http://bigstory.ap.org/article/agents-visit-conn-gun-shops-after-school-massacre.

[78] Clayton E. Cramer, *My Brother Ron: A Personal and Social History of the Deinstitutionalization of the Mentally Ill* (2012).

EXHIBIT PP

An Updated Assessment of the Federal Assault Weapons Ban: Impacts on Gun Markets and Gun Violence, 1994-2003

Report to the National Institute of Justice, United States Department of Justice

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1. IMPACTS OF THE FEDERAL ASSAULT WEAPONS BAN, 1994-2003: KEY FINDINGS AND CONCLUSIONS

This overview presents key findings and conclusions from a study sponsored by the National Institute of Justice to investigate the effects of the federal assault weapons ban. This study updates prior reports to the National Institute of Justice and the U.S. Congress on the assault weapons legislation.

The Ban Attempts to Limit the Use of Guns with Military Style Features and Large Ammunition Capacities

- Title XI, Subtitle A of the Violent Crime Control and Law Enforcement Act of 1994 imposed a 10-year ban on the "manufacture, transfer, and possession" of certain semiautomatic firearms designated as assault weapons (AWs). The ban is directed at semiautomatic firearms having features that appear useful in military and criminal applications but unnecessary in shooting sports or self-defense (examples include flash hiders, folding rifle stocks, and threaded barrels for attaching silencers). The law bans 18 models and variations by name, as well as revolving cylinder shotguns. It also has a "features test" provision banning other semiautomatics having two or more military-style features. In sum, the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) has identified 118 models and variations that are prohibited by the law. A number of the banned guns are foreign semiautomatic rifles that have been banned from importation into the U.S. since 1989.

- The ban also prohibits most ammunition feeding devices holding more than 10 rounds of ammunition (referred to as large capacity magazines, or LCMs). An LCM is arguably the most functionally important feature of most AWs, many of which have magazines holding 30 or more rounds. The LCM ban's reach is broader than that of the AW ban because many non-banned semiautomatics accept LCMs. Approximately 18% of civilian-owned firearms and 21% of civilian-owned handguns were equipped with LCMs as of 1994.

- The ban exempts AWs and LCMs manufactured before September 13, 1994. At that time, there were upwards of 1.5 million privately owned AWs in the U.S. and nearly 25 million guns equipped with LCMs. Gun industry sources estimated that there were 25 million pre-ban LCMs available in the U.S. as of 1995. An additional 4.7 million pre-ban LCMs were imported into the country from 1995 through 2000, with the largest number in 1999.

- Arguably, the AW-LCM ban is intended to reduce gunshot victimizations by limiting the national stock of semiautomatic firearms with large ammunition capacities – which enable shooters to discharge many shots rapidly – and other features conducive to criminal uses. The AW provision targets a relatively small number of weapons based on features that have little to do with the weapons'

operation, and removing those features is sufficient to make the weapons legal. The LCM provision limits the ammunition capacity of non-banned firearms.

The Banned Guns and Magazines Were Used in Up to A Quarter of Gun Crimes Prior to the Ban

- AWs were used in only a small fraction of gun crimes prior to the ban: about 2% according to most studies and no more than 8%. Most of the AWs used in crime are assault pistols rather than assault rifles.

- LCMs are used in crime much more often than AWs and accounted for 14% to 26% of guns used in crime prior to the ban.

- AWs and other guns equipped with LCMs tend to account for a higher share of guns used in murders of police and mass public shootings, though such incidents are very rare.

The Ban's Success in Reducing Criminal Use of the Banned Guns and Magazines Has Been Mixed

- Following implementation of the ban, the share of gun crimes involving AWs declined by 17% to 72% across the localities examined for this study (Baltimore, Miami, Milwaukee, Boston, St. Louis, and Anchorage), based on data covering all or portions of the 1995-2003 post-ban period. This is consistent with patterns found in national data on guns recovered by police and reported to ATF.

- The decline in the use of AWs has been due primarily to a reduction in the use of assault pistols (APs), which are used in crime more commonly than assault rifles (ARs). There has not been a clear decline in the use of ARs, though assessments are complicated by the rarity of crimes with these weapons and by substitution of post-ban rifles that are very similar to the banned AR models.

- However, the decline in AW use was offset throughout at least the late 1990s by steady or rising use of other guns equipped with LCMs in jurisdictions studied (Baltimore, Milwaukee, Louisville, and Anchorage). The failure to reduce LCM use has likely been due to the immense stock of exempted pre-ban magazines, which has been enhanced by recent imports.

It is Premature to Make Definitive Assessments of the Ban's Impact on Gun Crime

- Because the ban has not yet reduced the use of LCMs in crime, we cannot clearly credit the ban with any of the nation's recent drop in gun violence. However, the ban's exemption of millions of pre-ban AWs and LCMs ensured that the effects

of the law would occur only gradually. Those effects are still unfolding and may not be fully felt for several years into the future, particularly if foreign, pre-ban LCMs continue to be imported into the U.S. in large numbers.

The Ban's Reauthorization or Expiration Could Affect Gunshot Victimizations, But Predictions are Tenuous

- Should it be renewed, the ban's effects on gun violence are likely to be small at best and perhaps too small for reliable measurement. AWs were rarely used in gun crimes even before the ban. LCMs are involved in a more substantial share of gun crimes, but it is not clear how often the outcomes of gun attacks depend on the ability of offenders to fire more than ten shots (the current magazine capacity limit) without reloading.

- Nonetheless, reducing criminal use of AWs and especially LCMs could have non-trivial effects on gunshot victimizations. The few available studies suggest that attacks with semiautomatics – including AWs and other semiautomatics equipped with LCMs – result in more shots fired, more persons hit, and more wounds inflicted per victim than do attacks with other firearms. Further, a study of handgun attacks in one city found that 3% of the gunfire incidents resulted in more than 10 shots fired, and those attacks produced almost 5% of the gunshot victims.

- Restricting the flow of LCMs into the country from abroad may be necessary to achieve desired effects from the ban, particularly in the near future. Whether mandating further design changes in the outward features of semiautomatic weapons (such as removing all military-style features) will produce measurable benefits beyond those of restricting ammunition capacity is unknown. Past experience also suggests that Congressional discussion of broadening the AW ban to new models or features would raise prices and production of the weapons under discussion.

- If the ban is lifted, gun and magazine manufacturers may reintroduce AW models and LCMs, perhaps in substantial numbers. In addition, pre-ban AWs may lose value and novelty, prompting some of their owners to sell them in undocumented secondhand markets where they can more easily reach high-risk users, such as criminals, terrorists, and other potential mass murderers. Any resulting increase in crimes with AWs and LCMs might increase gunshot victimizations for the reasons noted above, though this effect could be difficult to measure.

3. CRIMINAL USE OF ASSAULT WEAPONS AND LARGE CAPACITY MAGAZINES BEFORE THE BAN

During the 1980s and early 1990s, AWs and other semiautomatic firearms equipped with LCMs were involved in a number of highly publicized mass murder incidents that raised public concern about the accessibility of high powered, military-style weaponry and other guns capable of discharging high numbers of bullets in a short period of time (Cox Newspapers, 1989; Kleck, 1997, pp.124-126,144; Lenett, 1995). In one of the worst mass murders ever committed in the U.S., for example, James Huberty killed 21 persons and wounded 19 others in a San Ysidro, California MacDonald's restaurant on July 18, 1984 using an Uzi carbine, a shotgun, and another semiautomatic handgun. On September 14, 1989, Joseph Wesbecker, armed with an AK-47 rifle, two MAC-11 handguns, and a number of other firearms, killed 7 persons and wounded 15 others at his former workplace in Louisville, Kentucky before taking his own life. Another particularly notorious incident that precipitated much of the recent debate over AWs occurred on January 17, 1989 when Patrick Purdy used a civilian version of the AK-47 military rifle to open fire on a schoolyard in Stockton, California, killing 5 children and wounding 29 persons.

There were additional high profile incidents in which offenders using semiautomatic handguns with LCMs killed and wounded large numbers of persons. Armed with two handguns having LCMs (and reportedly a supply of extra LCMs), a rifle, and a shotgun, George Hennard killed 22 people and wounded another 23 in Killeen, Texas in October 1991. In a December 1993 incident, a gunman named Colin Ferguson, armed with a handgun and LCMs, opened fire on commuters on a Long Island train, killing 5 and wounding 17.

Indeed, AWs or other semiautomatics with LCMs were involved in 6, or 40%, of 15 mass shooting incidents occurring between 1984 and 1993 in which six or more persons were killed or a total of 12 or more were wounded (Kleck, 1997, pp.124-126, 144). Early studies of AWs, though sometimes based on limited and potentially unrepresentative data, also suggested that AWs recovered by police were often associated with drug trafficking and organized crime (Cox Newspapers, 1989; also see Roth and Koper, 1997, Chapter 5), fueling a perception that AWs were guns of choice among drug dealers and other particularly violent groups. All of this intensified concern over AWs and other semiautomatics with large ammunition capacities and helped spur the passage of AW bans in California, New Jersey, Connecticut, and Hawaii between 1989 and 1993, as well as the 1989 federal import ban on selected semiautomatic rifles. Maryland also passed AW legislation in 1994, just a few months prior to the passage of the 1994 federal AW ban.[9]

Looking at the nation's gun crime problem more broadly, however, AWs and LCMs were used in only a minority of gun crimes prior to the 1994 federal ban, and AWs were used in a particularly small percentage of gun crimes.

[9] A number of localities around the nation also passed AW bans during this period.

3.1. Criminal Use of Assault Weapons

Numerous studies have examined the use of AWs in crime prior to the federal ban. The definition of AWs varied across the studies and did not always correspond exactly to that of the 1994 law (in part because a number of the studies were done prior to 1994). In general, however, the studies appeared to focus on various semiautomatics with detachable magazines and military-style features. According to these accounts, AWs typically accounted for up to 8% of guns used in crime, depending on the specific AW definition and data source used (e.g., see Beck et al., 1993; Hargarten et al., 1996; Hutson et al., 1994; 1995; McGonigal et al., 1993; New York State Division of Criminal Justice Services, 1994; Roth and Koper, 1997, Chapters 2, 5, 6; Zawitz, 1995). A compilation of 38 sources indicated that AWs accounted for 2% of crime guns on average (Kleck, 1997, pp.112, 141-143).[10]

Similarly, the most common AWs prohibited by the 1994 federal ban accounted for between 1% and 6% of guns used in crime according to most of several national and local data sources examined for this and our prior study (see Chapter 6 and Roth and Koper, 1997, Chapters 5, 6):

- Baltimore (all guns recovered by police, 1992-1993): 2%
- Miami (all guns recovered by police, 1990-1993): 3%
- Milwaukee (guns recovered in murder investigations, 1991-1993): 6%
- Boston (all guns recovered by police, 1991-1993): 2%
- St. Louis (all guns recovered by police, 1991-1993): 1%
- Anchorage, Alaska (guns used in serious crimes, 1987-1993): 4%
- National (guns recovered by police and reported to ATF, 1992-1993): 5%[11]
- National (gun thefts reported to police, 1992-Aug. 1994): 2%
- National (guns used in murders of police, 1992-1994): 7-9%[12]
- National (guns used in mass murders of 4 or more persons, 1992-1994): 4-13%[13]

Although each of the sources cited above has limitations, the estimates consistently show that AWs are used in a small fraction of gun crimes. Even the highest

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[10] The source in question contains a total of 48 estimates, but our focus is on those that examined all AWs (including pistols, rifles, and shotguns) as opposed to just assault rifles.

[11] For reasons discussed in Chapter 6, the national ATF estimate likely overestimates the use of AWs in crime. Nonetheless, the ATF estimate lies within the range of other presented estimates.

[12] The minimum estimate is based on AW cases as a percentage of all gun murders of police. The maximum estimate is based on AW cases as a percentage of cases for which at least the gun manufacturer was known. Note that AWs accounted for as many as 16% of gun murders of police in 1994 (Roth and Koper, 1997, Chapter 6; also see Adler et al., 1995).

[13] These statistics are based on a sample of 28 cases found through newspaper reports (Roth and Koper, 1997, Appendix A). One case involved an AW, accounting for 3.6% of all cases and 12.5% of cases in which at least the type of gun (including whether the gun was a handgun, rifle, or shotgun and whether the gun was a semiautomatic) was known. Also see the earlier discussion of AWs and mass shootings at the beginning of this chapter.

estimates, which correspond to particularly rare events such mass murders and police murders, are no higher than 13%. Note also that the majority of AWs used in crime are assault pistols (APs) rather than assault rifles (ARs). Among AWs reported by police to ATF during 1992 and 1993, for example, APs outnumbered ARs by a ratio of 3 to 1 (see Chapter 6).

The relative rarity of AW use in crime can be attributed to a number of factors. Many AWs are long guns, which are used in crime much less often than handguns. Moreover, a number of the banned AWs are foreign weapons that were banned from importation into the U.S. in 1989. Also, AWs are more expensive (see Table 2-1) and more difficult to conceal than the types of handguns that are used most frequently in crime.

3.1.1. A Note on Survey Studies and Assault Weapons

The studies and statistics discussed above were based primarily on police information. Some survey studies have given a different impression, suggesting substantial levels of AW ownership among criminals and otherwise high-risk juvenile and adult populations, particularly urban gang members (Knox et al., 1994; Sheley and Wright, 1993a). A general problem with these studies, however, is that respondents themselves had to define terms like "military-style" and "assault rifle." Consequently, the figures from these studies may lack comparability with those from studies with police data. Further, the figures reported in some studies prompt concerns about exaggeration of AW ownership (perhaps linked to publicity over the AW issue during the early 1990s when a number of these studies were conducted), particularly among juvenile offenders, who have reported ownership levels as high as 35% just for ARs (Sheley and Wright, 1993a).[14]

Even so, most survey evidence on the actual use of AWs suggests that offenders rarely use AWs in crime. In a 1991 national survey of adult state prisoners, for example, 8% of the inmates reported possessing a "military-type" firearm at some point in the past (Beck et al., 1993, p. 19). Yet only 2% of offenders who used a firearm during their conviction offense reported using an AW for that offense (calculated from pp. 18, 33), a figure consistent with the police statistics cited above. Similarly, while 10% of adult inmates and 20% of juvenile inmates in a Virginia survey reported having owned an AR, none of the adult inmates and only 1% of the juvenile inmates reported having carried them at crime scenes (reported in Zawitz, 1995, p. 6). In contrast, 4% to 20% of inmates surveyed in eight jails across rural and urban areas of Illinois and Iowa reported having used an AR in committing crimes (Knox et al., 1994, p. 17). Nevertheless, even assuming the accuracy and honesty of the respondents' reports, it is not clear what

[14] As one example of possible exaggeration of AW ownership, a survey of incarcerated juveniles in New Mexico found that 6% reported having used a "military-style rifle" against others and 2.6% reported that someone else used such a rifle against them. However, less than 1% of guns recovered in a sample of juvenile firearms cases were "military" style guns (New Mexico Criminal Justice Statistical Analysis Center, 1998, pp. 17-19; also see Ruddell and Mays, 2003).

weapons they were counting as ARs, what percentage of their crimes were committed with ARs, or what share of all gun crimes in their respective jurisdictions were linked to their AR uses. Hence, while some surveys suggest that ownership and, to a lesser extent, use of AWs may be fairly common among certain subsets of offenders, the overwhelming weight of evidence from gun recovery and survey studies indicates that AWs are used in a small percentage of gun crimes overall.

3.1.2. Are Assault Weapons More Attractive to Criminal Users Than Other Gun Users?

Although AWs are used in a small percentage of gun crimes, some have argued that AWs are more likely to be used in crime than other guns, i.e., that AWs are more attractive to criminal than lawful gun users due to the weapons' military-style features and their particularly large ammunition magazines. Such arguments are based on data implying that AWs are more common among crime guns than among the general stock of civilian firearms. According to some estimates generated prior to the federal ban, AWs accounted for less than one percent of firearms owned by civilians but up to 11% of guns used in crime, based on firearms reported by police to ATF between 1986 and 1993 (e.g., see Cox Newspapers, 1989; Lennett, 1995). However, these estimates were problematic in a number of respects. As discussed in Chapter 6, ATF statistics are not necessarily representative of the types of guns most commonly recovered by police, and ATF statistics from the late 1980s and early 1990s in particular tended to overstate the prevalence of AWs among crime guns. Further, estimating the percentage of civilian weapons that are AWs is difficult because gun production data are not reported by model, and one must also make assumptions about the rate of attrition among the stock of civilian firearms.

Our own more recent assessment indicates that AWs accounted for about 2.5% of guns produced from 1989 through 1993 (see Chapter 5). Relative to previous estimates, this may signify that AWs accounted for a growing share of civilian firearms in the years just before the ban, though the previous estimates likely did not correspond to the exact list of weapons banned in 1994 and thus may not be entirely comparable to our estimate. At any rate, the 2.5% figure is comparable to most of the AW crime gun estimates listed above; hence, it is not clear that AWs are used disproportionately in most crimes, though AWs still seem to account for a somewhat disproportionate share of guns used in murders and other serious crimes.

Perhaps the best evidence of a criminal preference for AWs comes from a study of young adult handgun buyers in California that found buyers with minor criminal histories (i.e., arrests or misdemeanor convictions that did not disqualify them from purchasing firearms) were more than twice as likely to purchase APs than were buyers with no criminal history (4.6% to 2%, respectively) (Wintemute et al., 1998a). Those with more serious criminal histories were even more likely to purchase APs: 6.6% of those who had been charged with a gun offense bought APs, as did 10% of those who had been charged with two or more serious violent offenses. AP purchasers were also more likely to be arrested subsequent to their purchases than were other gun purchasers.

Among gun buyers with prior charges for violence, for instance, AP buyers were more than twice as likely as other handgun buyers to be charged with any new offense and three times as likely to be charged with a new violent or gun offense. To our knowledge, there have been no comparable studies contrasting AR buyers with other rifle buyers.

3.2. Criminal Use of Large Capacity Magazines

Relative to the AW issue, criminal use of LCMs has received relatively little attention. Yet the overall use of guns with LCMs, which is based on the combined use of AWs and non-banned guns with LCMs, is much greater than the use of AWs alone. Based on data examined for this and a few prior studies, guns with LCMs were used in roughly 14% to 26% of most gun crimes prior to the ban (see Chapter 8; Adler et al., 1995; Koper, 2001; New York Division of Criminal Justice Services, 1994).

- Baltimore (all guns recovered by police, 1993): 14%
- Milwaukee (guns recovered in murder investigations, 1991-1993): 21%
- Anchorage, Alaska (handguns used in serious crimes, 1992-1993): 26%
- New York City (guns recovered in murder investigations, 1993): 16-25%[15]
- Washington, DC (guns recovered from juveniles, 1991-1993): 16%[16]
- National (guns used in murders of police, 1994): 31%-41%[17]

Although based on a small number of studies, this range is generally consistent with national survey estimates indicating approximately 18% of all civilian-owned guns and 21% of civilian-owned handguns were equipped with LCMs as of 1994 (Cook and Ludwig, 1996, p. 17). The exception is that LCMs may have been used disproportionately in murders of police, though such incidents are very rare.

As with AWs and crime guns in general, most crime guns equipped with LCMs are handguns. Two handgun models manufactured with LCMs prior to the ban (the Glock 17 and Ruger P89) were among the 10 crime gun models most frequently recovered by law enforcement and reported to ATF during 1994 (ATF, 1995).

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[15] The minimum estimate is based on cases in which discharged firearms were recovered, while the maximum estimate is based on cases in which recovered firearms were positively linked to the case with ballistics evidence (New York Division of Criminal Justice Services, 1994).

[16] Note that Washington, DC prohibits semiautomatic firearms accepting magazines with more than 12 rounds (and handguns in general).

[17] The estimates are based on the sum of cases involving AWs or other guns sold with LCMs (Adler et al., 1995, p.4). The minimum estimate is based on AW-LCM cases as a percentage of all gun murders of police. The maximum estimate is based on AW-LCM cases as a percentage of cases in which the gun model was known.

3.3. Summary

In sum, AWs and LCMs were used in up to a quarter of gun crimes prior to the 1994 AW-LCM ban. By most estimates, AWs were used in less than 6% of gun crimes even before the ban. Some may have perceived their use to be more widespread, however, due to the use of AWs in particularly rare and highly publicized crimes such as mass shootings (and, to a lesser extent, murders of police), survey reports suggesting high levels of AW ownership among some groups of offenders, and evidence that some AWs are more attractive to criminal than lawful gun buyers.

In contrast, guns equipped with LCMs – of which AWs are a subset – are used in roughly 14% to 26% of gun crimes. Accordingly, the LCM ban has greater potential for affecting gun crime. However, it is not clear how often the ability to fire more than 10 shots without reloading (the current magazine capacity limit) affects the outcomes of gun attacks (see Chapter 9). All of this suggests that the ban's impact on gun violence is likely to be small.

7. MARKET INDICATORS FOR LARGE CAPACITY MAGAZINES: PRICES AND IMPORTATION

The previous chapters examined the AW-LCM ban's impact on the availability and criminal use of AWs. In this chapter and the next, we consider the impact of the ban's much broader prohibition on LCMs made for numerous banned and non-banned firearms. We begin by studying market indicators. Our earlier study of LCM prices for a few gun models revealed that prices rose substantially during 1994 and into 1995 (Roth and Koper, 1997, Chapter 4). Prices of some LCMs remained high into 1996, while others returned to pre-ban levels or oscillated more unpredictably. The price increases may have reduced LCM use at least temporarily in the short-term aftermath of the ban, but we could not confirm this in our prior investigation.

7.1. Price Trends for Large Capacity Magazines

For this study, we sought to approximate longer term trends in the prices at which users could purchase banned LCMs throughout the country. To that end, we analyzed quarterly data on the prices of LCMs advertised by eleven gun and magazine distributors in *Shotgun News*, a national gun industry publication, from April 1992 to December 1998.[63] Those prices are available to any gun dealer, and primary market retailers generally re-sell within 15% of the distributors' prices.[64] The distributors were chosen during the course of the first AW study (Roth and Koper, 1997) based on the frequency with which they advertised during the April 1992 to June 1996 period. For each quarterly period, project staff coded prices for one issue from a randomly selected month. We generally used the first issue of each selected month based on a preliminary, informal assessment suggesting that the selected distributors advertised more frequently in those issues. In a few instances, first-of-month issues were unavailable to us or provided too few observations, so we substituted other issues.[65] Also, we were unable to obtain *Shotgun News* issues for the last two quarters of 1996. However, we aggregated the data annually to study price trends, and the omission of those quarters did not appear to affect the results (this is explained further below).

We ascertained trends in LCM prices by conducting hedonic price analyses,

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[63] The *Blue Book of Gun Values*, which served as the data source for the AW price analysis, does not contain ammunition magazine prices.

[64] According to gun market experts, retail prices track wholesale prices quite closely (Cook et al., 1995, p. 71). Retail prices to eligible purchasers generally exceed wholesale (or original-purchase) prices by 3% to 5% in the large chain stores, by about 15% in independent dealerships, and by about 10% at gun shows (where overhead costs are lower).

[65] The decision to focus on first-of-month issues was made prior to data collection for price analysis update. For the earlier study (Roth and Koper, 1997), project staff coded data for one or more randomly selected issues of every month of the April 1992 to June 1996 period. For this analysis, we utilized data from only the first-of-month issues selected at random during the prior study. If multiple first-of-month issues were available for a given quarter, we selected one at random or based on the number of recorded advertisements. If no first-of-month issue was available for a given quarter, we selected another issue at random from among those coded during the first study.

similar to those described in the AW price analysis (Chapter 5), in which we regressed inflation-adjusted LCM prices (logged) on several predictors: magazine capacity (logged), gun make (for which the LCM was made), year of the advertisement, and distributor. We cannot account fully for the meaning of significant distributor effects. They 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.[66] We included the distributor indicators when they proved to be significant predictors of advertised price. In addition, we focused on LCMs made for several of the most common LCM-compatible handguns and rifles, rather than try to model the differences in LCM prices between the several hundred miscellaneous makes and models of firearms that were captured in the data. Finally, for both the handgun and rifle models, we created and tested seasonal indicator variables to determine if their incorporation would affect the coefficient for 1996 (the year with winter/spring data only), but they proved to be statistically insignificant and are not shown in the results below.[67]

7.1.1. Large Capacity Magazines for Handguns

The handgun LCM analysis tracks the prices of LCMs made for Intratec and Cobray (i.e., SWD) APs and non-banned semiautomatic pistols made by Smith and Wesson, Glock, Sturm Ruger, Sig-Sauer, Taurus, and Beretta (each of the manufacturers in the former group produces numerous models capable of accepting LCMs). In general, LCMs with greater magazine capacities commanded higher prices, and there were significant price differentials between LCMs made for different guns and sold by different distributors (see Table 7-1). Not surprisingly, LCMs made for Glock handguns were most expensive, followed by those made for Beretta and Sig-Sauer firearms.

Turning to the time trend indicators (see Table 7-1 and Figure 7-1), prices for these magazines increased nearly 50% from 1993 to 1994, and they rose another 56% in 1995. Prices declined somewhat, though not steadily, from 1996 to 1998. Nevertheless, prices in 1998 remained 22% higher than prices in 1994 and nearly 80% higher than those in 1993.

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[66] For example, one possible difference between the distributors may have been the extent to which they sold magazines made of different materials (e.g., steel, aluminum, etc.) or generic magazines manufactured by companies other than the companies manufacturing the firearms for which the magazines were made. For example, there were indications in the data that 3% of the handgun LCMs and 10% of the AR-15 and Mini-14 rifle LCMs used in the analyses (described below) were generic magazines. We did not control for these characteristic, however, because such information was often unclear from the advertisements and was not recorded consistently by coders.

[67] Project staff coded all LCM advertisements by the selected distributors. Therefore, the data are inherently weighted. However, the weights are based on the frequency with which the different LCMs were advertised (i.e., the LCMs that were advertised most frequently have the greatest weight in the models) rather than by production volume.

Table 7-1. Regression of Handgun and Rifle Large Capacity Magazine Prices on Annual Time Indicators, 1992-1998, Controlling for Gun Makes/Models and Distributors

	Handgun LCMs (n=1,277)		Rifle LCMs (n=674)	
	Estimate	**T value**	**Estimate**	**T value**
Constant	-1.79	-12.74***	-4.10	-19.12***
1992	-0.19	-2.11**	-0.48	-4.20***
1993	-0.38	-6.00***	-0.55	-6.14***
1995	0.44	6.88***	-0.25	-2.64***
1996	0.29	4.05***	-0.12	-0.93
1997	0.36	6.33***	-0.31	-3.68***
1998	0.20	3.51***	-0.44	-5.19***
Rounds (logged)	0.26	5.73***	0.84	15.08***
Cobray	-0.36	-4.15***		
Glock	0.41	8.15***		
Intratec	-0.40	-4.18***		
Ruger	-0.42	-7.79***		
Smith&Wesson	-0.08	-1.71*		
Sig-Sauer	0	-0.09		
Taurus	-0.31	-6.10***		
AK-type			-0.25	-3.15***
Colt AR-15			0.14	1.68*
Ruger Mini-14			-0.08	-0.92
Distributor 1	-0.72	-16.38***	-0.35	-5.15***
Distributor 2	-0.15	-0.97	-0.83	-5.24***
Distributor 3	-0.16	-3.93***	0.19	2.69***
Distributor 4	-0.55	-5.72***	0.16	0.80
Distributor 5	-0.07	-1.79*	-0.18	-2.65***
Distributor 6	-0.53	-1.23	-0.12	-0.32
Distributor 7	-1.59	-3.70***	-0.10	-0.91
Distributor 8			0.14	0.70
Distributor 9	-0.91	-12.52***	-0.48	-4.00***
F statistic	58.76		21.22	
(p value)	<.0001		<.0001	
Adj. R-square	0.51		0.38	

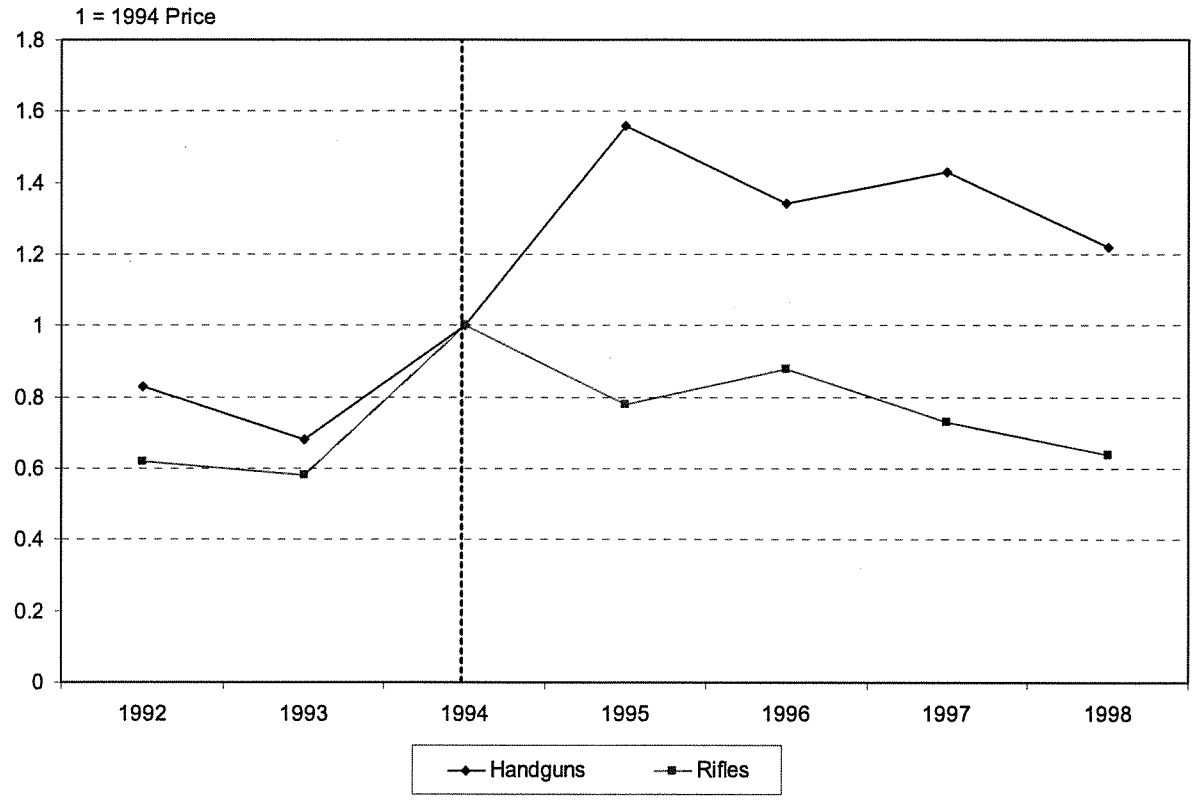
Year indicators are interpreted relative to 1994, and distributors are interpreted relative to distributor 10. Handgun makes are relative to Beretta and rifle models are relative to SKS.

* Statistically significant at p<=.10.

** Statistically significant at p<=.05.

*** Statistically significant at p<=.01.

Figure 7-1. Annual Price Trends for Large Capacity Magazines, 1992-1998



Based on 1,277 sampled ads for LCMs fitting models of 8 handgun makers and 674 sampled ads for LCMs fitting 4 rifle model groups.

7.1.2. Large Capacity Magazines for Rifles

We approximated trends in the prices of LCMs for rifles by modeling the prices of LCMs manufactured for AR-15, Mini-14, SKS,[68] and AK-type rifle models (including various non-banned AK-type models). As in the handgun LCM model, larger LCMs drew higher prices, and there were several significant model and distributor effects. AR-15 magazines tended to have the highest prices, and magazines for AK-type models had the lowest prices (Table 7-1).

Like their handgun counterparts, prices for rifle LCMs increased over 40% from 1993 to 1994, as the ban was debated and implemented (see Table 7-1 and Figure 7-1). However, prices declined over 20% in 1995. Following a rebound in 1996, prices moved downward again during 1997 and 1998. Prices in 1998 were over one third lower than the peak prices of 1994 and were comparable to pre-ban prices in 1992 and 1993.

[68] The SKS is a very popular imported rifle (there are Russian and Chinese versions) that was not covered by either the 1989 AR import ban or the 1994 AW ban. However, importation of SKS rifles from China was discontinued in 1994 due to trade restrictions.

7.2. Post-Ban Importation of Large Capacity Magazines

ATF does not collect (or at least does not publicize) statistics on production of LCMs. Therefore, we cannot clearly document pre-ban production trends. Nevertheless, it seems likely that gun and magazine manufacturers boosted their production of LCMs during the debate over the ban, just as AW makers increased production of AWs. Regardless, gun industry sources estimated that there were 25 million LCMs available as of 1995 (including aftermarket items for repairing magazines or converting them to LCMs) (Gun Tests, 1995, p. 30).

Moreover, the supply of LCMs continued to grow even after the ban due to importation of foreign LCMs that were manufactured prior to the ban (and thus grandfathered by the LCM legislation), according to ATF importation data.[69] As shown in Table 7-2, nearly 4.8 million LCMs were imported for commercial sale (as opposed to law enforcement uses) from 1994 through 2000, with the largest number (nearly 3.7 million) arriving in 1999.[70] During this period, furthermore, importers received permission to import a total of 47.2 million LCMs; consequently, an additional 42 million LCMs may have arrived after 2000 or still be on the way, based on just those approved through 2000.[71, 72]

To put this in perspective, gun owners in the U.S. possessed 25 million firearms that were equipped with magazines holding 10 or more rounds as of 1994 (Cook and Ludwig, 1996, p. 17). Therefore, the 4.7 million LCMs imported in the U.S. from 1994 through 2000 could conceivably replenish 19% of the LCMs that were owned at the time of the ban. The 47.2 million approved during this period could supply nearly 2 additional LCMs for all guns that were so equipped as of 1994.

7.3. Summary and Interpretations

Prices of LCMs for handguns rose significantly around the time of the ban and, despite some decline from their peak levels in 1995, remained significantly higher than pre-ban prices through at least 1998. The increase in LCM prices for rifles proved to be more temporary, with prices returning to roughly pre-ban levels by 1998.[73]

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[69] To import LCMs into the country, importers must certify that the magazines were made prior to the ban. (The law requires companies to mark post-ban LCMs with serial numbers.) As a practical matter, however, it is hard for U.S. authorities to know for certain whether imported LCMs were produced prior to the ban.

[70] The data do not distinguish between handgun and rifle magazines or the specific models for which the LCMs were made. But note that roughly two-thirds of the LCMs imported from 1994 through 2000 had capacities between 11 and 19 rounds, a range that covers almost all handgun LCMs as well as many rifle LCMs. It seems most likely that the remaining LCMs (those with capacities of 20 or more rounds) were primarily for rifles.

[71] The statistics in Table 7-2 do not include belt devices used for machine guns.

[72] A caveat to the number of approved LCMs is that importers may overstate the number of LCMs they have available to give themselves leeway to import additional LCMs, should they become available.

[73] A caveat is that we did not examine prices of smaller magazines, so the price trends described here may not have been entirely unique to LCMs. Yet it seems likely that these trends reflect the unique impact of the ban on the market for LCMs.

Table 7-2. Large Capacity Magazines Imported into the United States or Approved For Importation for Commercial Sale, 1994-2000

Year	Imported	Approved
1994	67,063	77,666
1995	3,776	2,066,228
1996	280,425	2,795,173
1997	99,972	1,889,773
1998	337,172	20,814,574
1999	3,663,619	13,291,593
2000	346,416	6,272,876
Total	*4,798,443*	*47,207,883*

Source: Firearms and Explosives Imports Branch, Bureau of Alcohol, Tobacco, Firearms, and Explosives. Counts do not include "links" (belt devices) or imports for law enforcement purposes.

The drop in rifle LCM prices between 1994 and 1998 may have due to the simultaneous importation of approximately 788,400 grandfathered LCMs, most of which appear to have been rifle magazines (based on the fact that nearly two-thirds had capacities over 19 rounds), as well as the availability of U.S. military surplus LCMs that fit rifles like the AR-15 and Mini-14. We can also speculate that demand for LCMs is not as great among rifle consumers, who are less likely to acquire their guns for defensive or criminal purposes.

The pre-ban supply of handgun LCMs may have been more constricted than the supply of rifle LCMs for at least a few years following the ban, based on prices from 1994 to 1998. Although there were an estimated 25 million LCMs available in the U.S. as of 1995, some major handgun manufacturers (including Ruger, Sig Sauer, and Glock) had or were close to running out of new LCMs by that time (Gun Tests, 1995, p. 30). Yet the frequency of advertisements for handgun LCMs during 1997 and 1998, as well as the drop in prices from their 1995 peak, suggests that the supply had not become particularly low. In 1998, for example, the selected distributors posted a combined total of 92 LCM ads per issue (some of which may have been for the same make, model, and capacity combinations) for just the handguns that we incorporated into our model.[74] Perhaps the

[74] Project staff found substantially more advertisements per issue for 1997 and 1998 than for earlier years. For the LCMs studied in the handgun analysis, staff recorded an average of 412 LCM advertisements per year (103 per issue) during 1997 and 1998. For 1992-1996, staff recorded an average of about 100 ads per year (25 per issue) for the same LCMs. A similar but smaller differential existed in the volume of ads for the LCMs used in the rifle analysis. The increase in LCM ads over time may reflect changes in supply and

demand for enhanced firepower among handgun consumers, who are more likely to acquire guns for crime or defense against crime, was also a factor (and perhaps a large one) putting a premium on handgun LCMs.

Although we might hypothesize that high prices depressed use of handguns with LCMs for at least a few years after the ban, a qualification to this prediction is that LCM use may be less sensitive to prices than is use of AWs because LCMs are much less expensive than the firearms they complement and therefore account for a smaller fraction of users' income (e.g., see Friedman, 1962). To illustrate, TEC-9 APs typically cost $260 at retail during 1992 and 1993, while LCMs for the TEC-9, ranging in capacity from 30 to 36 rounds, averaged $16.50 in *Shotgun News* advertisements (and probably $19 or less at retail) during the same period. So, for example, a doubling of both gun and LCM prices would likely have a much greater impact on purchases of TEC-9 pistols than purchases of LCMs for the TEC-9. Users willing and able to pay for a gun that accepts an LCM are most likely willing and able to pay for an LCM to use with the gun.

Moreover, the LCM supply was enhanced considerably by a surge in LCM imports that occurred after the period of our price analysis. During 1999 and 2000, an additional 4 million grandfathered LCMs were imported into the U.S., over two-thirds of which had capacities of 11-19 rounds, a range that covers almost all handgun LCMs (as well as many rifle LCMs). This may have driven prices down further after 1998.

In sum, market indicators yield conflicting signs on the availability of LCMs. It is perhaps too early to expect a reduction in crimes with LCMs, considering that tens of millions of grandfathered LCMs were available at the time of the ban, an additional 4.8 million – enough to replenish one-fifth of those owned by civilians – were imported from 1994 through 2000, and that the elasticity of demand for LCMs may be more limited than that of firearms. And if the additional 42 million foreign LCMs approved for importation become available, there may not be a reduction in crimes with LCMs anytime in the near future.

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demand for LCMs during the study period, as well as product shifts by distributors and perhaps changes in ad formats (e.g., ads during the early period may have been more likely to list magazines by handgun model without listing the exact capacity of each magazine, in which case coders would have been more likely to miss some LCMs during the early period). Because the data collection effort for the early period was part of a larger effort that involved coding prices in *Shotgun News* for LCMs and numerous banned and non-banned firearms, it is also possible that coders were more likely to miss LCM ads during that period due to random factors like fatigue or time constraints.

9. THE CONSEQUENCES OF CRIMES WITH ASSAULT WEAPONS AND LARGE CAPACITY MAGAZINES

One of the primary considerations motivating passage of the ban on AWs and LCMs was a concern over the perceived dangerousness of these guns and magazines. In principal, semiautomatic weapons with LCMs enable offenders to fire high numbers of shots rapidly, thereby potentially increasing both the number of person wounded per gunfire incident (including both intended targets and innocent bystanders) and the number of gunshot victims suffering multiple wounds, both of which would increase deaths and injuries from gun violence. Ban advocates also argued that the banned AWs possessed additional features conducive to criminal applications.

The findings of the previous chapters suggest that it is premature to make definitive assessments of the ban's impact on gun violence. Although criminal use of AWs has declined since the ban, this reduction was offset through at least the late 1990s by steady or rising use of other guns equipped with LCMs. As argued previously, the LCM ban has greater potential for reducing gun deaths and injuries than does the AW ban. Guns with LCMs – of which AWs are only a subset – were used in up to 25% of gun crimes before the ban, whereas AWs were used in no more than 8% (Chapter 3). Furthermore, an LCM is arguably the most important feature of an AW. Hence, use of guns with LCMs is probably more consequential than use of guns with other military-style features, such as flash hiders, folding rifle stocks, threaded barrels for attaching a silencers, and so on.[94]

This is not to say that reducing use of AWs will have no effect on gun crime; a decline in the use of AWs does imply fewer crimes with guns having particularly large magazines (20 or more rounds) and other military-style features that could facilitate some crimes. However, it seems that any such effects would be outweighed, or at least

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[94] While it is conceivable that changing features of AWs other than their magazines might prevent some gunshot victimizations, available data provide little if any empirical basis for judging the likely size of such effects. Speculatively, some of the most beneficial weapon redesigns may be the removal of folding stocks and pistol grips from rifles. It is plausible that some offenders who cannot obtain rifles with folding stocks (which make the guns more concealable) might switch to handguns, which are more concealable but generally cause less severe wounds (e.g. see DiMaio, 1985). However, such substitution patterns cannot be predicted with certainty. Police gun databases rarely have information sufficiently detailed to make assessments of changes over time in the use of weapons with specific features like folding stocks. Based on informal assessments, there was no consistent pattern in post-ban use of rifles (as a share of crime guns) in the local databases examined in the prior chapters (also see the specific comments on LCM rifles in the previous chapters).

Pistol grips enhance the ability of shooters to maintain control of a rifle during rapid, "spray and pray" firing (e.g., see Violence Policy Center, 2003). (Heat shrouds and forward handgrips on APs serve the same function.) While this feature may prove useful in military contexts (e.g., firefights among groups at 100 meters or less – see data of the U.S. Army's Operations Research Office as cited in Violence Policy Center, 2003), it is unknown whether civilian attacks with semiautomatic rifles having pistol grips claim more victims per attack than do those with other semiautomatic rifles. At any rate, most post-ban AR-type rifles still have pistol grips. Further, the ban does not count a stock thumbhole grip, which serves the same function as a pistol grip (e.g., see the illustration of LCMM rifles in Chapter 2), as an AR feature.

obscured, by the wider effects of LCM use, which themselves are likely to be small at best, as we argue below.[95]

Because offenders can substitute non-banned guns and small magazines for banned AWs and LCMs, there is not a clear rationale for expecting the ban to reduce assaults and robberies with guns.[96] But by forcing AW and LCM offenders to substitute non-AWs with small magazines, the ban might reduce the number of shots fired per gun attack, thereby reducing both victims shot per gunfire incident and gunshot victims sustaining multiple wounds. In the following sections, we consider the evidence linking high-capacity semiautomatics and AWs to gun violence and briefly examine recent trends in lethal and injurious gun violence.

9.1. The Spread of Semiautomatic Weaponry and Trends in Lethal and Injurious Gun Violence Prior to the Ban

Nationally, semiautomatic handguns grew from 28% of handgun production in 1973 to 80% in 1993 (Zawitz, 1995, p. 3). Most of this growth occurred from the late 1980s onward, during which time the gun industry also increased marketing and production of semiautomatics with LCMs (Wintemute, 1996). Likewise, semiautomatics grew as a percentage of crime guns (Koper, 1995; 1997), implying an increase in the average firing rate and ammunition capacity of guns used in crime.[97]

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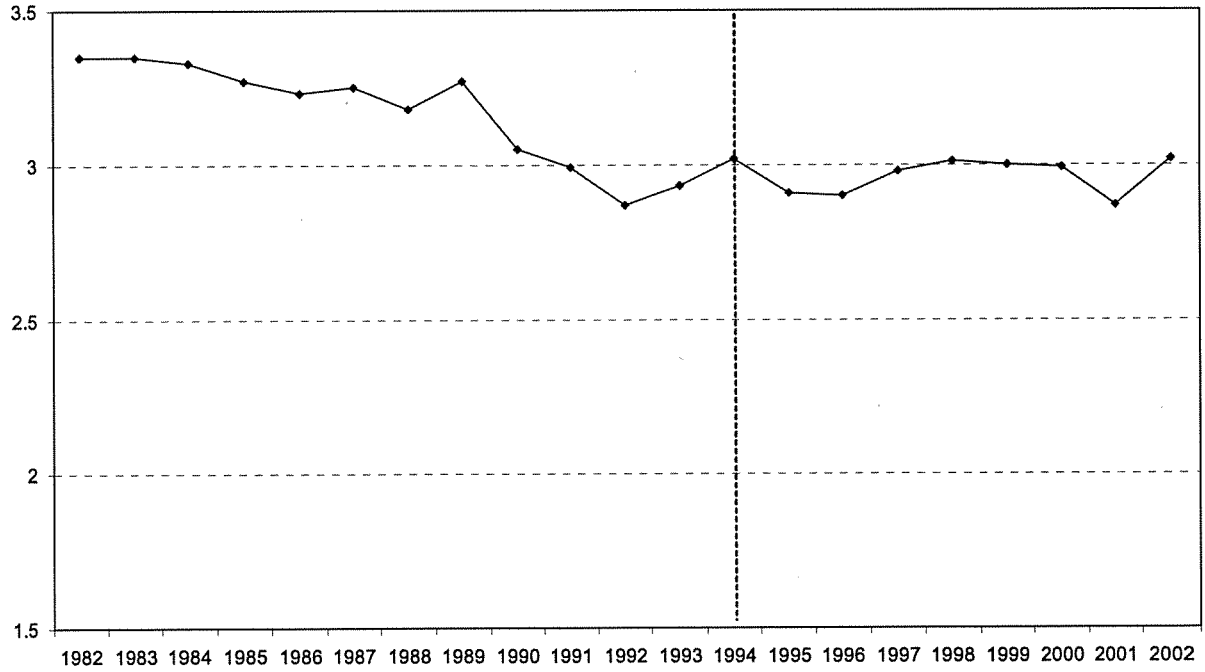
[95] On a related note, a few studies suggest that state-level AW bans have not reduced crime (Koper and Roth, 2001a; Lott, 2003). This could be construed as evidence that the federal AW ban will not reduce gunshot victimizations without reducing LCM use because the state bans tested in those studies, as written at the time, either lacked LCM bans or had LCM provisions that were less restrictive than that of the federal ban. (New Jersey's 1990 AW ban prohibited magazines holding more than 15 rounds. AP bans passed by Maryland and Hawaii prohibited magazines holding more than 20 rounds and pistol magazines holding more than 10 rounds, respectively, but these provisions did not take effect until just a few months prior to the federal ban.) However, it is hard to draw definitive conclusions from these studies for a number of reasons, perhaps the most salient of which are the following: there is little evidence on how state AW bans affect the availability and use of AWs (the impact of these laws is likely undermined to some degree by the influx of AWs from other states, a problem that was probably more pronounced prior to the federal ban when the state laws were most relevant); studies have not always examined the effects of these laws on gun homicides and shootings, the crimes that are arguably most likely to be affected by AW bans (see discussion in the main text); and the state AW bans that were passed prior to the federal ban (those in California, New Jersey, Hawaii, Connecticut, and Maryland) were in effect for only three months to five years (two years or less in most cases) before the imposition of the federal ban, after which they became largely redundant with the federal legislation and their effects more difficult to predict and estimate.

[96] One might hypothesize that the firepower provided by AWs and other semiautomatics with LCMs emboldens some offenders to engage in aggressive behaviors that prompt more shooting incidents. On the other hand, these weapons might also prevent some acts of violence by intimidating adversaries, thus discouraging attacks or resistance. We suspect that firepower does influence perceptions, considering that many police departments have upgraded their weaponry in recent years – often adopting semiautomatics with LCMs – because their officers felt outgunned by offenders. However, hypotheses about gun types and offender behavior are very speculative, and, pending additional research on such issues, it seems prudent to focus on indicators with stronger theoretical and empirical foundations.

[97] Revolvers, the most common type of non-semiautomatic handgun, typically hold only 5 or 6 rounds (and sometimes up to 9). Semiautomatic pistols, in contrast, hold ammunition in detachable magazines that, prior to the ban, typically held 5 to 17 bullets and sometimes upwards of 30 (Murtz et al., 1994).

The impact of this trend is debatable. Although the gun homicide rate rose considerably during the late 1980s and early 1990s (Bureau of Justice Statistics, 1994, p. 13), the percentage of violent gun crimes resulting in death was declining (see Figure 9-1 and the related discussion in section 9.3). Similarly, the percentage of victims killed or wounded in handgun discharge incidents declined from 27% during the 1979-1987 period to 25% for the 1987-1992 period (calculated from Rand, 1990, p. 5; 1994, p. 2) as semiautomatics were becoming more common crime weapons.[98] On the other hand, an increasing percentage of gunshot victims died from 1992 to 1995 according to hospital data (Cherry et al., 1998), a trend that could have been caused in part by a higher number of gunshot victims with multiple wounds (also see McGonigal et al., 1993). Most notably, the case fatality rate for assaultive gunshot cases involving 15 to 24-year-old males rose from 15.9% in late 1993 to 17.5% in early 1995 (p. 56).

Figure 9-1. Percentage of Violent Gun Crimes Resulting in Death (National), 1982-2002



Based on gun homicides, gun robberies, and gun assaults reported in the Uniform Crime Reports and Supplemental Homicide Reports.

[98] A related point is that there was a general upward trend in the average number of shots fired by offenders in gunfights with New York City police from the late 1980s through 1992 (calculated from Goehl, 1993, p. 51). However, the average was no higher during this time than during many years of the early 1980s and 1970s.

Some researchers have inferred links between the growing use of semiautomatics in crime and the rise of both gun homicides and bystander shootings in a number of cities during the late 1980s and early 1990s (Block and Block, 1993; McGonigal et al., 1993; Sherman et al., 1989; Webster et al., 1992). A study in Washington, DC, for example, reported increases in wounds per gunshot victim and gunshot patient mortality during the 1980s that coincided with a reported increase in the percentage of crime guns that were semiautomatics (Webster et al., 1992).

Nevertheless, changes in offender behavior, coupled with other changes in crime guns (e.g., growing use of large caliber handguns – see Caruso et al., 1999; Koper, 1995; 1997; Wintemute, 1996), may have been key factors driving such trends. Washington, DC, for example, was experiencing an exploding crack epidemic at the time of the aforementioned study, and this may have raised the percentage of gun attacks in which offenders had a clear intention to injure or kill their victims. Moreover, studies that attempted to make more explicit links between the use of semiautomatic firearms and trends in lethal gun violence via time series analysis failed to produce convincing evidence of such links (Koper, 1995; 1997). However, none of the preceding research related specific trends in the use of AWs or LCMs to trends in lethal gun violence.

9.2. Shots Fired in Gun Attacks and the Effects of Weaponry on Attack Outcomes

The evidence most directly relevant to the potential of the AW-LCM ban to reduce gun deaths and injuries comes from studies examining shots fired in gun attacks and/or the outcomes of attacks involving different types of guns. Unfortunately, such evidence is very sparse.

As a general point, the faster firing rate and larger ammunition capacities of semiautomatics, especially those equipped with LCMs, have the potential to affect the outcomes of many gun attacks because gun offenders are not particularly good shooters. Offenders wounded their victims in no more than 29% of gunfire incidents according to national, pre-ban estimates (computed from Rand, 1994, p. 2; also see estimates presented later in this chapter). Similarly, a study of handgun assaults in one city revealed a 31% hit rate per shot, based on the sum totals of all shots fired and wounds inflicted (Reedy and Koper, 2003, p. 154). Other studies have yielded hit rates per shot ranging from 8% in gunfights with police (Goehl, 1993, p. 8) to 50% in mass murders (Kleck, 1997, p. 144). Even police officers, who are presumably certified and regularly re-certified as proficient marksman and who are almost certainly better shooters than are average gun offenders, hit their targets with only 22% to 39% of their shots (Kleck, 1991, p. 163; Goehl, 1993). Therefore, the ability to deliver more shots rapidly should raise the likelihood that offenders hit their targets, not to mention innocent bystanders.[99]

[99] However, some argue that this capability is offset to some degree by the effects of recoil on shooter aim, the limited number of shots fired in most criminal attacks (see below), and the fact that criminals using non-semiautomatics or semiautomatics with small magazines usually have the time and ability to deliver multiple shots if desired (Kleck, 1991, pp. 78-79).

A few studies have compared attacks with semiautomatics, sometimes specifically those with LCMs (including AWs), to other gun assaults in terms of shots fired, persons hit, and wounds inflicted (see Tables 9-1 and 9-2). The most comprehensive of these studies examined police reports of attacks with semiautomatic pistols and revolvers in Jersey City, New Jersey from 1992 through 1996 (Reedy and Koper, 2003), finding that use of pistols resulted in more shots fired and higher numbers of gunshot victims (Table 9-1), though not more gunshot wounds per victim (Table 9-2).[100] Results implied there would have been 9.4% fewer gunshot victims overall had semiautomatics not been used in any of the attacks. Similarly, studies of gun murders in Philadelphia (see McGonigal et al., 1993 in Table 9-1) and a number of smaller cities in Pennsylvania, Ohio, and Iowa (see Richmond et al., 2003 in Table 9-2) found that attacks with semiautomatics resulted in more shots fired and gunshot wounds per victim. An exception is that the differential in shots fired between pistol and revolver cases in Philadelphia during 1990 did not exist for cases that occurred in 1985, when semiautomatics and revolvers had been fired an average of 1.6 and 1.9 times, respectively. It is not clear whether the increase in shots fired for pistol cases from 1985 to 1990 was due to changes in offender behavior, changes in the design or quality of pistols (especially an increase in the use of models with LCMs – see Wintemute, 1996), the larger sample for 1990, or other factors.

[100] But unlike other studies that have examined wounds per victim (see Table 9-2), this study relied on police reports of wounds inflicted rather than medical reports, which are likely to be more accurate.

Table 9-1. Shots Fired and Victims Hit in Gunfire Attacks By Type of Gun and Magazine

Data Source	Measure	Outcome
Gun attacks with semiautomatic pistols and revolvers, Jersey City, 1992-1996 [a]	Shots Fired	Avg. = 3.2 – 3.7 (n=165 pistol cases) * Avg. = 2.3 – 2.6 (n=71 revolver cases) *
Gun homicides with semiautomatic pistols and revolvers, Philadelphia, 1985 and 1990 [b]	Shots Fired	Avg. = 1.6 (n=21 pistol cases, 1985) Avg. = 1.9 (n=57 revolver cases, 1985) Avg. = 2.7 (n=95 pistol cases, 1990) Avg. = 2.1 (n=108 revolver cases, 1990)
Gun attacks with semiautomatic pistols and revolvers, Jersey City, 1992-1996 [a]	Victims Hit	Avg. = 1.15 (n=95 pistol cases) * Avg. = 1.0 (n=40 revolver cases) *
Mass shootings with AWs, semiautomatics having LCMs, or other guns, 6+ dead or 12+ shot, United States, 1984-1993 [c]	Victims Hit	Avg. = 29 (n=6 AW/LCM cases) Avg. = 13 (n=9 non-AW/LCM cases)
Self-reported gunfire attacks by state prisoners with AWs, other semiautomatics, and non-semiautomatic firearms, United States, 1997 or earlier [d]	% of Attacks With Victims Hit	19.5% (n=72 AW or machine gun cases) 22.3% (n=419 non-AW, semiautomatic cases) 23.3% (n=608 non-AW, non-semiautomatic cases)

a. Reedy and Koper (2003)
b. McGonigal et al. (1993)
c. Figures calculated by Koper and Roth (2001a) based on data presented by Kleck (1997, p. 144)
d. Calculated from Harlow (2001, p. 11). (Sample sizes are based on unpublished information provided by the author of the survey report.)
* Pistol/revolver differences statistically significant at $p<.05$ (only Reedy and Koper [2003] and Harlow [2001] tested for statistically significant differences). The shots fired ranges in Reedy and Koper are based on minimum and maximum estimates.

Table 9-2. Gunshot Wounds Per Victim By Type of Gun and Magazine

Data Source	Measure	Outcome
Gun attacks with semiautomatic pistols and revolvers, Jersey City, 1992-1996 [a]	Gunshot Wounds	Avg. = 1.4 (n=107 pistol victims) Avg. = 1.5 (n=40 revolver victims)
Gun homicides with semiautomatic pistols and revolvers, Iowa City (IA), Youngstown (OH), and Bethlehem (PA), 1994-1998 [b]	Gunshot Wounds	Avg. = 4.5 total (n=212 pistol victims)* Avg. = 2.9 entry Avg. = 2.0 total (n=63 revolver victims)* Avg. = 1.5 entry
Gun homicides with assault weapons (AWs), guns having large capacity magazines (LCMs), and other firearms, Milwaukee, 1992-1995 [c]	Gunshot Wounds	Avg. = 3.23 (n=30 LCM victims) ** Avg. = 3.14 (n=7 AW victims) Avg. = 2.08 (n=102 non-AW/LCM victims)**

a. Reedy and Koper (2003)
b. Richmond et al. (2003)
c. Roth and Koper (1997, Chapter 6)
* Pistol/revolver differences statistically significant at $p<.01$.
** The basic comparison between LCM victims and non-AW/LCM victims was moderately significant ($p<.10$) with a one-tailed test. Regression results (with a slightly modified sample) revealed a difference significant at $p=.05$ (two-tailed test). Note that the non-LCM group included a few cases involving non-banned LCMs (.22 caliber attached tubular devices).

Also, a national survey of state prisoners found that, contrary to expectations, offenders who reported firing on victims with AWs and other semiautomatics were no more likely to report having killed or injured victims than were other gun offenders who reported firing on victims (Table 9-1). However, the measurement of guns used and attack outcomes were arguably less precise in this study, which was based on offender self-reports, than in other studies utilizing police and medical reports.[101]

Attacks with AWs or other guns with LCMs may be particularly lethal and injurious, based on very limited evidence. In mass shooting incidents (defined as those in which at least 6 persons were killed or at least 12 were wounded) that occurred during the decade preceding the ban, offenders using AWs and other semiautomatics with LCMs (sometimes in addition to other guns) claimed an average of 29 victims in comparison to an average of 13 victims for other cases (Table 9-1). (But also see the study discussed in the preceding paragraph in regards to victims hit in AW cases.)

Further, a study of Milwaukee homicide victims from 1992 through 1995 revealed that those killed with AWs were shot 3.14 times on average, while those killed with any

[101] See the discussion of self-reports and AW use in Chapter 3.

gun having an LCM were shot 3.23 times on average (Table 9-2). In contrast, victims shot with guns having small magazines had only 2.1 wounds on average. If such a wound differential can be generalized to other gun attacks – if, that is, both fatal and non-fatal LCM gunshot victims are generally hit one or more extra times – then LCM use could have a considerable effect on the number of gunshot victims who die. To illustrate, the fatality rate among gunshot victims in Jersey City during the 1990s was 63% higher for those shot twice than for those shot once (26% to 16%) (Koper and Roth, 2001a; 2001b). Likewise, fatality rates are 61% higher for patients with multiple chest wounds than for patients with a single chest wound (49% to 30.5%), based on a Washington, DC study (Webster et al., 1992, p. 696).

Similar conclusions can also be inferred indirectly from the types of crimes involving LCM guns. To illustrate, handguns associated with gunshot victimizations in Baltimore (see the description of the Baltimore gun and magazine data in the preceding chapter) are 20% to 50% more likely to have LCMs than are handguns associated with other violent crimes, controlling for weapon caliber (Table 9-3). This difference may be due to higher numbers of shots and hits in crimes committed with LCMs, although it is also possible that offenders using LCMs are more likely to fire on victims. But controlling for gunfire, guns used in shootings are 17% to 26% more likely to have LCMs than guns used in gunfire cases resulting in no wounded victims (perhaps reflecting higher numbers of shots fired and victims hit in LCM cases), and guns linked to murders are 8% to 17% more likely to have LCMs than guns linked to non-fatal gunshot victimizations (perhaps indicating higher numbers of shots fired and wounds per victim in LCM cases).[102] These differences are not all statistically significant, but the pattern is consistent. And as discussed in Chapter 3, AWs account for a larger share of guns used in mass murders and murders of police, crimes for which weapons with greater firepower would seem particularly useful.

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[102] Cases with and without gunfire and gunshot victims were approximated based on offense codes contained in the gun seizure data (some gunfire cases not resulting in wounded victims may not have been identified as such, and it is possible that some homicides were not committed with the guns recovered during the investigations). In order to control for caliber effects, we focused on 9mm and .38 caliber handguns. Over 80% of the LCM handguns linked to violent crimes were 9mm handguns. Since all (or virtually all) 9mm handguns are semiautomatics, we also selected .38 caliber guns, which are close to 9mm in size and consist almost entirely of revolvers and derringers.

The disproportionate involvement of LCM handguns in injury and death cases is greatest in the comparisons including both 9mm and .38 caliber handguns. This may reflect a greater differential in average ammunition capacity between LCM handguns and revolvers/derringers than between LCM handguns and other semiautomatics. The differential in fatal and non-fatal gunshot victims may also be due to caliber effects; 9mm is generally a more powerful caliber than .38 based on measures like kinetic energy or relative stopping power (e.g., see DiMaio, 1985, p. 140; Warner 1995, p. 223; Wintemute, 1996, p. 1751).

Table 9-3. Probabilities That Handguns Associated With Murders, Non-Fatal Shootings, and Other Violent Crimes Were Equipped With Large Capacity Magazines in Baltimore, 1993-2000

Handgun Sample	% With LCM	% Difference (#2 Relative to #1)
A. Handguns Used in Violent Crimes With and Without Gunshot Injury		
1) 9mm and .38: violence, no gunshot victims	23.21%	
2) 9mm and .38: violence with gunshot victims	34.87%	50%*
1) 9mm: violence, no gunshot victims	52.92%	
2) 9mm: violence with gunshot victims	63.24%	20%*
B. Handguns Used in Gunfire Cases With and Without Gunshot Injury		
1) 9mm and .38: gunfire, no gunshot victims	27.66%	
2) 9mm and .38: gunfire with gunshot victims	34.87%	26%
1) 9mm: gunfire, no gunshot victims	54.17%	
2) 9mm: gunfire with gunshot victims	63.24%	17%
C. Handguns Used in Fatal Versus Non-Fatal Gunshot Victimizations		
1) 9mm and .38: non-fatal gunshot victims	32.58%	
2) 9mm and .38: homicides	38.18%	17%
1) 9mm: non-fatal gunshot victims	61.14%	
2) 9mm: homicides	66.04%	8%

* Statistically significant difference at $p<.01$ (chi-square).

The findings of the preceding studies are subject to numerous caveats. There were few if any attempts to control for characteristics of the actors or situations that might have influenced weapon choices and/or attack outcomes.[103] Weapons data were typically missing for substantial percentages of cases. Further, many of the comparisons in the tables were not tested for statistical significance (see the notes to Tables 9-1 and 9-2).[104]

Tentatively, nonetheless, the evidence suggests more often than not that attacks with semiautomatics, particularly those equipped with LCMs, result in more shots fired, leading to both more injuries and injuries of greater severity. Perhaps the faster firing rate and larger ammunition capacities afforded by these weapons prompt some offenders to fire more frequently (i.e., encouraging what some police and military persons refer to as a "spray and pray" mentality). But this still begs the question of whether a 10-round limit on magazine capacity will affect the outcomes of enough gun attacks to measurably reduce gun injuries and deaths.

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[103] In terms of offender characteristics, recall from Chapter 3 that AP buyers are more likely than other gun buyers to have criminal histories and commit subsequent crimes. This does not seem to apply, however, to the broader class of semiautomatic users: handgun buyers with and without criminal histories tend to buy pistols in virtually the same proportions (Wintemute et al., 1998b), and youthful gun offenders using pistols and revolvers have very comparable criminal histories (Sheley and Wright, 1993b, p. 381). Further, semiautomatic users, including many of those using AWs, show no greater propensity to shoot at victims than do other gun offenders (Harlow, 2001, p. 11; Reedy and Koper, 2003). Other potential confounders to the comparisons in Tables 9-1 and 9-2 might include shooter age and skill, the nature of the circumstances (e.g., whether the shooting was an execution-style shooting), the health of the victim(s), the type of location (e.g., indoor or outdoor location), the distance between the shooter and intended victim(s), the presence of multiple persons who could have been shot intentionally or accidentally (as bystanders), and (in the mass shooting incidents) the use of multiple firearms.

[104] Tables 9-1 and 9-2 present the strongest evidence from the available studies. However, there are additional findings from these studies and others that, while weaker, are relevant. Based on gun model information available for a subset of cases in the Jersey City study, there were 12 gunfire cases involving guns manufactured with LCMs before the ban (7 of which resulted in wounded victims) and 94 gunfire cases involving revolvers or semiautomatic models without LCMs. Comparisons of these cases produced results similar to those of the main analysis: shot fired estimates ranged from 2.83 to 3.25 for the LCM cases and 2.22 to 2.6 for the non-LCM cases; 1.14 victims were wounded on average in the LCM gunshot cases and 1.06 in the non-LCM gunshot cases; and LCM gunshot victims had 1.14 wound on average, which, contrary to expectations, was less than the 1.47 average for other gunshot victims.

The compilation of mass shooting incidents cited in Table 9-1 had tentative shots fired estimates for 3 of the AW-LCM cases and 4 of the other cases. The AW-LCM cases averaged 93 shots per incident, a figure two and a half times greater than the 36.5 shot average for the other cases.

Finally, another study of firearm mass murders found that the average number of victims killed (tallies did not include others wounded) was 6 in AW cases and 4.5 in other cases (Roth and Koper, 1997, Appendix A). Only 2 of the 52 cases studied clearly involved AWs (or very similar guns). However, the make and model of the firearm were available for only eight cases, so additional incidents may have involved LCMs; in fact, at least 35% of the cases involved unidentified semiautomatics. (For those cases in which at least the gun type and firing action were known, semiautomatics outnumbered non-semiautomatics by 6 to 1, perhaps suggesting that semiautomatics are used disproportionately in mass murders.)

9.2.1. Will a 10-Round Magazine Limit Reduce Gunshot Victimizations?

Specific data on shots fired in gun attacks are quite fragmentary and often inferred indirectly, but they suggest that relatively few attacks involve more than 10 shots fired.[105] Based on national data compiled by the FBI, for example, there were only about 19 gun murder incidents a year involving four or more victims from 1976 through 1995 (for a total of 375) (Fox and Levin, 1998, p. 435) and only about one a year involving six or more victims from 1976 through 1992 (for a total of 17) (Kleck, 1997, p. 126). Similarly, gun murder victims are shot two to three times on average according to a number of sources (see Table 9-2 and Koper and Roth, 2001a), and a study at a Washington, DC trauma center reported that only 8% of all gunshot victims treated from 1988 through 1990 had five or more wounds (Webster et al., 1992, p. 696).

However, counts of victims hit or wounds inflicted provide only a lower bound estimate of the number of shots fired in an attack, which could be considerably higher in light of the low hit rates in gunfire incidents (see above).[106] The few available studies on shots fired show that assailants fire less than four shots on average (see sources in Table 9-1 and Goehl, 1993), a number well within the 10-round magazine limit imposed by the AW-LCM ban, but these studies have not usually presented the full distribution of shots fired for all cases, so it is usually unclear how many cases, if any, involved more than 10 shots.

An exception is the aforementioned study of handgun murders and assaults in Jersey City (Reedy and Koper, 2003). Focusing on cases for which at least the type of handgun (semiautomatic, revolver, derringer) could be determined, 2.5% of the gunfire cases involved more than 10 shots.[107] These incidents – all of which involved pistols – had a 100% injury rate and accounted for 4.7% of all gunshot victims in the sample (see Figure 9-2). Offenders fired a total of 83 shots in these cases, wounding 7 victims, only 1 of whom was wounded more than once. Overall, therefore, attackers fired over 8 shots

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[105] Although the focus of the discussion is on attacks with more than 10 shots fired, a gun user with a post-ban 10-round magazine can attain a firing capacity of 11 shots with many semiautomatics by loading one bullet into the chamber before loading the magazine.

[106] As a dramatic example, consider the heavily publicized case of Amadou Diallo, who was shot to death by four New York City police officers just a few years ago. The officers in this case fired upon Diallo 41 times but hit him with only 19 shots (a 46% hit rate), despite his being confined in a vestibule. Two of the officers reportedly fired until they had emptied their 16-round magazines, a reaction that may not be uncommon in such high-stress situations. In official statistics, this case will appear as having only one victim.

[107] The shots fired estimates were based on reported gunshot injuries, physical evidence (for example, shell casings found at the scene), and the accounts of witnesses and actors. The 2.5% figure is based on minimum estimates of shots fired. Using maximum estimates, 3% of the gunfire incidents involved more than 10 shots (Reedy and Koper, 2003, p. 154).

A caveat to these figures is that the federal LCM ban was in effect for much of the study period (which spanned January 1992 to November 1996), and a New Jersey ban on magazines with more than 15 rounds predated the study period. It is thus conceivable that these laws reduced attacks with LCM guns and attacks with more than 10 shots fired, though it seems unlikely that the federal ban had any such effect (see the analyses of LCM use presented in the previous chapter). Approximately 1% of the gunfire incidents involved more than 15 shots.

for every wound inflicted, suggesting that perhaps fewer persons would have been wounded had the offenders not been able to fire as often.[108]

Figure 9-2. Attacks With More Than 10 Shots Fired

Jersey City Handgun Attacks, 1992-1996

- **2.5% - 3% of gunfire incidents involved 11+ shots**
  - **3.6% - 4.2% of semiauto pistol attacks**
- **100% injury rate**
- **Produced 4.7% of all gunshot wound victims**
- **8.3 shots per gunshot wound**

Based on data reported by Reedy and Koper (2003). Injury statistics based on the 2.5% of cases involving 11+ shots by minimum estimate.

Caution is warranted in generalizing from these results because they are based on a very small number of incidents (6) from one sample in one city. Further, it is not known if the offenders in these cases had LCMs (gun model and magazine information was very limited); they may have emptied small magazines, reloaded, and continued firing. But subject to these caveats, the findings suggest that the ability to deliver more than 10 shots without reloading may be instrumental in a small but non-trivial percentage of gunshot victimizations.

On the other hand, the Jersey City study also implies that eliminating AWs and LCMs might only reduce gunshot victimizations by up to 5%. And even this estimate is probably overly optimistic because the LCM ban cannot be expected to prevent all incidents with more than 10 shots. Consequently, any effects from the ban (should it be extended) are likely to be smaller and perhaps quite difficult to detect with standard statistical methods (see Koper and Roth, 2001a), especially in the near future, if recent patterns of LCM use continue.

9.3. Post-Ban Trends in Lethal and Injurious Gun Violence

Having established some basis for believing the AW-LCM ban could have at least a small effect on lethal and injurious gun violence, is there any evidence of such an effect to date? Gun homicides plummeted from approximately 16,300 in 1994 to 10,100 in 1999, a reduction of about 38% (see the Federal Bureau of Investigation's *Uniform Crime*

[108] These figures are based on a supplemental analysis not contained in the published study. We thank Darin Reedy for this analysis.

Reports). Likewise, non-fatal, assaultive gunshot injuries treated in hospitals nationwide declined one-third, from about 68,400 to under 46,400, between 1994 and 1998 (Gotsch et al., 2001, pp. 23-24). Experts believe numerous factors contributed to the recent drop in these and other crimes, including changing drug markets, a strong economy, better policing, and higher incarceration rates, among others (Blumstein and Wallman, 2000). Attributing the decline in gun murders and shootings to the AW-LCM ban is problematic, however, considering that crimes with LCMs appear to have been steady or rising since the ban. For this reason, we do not undertake a rigorous investigation of the ban's effects on gun violence.[109]

But a more casual assessment shows that gun crimes since the ban have been no less likely to cause death or injury than those before the ban, contrary to what we might expect if crimes with AWs and LCMs had both declined. For instance, the percentage of violent gun crimes resulting in death has been very stable since 1990 according to national statistics on crimes reported to police (see Figure 9-1 in section 9.1).[110] In fact, the percentage of gun crimes resulting in death during 2001 and 2002 (2.94%) was slightly higher than that during 1992 and 1993 (2.9%).

Similarly, neither medical nor criminological data sources have shown any post-ban reduction in the percentage of crime-related gunshot victims who die. If anything, this percentage has been higher since the ban, a pattern that could be linked in part to more multiple wound victimizations stemming from elevated levels of LCM use. According to medical examiners' reports and hospitalization estimates, about 20% of gunshot victims died nationwide in 1993 (Gotsch et al., 2001). This figure rose to 23% in 1996, before declining to 21% in 1998 (Figure 9-3).[111] Estimates derived from the Uniform Crime Reports and the Bureau of Justice Statistics' annual National Crime Victimization Survey follow a similar pattern from 1992 to 1999 (although the ratio of fatal to non-fatal cases is much higher in these data than that in the medical data) and also show a considerable increase in the percentage of gunshot victims who died in 2000 and 2001 (Figure 9-3).[112] Of course, changes in offender behavior or other changes in crime

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[109] In our prior study (Koper and Roth 2001a; Roth and Koper, 1997, Chapter 6), we estimated that gun murders were about 7% lower than expected in 1995 (the first year after the ban), adjusting for pre-existing trends. However, the very limited post-ban data available for that study precluded a definitive judgment as to whether this drop was statistically meaningful (see especially Koper and Roth, 2001a). Furthermore, that analysis was based on the assumption that crimes with both AWs and LCMs had dropped in the short-term aftermath of the ban, an assumption called into question by the findings of this study. It is now more difficult to credit the ban with any of the drop in gun murders in 1995 or anytime since. We did not update the gun murder analysis because interpreting the results would be unavoidably ambiguous. Such an investigation will be more productive after demonstrating that the ban has reduced crimes with both AWs and LCMs.

[110] The decline in this figure during the 1980s was likely due in part to changes in police reporting of aggravated assaults in recent decades (Blumstein, 2000). The ratio of gun murders to gun robberies rose during the 1980s, then declined and remained relatively flat during the 1990s.

[111] Combining homicide data from 1999 with non-fatal gunshot estimates for 2000 suggests that about 20% of gunshot victimizations resulted in death during 1999 and 2000 (Simon et al., 2002).

[112] The SHR/NCVS estimates should be interpreted cautiously because the NCVS appears to undercount non-fatal gunshot wound cases by as much as two-thirds relative to police data, most likely because it fails to represent adequately the types of people most likely to be victims of serious crime (i.e., young urban males who engage in deviant lifestyles) (Cook, 1985). Indeed, the rate of death among gunshot victims

weaponry (such as an increase in shootings with large caliber handguns) may have influenced these trends. Yet is worth noting that multiple wound shootings were elevated over pre-ban levels during 1995 and 1996 in four of five localities examined during our first AW study, though most of the differences were not statistically significant (Table 9-4, panels B through E).

Another potential indicator of ban effects is the percentage of gunfire incidents resulting in fatal or non-fatal gunshot victimizations. If attacks with AWs and LCMs result in more shots fired and victims hit than attacks with other guns and magazines, we might expect a decline in crimes with AWs and LCMs to reduce the share of gunfire incidents resulting in victims wounded or killed. Measured nationally with UCR and NCVS data, this indicator was relatively stable at around 30% from 1992 to 1997, before rising to about 40% from 1998 through 2000 (Figure 9-4).[113] Along similar lines, multiple victim gun homicides remained at relatively high levels through at least 1998, based on the national average of victims killed per gun murder incident (Table 9-4, panel A).[114]

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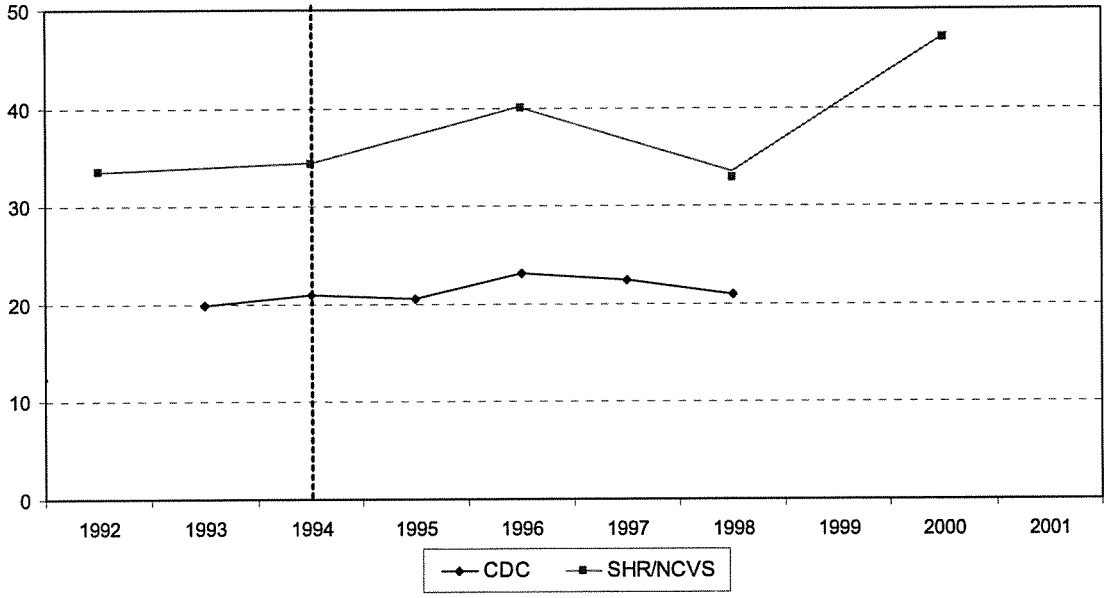
appears much higher in the SHR/NCVS series than in data compiled from medical examiners and hospitals (see the CDC series in Figure 9-3). But if these biases are relatively consistent over time, the data may still provide useful insights into trends over time.

[113] The NCVS estimates are based on a compilation of 1992-2002 data recently produced by the Inter-University Consortium for Political and Social Research (ICPSR study 3691). In 2002, only 9% of non-fatal gunfire incidents resulted in gunshot victimizations. This implies a hit rate for 2002 that was below pre-ban levels, even after incorporating gun homicide cases into the estimate. However, the 2002 NCVS estimate deviates quite substantially from earlier years, for which the average hit rate in non-fatal gunfire incidents was 24% (and the estimate for 2001 was 20%). Therefore, we did not include the 2002 data in our analysis. We used two-year averages in Figures 9-3 and 9-4 because the annual NCVS estimates are based on very small samples of gunfire incidents. The 2002 sample was especially small, so it seems prudent to wait for more data to become available before drawing conclusions about hit rates since 2001.

[114] We thank David Huffer for this analysis.

Figure 9-3. Percentage of Gunshot Victimizations Resulting in Death (National), 1992-2001



SHR/NCVS series based on two-year averages from the Supplemental Homicide Reports and National Crime Victimization Survey. CDC series based on homicide and hospitalization data from the Centers for Disease Control (reported by Gotsch et al. 2001).

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Table 9-4. Short-Term, Post-Ban Changes in the Lethality and Injuriousness of Gun Violence: National and Local Indicators, 1994-1998 [a]

Measure and Location	Pre-Ban Period	Post-Ban Period	Change
A. Victims Per Gun Homicide Incident (National)	Jan. 1986-Sept. 1994 1.05 (N=106,668)	Oct. 1994-Dec. 1998 1.06 (N=47,511)	1%**
B. Wounds per Gun Homicide Victim: Milwaukee County	Jan. 1992-Aug. 1994 2.28 (N=282)	Sept. 1994-Dec. 1995 2.52 (N=136)	11%
C. Wounds Per Gun Homicide Victim: Seattle (King County)	Jan. 1992-Aug. 1994 2.08 (N=184)	Sept. 1994-Jun. 1996 2.46 (N=91)	18%
D. Wounds Per Gunshot Victim: Jersey City (NJ)	Jan. 1992-Aug. 94 1.42 (N=125)	Sept. 1994-Jun. 1996 1.39 (N=137)	-2%
E. % of Gun Homicide Victims With Multiple Wounds: San Diego County	Jan. 1992-Aug. 1994 41% (N=445)	Sept. 1994-Jun. 1996 43% (N=223)	5%
F. % of Non-Fatal Gunshot Victims With Multiple Wounds: Boston	Jan. 1992-Aug. 1994 18% (N=584)	Sept. 1994-Dec. 1995 24% (N=244)	33%*

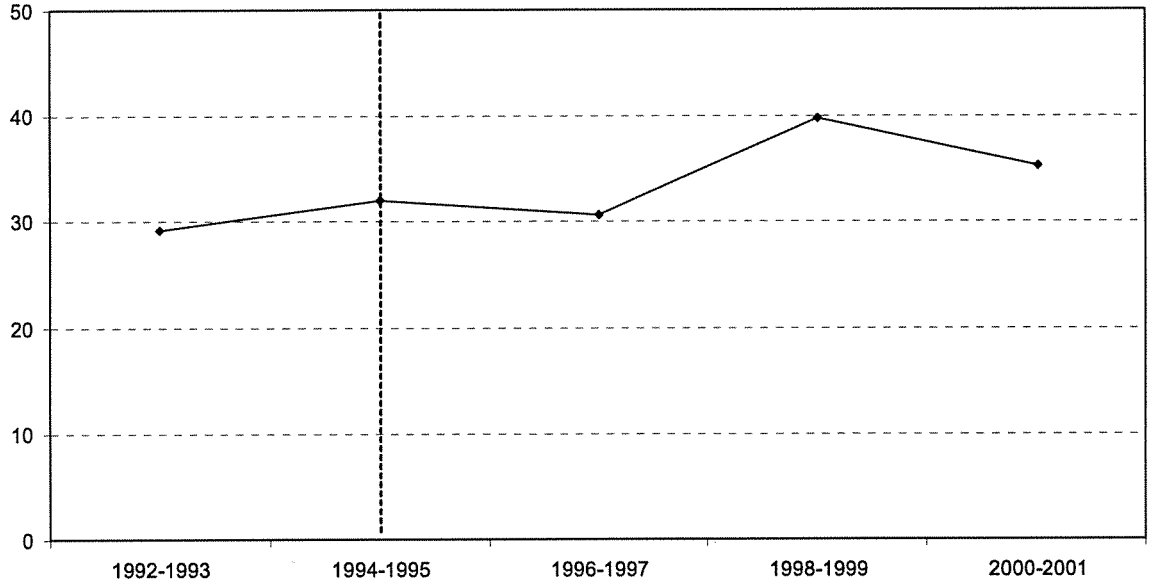
a. National victims per incident figures based on unpublished update of analysis reported in Roth and Koper (1997, Chapter 5). Gunshot wound data are taken from Roth and Koper (1997, Chapter 6) and Koper and Roth (2001a). Wound data are based on medical examiners' reports (Milwaukee, Seattle, San Diego), hospitalization data (Boston), and police reports (Jersey City).

* Chi-square p level < .1.

** T-test p level < .01.

If anything, therefore, gun attacks appear to have been more lethal and injurious since the ban. Perhaps elevated LCM use has contributed to this pattern. But if this is true, then the reverse would also be true – a reduction in crimes with LCMs, should the ban be extended, would reduce injuries and deaths from gun violence.

Figure 9-4. Percentage of Gunfire Cases Resulting in Gunshot Victimizations (National), 1992-2001



Based on two-year averages from the Supplemental Homicide Reports and National Crime Victimization Survey.

9.4. Summary

Although the ban has been successful in reducing crimes with AWs, any benefits from this reduction are likely to have been outweighed by steady or rising use of non-banned semiautomatics with LCMs, which are used in crime much more frequently than AWs. Therefore, we cannot clearly credit the ban with any of the nation's recent drop in gun violence. And, indeed, there has been no discernible reduction in the lethality and injuriousness of gun violence, based on indicators like the percentage of gun crimes resulting in death or the share of gunfire incidents resulting in injury, as we might have expected had the ban reduced crimes with both AWs and LCMs.

However, the grandfathering provision of the AW-LCM ban guaranteed that the effects of this law would occur only gradually over time. Those effects are still unfolding and may not be fully felt for several years into the future, particularly if foreign, pre-ban LCMs continue to be imported into the U.S. in large numbers. It is thus premature to make definitive assessments of the ban's impact on gun violence.

Having said this, the ban's impact on gun violence is likely to be small at best, and perhaps too small for reliable measurement. AWs were used in no more than 8% of gun crimes even before the ban. Guns with LCMs are used in up to a quarter of gun crimes, but it is not clear how often the outcomes of gun attacks depend on the ability to fire more than 10 shots (the current limit on magazine capacity) without reloading.

Nonetheless, reducing crimes with AWs and especially LCMs could have non-trivial effects on gunshot victimizations. As a general matter, hit rates tend to be low in gunfire incidents, so having more shots to fire rapidly can increase the likelihood that offenders hit their targets, and perhaps bystanders as well. While not entirely consistent, the few available studies contrasting attacks with different types of guns and magazines generally suggest that attacks with semiautomatics – including AWs and other semiautomatics with LCMs – result in more shots fired, persons wounded, and wounds per victim than do other gun attacks. Further, a study of handgun attacks in one city found that about 3% of gunfire incidents involved more than 10 shots fired, and those cases accounted for nearly 5% of gunshot victims. However, the evidence on these matters is too limited (both in volume and quality) to make firm projections of the ban's impact, should it be reauthorized.

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Large-Capacity Magazines and the Casualty Counts in Mass Shootings: The Plausibility of Linkages

Gary Kleck[1]

Abstract

Do bans on large-capacity magazines (LCMs) for semiautomatic firearms have significant potential for reducing the number of deaths and injuries in mass shootings? The most common rationale for an effect of LCM use is that they allow mass killers to fire many rounds without reloading. LCMs are known to have been used in less than one third of 1% of mass shootings. News accounts of 23 shootings in which more than six people were killed or wounded and LCMs were known to have been used, occurring in the United States in 1994–2013, were examined. There was only one incident in which the shooter may have been stopped by bystander intervention when he tried to reload. In all of these 23 incidents, the shooter possessed either multiple guns or multiple magazines, meaning that the shooter, even if denied LCMs, could have continued firing without significant interruption by either switching loaded guns or changing smaller loaded magazines with only a 2- to 4-seconds delay for each magazine change. Finally, the data indicate that mass shooters maintain such slow rates of fire that the time needed to reload would not increase the time between shots and thus the time available for prospective victims to escape.

Keywords

mass shootings, gun control, large-capacity magazines

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Introduction—Mass Shootings and Large-Capacity Magazines (LCMs)

There have been at least 23 shootings in which more than six victims were shot and one or more LCMs were known to have been used in the United States in the period 1994–2013. One of the most common political responses to mass shootings has been to propose new gun control measures, commonly focusing on "assault weapons" and LCMs. LCMs are detachable ammunition magazines used in semiautomatic firearms that are capable of holding more than a specified number (most commonly 10 or 15) rounds. For example, the 1994 federal assault weapons ban prohibited both (a) certain kinds of guns defined as assault weapons and (b) magazines able to hold more than 10 rounds (Koper, 2004). At least eight states and the District of Columbia similarly ban magazines with a large capacity, and still other states are considering bills to enact such restrictions (Brady Campaign to Prevent Gun Violence, 2013).

Theory—The Rationale for LCM Bans

When supporters of bans on LCMs provide an explicit rationale for these measures, they stress the potential for such restrictions to reduce the death toll in mass shootings. And indeed there is a statistical association between LCM use and the casualty count in mass shootings (Koper, 2004), though it is unknown whether this reflects an effect of LCM use or is merely a spurious association reflecting the offender's stronger intention to harm many people. If there is a causal effect, how would it operate? Does possession of LCMs somehow enable aggressors to shoot more victims, above and beyond the ability conferred by the use of semiautomatic guns equipped with smaller capacity detachable magazines? (A semiautomatic firearm is a gun that fires a single shot for each pull of the gun's trigger, but automatically causes a fresh round to be loaded into the gun's firing chamber.)

Possession of LCMs is largely irrelevant to ordinary gun crimes, that is, those with fewer victims than mass shootings, because it is extremely rare that the offenders in such attacks fire more rounds than can be fired from guns with ordinary ammunition capacities. For example, only 2.5% of handgun crimes in Jersey City, NJ, in 1992–1996 involved over 10 rounds being fired (Reedy & Koper, 2003, p. 154). Even among those crimes in which semiautomatic pistols were used, and some of the shooters were therefore likely to possess magazines holding more than 10 rounds, only 3.6% of the incidents involved over 10 rounds fired. Thus, if LCMs have any effect on the outcomes of violent crimes, it is more likely to be found among mass shootings with many victims, which involve unusually large numbers of rounds being fired.

Koper (2004) noted that "one of the primary considerations motivating passage of the ban on [LCMs]" was the belief that

> semiautomatic weapons with LCMs enable offenders to fire high numbers of shots rapidly, thereby potentially increasing both the number of persons wounded per gunfire incident . . . and the number of gunshot victims suffering multiple wounds, both of which would increase deaths and injuries from gun violence. (p. 80)

This summary was as much a rationale for restricting semiautomatic guns as it was for limits on magazine capacity, but Koper also concluded that "an LCM is arguably the most important feature of an AW. Hence, use of guns with LCMs is probably more consequential than use of guns with other military-style features" (p. 80). He then went on: "By forcing AW and LCM offenders to substitute non-AWs with small magazines, the ban might reduce the number of shots fired per gun, thereby reducing both victims shot per gunfire incident and gunshot victims sustaining multiple wounds" (p. 81).

It is reasonable to expect fewer people shot if fewer rounds were fired, but Koper did not explain why, for example, the use of three 10-round magazines would result in fewer shots fired than if a 30-round magazine were used. After all, three 10-round magazines and one 30-round magazine both contain 30 cartridges and thus allow 30 shots to be fired. Semiautomatic guns do not fire any faster when they have a larger magazine inserted in them than when they have a smaller magazine, nor is the lethality of any one shot affected by the size of the magazine from which it came. A limit on the number of cartridges that the shooter could fit into any *one* magazine would not limit the total number of rounds of ammunition that a would-be mass shooter could bring to the scene of their crime, or even the total number loaded into multiple detachable magazines.

The main difference between a 30-round magazine and three 10-round magazines, however, is that a shooter equipped with three 10-round magazines would have to change magazines twice in order to fire 30 rounds, while a shooter with a 30-round magazine would not have to change magazines at all. This presumably is what Koper (2004) meant when he wrote that "semiautomatic weapons with LCMs enable offenders to fire high numbers of shots rapidly" (p. 80).

Thus, it could be the *additional magazine changes* necessitated by the use of smaller magazines that might reduce the number of people hurt in mass shootings. Advocates of LCM bans argue that, if LCMs were not available, would-be mass murderers would shoot fewer people because they *would have to reload more often* due to the more limited capacities of the magazines that would then be legally available. A spokesperson for the Violence Policy Center (2011), for example, argued that "High-capacity ammunition magazines facilitate mass shootings by giving attackers the ability to fire numerous rounds without reloading."

It is not, however, self-evident why this should be so. Skilled shooters can change detachable magazines in 2 seconds or less, and even relatively unskilled persons can, with minimal practice, do so in 4 seconds (for a demonstration, see the video at https://www.youtube.com/watch?v=ZRCjY-GtROY, which shows a 2-seconds magazine change by an experienced shooter). Certainly, additional magazine changes do not increase the time needed to fire a given number of rounds by much.

Why, then, might inducing more magazine changes reduce casualty counts? Two explanations have been offered. First, during an additional interval when the shooter was forced to change magazines, *bystanders might tackle the shooter and prevent any further shooting*. Bystanders are presumably more willing to tackle a shooter while the shooter was reloading because it would be safer to do so—a shooter armed with only

one loaded gun would not be able to shoot those seeking to intervene during the effort to reload. A shooter equipped only with smaller capacity magazines would have to change magazines sooner and would therefore presumably shoot fewer people before he was tackled by the bystanders.

Second, additional magazine changes could extend the time interval between some of the shots, thereby *allowing more prospective victims to safely escape the scene* than otherwise would have been the case had the possession of LCMs enabled the shooter to reload less often.

These scenarios are plausible as logical possibilities, but have they actually occurred in the past often enough for it to be plausible that they would happen with some nonnegligible frequency in the future? If the past is any guide to the future, the credibility of any expectation of future benefits from LCM restrictions would rely heavily on how often these scenarios have actually played out in past mass shootings. This research is intended to test the plausibility of these possible causal linkages between LCM use and the casualty counts of mass shootings by closely examining the relevant details of such crimes. In particular, it was intended to estimate the share of mass shootings in which LCM use could plausibly have affected the casualty count.

Prior Research on LCMs

No one has actually tested whether mass shooters with LCMs fire more rounds than those without LCMs. We only have evidence indirectly bearing on this issue. Koper reported data showing that there are more *gunshot wound victims* in incidents in which the offender used an LCM (Koper, 2004, p. 86). The meaning of this statistical association, however, is unclear since one would expect it to exist even if LCM use had no causal effect on either the number of shots fired or the number of victims shot. The association is at least partly spurious if the deadliness of the shooter's intentions affects both his selection of weaponry (including magazines) and the number of shots he fires or persons he wounds.

It is a virtual tautology that the deadliness of the shooter's intentions affects the number of people hurt, unless one is prepared to assert that there is no relationship whatsoever between violent intentions and outcomes. While it is certainly true that outcomes do not match intentions perfectly, it is unlikely that there is no correlation at all.

The deadliness of a would-be mass shooter's intentions, however, is also likely to affect preparations for the shooting, such as accumulating many rounds of ammunition, acquiring multiple guns and multiple magazines, and selecting larger magazines rather than smaller ones. Accounts of mass shootings with high death tolls routinely describe the shooters making elaborate plans for their crimes, well in advance of the attacks, and stockpiling weaponry and ammunition (e.g., see Office of the State's Attorney 2013, regarding the Sandy Creek elementary school shootings; *Washington Post* "Pa. Killer had Prepared for 'Long Siege,'" October 4, 2006, regarding the Amish school killings in Lancaster, PA; Virginia Tech Review Panel, 2007, especially pp. 25–26, regarding the shootings at Virginia Tech; "Before gunfire, hints of bad

news," *New York Times* August 27, 2012, regarding the Aurora Colorado movie theater shootings). In short, people who intend to shoot many people are not only more likely to end up doing so but also prepare for doing so by acquiring equipment that they believe is better suited to this task.

The most direct indication that the intentions of mass shooters are more deadly than those of the average gun aggressor, aside from the number of casualties inflicted itself, is the percentage of wounded victims who were killed rather than nonfatally wounded. The data gathered for the present study indicate that in 23 LCM-involved mass shooting incidents, a total of 197 gunshot victims were killed and 298 were nonfatally wounded, for a fatality rate of 40.0%. In contrast, Cook (1985, p. 96) reported that police reports on general samples of shootings indicated that about only 15% of those wounded by gunshot were killed. Thus, the lethality of gunshot wounds inflicted by mass shooters is about 2.7 times as high as for shootings in general. Any one shot fired from a gun equipped with a larger capacity magazine is no more deadly or accurate than one fired from a gun with a smaller capacity magazine, so it is implausible that LCMs affect this fatality rate (deaths/persons wounded) by enabling shooters to more accurately hit vital areas of a victim's body where wounds are more likely to be fatal. Indeed, if those who suggest that shooters with LCMs fire faster than other shooters are correct, accuracy would be worse in LCM-involved shootings.

Thus, it is more likely that the high fatality rate in mass shootings is a product of the aggressor's stronger intentions to shoot more people, though it could also be partly a product of the greater use of rifles and shotguns in mass shootings (25 of the 66 guns used in these incidents [38%] of known gun type were rifles or shotguns; in comparison, only 8% of all U.S. gun homicides in 2014 were committed with rifles or shotguns—U.S. Federal Bureau of Investigation [FBI], 2015). This too could be an indication of greater shooter lethality, since rifles and shotguns are, on average, more lethal than handguns (Kleck, 1984). In sum, mass shooters appear to have more lethal intentions as aggressors, apart from any advantages they may gain from use of LCMs.

There is therefore sound reason to question whether a simple bivariate association between LCM use and number of shots fired, or victims wounded, in a mass shooting reflects a causal effect of LCM use. Unfortunately, there is no known way to directly measure the lethality of shooters' intentions at the time of their shootings, so we cannot simply statistically control for lethality of intentions in order to isolate the effect of LCM use. On the other hand, it would become more plausible to conclude that LCM use made its own contribution to the casualty count of shootings, above and beyond the effects of the apparently more lethal intentions of their users, if there was some evidence that either (a) significant numbers of mass shootings were disrupted by bystanders intervening when the shooters attempted to reload detachable magazines or (b) magazine changes increase the time intervals between shots fired, thus potentially allowing more prospective victims to escape to safety. This article provides a close examination of the details of mass shootings so as to cast light on these and related issues.

Method

Definition of Eligible Incidents

We tried to identify, as comprehensively as possible, all mass shootings that occurred in the United States in the 20-year period from 1994 through 2013 inclusive and that were known to have involved an LCM. An LCM was defined as a magazine holding more than 10 rounds of ammunition. A mass shooting was defined as one in which more than six people were shot, either fatally or nonfatally, in a single incident. Any specific numerical cutoff is necessarily somewhat arbitrary, but some are less arbitrary than others. The six-victim cutoff was used because an offender could shoot as many as six persons using a typical old-fashioned six-shot revolver of the sort that has been around since the 19th century, and our goal was to identify all incidents in which it was plausible that use of an LCM (always used in connection with modern semiautomatic firearms) affected the number of casualties. It is less likely that LCMs affect the casualty count in incidents in which few people were shot, and generally fewer rounds were fired, since the rationale for banning LCMs is that they permit shooters to fire many rounds without reloading, and thereby kill or injure more victims (Koper, 2004). Thus, had the numerical cutoff been set lower, the sample of incidents would have included more cases in which LCM use was unlikely to have affected the number of victims. In that way, we have intentionally biased the sample in favor of the hypothesis that LCM use causes a higher casualty count.

We partly relied on a list compiled by the staff of the Violence Policy Center (2015) to identify LCM-involved mass shootings. Because this organization advocates bans on LCMs (Violence Policy Center, 2011), we are confident its staff were well motivated to compile as comprehensive a list as possible so as to better document the need to restrict magazine capacities. Our search of NewsBank and the other compilations of mass shootings that we cite (see Data Sources section) did not uncover any additional qualifying incidents. It is nevertheless logically impossible to know for certain that all qualifying incidents were included.

We did not employ the oft-used definition of "mass murder" as a homicide in which four or more victims were killed, because most of these involve just four to six victims (Duwe, 2007), which could therefore have involved as few as six rounds fired, a number that shooters using even ordinary revolvers are capable of firing without reloading. LCMs obviously cannot help shooters who fire no more rounds than could be fired without LCMs, so the inclusion of "nonaffectable" cases with only four to six victims would dilute the sample, reducing the percentage of sample incidents in which an LCM might have affected the number of casualties. Further, had we studied only homicides with four or more dead victims, drawn from the FBI's Supplementary Homicide Reports (SHR), we would have missed cases in which huge numbers of people were shot, and huge numbers of rounds were fired, but three or fewer of the victims died. For example, in one widely publicized shooting carried out in Los Angeles on February 28, 1997, two bank robbers shot a total of 18 people—surely a mass shooting by any reasonable standard (Table 1). Yet, because none of the people they shot died, this incident would not qualify as a mass murder (or even murder of

Table 1. Mass Shootings in Which Shooter(s) Used Magazines With a Capacity Over 10 Rounds, United States, 1994–2013.[a]

Shooter(s)	Date	Number of Shooters	Number of Guns	Number of Magazines	Capacity of Largest Magazine	Shooter(s) Reloaded?	Number of Shots Fired	Seconds Per Shot	Number Killed	Number Nonfatally Wounded
Dean Allen Mellberg	June 20, 1994	1	2	4	70	?	43–56	<6	4	23
Larry Phillips, Jr., and Emil Matasareanu	February 28, 1997	2	6	9+	100	Yes	1,101	2.40	0	18
Mitchell Johnson and Andrew Golden	March 24, 1998	2	13	3	30	?	30	?	5	11
Kip Kinkel	May 21, 1998	1	3	3+	50	Yes	51	?	2	15
Dylan Klebold and Eric Harris	April 20, 1999	2	4	16	52	Yes	188	15.64	13	21
Larry Gene Ashbrook	September 15, 1999	1	2	6	15	Yes	>100	6.00	7	7
Byran Koji Uyesugi	November 2, 1999	1	1	3	15	?	10	180.0	7	0
Michael McDermott	December 26, 2000	1	3	4+	30	Yes	37	10.54	7	0
Terry Ratzmann	March 12, 2005	1	1	3	15?	Yes	22	<2.7	7	4
Seung-Hui Cho	April 16, 2007	1	2	19	15	Yes	174	53.79	32	23
Robert Hawkins	December 5, 2007	1	1	2	30	?	>30	12.00	8	5
Steven Kazmierczak	February 14, 2008	1	4	6+	33	Yes	56	5.36	5	21
Jiverley Wong	April 3, 2009	1	2	3	30	Yes	99	?	13	4
George Sodini	August 4, 2009	1	4	3+	30	?	50	?	3	9
Nidal Hasan	November 5, 2009	1	2	15	30	Yes	214	?	13	38
Timothy Hendron	January 7, 2010	1	4	3+	Probable LCM	?	115	c. 18	3	5
Omar Thorton	August 3, 2010	1	2	4	17	?	19	9.47	8	2
Jared Loughner	January 8, 2011	1	1	4	33	No[b]	31	0.45	6	13
Eduardo Sancion	September 6, 2011	1	3	3	30	Yes	60+	1.42	4	14
James Holmes	July 20, 2012	1	4	4	100	Yes	76	4.74	12	58
Michael Page	August 5, 2012	1	1	3	19	Yes	33+	?	6	3
Andrew Engeldinger	September 27, 2012	1	1	2	15	Yes	46+	16.3	6	2
Adam Lanza	December 14, 2012	1	4	12+	30	Yes	154+	1.56	26	2

Note. Details of these incidents and citations to news accounts used as sources may be found in the appendix to an extended version of this article, with the same title, on the Social Science Research Network, at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2700166. LCM = large-capacity magazine; c = circa, i.e. approximately; ? = unknown.
[a]Number of guns is the number in the shooter's immediate possession, not necessarily the number fired. Number of magazines is the number of detachable magazines in the shooter's immediate possession. The number includes magazines in loaded semiautomatic firearms. "Seconds per shot" is the average time interval between shots through the period of shooting. [b]Shooter was prevented from reloading a defective magazine by bystanders tackling him.

any kind). Exclusion of such incidents would bias the sample against the proposition that LCM use increases the number of victims by excluding incidents with large numbers of victims.

We also excluded shootings in which more than six persons were shot over the entire course of the incident, but the shootings occurred in multiple locations with no more than six people shot in any one of the locations, and substantial periods of time intervened between episodes of shooting. An example is the series of killings committed by Rodrick Dantzler on July 7, 2011. He killed seven people and wounded two others, but did so in three different locations over a 5-hr period, shooting no more than four people in any one of the locations. Since shooters in these types of incidents have ample time to reload between sets of shots even without LCMs, use of an LCM is less likely to be relevant to the casualty counts than in a mass shooting as defined herein.

It is not possible to compare shootings involving LCMs with shootings not involving LCMs, because no source of information on shooting incidents, whether news media reports or police offense reports, systematically establishes which shootings did *not* involve LCMs. Thus, it is impossible to distinguish (a) shootings in which the perpetrator did not use an LCM from (b) shootings in which the perpetrator *did* use an LCM, but this fact was not mentioned in the account of the incident. Consequently, we are necessarily limited to describing incidents that were affirmatively identified as involving LCMs. In any case, since our purpose was to establish how often LCM use affects casualty counts in mass shootings, even if we could identify incidents that definitely did not involve LCMs, they would be irrelevant to this narrow purpose because they are obviously cases in which LCM use could not have affected casualty counts.

Data Sources

We relied on news stories to identify mass shootings and get information on their details. Relying on news outlets has obvious limits, since some mass shootings get little news coverage beyond a few stories by news outlets near the shooting location, and it is possible that none of the writers of these few stories used even one of the common words and phrases we used in our database searches. Further, even multiple news accounts of widely reported incidents may not include crucial details of the incidents, especially the number of shots fired and the duration of the shooting. Also, early news accounts of shootings are sometimes inaccurate in their details (Huff-Corzine, Corzine, Jarvis, Tetzlaff-Bemiller, Weller, & Landon, 2014), so we consulted later stories on a given incident (often pertaining to the trial of the shooter) in addition to early ones. Excluding the early news stories, we found that reported details of mass shootings were extremely consistent across stories. Fortunately, the known biases of news coverage of crime mostly work in favor of our goal of covering shootings in which many shots were fired, since news coverage is biased in favor of reporting incidents with larger numbers of victims (Duwe, 2000).

The alternative of using police reports was not feasible because such reports are not publicly available for a large share of homicides. Relying on the FBI's SHR would be

even worse than news accounts for our purposes, because this source says nothing about the number of rounds fired, number of guns used, details about the guns used (beyond whether they were handguns, rifles, or shotguns), number of magazines used, or the capacity of magazines used for *any* homicide incidents, whereas news stories provide such information for many mass shootings. These same deficiencies apply to data from the FBI's National Incident-based Reporting System, which have the additional disadvantage of covering only part of the nation.

A variety of sources were used to identify eligible incidents. First, as previously noted, we consulted "Mass Shootings in the United States Involving High-Capacity Ammunition Magazines," a fact sheet compiled by the Violence Policy Center, available online at http://www.vpc.org/fact_sht/VPCshootinglist.pdf. This source only covers incidents known to involve magazines with a capacity of 10 or more rounds.

Second, we searched the NewsBank Infoweb online database which covers hundreds of print, broadcast, and online news outlets, including newspapers, news magazines, transcripts of television news programs, and online-only news providers, in every state in the nation. We searched for articles whose text (including headlines) included any of the following phrases: "mass shooting," "massacre," mass murder, "shooting spree," or "rampage" for the 20-year period from January 1, 1994, through December 31, 2013.

Third, we consulted the following existing compilations of mass shootings, mass murders, and "active shooter incidents" (and the sources they cited) to identify potentially relevant shooting incidents:

- "US Mass Shootings, 1982–2012: Data from Mother Jones' (2013) Investigation," created by the staff of *Mother Jones* magazine, available online at http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data. This source only covers incidents in public places with four or more dead, and therefore misses those with many victims shot but three or fewer of them fatally as well as incidents occurring in private places. It also includes some spree shootings in which only a few victims were shot in any one location.
- "Analysis of Recent Mass Shootings" (September 2013), compiled by Mayors Against Illegal Guns, and available online at http://www.demandaction.org/detail/2013-09-updated-analysis-of-recent-mass-shootings. This covers incidents only for January 2009 to September 2013, and only those with four or more dead victims, thereby excluding those with many victims shot, but three or fewer shot fatally.
- Bjelopera, Bagalman, Caldwell, Finklea, and McCallion (March 18, 2013). *Public Mass Shootings in the United States: Selected Implications for Federal Public Health and Safety Policy*. Washington, DC: Congressional Research Service. This source only covers incidents occurring in public places and with four or more deaths, thereby excluding cases with many victims shot but three or fewer fatally as well as those occurring in private places.
- Citizens Crime Commission of New York City. "Mass Shooting Incidents in America (1984–2012)," at http://www.nycrimecommission.org/mass-shoot

ing-incidents-america.php, accessed January 15, 2014. This source covers shootings with four or more persons killed, with a magazine capable of holding more than 10 rounds. It excludes cases with no known use of LCMs, and incidents with many victims shot but three or fewer killed.

Notwithstanding the use of these multiple sources, we cannot be certain of achieving absolutely complete coverage of all LCM-involved mass shootings. Most of the sources rely, directly or indirectly, on news media accounts of the incidents, and some of these shootings received little coverage beyond local news outlets and perhaps an Associated Press state wire service story. The fewer news stories reporting an incident, the more likely it is that there were no stories containing any of the commonly used phrases for which we searched. The mass shootings most likely to receive little news coverage are those with fewer than four victims killed. Most of the lightly covered incidents we discovered also involved fewer than 10 victims shot, fatally or nonfatally.

On the other hand, it is unlikely that we missed many large-scale shootings, because these are likely to be well covered by multiple news outlets. Since those we missed are likely to involve fewer victims, it is also less likely that an LCM was needed for shooting as many people as were shot in these incidents. Omission of these cases, therefore, biases the sample in favor of the hypothesis that LCMs affect casualty counts.

As a check on the completeness of coverage of our methods, we used the FBI's SHRs data to identify all SHR-covered U.S. homicides that involved more than six dead victims and the use of firearms (not just those involving LCMs). These SHR data sets cover about 90% of U.S. homicides. For the period 1994–2013, we identified 17 qualifying incidents in the SHR data sets. We then checked to see if our search methods would have identified these cases. We found that searches of the NewsBank database alone identified all 17 of these incidents. Thus, shootings with many dead victims clearly are completely covered by the news media.

Once eligible incidents were identified, we searched through news accounts for details related to whether the use of LCMs could have influenced the casualty counts. Specifically, we searched for (1) the number of magazines in the shooter's immediate possession, (2) the capacity of the largest magazine, (3) the number of guns in the shooter's immediate possession during the incident, (4) the types of guns possessed, (5) whether the shooter reloaded during the incident, (6) the number of rounds fired, (7) the duration of the shooting from the first shot fired to the last, and (8) whether anyone intervened to stop the shooter.

Findings

How many mass shootings were known to have been committed using LCMs? We identified 23 total incidents in which more than six people were shot at a single time and place in the United States from 1994 through 2013 and that were known to involve use of any magazines with capacities over 10 rounds. Table 1 summarizes key details of the LCM-involved mass shootings relevant to the issues addressed in this article.

What fraction of all mass shootings are known to involve LCMs? There is no comprehensive listing of all mass shootings available for the entire 1994–2013 period, but the most extensive one currently available is the one at the Shootingtracker.com website, which only began its coverage in 2013. For 2013, this database identified 31 incidents in which more than six victims were supposedly killed or injured. This source includes deaths or injuries of perpetrators in their counts of ''victim'' deaths and injuries and also counts as victims' persons who were shot at, but not hit. Correcting these flaws eliminated six of the incidents as mass shootings, while another three incidents were spree shootings. Eliminating these nine ineligible incidents left 22 genuine mass shootings. The Shootingtracker database itself does not record LCM use, but examination of news media accounts indicated that none of these 22 incidents in 2013 were known to involve use of an LCM. For 2013, the Violence Policy Center (2015) identified just one shooting with more than six victims killed or injured that involved an LCM, but this incident was a spree shooting in which eight people were shot in three different widely spaced locations, with no more than three shot in any one of the locations (the June 7, 2013, incident in Santa Monica, CA). Thus, there apparently were zero mass shootings in 2013 known to involve LCMs.

To put these numbers in perspective, for the United States as a whole in 2013, there were an estimated 14,196 people killed in murders and nonnegligent manslaughters (MNNM) involving any weapon types, 9,795 of them killed with firearms (U.S. FBI, 2014b). There were an estimated 13,349 mnnm incidents,[1] of which just 3 involved more than six dead victims, 12,675 involved a single dead victim, and 13,346 involved six or fewer dead victims (U.S. Department of Justice Federal Bureau of Investigation, 2015). The 22 qualifying shooting incidents identified by Shooting Tracker as involving more than six victims therefore accounted for less than one sixth of 1% of homicide incidents and victims killed in those incidents claimed less than one tenth of 1% of homicide victims.

One might speculate that there were significant numbers of mass shootings in which LCMs were used, but not a single news account mentioned the LCM use. The use of LCMs has been a major focus of gun control advocacy groups and national news outlets since at least 1989, when a Stockton California schoolyard shooting lead to the nation's first state-level assault weapons ban (Kleck, 1997, chap. 4). In this light, it seems unlikely that LCM use in a mass shooting would go completely unreported in all news accounts, but it cannot be ruled out as a logical possibility. It is, however, irrelevant to our analyses unless shootings with unmentioned LCM use are systematically different from those that explicitly mentioned LCM use—a speculation we cannot test.

LCMs are sometimes defined as magazines holding over 10 rounds, sometimes as those holding over 15 rounds (Koper, 2004). For our entire 20-year study period of 1994–2013, 23 mass shootings were known to involve LCMs using the more inclusive cutoff of 10 rounds, that is, at least one round was fired during the incident from a gun equipped with a magazine capable of holding more than 10 rounds. Using the more stringent cutoff of more than 15 rounds, 20 incidents were known to involve LCMs.

Thus, LCM-involved mass shootings are known to have occurred an average of once per year in the United States over this 20-year period.

How often have bystanders intervened while a mass shooter was trying to reload? How many times people have disrupted a mass shooting while the shooter was trying to load a detachable magazine into a semiautomatic gun? Note that it is irrelevant whether interveners have stopped a shooter while trying to reload some other type of gun, using other kinds of magazines, since we are addressing the potential significance of restrictions on the capacity of detachable magazines that are used only with semiautomatic firearms. Thus, bystander intervention directed at shooters using other types of guns that take much longer to reload than a semiautomatic gun using detachable magazines could not provide any guidance as to the likelihood of bystander intervention when the shooter was using a semiautomatic gun equipped with detachable magazines that can be reloaded very quickly. Prospective interveners would presumably be more likely to tackle a shooter who took a long time to reload than one who took only 2- to 4-s to do so. Likewise, bystander interventions that occurred at a time when the shooter was *not* reloading (e.g., when he was struggling with a defective gun or magazine) are irrelevant, since that kind of bystander intervention could occur regardless of what kinds of magazines or firearms the shooter was using. It is the need to reload detachable magazines sooner and more often that differentiates shooters using smaller detachable magazines from those using larger ones.

For the period 1994–2013 inclusive, we identified three mass shooting incidents (with or without LCM use) in which it was claimed that interveners disrupted the shooting by tackling the shooter while he was trying to reload. In only one of the three cases, however, did interveners actually tackle the shooter while he may have been reloading a semiautomatic firearm. In one of the incidents, the weapon in question was a shotgun that had to be reloaded by inserting one shotshell at a time into the weapon (*Knoxville News Sentinel* "Takedown of Alleged Shooter Recounted" July 29, 2008, regarding a shooting in Knoxville, TN on July 27, 2008), and so the incident is irrelevant to the effects of detachable LCMs. In another incident, occurring in Springfield, OR, on May 21, 1998, the shooter, Kip Kinkel, was using a semiautomatic gun, and he was tackled by bystanders, but not while he was reloading. After exhausting the ammunition in one gun, the shooter started firing another loaded gun, one of the three firearms he had with him. The first intervener was shot in the hand in the course of wresting this still-loaded gun away from the shooter (*The (Portland) Oregonian*, May 23, 1998).

The final case occurred in Tucson, AZ, on January 8, 2011. This is the shooting in which a man named Jared Loughner attempted to assassinate Representative Gabrielle Giffords. The shooter was using a semiautomatic firearm and was tackled by bystanders, purportedly while trying to reload a detachable magazine. Even in this case, however, there were important uncertainties. According to one news account, one bystander "grabbed a full magazine" that the shooter dropped, and two others helped subdue him (Associated Press, January 9, 2011). It is not, however, clear whether this bystander intervention was facilitated because (1) the shooter was reloading or

because (2) the shooter stopping firing when his gun or magazine failed to function properly. Eyewitness testimony, including that of the interveners, was inconsistent as to exactly why or how the intervention transpired in the Giffords shooting. One intervener insisted that he was sure the shooter had exhausted the ammunition in the first magazine (and thus was about to reload) because he saw the gun's slide locked back—a condition he believed could only occur with this particular firearm after the last round is fired. In fact, this can also happen when the gun jams, that is, fails to chamber the next round (Morrill, 2014; Salzgeber, 2014).

Complicating matters further, the *New York Times* reported that the spring on the second magazine was broken, presumably rendering it incapable of functioning. Their story's headline and text characterized this mechanical failure as "perhaps the only fortunate event of the day" (*New York Times* "A Single, Terrifying Moment: Shots, Scuffle, Some Luck," January 10, 2011, p. A1). If the *New York Times* account was accurate, the shooter would not have been able to continue shooting with that magazine even if no one had stopped him from loading it into his gun. Detachable magazines of any size can malfunction, which would at least temporarily stop a prospective mass shooter from firing, and thereby provide an opportunity for bystanders to stop the shooter. It is possible that the bystander intervention in the Tucson case could have occurred regardless of what size magazines the shooter possessed, since a shooter struggling with a defective small-capacity magazine would be just as vulnerable to disruption as one struggling with a defective LCM. Thus, it remains unclear whether the shooter was reloading a functioning magazine when the bystanders tackled him.

The real significance of LCM use in the Gabrielle Giffords shooting is that the first magazine that the shooter used had a capacity of 33 rounds, and the shooter fired 31 times before being tackled. Had he possessed only a 15-round magazine, and bystanders were willing to intervene when the shooter either reloaded or struggled with a defective magazine, he would have been able to fire at most 16 rounds (including one in the firing chamber)—15 fewer than the 31 he actually fired before he was stopped, for whatever reason. Consequently, instead of the 19 people he shot (6 fatally, 13 nonfatally), it would be reasonable to estimate that he would have shot only about half as many victims. Thus, the absence of an LCM might have prevented three killings and six or seven nonfatal gunshot woundings in this incident.

The bystander intervention in the Giffords shooting was, however, unique, and occurred only because there were extraordinarily courageous and quick-thinking bystanders willing and able to tackle the shooter. Over a 20-year period in the United States, the Tucson incident appears to be the only known instance of a mass shooter using a semiautomatic firearm and detachable magazines in which the shooter was stopped by bystanders while the shooter may have been trying to reload such a magazine. All other mass shootings have instead stopped only when the shooter chose to stop and left the scene, the shooter committed suicide, or armed police arrived and forced the shooter to stop (see U.S. FBI, 2014a).

The use of multiple guns and multiple magazines. Restrictions on LCMs obviously could not have affected mass shootings in which no LCMs were used, so it is just those that

Table 2. Summary of Key Characteristics of Mass Shootings (>6 Shot) With Large-Capacity Magazines, United States, 1994–2013.

Key Characteristics of the Incidents	Mass Shootings With Magazines Over 10 Rounds ($n = 23$)			Mass Shootings With Magazines Over 15 Rounds ($n = 20$)		
	Yes	No	Not Reported	Yes	No	Not Reported
Multiple guns	17 (74/74%)	6	0	15 (75/75%)	5	0
Multiple magazines	23 (100/100%)	0	0	20 (100/100%)	0	0
Both multiple guns and multiple magazines	17 (74/74%)	6	0	15 (75/75%)	5	0
Either multiple guns or multiple magazines	23 (100/100%)	0	0	20 (100/100%)	0	0
Shooter reloaded	14 (88/61%)	2	7	12 (86/60%)	2	6

Note. First number in parentheses after each frequency is the percentage of incidents with nonmissing information that had the indicated attribute. The second number in parentheses is the percentage of all incidents, including those for which the relevant information was missing, that had the indicated attribute.

involved LCMs that are relevant to judging the benefits that might have accrued had LCMs been unavailable at the beginning of the study period. As previously noted, there is considerable evidence that people who commit large-scale shootings, unlike most ordinary aggressors, devote considerable advance planning to their crimes. Part of their preparations entails cumulating multiple guns, multiple magazines, and many rounds of ammunition. The significance of this is that, in cases where the shooter has more than one loaded gun, he can continue firing, without significant pause, even without LCMs, simply by switching to a loaded gun. Alternatively, if he has multiple small magazines rather than LCMs, the shooter can continue firing many rounds with only a 2- to 4-s pause between shots for switching magazines.

Table 2 displays how often LCM-involved mass shootings involved shooters using either multiple guns or multiple magazines. Of 23 such incidents using the "more-than-10-rounds" criterion, the shooters possessed more than one gun in 17 incidents (74%), leaving six cases in which it was known that the shooter possessed just one gun. Of 20 incidents using the more-than-15-rounds criterion, the shooters possessed more than one gun in 15 incidents (75%), leaving five cases in which it was known that the shooter possessed just one gun.

Of 23 mass shootings with LCMs (>10 rounds), offenders were known to possess multiple detachable magazines in all 23 incidents (100%). Likewise, of the 20 mass shootings with magazines holding over 15 rounds, all 20 involved shooters with multiple magazines.

The average number of magazines in the immediate possession of offenders in incidents in which magazines with a capacity greater than 10 were possessed was at least 5.78 (Table 1). These offenders could have continued firing, even if they had possessed only one gun, with only the interruptions of 2–4 s that it would take for each magazine change.

In sum, there were no mass shootings in the United States in 1994–2013 known to have involved LCMs in which the shooter did not possess either multiple guns or multiple detachable magazines. In all mass shootings in which the shooters were known to have possessed one or more LCMs, the shooters could have either continued firing many rounds without any interruption at all simply by switching loaded guns or could have fired many rounds with only very brief interruptions of 2–4 s to change detachable magazines.

The offenders in LCM-involved mass shootings were also known to have *reloaded* during 14 of the 23 (61%) incidents with magazine holding over 10 rounds. The shooters were known to have *not* reloaded in another 2 of these 20 incidents, and it could not be determined if they reloaded in the remaining seven incidents. Thus, even if the shooters had been denied LCMs, we know that most of them definitely would have been able to reload smaller detachable magazines without interference from bystanders since they in fact did change magazines. The fact that this percentage is less than 100% should not, however, be interpreted to mean that the shooters were *unable* to reload in the other nine incidents. It is possible that the shooters could also have reloaded in many of these nine shootings, but chose not to do so, or did not need to do so in order to fire all the rounds they wanted to fire. This is consistent with the fact that there has been at most only one mass shooting in 20 years in which reloading a semiautomatic firearm might have been blocked by bystanders intervening and thereby stopping the shooter from doing all the shooting he wanted to do. All we know is that in two incidents, the shooter did not reload, and news accounts of seven other incidents did not mention whether the offender reloaded.

Do more magazine changes allow more prospective victims to escape? An alternative rationale for why limiting aggressors to smaller magazines would result in fewer casualties in mass shootings is that the increased number of magazine changes necessitated by use of smaller magazines would create additional pauses in the shooting, allowing more potential victims to escape than would otherwise escape. For example, a story in the *Hartford Courant* about the Sandy Hook elementary school killings in 2012 was headlined ''Shooter Paused, and Six Escaped,'' the text asserting that as many as six children may have survived because the shooter paused to reload (December 23, 2012). The author of the story, however, went on to concede that this was just a speculation by an unnamed source, and that it was also possible that some children simply escaped when the killer was shooting other children. There was no reliable evidence that the pauses were due to the shooter reloading, rather than his guns jamming or the shooter simply choosing to pause his shooting while his gun was still loaded.

The plausibility of the ''victims escape'' rationale depends on the average rates of fire that shooters in mass shootings typically maintain. If they fire very fast, the 2–4 s it takes to change box-type detachable magazines could produce a slowing of the rate of fire that the shooters otherwise would have maintained without the magazine changes, increasing the average time between rounds fired and potentially allowing more victims to escape during the between-shot intervals. On the other hand, if mass

Table 3. Known Rates of Fire in Mass Shootings, 1994–2013.

Date of Incident	Shots Fired[a]	Time of Firing (Minutes)[a]	Average Shots Per Minute	Average Seconds Per Shot	Number of Guns
June 20, 1994	>50	c. 5	>10	<6.0	2
February 28, 1997	1,101	44	25	2.4	4
April 20, 1999	188	49	3.8	15.8	4
September 15, 1999	>100	10	>10.0	<6.0	2
September 2, 1999	10	<30	>0.33	<180.0	1
May 24, 2000	c. 7	<90	>0.08	<771.4	1
September 22, 2000	9+	<10	>0.9	<66.7	1
December 26, 2000	37	5–8 (6.5)	5.7	10.5	3
February 5, 2001	25–30 (27.5)	8–15 (11.5)	2.4	25.1	4
March 5, 2001	c. 24	6	c. 4.0	c. 15.0	1
March12, 2005	22	<1	>22.0	<2.7	1
March 21, 2005	45	9	5.0	12.0	3
March 25, 2006	9+	c. 5	>1.6	<33.3	2
October 2, 2006	17–18 (17.5)	c. 2	c. 8.75	c. 6.9	2
April 16, 2007	c. 174	156	c. 1.11	c. 53.8	2
October 7, 2007	30	c. 1	c. 30.0	c. 2.0	3
December 5, 2007	>30	c. 6	>5.0	<12.0	1
February 14, 2008	56	5	11.1	5.4	4
January 7, 2010	115	30	3.8	15.7	4
August 3, 2010	19	3	6.3	9.5	2
January 8, 2011	31	0.25	125	0.48	1
September 6, 2011	60+	1.42	42.3+	1.4	3
July 20, 2012	76	c. 6	12.7	4.74	4
September 27, 2012	46+	14	>3.3	<18.3	1
December 14, 2012	154+	4	38.5+	1.6	3

Note. c = circa.
[a]Where a range was provided in news accounts, the midpoint of the range (shown in parentheses) of shots fired or time of firing was used in rate-of-fire computations.

shooters fire their guns with the average interval between shots lasting *more* than 2–4 s, the pauses due to additional magazine changes would be no longer than the pauses the shooter typically took between shots even when not reloading. In that case, there would be no more opportunity for potential victims to escape than there would have been without the additional magazine changes.

Table 3 displays data on rates of fire for LCM-involved mass shootings in 1994–2013. Information on both the duration of the firing and the number of rounds fired was available for 17 of the 23 incidents shown in Table 1 plus another 8 mass shootings for which the necessary information was available but that did not involve any known LCM use. Reliable information on duration of fire may well be unavailable from any source for many mass shootings. There are rarely audio recordings that would provide precise information on the duration of fire (as there were in the 2012 Aurora Colorado movie

theater shooting), so eyewitness estimates are usually the basis for establishing this. On the other hand, there is often quite reliable information on the number of rounds fired, since semiautomatic firearms eject an empty shell casing after each round is fired. When shooters use such guns, crime scene investigators can (absent removal of the evidence by the offender or souvenir hunters) establish the number of rounds fired by counting cartridge casings recovered at the scene.

Average rate of fire was computed as the average number of seconds between shots. In the 25 incidents for which average rates of fire could be determined, shooters never maintained an average rate of fire anywhere as fast as that at which their firearms were capable of firing. Shooters firing as fast as the gun allows can easily fire three rounds per second with a typical semiautomatic firearm, that is, with only about one third of a second between rounds. In only three incidents were mass shooters known to have averaged less than *2* s between rounds. This is no more than one sixth of the maximum rate of fire of which semiautomatic guns are capable (see Table 3, incidents occurring on January 8, 2011, September 6, 2011, and December 14, 2012). This means that taking 2 s to reload a detachable magazine would not have slowed the shooters' average rate of fire at all in 22 of the 25 incidents for which rate of fire could be established and would have only slightly slowed the rate in the remaining three incidents.

It cannot be assumed, however, that in the three incidents in which usually high rates of fire were maintained, use of smaller magazines would have slowed the rate of fire due to a need to change magazines more often. Shooters possessed multiple guns in two of these three relatively rapid fire incidents (those occurring on September 6, 2011 and December 13, 2012), which means that, rather than needing to change magazines to continue shooting, the aggressors could simply have switched guns, from one firearm emptied of rounds to another loaded firearm, without pausing in their shooting at all. Over the 20-year study period, there was just one LCM-involved mass shooting incident in the United States in which a shooter maintained an average rate of fire with less than 2 s elapsing between shots, *and* possessed only a single gun—the shooting involving Jared Loughner (on January 8, 2011), who was stopped from further shooting when he was tackled by bystanders.

In sum, in nearly all LCM-involved mass shootings, the time it takes to reload a detachable magazine is no greater than the average time between shots that the shooter takes anyway when not reloading. Consequently, there is no affirmative evidence that reloading detachable magazines slows mass shooters' rates of fire, and thus no affirmative evidence that the number of victims who could escape the killers due to additional pauses in the shooting is increased by the shooter's need to change magazines.

Conclusions

In light of the foregoing information, it is unlikely that the larger number of rounds fired in the average LCM-linked mass shooting found by Koper (2004) was in any sense caused by the use of LCMs. In all but one of such cases in the period from 1994 through 2013, there was nothing impossible or even difficult about the shooter firing

equally large numbers of rounds even if he had possessed only smaller capacity magazines, since the same number of rounds could easily have been fired with smaller detachable magazines of the sort that would remain legally available under LCM bans. Instead, the larger number of rounds fired by LCM-using shooters is more likely to reflect the more lethal intentions prevailing among such shooters, just as their planned use of multiple guns and multiple magazines, and the unusually high fatality rate (deaths over total woundings) of their attacks are outward indications of a desire to shoot many people. Unfortunately, there are no known methods for reliably measuring the lethality of shooters' intentions independent of the outcomes of their crimes, making it impossible to statistically control for this factor in a multivariate statistical analysis and thereby isolate the effects of LCM use.

One cannot prove a negative, and it is possible that mass shooters in the future might be different from those in the past, and that would-be mass shooters, unlike those of the past, would not obtain multiple guns or multiple smaller capacity magazines as substitutes for LCMs. One might also speculate that incidents that did *not* end up with many shooting victims turned out that way because the shooter did *not* use an LCM. At this point, however, there is little sound affirmative empirical basis for expecting that fewer people would be killed or injured if LCM bans were enacted.

Focusing gun control efforts on mass shootings makes sense from a political standpoint, since support for gun control is elevated following highly publicized gun crimes. Such efforts, however, are less sensible for purposes of reducing the death toll from gun violence, especially if they focus on technologies rarely used in gun crime as a whole. Controls aimed at reducing ordinary forms of firearm violence, such as shootings with just one or a few victims, are more likely to have large impacts on the aggregate gun violence death toll for the simple reason that nearly all victims of gun violence are hurt in incidents with a small number of victims. For example, less than 1% of U.S. homicide incidents in 2013 involved more than two victims killed (U.S. Department of Justice Federal Bureau of Investigation, 2015).

Most types of gun control focus on preventing more dangerous people from acquiring, possessing, or using *any* type of gun, and therefore have potential to prevent a wide array of gun crimes. A prime example is a law requiring background checks on persons seeking to buy guns. Gun laws with a background check component, such owner license and purchase permit laws, have been found to be potentially effective in reducing homicide (Kleck & Patterson, 1993, p. 274). There is already a federal law requiring background checks, but it only applies to purchases from licensed gun dealers. Extending these checks to cover private gun transfers—that is, implementing a federal universal background check (Kleck, 1991, pp. 433–435)—is far more likely to prevent significant numbers of gun crimes than measures aimed at rarely used gun technologies like LCMs and extremely rare types of violent incidents like mass shootings.

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Supplementary Material

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Note

1. Supplementary Homicide Reports (SHR) data for 2013 indicate that there were an average of 1.063 victims per SHR-covered homicide incident, implying 13,349 incidents.

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Author Biography

Gary Kleck is the Emeritus David J. Bordua Professor of Criminology and Criminal Justice at Florida State University, having retired after 38 years at FSU. He has won the Michael J. Hindelang Award for Point Blank, testified to Congress and state legislatures on gun control, and served on numerous national task forces and panels. He is currently completing a book, with Brion Sever, on the effects of legal punishment on crime.

EXHIBIT RR

U.S. Department of Justice
Office of Justice Programs
Bureau of Justice Statistics

Criminal Victimization in the United States, 2008 Statistical Tables

National Crime Victimization Survey

Table of contents

Index of statistical tables

Demography of victims - Tables 1 - 25

Victims and offenders - Tables 26 - 49

The crime event - Tables 59 - 90

Victims and the criminal justice system - Tables 91 - 109

Series victimizations - Table - 110

Survey Methodology

March 2010, NCJ 227669

U. S. Department of Justice
Bureau of Justice Statistics

James P. Lynch
Director

These statistical tables were created by Jayne E. Robinson of the Bureau of Justice Statistics, under the supervision of Michael R. Rand. Catherine Bird provided statistical assistance and edited these tables. Dave Watt, of the U.S. Census Bureau, produced the tables.

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Data presented in these statistical tables may be obtained from the National Archive of Criminal Justice Data at the University of Michigan at: http://www.icpsr.umich.edu/NACJD/index.htm The name of the data set is Criminal Victimization in the United States, 2008 (ICPSR 25461).

These statistical tables and other reports and data are available on the BJS website at: www.bjs.gov.

National Crime Victimization Survey, 2008- -Statistical tables
NCJ 231173

1. Victims of crime - United States.

2. Crime and criminals - United States.

I. Title II. Series

Table 37. Personal crimes of violence, 2008:

Percent distribution of incidents, by victim-offender relationship, type of crime, and number of offenders

Relationship and type of crime	Number of incidents	Percent of incidents					
			Number of offenders				
		Total	One	Two	Three	Four or more	Not known or not available
All incidents							
Crimes of violence	4,581,260	100 %	75.8	6.9	5.1	5.4	6.9
Completed violence	1,291,780	100 %	74.9	9.3	8.8	4.3	2.7 *
Attempted/threatened violence	3,289,490	100 %	76.1	6.0	3.6	5.8	8.6
Rape/sexual assault[a]	200,520	100 %	89.0	3.0 *	3.8 *	0.0 *	4.2 *
Robbery	504,110	100 %	57.4	18.5	9.1	10.3	4.6 *
Completed/property taken	346,240	100 %	59.3	20.2	9.9 *	6.3 *	4.2 *
Attempted to take property	157,870	100 %	53.3	14.8 *	7.4 *	19.0 *	5.4 *
Assault	3,876,640	100 %	77.5	5.6	4.6	5.0	7.4
Aggravated	768,770	100 %	72.4	4.4 *	9.7	7.3	6.2
Simple	3,107,870	100 %	78.7	5.9	3.3	4.4	7.7
Involving strangers							
Crimes of violence	2,285,170	100 %	62.5	8.2	7.3	8.3	13.7
Completed violence	538,280	100 %	58.9	13.2	12.1	10.1	5.8 *
Attempted/threatened violence	1,746,890	100 %	63.7	6.7	5.8	7.7	16.1
Rape/sexual assault[a]	70,630	100 %	77.4	0.0 *	10.7 *	0.0 *	11.9 *
Robbery	340,480	100 %	45.7	22.5	10.9 *	15.3	5.6 *
Completed/property taken	209,480	100 %	46.9	25.4	12.2 *	10.5 *	5.0 *
Attempted to take property	131,010	100 %	43.8	17.9 *	8.9 *	22.9 *	6.5 *
Assault	1,874,060	100 %	65.0	6.0	6.5	7.3	15.2
Aggravated	399,380	100 %	56.6	6.2 *	12.5	12.8	11.9
Simple	1,474,680	100 %	67.3	5.9	4.8	5.8	16.2
Involving nonstrangers							
Crimes of violence	2,296,090	100 %	89.0	5.5	2.9	2.5	0.2 *
Completed violence	753,490	100 %	86.4	6.5	6.4	0.2 *	0.5 *
Attempted/threatened violence	1,542,600	100 %	90.2	5.1	1.1 *	3.6	0.0 *
Rape/sexual assault[a]	129,880	100 %	95.4	4.6 *	0.0 *	0.0 *	0.0 *
Robbery	163,630	100 %	81.9	10.2 *	5.4 *	0.0 *	2.5 *
Completed/property taken	136,760	100 %	78.3	12.2 *	6.5 *	0.0 *	3.0 *
Attempted to take property	26,860 *	100 %	100.0 *	0.0 *	0.0 *	0.0 *	0.0 *
Assault	2,002,580	100 %	89.1	5.2	2.8	2.8	0.0 *
Aggravated	369,400	100 %	89.6	2.5 *	6.5 *	1.4 *	0.0 *
Simple	1,633,190	100 %	89.0	5.8	2.0 *	3.1	0.0 *

Note: Detail may not add to total shown because of rounding.
*Estimate is based on 10 or fewer sample cases.
[a]Includes verbal threats of rape and threats of sexual assault

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

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

Plaintiffs,

v.

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

Defendant.

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

CERTIFICATE OF SERVICE

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 E. Ocean Boulevard, Suite 200 Long Beach, CA 90802. I am not a party to the above-entitled action.

I have cause service of the following documents, described as:
EXHIBITS HH-RR TO THE DECLARATION OF ANNA M. BARVIR IN SUPPORT OF PLAINTIFFS' MOTION FOR PRELIMINARY INJUNCTION
on all parties by placing a copy in a separate envelope, with postage fully prepaid, for each address named below and depositing each in the U.S. Mail at Long Beach, CA, on May 26, 2017.

Ms. Alexandra Robert Gordon
Mr. Anthony P. O'Brien
California Department of Justice
1300 I Street, Suite 125
Sacramento, CA 95814

I declare under penalty of perjury that the foregoing is true and correct. Executed on May 26, 2017, at Long Beach, CA.

Laura Palmerin