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NOTES

ON LEMON SQUEEZERS AND LOCKING DEVICES: CONSUMER PRODUCT SAFETY AND FIREARMS, A MODEST PROPOSAL

INTRODUCTION

A. Why Buy a Firearm? Intended Uses, Unintended Consequences

In 1971 officials at Detroit General Hospital noticed that the number of children admitted to their care with firearm injuries had increased.¹ In an attempt to find a reason for that increase the hospital began an investigation. They discovered that both gunshot wounds and accidental firearm fatalities among children had increased along with the number of firearm permits. Immediately following the Detroit Riots of 1967 law enforcement officials in Detroit had issued three times as many firearm permits as before.

The term firearm encompasses "weapon[s] from which a shot is discharged by gunpowder."² The United States Code broadly defines a firearm as a shotgun, rifle, machine gun, destructive device, or concealable weapon from which a shot can be discharged through the energy of an explosive.³ Outside of the military and law enforcement, these weapons serve three legitimate purposes: sport, collection, and self-defense.⁴ Variations of use

1. See Carl T. Bogus, *Race, Riots, and Guns*, 66 S. CAL. L. REV. 1365, 1386-87 (1993).

2. WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 854 (1986).

3. See 26 U.S.C. § 5845(a)-(f) (1994). For more detailed definitions of these types of firearms, see 18 U.S.C. § 921 (1994).

4. This is not to minimize the fact that firearms may be purchased for misuse (i.e.,

within these general categories provide insight into the place firearms occupy in American culture:

Hunters . . . view their guns as a way to escape the "stop-light and concrete jungle." Target shooters emphasize the calmness, the discipline, the self-control involved in shooting. Devotees of much reviled assault rifles are drawn to the technology and the brute impact of these weapons. Collectors see beauty and craftsmanship. . . . [M]illions of Americans . . . keep guns for self-protection. . . . Some gun owners see their weapons as foils to government tyranny.⁵

The need served by a particular firearm, however, does not limit the potential uses of that firearm. The design of a shotgun is useful for both hunting and homicide.⁶ The brute impact delivered by an assault weapon on the shooting range translates into broken bodies and lost lives in the hands of a troubled adolescent.⁷ The handgun kept in the dresser drawer that brings a sense of security to home and family can destroy that family when discovered by a curious child or a depressed teen.⁸

suicide, murder, and other crimes). As these potential misuses are defined by the intent of the owner of the firearm, they are not likely to be avoided by child-resistant or personalized firearms. Thus, strategies for preventing these misuses are beyond the scope of this Note.

5. Donald Baer et al., *Guns*, U.S. NEWS & WORLD REP., May 8, 1989, at 20, 22. For an insight into the thinking of individuals and groups who possess weapons primarily out of fear of government, see Daniel Voll, *The Right to Bear Sorrow; Gun Control Opponents and Accidental Shootings*, ESQUIRE, Mar. 1995, at 79, 79-82 (interviewing members of Florida and Montana militia groups).

6. See, e.g., David Beard, *Death of a Secret*, FORT LAUDERDALE SUN-SENTINEL, Oct. 20, 1995, at A1 (detailing the story of a man who confessed after 15 years to using a shotgun to kill his parents in order to claim his inheritance).

7. See, e.g., ERIK LARSON, *LETHAL PASSAGE: HOW THE TRAVELS OF A SINGLE HANDGUN EXPOSE THE ROOTS OF AMERICA'S GUN CRISIS* (1994) (telling the story of a 16-year-old Virginia boy who acquired a semi-automatic handgun and used it to kill one of his teachers and gravely wound another).

8. See Steve Jensen, *Charges Dropped in Fatal Shooting*, HARTFORD COURANT, Jan. 31, 1996, at B5 (reporting why charges were dropped against the mother of an eight-year-old who shot his six-year-old brother. The boys were looking for candy in their mother's room when they found a loaded .38-caliber revolver on the dresser); Ira Berkow, *An Athlete Is Dead at 17 and No One Can Say Why*, N.Y. TIMES, Oct. 1, 1995, § 8 at 1 (reporting on the suicide of a seemingly untroubled high school athlete in Lewiston, Maine, who shot himself with his father's .22 caliber handgun).

B. Issue

This Note argues for the improvement of firearm safety through the implementation of a federally mandated performance standard requiring that all firearms are personalized and child-resistant. This argument is founded on four premises. First, firearms are unsafe as currently manufactured and designed. Second, greater safety can be achieved by implementing performance standards. Third, mandatory performance standards are most effective when implemented at the federal level. Fourth, personalization and child-resistance are feasible performance standards that will improve firearm safety.

Part I.A supports these claims by detailing the presence of firearms in American society. The market for firearms is analyzed in terms of supply, distribution, and demand. Part I.B argues that firearms are unsafe as currently designed, and details the extent of the unintended use of firearms by unintended users: children, adolescents, and criminals. Part I.C describes the regulatory environment of firearms, outlining existing regulations at all levels of government, and discusses common law remedies available within the products liability scheme. Industry efforts to increase firearm safety are also highlighted. Part I.D provides an analysis of federal product safety regulation via a description of the Consumer Product Safety Act ("CPSA") and the authority it grants to the Consumer Product Safety Commission ("Commission").

The analysis begins in Part II.A with an introduction to the context and method of the argument. Part II.B describes the specific details of the child-resistance and personalization proposal and suggests two possible means of implementation. Part II.C analyzes this proposal within the framework of the findings required by the CPSA. Part II.D gives further consideration to the major challenges facing such a proposal.

This Note concludes that child-resistance and personalization should be required functions of each and every firearm, that those functions should be mandated within the existing federal regulatory scheme, and that if those functions were implemented they would begin to reduce the excessive costs associated with unintended firearm misuse.

I. BACKGROUND: FIREARMS AND AMERICAN SOCIETY

A. *The Quantity of Firearms in American Society*

1. Production: The Supply of Firearms

It is generally asserted that there are 200 million firearms circulating within the United States.⁹ This number, however, is extremely difficult to verify.¹⁰ One reason for this is that the federal regulatory system does not include a uniform system of firearm registration.¹¹ Another difficulty is that the usable life of a firearm is extremely long. Senator Daniel Patrick Moynihan of New York has noted that "the life of a handgun seems to be measured in decades, generations, and even centuries."¹² Because of these problems it is necessary to study a half-century of firearm production, imports, and exports to get a realistic perspective of the number in circulation.

There are about 1,200 firearm manufacturers in the United States.¹³ Most firearm production occurs in Massachusetts or Connecticut in an area known as "Gun Valley."¹⁴ Reliable records of

9. See Wayne H. Wink, Jr., *Biting the Bullet: Two Proposals to Stem the Tide of Gun Violence*, 10 ST. JOHN'S J. LEGAL COMMENT. 235, 238 n.20 (1994); Jonathan I. Groner, *Does the Violence Stop This Way?* PLAIN DEALER (Cleveland), Dec. 11, 1995, at 9B; Linnet Myers, *Swiss Live with Guns, But We Can't: Murder Rates in U.S. Far Exceed Europe's*, CHI. TRIB., Nov. 22, 1995, at A14; Dan Walters, *Attacking the Wrong Factor*, SACRAMENTO BEE, Aug. 22, 1995, at A3.

10. See Kurt F. Klugin, Note, *Gun Control: Is it a Legal and Effective Means of Controlling Firearms in the United States?* 21 WASHBURN L.J., 254, 255 n.92 (1982) (citing a 1975 study reporting 90 to 200 million firearms in circulation, a 1976 study reporting 136 million, and a 1979 study reporting 210 to 220 million).

11. See *infra* notes 122-39 and accompanying text (discussing the federal regulatory framework).

12. 139 CONG. REC. S16,931 (daily ed. Nov. 3, 1993). Senator Moynihan recalled that as a Naval officer in the 1940s, he was issued a Colt .45 caliber sidearm made in 1911. See *id.* He has since noted that "[u]se of weapons 35 or even 50 years old has been common in our Armed Forces." 141 CONG. REC. S3905 (daily ed. Mar. 14, 1995); see also, GEORGE D. NEWTON, JR. & FRANKLIN E. ZIMRING, FIREARMS AND VIOLENCE IN AMERICAN LIFE 3, 5 (1970) (noting that the usable life of a firearm is best measured by the number of rounds it is able to fire, which for some is near 10,000).

13. See *Guns in America; Home on the Range*, ECONOMIST, Mar. 26, 1994, at 23, 23.

14. See Brooks Egerton, *In Connecticut's "Gun Valley", Industry Becomes the Focus of Anti-Crime Debate*, DALLAS MORNING NEWS, Feb. 6, 1994, at B4 (noting that Colt, Winchester, Mossberg, Marlin, and Smith & Wesson manufacture within a short distance of Hartford).

the annual production of these companies were not compiled until 1973, when the Bureau of Alcohol, Tobacco, and Firearms ("BATF") began to monitor production.¹⁵ There were estimates of the size of the existing firearm market before BATF began to keep its records. In a 1968 study conducted by the National Commission on the Causes and Prevention of Violence, it was estimated that there were 90 million firearms in circulation.¹⁶

Approximately 4.5 million firearms were produced each year between 1973 and 1994.¹⁷ During these years, the average annual export rate was eight percent of domestic production, while imports totaled almost 19 million.¹⁸ These figures reveal that for that twenty-one year period, a total of over 109 million firearms were introduced into the domestic market.¹⁹ Substituting average numbers for unreported years,²⁰ and adding these to the tabulated numbers and the 1968 study's numbers reveal that there are approximately 230 million firearms circulating in the domestic market.²¹

2. Distribution

The firearm distribution network has undergone significant change since 1993. In 1994, one source reported that there were 284,000 licensed firearm retailers.²² Only 20,000 of those had legitimate stores, and half of those were pawn brokers.²³ The re-

15. See Ann Y. Smith, *Industry in Review*, SHOOTING INDUSTRY, Dec. 1992, at 102 (noting the BATF record keeping and the one-year delay in reporting these statistics); see also Alcohol, Tobacco Products and Firearms, 27 C.F.R. § 178.123 (1996) (containing the current monitoring regulation).

16. See NEWTON & ZIMRING, *supra* note 12, at 6. Those researchers could do no better than average an estimate of firearm ownership from opinion polls with a calculation of firearms produced since 1899. They did take into account an estimation of military issue firearms then in civilian hands and the likelihood of unreported imports. See *id.* at 6.

17. See Table 1. Domestic Firearm Market Analysis, *infra* p. 1024 [hereinafter Market Analysis].

18. See *id.*

19. See *id.*

20. Thus, 4,750,000 for the years 1969-1972, 1995-1996, for a total of 28,500,000. See *id.*

21. See *id.* Again, this is only an estimate, as it relies on estimates for a number of years and prior unsophisticated samplings. It also does not accurately account for obsolescence, among other factors.

22. See *Guns in America*, *supra* note 13, at 23.

23. See *id.*

maining dealers sold "guns out of car[s] . . . over the kitchen table, or at gun shows and flea markets."²⁴

Because of stricter licensing requirements, the number of federally licensed firearm distributors has decreased dramatically since 1993.²⁵ By December of 1995 the number of licensed dealers had shrunk to 120,000.²⁶ That number is expected to continue to shrink to between 20,000 and 24,000 by early 1997.²⁷

The BATF estimates that 7.5 million new and used firearms are sold at retail outlets each year.²⁸ A good percentage of the nation's firearm supply is in circulation.²⁹ A 1993 Department of Justice survey revealed that one-half of American homes own a firearm.³⁰ The average number of firearms in these homes is reported to be 4.1.³¹ This percentage has remained relatively constant since 1959.³²

Firearms can be expensive. A Cleveland-area gun and tackle shop listed the Smith & Wesson 640, a .357 Magnum revolver, at \$449.95.³³ The Colt .45 ACP, a forty-five caliber semiautomatic handgun, sells for \$744.95, while the Taurus 85, a thirty-eight caliber revolver, sells for \$284.95.³⁴ The Remington 870 Express,

24. *See id.*

25. Three changes served to alter the landscape of firearms distribution: (1) President Clinton's Executive Order of August 11, 1993, requiring additional paper-work, fingerprints, and photographs to obtain a license; (2) implementation of the Brady Bill on November 29, 1993, with a \$200 fee for a three-year license and a \$90 fee for a three-year extension; and (3) passage of the crime bill in September of 1994, which codified the earlier executive order. *See FFLs Plummet to 10-Year Low: Federal Firearm License*, SHOOTING INDUSTRY, Mar. 1995, at 10.

26. *See id.*

27. *See id.* (noting that for over 25 years there have been only 20,000 to 24,000 legitimate dealers, and that renewals have been averaging only 10%).

28. *See* Andrew D. Herz, *Gun Crazy: Constitutional False Consciousness and Dereliction of Dialogic Responsibility*, 75 B.U. L. REV. 57, 59 n.4 (1995). This figure represents a 10 year average of production (adjusted for imports and exports) plus used gun sales (estimated at 50% of all sales); *see also* 58 Fed. Reg. 43,524 (1990).

29. *See id.*, at 59.

30. *See* BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, CRIMINAL VICTIMIZATION IN THE UNITED STATES (1993).

31. *See* Philip J. Cook et al., *Regulating Gun Markets*, 86 J. CRIM. L. 59, 81 (1995).

32. *See* Kluin, *supra* note 10, at 255 n.96 (citing a 1959 Gallup Poll reporting that 49% of American households owned one or more firearms and a 1973 National Opinion Research Center Poll reporting that 47% owned one or more).

33. Prices as listed on March 14, 1996 at Atlantic Gun & Tackle, 5425 Northfield Road, Bedford, Ohio.

34. *See id.*

a popular shotgun, lists for \$259.00.³⁵ Most rifles sell for around \$500.00.³⁶

3. The Demand for Firearms

The demand for sporting-use firearms may be decreasing. In 1994, adults in twenty percent of American households identified themselves as hunters, down from twenty-nine percent in 1977.³⁷ Even with this decrease approximately seventeen million hunters spent nearly ten billion dollars in 1992.³⁸

The euphoria within the firearm manufacturing industry in 1994 turned to jitters in 1995.³⁹ Industry experts reported that “[d]uring 1993 and ’94, the threat of gun bans drove the market as consumers bought at a frenzied rate. With the November elections, consumers no longer felt threatened and their buying motivation disappeared.”⁴⁰

There may be truth to the assertion that the actions of the federal government influence firearm sales. With the passage of the Violent Crime Control and Law Enforcement Act of 1994,⁴¹ firearms loosely defined as assault weapons were banned from production if they possessed certain physical characteristics.⁴² Rather than stigmatizing the assault weapons already in circulation, the ban succeeded in increasing demand. One gun dealer noted that the “act did more to put more firearms out there on the streets, as far as in the hands of citizens. . . . It was the best advertising campaign you could imagine.”⁴³

35. *See id.*

36. *See id.*; *see also* GUN DIGEST 1996 (Ken Warner ed., 1996) (listing prices for various makes and models of firearms).

37. *See* Lori Montgomery, *NRA Alters Aim, and its Targets, in a Slow Revolt*, SEATTLE TIMES, May 21, 1995, at A3.

38. *See* Alan Farnham, *A Bang That's Worth Ten Billion Bucks*, FORTUNE, Mar. 9, 1992, at 80 (providing a general description of the hunting industry).

39. *See* Russ Thurman, *Industry Suffers Sales Slump*, SHOOTING INDUSTRY, May 1995, at 62 (reporting sales 25% to 35% below projection).

40. *Id.*

41. Pub. L. No. 103-322, 108 Stat. 1796 (1994) (codified in relevant part at 18 U.S.C §§ 921(a)(30)(A)-(D), 922(v) (1994)).

42. *See* 18 U.S.C § 921(a).

43. *60 Minutes: What Assault Weapons Ban?* (CBS television broadcast, Feb. 5, 1995); *see also* David A. Markiewicz, *Gun Ban Triggers Higher Prices*, DETROIT NEWS, Oct. 6, 1994, at E1, E1 (quoting a gun retailer who noted that “people have been buying . . . [assault weapons] up ever since it looked like the (crime) bill would pass”).

Fear for personal safety at home and on the streets is a significant factor influencing firearm demand.⁴⁴ That concern is intensified during and after periods of civil unrest. Gun sales surged following the 1965 Watts riots and the 1967 Detroit riots.⁴⁵ In the aftermath of the 1992 Los Angeles riots the buying behavior of Californians reflected the mood nationwide as sales in that state reached the highest rate in twenty years.⁴⁶ Advertisements placed by gun dealers and the NRA following the riots used that fear to promote sales.⁴⁷

Fear for personal safety is also a key factor in the emerging concealed-carry movement.⁴⁸ Several states have enacted statutes permitting individuals to carry a concealed firearm.⁴⁹ These statutes usually provide that an individual must demonstrate a need and that they do not have a criminal record or history of mental illness.⁵⁰ Individuals within the firearms industry have stated that the concealed-carry movement is likely to enlarge the market for firearms, particularly handguns.⁵¹ This movement proceeds despite

44. See Mark Udulutch, Note, *The Constitutional Implications of Gun Control and Several Realistic Gun Control Proposals*, 17 AM. J. CRIM. L. 19, 21 n.14 (1989) (detailing three advertisements placed by the National Rifle Association ("NRA") capitalizing on fear of crime).

45. See Bogus, *supra* note 1, at 1365, 1386 n.148.

46. See Timothy Egan, *After the Riots; Los Angeles Riots Spurring Big Rise in Sales of Guns*, N.Y. TIMES, May 14, 1992, at A1 (noting the increased volume of sales in California and other states); see also Market Analysis, *infra* p. 1024 (citing increased production in the years following the riots).

47. See Erik Eckholm, *The Riots Bring a Rush to Arm and New Debate*, N.Y. TIMES, May 17, 1992, § 4 at 18 (detailing advertisements placed by firearm distributors); Bogus, *supra* note 1, at 1365 n.3 (detailing similar advertisements placed by the NRA).

48. See Thomas Hargrove, *Focus on Stopping Violence*, ATLANTA J. AND CONST., Nov. 22, 1995, at A4 (detailing the "right-to-carry reforms" movement led by the NRA and its success during the 1995 legislative season).

49. Between 1985 and 1995, 20 states liberalized their concealed-carry permit systems. See John C. Lenzen, Note, *Liberalizing the Concealed Carry of Handguns by Qualified Civilians: The Case for "Carry Reform,"* 47 RUTGERS L. REV. 1503, 1504 n.4 (1995) (listing 27 concealed-carry laws by state).

50. See e.g., Sam Howe Verhovek, *In Texas, Pistol Packers Must Know Psychology*, N.Y. TIMES, Nov. 8, 1995, at A1 (noting that in Texas a person must pay a \$140 application fee, have no history of a major crime or mental illness, demonstrate an understanding of use-of-force laws, pass a shooting proficiency test, and pass a test covering nonviolent, conflict resolution techniques).

51. See Thurman, *supra* note 39, at 62 (interviewing a gun wholesaler who notes that "[a]s more states pass concealed-carry legislation, we'll see an increase in hand-gun sales. In addition, the laws will make owning other types of guns more acceptable to a lot more people"). Women have increasingly been targeted as an untapped market for firearms. See Carrie Goerne, *Gun Companies Target Women; Foes Call It "Marketing Fear,"*

the lack of definitive statistics on an armed citizenry's effect on crime⁵² and the ability of handgun owners to effectively fire their weapons in defensive situations.⁵³

B. Unintended Uses by Unintended Users

1. Children

Dr. Katherine Christoffel, a Chicago pediatrician and an advocate of improved firearm safety, believes she can tell from the age of a child admitted with a gunshot wound the general circumstances through which that wound was acquired.⁵⁴ Dr. Christoffel's experience shows that if a child is under the age of five, he ("[I]t is almost always a he."⁵⁵) will have found a gun at home or at

MARKETING NEWS, Aug. 31, 1992, at 1 (noting that in 1992 *Ladies Home Journal* was the first general-interest women's magazine to accept a firearm advertisement, detailing the LadySmith marketing campaign of Smith & Wesson, and the introduction of *Women & Guns* magazine in 1989, with a 1992 circulation of 25,000).

52. See Vernon Silver, *Holes Found in Law on Carrying Hidden Guns*, N.Y. TIMES, Nov. 2, 1995, at A16 (noting that gun homicide rates in several Florida metropolitan areas increased after its legislature passed a concealed carry law). Phillip J. Cook, a public policy professor at Duke University, has stated that:

We're having a good natural experiment now with about half the states changing their laws. This is a fascinating issue because predictions [concerning effects on crime] go in both directions. . . . [T]here is no firm evidence which allows people to speculate freely.

Id.; see also A.L. Kellerman & D.T. Reay, *Protection or Peril? An Analysis of Firearm Related Deaths in the Home*, 314 NEW ENG. J. MED. 1557, 1557-1560 (1986) (finding that for every act of self-protection there are 1.3 fatal accidental shootings, 5 homicides, and 37 suicides).

53. Compare Kevin M. Cunningham, *When Gun Control Meets the Constitution*, 10 ST. JOHN'S J. LEGAL COMMENT. 59, 63 (1994) (citing 2.4 million defensive uses) with David McDowall & Brian Wiersema, *The Incidence of Defensive Firearms Use by US Crime Victims, 1987-1990*, AM. J. PUB. HEALTH, Dec. 1994, at 1983, 1984 (noting an annual mean of 64,615 defensive uses of firearms from 1987-1990, but concluding that "criminals face little threat from armed victims. The probability of firearm resistance is not zero. Yet, given that half of US households own a gun, armed self-defense is extremely uncommon. Coupled with the risks of keeping a gun for protection, these results raise questions about the collective benefits of civilian firearm ownership. . . .") (footnotes omitted), Thurman, *supra* note 39, at 62 ("[A]n incredible number of new gun owners have joined our ranks during the past two years. Most of them have not handled firearms before. . . . This translates into a chance for significant increases in accidental shootings."), and Kluin, *supra* note 10, at 259 n.134 (discussing the difficulty of accurately firing a handgun).

54. See *Children and Guns: Hearing Before the Select Committee on Children, Youth, and Families House of Representatives*, 101st Cong. 37, 38 (1989) (statement of Katherine K. Christoffel M.D., F.A.A.P.) [hereinafter *Children and Guns*].

55. *Id.*

the home of a friend and begun to explore, thinking it may be a toy.⁵⁶ If he is over age five "the story will be similar, except that the handling of the gun will have been fantasy play . . . just like on TV."⁵⁷

Dr. Christoffel's experience reflects the norm, as the majority of these accidental shootings occur when a child plays with a loaded gun.⁵⁸ From 1985 to 1990, between 87 and 128 children under the age of ten died each year from accidental shootings.⁵⁹ For the same years, an average of thirty-six children between the ages of one and four died each year from unintentional firearm discharges.⁶⁰ For children ages five through nine, the average number of fatalities per year was fifty-eight.⁶¹

2. Adolescents

Dr. Christoffel's experience also indicates that if an adolescent is admitted to her care with a firearm injury, the injury is likely to be a suicide attempt or an assault.⁶² As children mature the types of unintended uses of firearms broaden to encompass suicide and violent crime as well as accidental shootings.

From 1985 to 1990, an average of 421 adolescents and teens between the ages of ten and nineteen died each year from accidental firearm discharges.⁶³ Accidental deaths were most common within the fifteen through nineteen year-old age group, which averaged 261 per year.⁶⁴ The average for the ten to fourteen year-old age group was 161 per year.⁶⁵ It has been estimated that for each accidental firearm fatality there are nearly five injuries.⁶⁶

56. *See id.*

57. *Id.*

58. *See* Eupil Choi et al., *Deaths Due to Firearms Injuries in Children*, J. OF FORENSIC SCI., May 1994, at 685, 690.

59. *See* Table 2. Unintentional Firearm Fatalities, *infra* p. 1025 [hereinafter Unintended Fatality Chart].

60. *See id.*

61. *See id.*

62. *See Children and Guns*, *supra* note 54 at 38.

63. *See Unintended Fatality Chart*, *infra* p. 1025.

64. *See id.*

65. *See id.*

66. *See* Murray L. Katcher, *Firearm Injuries Among Children and Adolescents: I. The Facts*, 93 WISC. MED. J. 511, 512 (1994).

Since the enactment of The Gun Control Act of 1968, it has been illegal to sell or transfer a firearm to a minor.⁶⁷ Twenty-one states have provisions explicitly prohibiting the possession of firearms by juveniles.⁶⁸ During Senate testimony exploring the problem of children and weapons, Ronald Stephens, Executive Director of the National School Safety Center, stated that the "primary source of all weapons [is] the student's residence."⁶⁹ Mr. Stephens detailed other illegal sources through which adolescents acquire firearms, noting that in 1992 one student in Houston was running a gun rental service.⁷⁰

Since 1992 the National School Safety Center has tracked 147 violent deaths in schools, 119 of them involving firearms.⁷¹ The Center reported 46 violent deaths during the 1993-94 school year, 20 during the 1994-95 school year, and 26 at the mid-point of the 1995-96 school year.⁷² Motives for possession may vary. One study noted that adolescents may desire to possess a firearm for status enhancement.⁷³ That study concluded, however, that as gun

67. Pub. L. No. 90-354, 8 Stat. 162 (1968) (codified at 18 U.S.C. § 922(b)(1) (1994)). There are limited circumstances when juvenile possession is acceptable. See 18 U.S.C. § 922(x)(1)-(6) (1994).

68. See Brian R. Suffredini, *Juvenile Gunslingers: A Place for Punitive Philosophy in Rehabilitative Juvenile Justice*, 35 B.C. L. REV. 885, 886 n.11, 904 (1994) (arguing that despite state enactments "firearms will continue to be readily available to youths").

69. *Children Carrying Weapons: Why the Recent Increase: Hearing on the Possession of Weapons Among Children and the Presence of These Weapons in our Schools, Before the Committee on the Judiciary, United States Senate*, 102d Cong., 2d Sess. (1992).

70. See *id.* The problem of adolescent firearm possession in school, though generally considered an urban problem, has also been shown to be serious in some suburbs. Compare JOSEPH F. SHELEY & J. WRIGHT, NATIONAL INSTITUTE OF JUSTICE, U.S. DEP'T OF JUSTICE, GUN ACQUISITION AND POSSESSION IN SELECTED JUVENILE SAMPLES 5 (1993) (finding that one in three male and one in ten female urban adolescents had carried a firearm) and Charles M. Callahan & Frederick P. Rivara, *Urban High School Youth and Handguns: A School-Based Survey*, 267 JAMA 3038, 3042 (1992) (finding that in a 1992 survey of high school juniors in Seattle, 34% reported easy access to a handgun and 6.4% reported handgun ownership) with Joseph F. Sheley & Victoria E. Brewer, *Possession and Carrying of Firearms Among Suburban Youth*, PUB. HEALTH REP., Jan.-Feb. 1995, at 24 (finding that one in five students in a suburban New Orleans high school owned a handgun).

71. See Peter Applebome, *Shootings at Schools Prompt New Concerns About Gun Violence*, N.Y. TIMES, Mar. 3, 1996, § 1 at 12.

72. See *id.* (asserting that the decrease in 1994-95 was due to stricter federal guidelines for possession of firearms in school).

73. See Sheley & Brewer, *supra* note 70, at 25.

possession increases, more adolescents may wish to carry a firearm for protection.⁷⁴

Student firearm possession may vary depending on the local environment for crime. In high crime areas, two in five students report having carried a weapon for protection, while one in eight have done so nationally.⁷⁵ One in three students in high crime areas reported cutting class because of fear, while one in nine did so nationally.⁷⁶

FBI statistics reveal that arrests of juveniles for weapon law violations have increased dramatically since 1970.⁷⁷ The arrest figures for 1992 show a 151% increase since 1990, a 235% increase since 1980, and a 291% increase since 1970.⁷⁸ Over the same twelve year period there was a 116% rise in the number of violent crimes committed by juveniles.⁷⁹ In 1970, 54,860 juveniles were arrested for violent crimes.⁸⁰ By 1992 that number had grown to 118,334.⁸¹ A growing percentage of homicides committed by juveniles involve firearms. Rates of adolescent arrest for murder when a firearm was involved increased seventy-nine percent through the 1980s.⁸² From 1987 to 1991 the juvenile arrest rate for murders involving firearms increased by eighty-five percent.⁸³

Suicide rates within the ten to nineteen year-old age group nearly doubled between 1970 and 1990.⁸⁴ Although the number of

74. *See id.*

75. *See* Applebome, *supra* note 71, at 8.

76. *See id.*

77. The term "weapon law violations" refers to prohibited possession of a firearm. *See* BUREAU OF CENSUS, U.S. DEP'T OF COMMERCE, THE NATIONAL DATA BOOK, STATISTICAL ABSTRACT OF THE UNITED STATES 205, no. 316 (1994) [hereinafter 1994 DATA BOOK]; *see also* Table 3. Juvenile Weapons Law Violations, *infra* p. 1025.

78. *See id.* This growth has taken place despite decreasing numbers of adolescents within the general population. *See* Table 4. United States Population, *infra* p. 1026.

79. Violent crimes include murder, forcible rape, armed robbery, and aggravated assault. *See* 1994 DATA BOOK, *supra* note 77, at no. 316.

80. *See id.*

81. *See id.*

82. *See* Suffredini, *supra* note 68, at 898.

83. *See id.*; *see also* Charles Marwick, *A Public Health Approach to Making Guns Safer*, 273 JAMA 1743, 1748 (1995) (noting that between 1984 and 1993 firearm homicides in males aged 15 to 19 years more than tripled).

84. Within the 10 to 14 year-old age group 0.6 per 100,000 committed suicide in 1970, 0.8 in 1980, and 1.5 in 1990. *See* BUREAU OF CENSUS, U.S. DEP'T OF COMMERCE, THE NATIONAL DATA BOOK, STATISTICAL ABSTRACT OF THE UNITED STATES no. 137 (1993) [hereinafter 1993 DATA BOOK]. Among 15 to 19 year-olds, 5.9 per 100,000 committed suicide in 1970, 8.5 in 1980, and 11.1 in 1990. *See* 1994 DATA BOOK, *supra* note

actual suicide attempts has not increased, the higher rates of completed suicides are due to the use of more lethal means.⁸⁵ When a firearm is the chosen method for a suicide attempt, there is a ninety-one percent chance that the attempt will result in death.⁸⁶

3. Criminal Use of Stolen Firearms

The lack of a uniform registration system also makes it difficult to determine the extent of criminal use of stolen firearms. The FBI compiles national data from local law enforcement officials on the value, not the quantity, of stolen firearms.⁸⁷ By dividing the total value of all firearms reported as stolen by an average gun value, one report estimated that 458,475 firearms were stolen from households in 1992.⁸⁸ An estimated increase of eleven percent due to thefts from commercial operations was added to that figure, concluding that about 500,000 firearms were stolen in that year.⁸⁹

Stolen firearms play a large role in criminal activity. In 1991 firearms were used in thirty-six percent of the more than two million attempted and completed violent crimes.⁹⁰ A sampling of homicide statistics reveals that sixty-four percent of all homicides involve a firearm.⁹¹ Twenty-five percent of all firearms used in crime are stolen, many of them within less than six months.⁹² In-

77 at 95, no. 127.

85. See *Suicide Among Children, Adolescents, and Young Adults—United States, 1980-1992*, 274 JAMA 451 (1995) (noting that the Center for Disease Control ("CDC") has identified "restricting access to highly lethal methods of suicide" as one of seven strategies for reducing suicide among young persons).

FIREARM SUICIDES						
Age	1985	1986	1987	1988	1989	1990
10-14	139	141	151	125	138	142
15-19	1,117	1,151	1,129	1,261	1,241	1,333

See Fingerhut, *supra* note 58, at 13 [hereinafter Firearm Suicide Chart].

86. See Katcher, *supra* note 66, at 512.

87. See Cook et. al., *supra* note 31, at 81-82 (noting that many firearm thefts go unreported as some individuals who possess a firearm are involved in illegal activity).

88. See *id.* The authors reinforced this estimate by multiplying the total number of reported firearm thefts by the average number of firearms stolen per theft. See *id.*

89. See *id.*

90. These crimes include rape, robbery, and aggravated assault. 1993 DATA BOOK, *supra* note 84, at no. 311.

91. This average was derived from homicide data for 1980, 1985, 1990, 1991, and 1992. See *id.*; 1994 DATA BOOK, *supra* note 77.

92. See Note, *Manufacturers' Liability to Victims of Handgun Crime: A Common Law Approach*, 51 FORDHAM L. REV. 771, 785 n.86 (1983) (discussing personal injury claims

interviews of prison inmates and juvenile detainees reveal that significant percentages of them stole their last firearm.⁹³

4. Monetary Cost of Firearm Violence

The nature of the unintended uses detailed above makes a cost assessment difficult. For the purposes of this argument, an estimate of the cost of injuries resulting from unintended uses can be gauged based on previously assessed costs for firearm injuries. The cost of crimes committed by adolescents and the costs of the use of stolen firearms by criminals are too difficult to ascertain and will not be estimated. Thus, the figures estimated account for only a portion of the total cost to American society of unintended uses of firearms by unintended users.

A report prepared for the General Accounting Office estimated that 65,000 people are treated every year for injuries resulting from firearms.⁹⁴ That report noted that the average lifetime cost of a firearm injury is \$53,831.⁹⁵ Injuries that do not require hospitalization cost \$458, while injuries that do result in a hospital stay cost \$33,159.⁹⁶ Fatalities cost \$373,520.⁹⁷

By comparing these costs with the numbers of deaths reported above, it is possible to estimate some of the monetary costs. For 1985, the monetary cost for accidental firearm deaths of children and adolescents was approximately \$193 million.⁹⁸ If there were five times as many injuries that required hospitalization,⁹⁹ those costs would amount to nearly \$85 million. For suicide among adolescents,¹⁰⁰ the cost in 1985 was nearly \$470 million. Thus, in 1985, this limited range of unintended consequences amounted to nearly \$750 million in monetary costs. These numbers, of course,

against firearm manufacturers by victims of gun-related crimes).

93. See Cook, *supra* note 31, at 80 n.111.

94. See CONG. REC. S4854, S4855 (Mar. 1991).

95. See *id.* These numbers, compiled in 1985 dollars, include hospital and nursing home care, physician and other professional medical services, drugs and appliances, rehabilitation, life years lost, and lost earnings including those for premature death.

96. See *id.*

97. See *id.*

98. See Unintended Fatality Chart, *infra* p. 1025 (reporting 517 accidental deaths in 1985).

99. See Katcher, *supra* note 66, at 511.

100. See Firearm Suicide Chart, *supra* note 85 (reporting 1256 firearm suicides among adolescents and teenagers in 1985).

do not reflect the emotional costs associated with accidental firearm deaths and violent crime.

C. Firearm Safety: The Current Environment

1. Industry Efforts: Existing Safety Measures

The idea of producing a child-proof firearm is more than a century old. In 1884, Smith & Wesson designed a gun that became known as "the lemon squeezer."¹⁰¹ Its nickname is derived from the grip of the gun, which had to be squeezed before the trigger could be pulled. Young children were prevented from firing the weapon because their hands are too small and weak to perform both actions at once. Smith & Wesson continued to manufacture the lemon squeezer until the 1930s, when it was discontinued for lack of demand.¹⁰²

Today, most firearms come equipped with a device called a "safety," while some come equipped with more than one.¹⁰³ Safeties are intended to reduce unintended discharges by providing a manual trigger lock that can be turned off and on by the user. Their design generally consists of a small lever or a button that can be shifted from "on" to "off" by the user's thumb or forefinger.

Firearm owners can purchase additional add-on or containment devices that contribute in varying degrees to the child-resistance, personalization, and theft prevention of their weapons. Trigger locks and gun safes are the primary devices sold by firearm retailers.¹⁰⁴ Industry experts report that a consumer generally wants to know "which safety device will allow her immediate access to her gun, and still keep the gun out of the hands of curious or criminal hands."¹⁰⁵

Trigger locks are inexpensive, and when used will generally prevent accidental discharge but not theft.¹⁰⁶ One trigger lock

101. See Marwick, *supra* note 83, at 1748.

102. See Gene Fadness, *Tougher Access to Guns Will Prevent Deaths*, IDAHO FALLS REGISTER, Aug. 24, 1993, at A9.

103. See GUN DIGEST, *supra* note 36 (providing illustrations of various gun makes and models and the differing designs of their safeties).

104. See Lisa Parsons, *Securing the Firearm: These Budget-Conscious Safety Devices Can Prevent Disaster*, SHOOTING INDUSTRY, July 1994, at 24.

105. *Id.*

106. See *id.*

prevents trigger movement while providing a motion-sensitive alarm. Another has two pieces that mount on either side of the trigger guard that are locked into place with a heavy assembly screw.¹⁰⁷

Large gun safes usually offer greater security, but may be cost and size prohibitive.¹⁰⁸ For just under \$1,000, the Cannon Model 23 weighs 450 pounds with space for more than a dozen long guns. It is operated by a combination lock and key with a spy-proof ring. Smaller lock boxes and trigger locks allow a more limited measure of security at a lesser cost.¹⁰⁹ The typical lock box offers a stainless steel exterior and a combination lock. Generally, small lock boxes "will not deter a burglar . . . or a determined child with tools. . . . [They are] designed to keep basically good but curious kids from hurting themselves or others."¹¹⁰

Manufacturers have taken steps to increase safety awareness. In 1995, Remington committed one million dollars to several safety programs.¹¹¹ One program entailed placing safety-related advertisements in shooting magazines. Another involved production of a safety video shipped free with every Remington firearm.¹¹² The third project involved co-marketing a video entitled *Shooting & Hunting Safety—Play it Safe*.¹¹³

2. The State and Local Level

It is estimated that there are more than 20,000 firearm control measures in existence at the state, local, and federal levels.¹¹⁴ These regulations generally intend to distinguish between different types of weapons and different types of people.¹¹⁵ Thus, some of

107. *See id.* As one commentator notes, "The major drawback for most of these locking devices is that the operator must keep the key handy, yet safe. . . . In the dark, under a stressful situation, fumbling around for a key could take much too long." *Id.*

108. *See id.*

109. *See* Parsons, *supra* note 104, at 75 (noting that some of these can be purchased for around \$20).

110. *Id.* at 24.

111. *See* Russ Thurman, *Industry Suffers Sales Slump, Manufacturer Sued, Hearings Support Gun Rights*, SHOOTING INDUSTRY, May 1995, at 62.

112. The video emphasizes firearm safety through owner responsibility. *See id.*

113. That video is intended to be sold to customers or used as a promotion in retail stores. *See id.*

114. *See* Daniel J. French, *Biting the Bullet: Shifting the Paradigm from Law Enforcement to Epidemiology; A Public Health Approach to Firearm Violence in America*, 45 SYRACUSE L. REV. 1073, 1077 (1995) (discussing gun violence as a public health crisis).

115. *See* Cook, *supra* note 31, at 65.

the most dangerous weapons are banned from commerce while individuals considered to be dangerous are prohibited from possessing firearms.¹¹⁶

State measures generally include licensing or permit requirements¹¹⁷ and possession restrictions,¹¹⁸ in addition to increased criminal sanction for using a firearm in crime. Many municipalities have chosen to ban the possession of semi-automatic firearms within their boundaries,¹¹⁹ or to impose liability on manufacturers of certain weapons misused within their bounds.¹²⁰ Some state's legislatures have chosen to impose criminal penalties for the negligent storage of firearms.¹²¹

3. Federal Regulations

Federal firearm regulation is a twentieth century phenomena. The Revenue Act of 1918 placed a ten percent federal excise tax on firearms and ammunition.¹²² Congress banned the sale of handguns through the mail in 1927.¹²³ In 1934 the National Firearms Act made it difficult to acquire especially lethal types of firearms.¹²⁴ The Act granted regulatory power to the Secretary of the Treasury because of the link between these regulations and the federal government's taxing authority.¹²⁵ Within the Treasury Department, the BATF is responsible for enforcement of firearm regulations.¹²⁶

116. *See id.*

117. *See id.* at 66-68 (discussing in detail the North Carolina permit system).

118. *See supra* note 67 and accompanying text (discussing state restrictions on possession by juveniles).

119. *See* Joseph P. Tartaro, *The Great Assault Weapon Hoax*, 20 DAYTON L. REV. 619, 620 n.2 (1995) (listing 18 municipalities with such bans).

120. *See* Ronald R. Ratton; Note, *Corrective Justice and the D.C. Assault Weapon Liability Act*, 19 J. LEGIS. 287, 306-07 (1993) (arguing that the D.C. Assault Weapon Liability Act rests on an improper foundation).

121. *See* Ann-Marie White, Comment, *A New Trend in Gun Control: Criminal Liability for the Negligent Storage of Firearms*, 30 HOUS. L. REV. 1389, 1391 (1993) (discussing whether the power to regulate the keeping, bearing, or storing of arms exists).

122. *See* French, *supra* note 114, at 1076. The tax was raised to 11% in 1941. Although the tax on handguns was lowered to 10% in 1954, the rates have since gone unchanged. In 1991, these taxes brought in \$143 million, while in 1993 they brought in \$164 million. *See id.* at 1077-78.

123. *See id.* at 1079.

124. *See id.* at 1079 n.42.

125. *See* 18 U.S.C. § 921(a)(18) (1995); *see also* Cunningham, *supra* note 53, at 67-68.

126. *See* Bureau of Alcohol, Tobacco, and Firearms, Statement of Mission, Organization and Functions, 51 Fed. Reg. 34,288 (1986). Author's note: a complete guide to current

In 1938 the Federal Firearms Act required licensing of dealers, banned sales to felons, and criminalized the transport of stolen firearms.¹²⁷ Thirty years later Congress repealed the Federal Firearms Act, broadening its regulation of firearms under the Gun Control Act of 1968.¹²⁸

The Gun Control Act of 1968 required that all distributors of firearms or ammunition be federally licensed, establishing more restrictive standards than those previously in place. The Act prohibited interstate sale of handguns and long guns except under certain conditions. It also set forth categories of persons to whom firearms or ammunition could not be sold. It prohibited the import of non-sporting firearms and established special penalties for the use of a firearm during the commission of a federal crime.¹²⁹

Although hundreds of amendments to the Act have been proposed since 1968,¹³⁰ the first major change in federal firearm regulation was not enacted until November 30, 1993. That Act, The Brady Handgun Violence Prevention Act¹³¹ ("Brady Bill"), was considered a sea-change by gun control activists.¹³² The intent of the Brady Bill was to further restrict the ability of criminals and other prohibited individuals to purchase a handgun.¹³³ The Brady Bill instituted a five-day waiting period between the time the individual seeks to buy a firearm and the time the transaction is completed. During this time, law enforcement officials are required to complete a "reasonable background check" of the potential purchaser.¹³⁴

Since the Brady Bill two notable firearms regulations were presented in Congress. In addition to the proposal and passage of

federal regulations can be down-loaded from the BATF home page at <<http://www.ustreas.gov/treasury/bureaus/atf/atf.html>>.

127. See French, *supra* note 114, at 1079 n.43.

128. See *id.* at 1079.

129. See *id.* at 1080.

130. See *id.* at 1080 n.50.

131. Pub. L. No. 103-159, 107 Stat. 1536 (1993) (codified as amended at 18 U.S.C. 922 (1994)).

132. See Richard M. Aborn, *The Battle Over the Brady Bill and the Future of Gun Control Advocacy*, 22 FORDHAM URB. L.J. 417, 419-24 (1995) (discussing the current state of gun control in the United States).

133. See *id.*

134. 18 U.S.C. § 922 (1994). Prior to the passage of the Brady Bill, 22 states required some form of background check for handgun purchasers. See Aborn, *supra* note 132, at 418 n.11.

the Violent Crime Control and Law Enforcement Act of 1994 and its ban on assault weapons,¹³⁵ some members of Congress proposed a sweeping overhaul of the federal regulatory framework via The Gun Violence Prevention Act ("Brady II").¹³⁶

Brady II was brought to the floor of the House and the Senate as the Brady Bill was taking effect.¹³⁷ It proposed the implementation of a handgun registration and licensing system, a limitation on the number of monthly purchases and the sizes of home arsenals, and the required storage of weapons away from juveniles.¹³⁸ It also proposed regulating safety in firearm design by mandating child-resistance and other safety standards.¹³⁹

4. The Common Law: Products Liability

The arena of products liability is governed by "three distinct but overlapping theories of liability"—negligence, warranty, and strict liability.¹⁴⁰ Negligence applies to products as it does in the usual tort law sense.¹⁴¹ The Uniform Commercial Code establish-

135. See *supra* notes 41-43 and accompanying text (discussing the act and its consequences).

136. See 140 CONG. REC. S 2172, 103d Cong. 2d Sess. (daily ed. Mar. 1, 1994) (containing a statement by Senator Howard Metzenbaum).

137. See *id.* (statement of Senator Howard Metzenbaum).

138. See *id.* at S2173.

139. Section 402 of the Act stated that:

It shall be unlawful for a person to manufacture or import a firearm that does not have as an integral part a device or devices that—(A) prevent a child of less than 7 years of age from discharging the firearm . . . (B) prevent a firearm that has a removable magazine from discharging when the magazine has been removed; and (C) in the case of a handgun or other revolver, clearly indicate whether the magazine or chamber contains a round of ammunition.

Id. at S2181.

140. JAMES A. HENDERSON, JR. ET. AL., *THE TORTS PROCESS* 561-62 (4th ed. 1994). The theory of abnormally dangerous activity has also been litigated in the firearms context. However, discussion of this theory will be avoided to limit the context to that of products liability. See Carl T. Bogus, *Pistols, Politics and Products Liability*, 59 U. CIN. L. REV. 1103, 1105 n.7 (1991) (restricting its discussion to products liability despite the existence of cases concerning firearms and the doctrine of abnormally dangerous activity).

141. See HENDERSON, *supra* note 140, at 562. Justice (then Judge) Cardozo noted that:

If the nature of a thing is such that it is reasonably certain to place life and limb in peril when negligently made, it is then a thing of danger . . . If to the element of danger there is added knowledge that the thing will be used by persons other than the purchaser, and used without new tests, then, irrespective of contract, the manufacturer of this thing of danger is under a duty to make it carefully.

MacPherson v. Buick Motor Co., 111 N.E. 1050, 1053 (N.Y. 1916).

es three types of warranties: express warranties;¹⁴² implied warranties of merchantability;¹⁴³ and implied warranties of fitness for a particular purpose.¹⁴⁴ Strict liability will apply to “[o]ne who sells any product in a defective condition unreasonably dangerous to the user.”¹⁴⁵

Variations within the strict liability theory occur depending on the type of defect alleged, be it a manufacturing defect, a design defect, or a marketing defect. Manufacturing defects “are inadvertent imperfections that cause products to fail to perform their intended functions.”¹⁴⁶ Design defects “are shared by each unit in the product line, causing the products to be generally dangerous.”¹⁴⁷ Marketing defects “include failures to instruct regarding proper product use and failures to warn of hidden dangers.”¹⁴⁸

Liability for firearm manufacturers and retailers has been found under all three theories.¹⁴⁹ However, three conceptual problems arise when a plaintiff seeks a remedy under strict liability. First, is there a defect when a firearm is performing as designed? Second, is the person pulling the trigger responsible for the injury, or is the manufacturer responsible? Third, is the victim protected, or only the user of the firearm?¹⁵⁰ These conceptual problems have

142. Express warranties “are promises by the seller that the product will perform in a certain manner.” HENDERSON, *supra* note 140, at 566. *See also* U.C.C. § 2-313 (1995).

143. These are “implied-in-law obligations of the seller that his products are free of defects and meet generalized standards of acceptability.” HENDERSON, *supra* note 140, at 566. *See also* U.C.C. § 2-314.

144. These are “implied-in-law obligations that a product recommended by a knowledgeable seller will meet special needs of the purchaser communicated to the seller at the time of sale.” HENDERSON, *supra* note 140, at 566; *see also* U.C.C. § 2-315.

145. RESTATEMENT (SECOND) OF TORTS § 402A (1965). A product’s condition is defective when the product “is, at the time it leaves the seller’s hands, in a condition not contemplated by the ultimate consumer, which will be unreasonably dangerous to him.” *Id.* cmt. g. The drafters of the Restatement noted that “[m]any products cannot possibly be made entirely safe for all consumption The article sold must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it.” *Id.* cmt. i.

146. HENDERSON, *supra* note 140, at 561.

147. *Id.*

148. *Id.*

149. *See, e.g.*, Annotation, *Products Liability: Firearms, Ammunition, and Chemical Weapons*, 15 A.L.R. 4TH 909, § 2(a) at 913 (1982) (noting that “the liability of a manufacturer, seller, or distributor of firearms, ammunition, and chemical weapons has been determined under ordinary theories governing products liability”).

150. *See* Bogus, *supra* note 1, at 1106.

served to limit the success of claims brought for firearm accidents involving a technically non-defective firearm.¹⁵¹

Advocates of more stringent requirements for firearms manufacturers have proposed a number of alternatives, including creating strict liability for manufacturers of certain firearms frequently used in crime,¹⁵² and strict liability for ammunition manufacturers.¹⁵³

151. See Annotation, *supra* note 149, at 913 (stating that "liability cannot be established in the absence of proof that the product in question was defective when it left the defendant's possession")

152. See Donna Morel, *Bang! Bang! You're Liable! The Imposition of Strict Liability on the Makers of Semi-Automatic Weapons*, 3 SAN DIEGO JUST. J. 263 (1992). In light of the California prohibition on the sale, advertising, or possession of certain assault weapons, see CAL. PENAL CODE § 12,280 (1995). A California Judge upheld claims of strict liability and negligence against the manufacturer of a particular assault weapon. See *In re 101 California Street*, No. 959316 (Cal. Sup. Ct. Apr. 10, 1995) (explaining how a TEC-9, manufactured by Navegar, Inc., had been used on July 1, 1993 by Gian Luigi Ferri to kill seven and wound six in a San Francisco law office).

153. See, e.g., Wink, *supra* note 9, at 235 (arguing for the extension of strict liability to ammunition manufacturers); see also Note, *Absolute Liability for Ammunition Manufacturers*, 108 HARV. L. REV. 1679 (1995) (presenting the same argument).

D. The Consumer Product Safety Commission

1. Rationale and Authority

The CPSA was signed into law on October 27, 1972.¹⁵⁴ It was based primarily on the findings and recommendations of the National Commission on Product Safety ("NCPS").¹⁵⁵ The NCPS found that industry self-regulation was inadequate and that consumer exposure to unreasonable hazards was excessive.¹⁵⁶ It noted that "competitive marketing imperatives are eye appeal and cost as opposed to safety."¹⁵⁷

Congress found it "self-evident that the public is entitled to purchase products without subjecting themselves to unreasonable risk of injury or death."¹⁵⁸ To mitigate this unreasonable risk, the CPSA created the Commission.¹⁵⁹ The Commission was designed to assist consumers in evaluating the comparative safety of consumer products, to develop uniform safety standards for consumer products, to minimize conflicting state and local regulations, and to promote research and investigation into the causes and prevention of product-related deaths, illnesses, and injuries.¹⁶⁰

The Commission was given the ability to set product standards,¹⁶¹ ban hazardous substances,¹⁶² and recall products in-

154. Pub. L. No. 92-573, 86 Stat. 1207 (1972) (codified as amended at 15 U.S.C. §§ 2051-84 (1994)).

155. See MICHAEL R. LEMOV, CONSUMER PRODUCT SAFETY COMMISSION § 1.10, 1-14 (1981) (noting that the report and recommendations of the NCPS are "cited repeatedly . . . as authoritative legislative history" of the CPSA). The NCPS was established by Congress in 1967 and asked to "conduct a comprehensive study and investigation of the scope and adequacy of measures now employed to protect consumers against unreasonable risk of injuries which may be caused by hazardous household products." HOWARD A. HEFFRON ET. AL., FEDERAL CONSUMER SAFETY LEGISLATION iii (1970) (quoting Pub. L. No. 90-146 § 2(a) (1967)).

156. See LEMOV, *supra* note 155, § 1.09, 1-11. The NCPS report concluded that common law product liability was "unreliable in restraining product hazards. . . . [because] it was concerned primarily with providing consumers with post-injury remedies." *Id.* at 1-12.

157. *Id.* To mitigate unreasonable hazards, the NCPS recommended that Congress appoint a consumer safety advocate and create an independent agency. The NCPS felt that to be effective the agency should have the power to issue regulations and develop safety standards, emphasizing prevention in advance. See *id.*

158. *Id.* § 2.06, 2-8 (citing H.R. REP. NO. 1153, at 21). For Congressional findings, see 15 U.S.C. § 2051(a)(1)-(6) (1994).

159. See LEMOV, *supra* note 155, § 2.07, 2.10-11.

160. See 15 U.S.C. § 2051(b).

161. See §§ 2056(a), 2058. Amendments passed in 1981 eliminated references to product

volving substantial hazards.¹⁶³ The CPSA gave Federal District Courts broad judicial powers.¹⁶⁴ Citizens could file suit if they were an injured party or were interested in enforcing a standard.¹⁶⁵ The Commission also has broad authority over imports and exports.¹⁶⁶ Because overlapping state, federal, and local regulations could be an impediment to the CPSA's effectiveness, Commission regulations have preemptive authority.¹⁶⁷

The CPSA also provided the Commission with broad information gathering powers.¹⁶⁸ The Commission's primary data source is the National Electronic Injury Surveillance System ("NEISS").¹⁶⁹ NEISS is the foundation of the National Injury Information Clearinghouse created by section five of the CPSA.¹⁷⁰ The Clearinghouse is charged with conducting studies and investigations of the physical and economic effects of product-related injuries.¹⁷¹

composition, contents, design, construction, finish, or packaging, thus limiting Commission standards to labelling, warning, instruction or performance requirements. *See* Pub. L. No. 97-35 § 1202 95 Stat. 703, 703-04 (1981) (codified at 15 U.S.C. § 2056).

162. When products present an unreasonable risk of injury and when no feasible consumer product safety standard under the act would adequately protect the public from unreasonable risk of injury associated with the product, the CPSC may promulgate rules declaring products banned hazardous products. *See* 15 U.S.C. § 2057 (1994).

163. When a product is found to have a "substantial product hazard," manufacturers, distributors, or retailers must immediately inform the Commission. *See* § 2064(a)-(b). The Commission may then require that the public be notified of the hazard as well as offered a repair, replacement, or refund (at the company's option). *See* § 2064(c)-(d). The Commission may seek an injunction while these proceedings are pending completion. *See* §§ 2064(g).

164. Courts may issue injunctions against manufacture, sale, distribution of non-conforming products, restrain any violation of the act, and hear all actions arising under the act. Civil and criminal penalties include a penalty of \$2000 per violation, not to exceed \$500,000 for any series of violations. After receiving notice from the CPSC, any knowing or willful violation may receive a fine of up to \$50,000 and/or one year in prison. *See* §§ 2069(a)(1), 2070(a) & 2071(a)-(b).

165. *See id.* §§ 2072(a), 2073.

166. Products that fail to meet the applicable standards may not be imported or exported. *See id.* § 2066(a).

167. *See id.* § 2075.

168. *See id.* § 2054.

169. LEMOV, *supra* note 155 at § 12.03, 12-4.

170. *Id.*

171. *See* 15 U.S.C. § 2054. The NEISS collects its data from 91 hospital emergency rooms across the nation. It was not until June of 1992 that the NEISS began to track firearm injuries in a cooperative effort with the CDC. *See* Joseph L. Annet et al., *National Estimates of Nonfatal Firearm-Related Injuries: Beyond the Tip of the Iceberg*, 273 JAMA 1749 (1995). Because NEISS information is limited to injuries associated with

2. Example: Cigarette Lighter Safety

In 1993 the Commission implemented a safety standard for cigarette lighters.¹⁷² The process that led to this standard began in 1985, when Diane Denton, a registered nurse practicing in a Louisville, Kentucky children's hospital, petitioned the Commission requesting that disposable butane lighters be made child-resistant.¹⁷³ At the time of the petition the Commission had information indicating that 140 lives a year, 125 of those under age five, were lost to fires started by children playing with cigarette lighters.¹⁷⁴

In 1986 and 1987 the Commission conducted field studies that determined that ninety-six percent of the lighters involved in fires were disposable butane lighters, and that most of the children starting the fires were under age five.¹⁷⁵ In 1987 the Commission conducted test studies to determine the child-resistance of existing disposable cigarette lighters.¹⁷⁶ On December 31, 1987, the Commission voted to grant the petition and posted an advanced notice of proposed rule-making.¹⁷⁷

The Commission then began to gather relevant product information and coordinate a number of tests to determine baseline acceptability standards.¹⁷⁸ Pursuant to its research, the Commis-

products, not necessarily causation, it has been suspect. However, the information has been essential in establishing statistically valid national injury estimates. The CPSC relies heavily on this data in establishing its priorities. See LEMOV, *supra* note 155, § 12.03, 12.05.

172. See 16 C.F.R. §§ 1145.16, 1210 (1993).

173. See Safety Standard for Cigarette Lighters, 58 Fed. Reg. 37,557, 37,557 (1993).

174. See *id.* The Commission was unable to determine at that time whether children under five were the principal operators of the cigarette lighters, what types of cigarette lighters were involved, the patterns of behavior of children playing with lighters, or the necessary changes that needed to be made to lighters to decrease the risk. See *id.*

175. See *id.*

176. See *id.* The test involved panels of children to determine child resistance and panels of adults to determine ease of operation by adults. *Id.*

177. See *id.* The advanced notice of proposed rule-making ("ANPR") stated that the Commission was considering a number of alternatives to improve cigarette lighter safety, that the Commission would consider (1) establishing performance requirements, (2) the possibility of changing the existing voluntary standard, and (3) warning label requirements. See *id.* at 37,587-88. The Commission received 13 or more comments to the ANPR and incorporated these comments into its analysis. See *id.* at 37,588.

178. In particular, the Commission found that more than 600 million lighters were purchased in 1991, that 95% of those were disposable cigarette lighters, that 29 million households owned one or more working lighters, and that there are about 50 manufacturers and importers of lighters in the United States. See 58 Fed. Reg. at 37,563-64. The Commission determined that a lighter should be unable to be used by a child 85% of the

sion published a proposed safety standard on February 16, 1993.¹⁷⁹ The safety standard was enacted on June 12, 1993, to take effect one year later.¹⁸⁰

3. Why Not Firearms?

Firearms are excluded from the jurisdiction of the Commission by Section 3(1)(E) of the CPSA.¹⁸¹ William Kimble provides one possible reason for this exclusion:

If the Commission had been unable to reduce the risk of injury by the establishment of a safety standard, it could have declared firearms to be banned hazardous products and excluded them from the market entirely. . . . [I]t was feared that including firearms . . . might run afoul of the Second Amendment.¹⁸²

Michael Lemov notes that certain products, including firearms, were excluded "on the grounds that they were 'now subject to adequate Federal Safety regulation' [and that] Congress 'has yet to determine' if they should 'be subjected to safety regulation of the type envisioned in this bill.'"¹⁸³

The result of this distinct treatment for firearms is that the Commission, with its information gathering and performance regulating abilities, is without power to respond to the dangers presented by firearms as it does for other products. Meanwhile, the BATF, the one agency with direct supervision over firearms, is responsible only for the enforcement of existing regulations.¹⁸⁴

time. *See id.* at 37,560.

179. *See id.* at 37,559. During the information gathering period, The Lighter Association, Inc., an industry group, requested that the Commission adopt as a mandatory standard the voluntary standard being developed by a Commission task group. The Association "endorse[d] a mandatory standard because this would assure that all lighter manufacturers and importers [would] . . . comply and because a mandatory federal standard would preempt state-by-state regulations addressing the risk." *Id.* at 37,558.

180. *See id.*

181. This section excepts any article from the definition of "consumer product" if it is subjected to the tax imposed by Internal Revenue Code § 4181. This is a tax imposed on firearms, shells, and cartridges. *See* WILLIAM KIMBLE, FEDERAL CONSUMER PRODUCT SAFETY ACT 57 (1975).

182. *Id.* at 58.

183. *See* LEMOV, *supra* note 155, § 4.07, 4-13 n.1 (citing H.R. REP. NO. 1153, at 27).

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

II. ARGUMENT

A. *The Context and the Method*

1. Context: Addressing the Nature of the Product

As consumer products, firearms have a unique standing within the American marketplace. That standing is founded on the federal and state constitutional provision of a "right of the people to keep and bear Arms."¹⁸⁵ These provisions, interpreted as safeguards against government tyranny, are reinforced by the public's desire to possess weapons as a means of self-defense and to enjoy a way of life characterized by the sporting use of firearms.¹⁸⁶

In a discussion of automobile safety regulation it was argued that "[t]he private motor car is more than just another 'consumer durable.' . . . That the automobile was, and should be, preeminent-ly a 'freedom machine' [is] not a notion easily tossed aside."¹⁸⁷ To a similar extent a firearm is also valued as a "freedom machine." It is important, then, to be conscious of the values surrounding firearms when structuring a regulatory response aimed at reducing or eliminating the threat to public health that they present.

Gun control opponents tend to view any federal regulation as proceeding farther down a slippery slope toward total destruction of their rights.¹⁸⁸ By addressing only the specific nature of firearms as a consumer product the threat to the public health can be mitigated while respecting the constitutional and cultural values that

185. U.S. CONST. amend. II; see also David B. Kopel et al., *A Tale of Three Cities: The Right to Bear Arms in State Supreme Courts*, 68 TEMPLE L. REV. 1177, 1180 n.13 (1995) (listing state constitutional right to bear arms provisions). A broad discussion of the validity of the common interpretation of the Second Amendment is beyond the scope of this Note. For a contemporary discussion compare Herz, *supra* note 28, at 61 (describing the "constitutional fish story told by the gun lobby, swallowed by the public, and rarely challenged by politicians, the media, or legal scholars") with Cunningham, *supra* note 53, at 60 (arguing that current firearm regulations are flawed policies that are not grounded in the Constitution).

186. See e.g., Baer, *supra* note 5 and accompanying text.

187. JERRY L. MASHAW & DAVID L. HARFST, *THE STRUGGLE FOR AUTO SAFETY* ix (1990) (arguing that auto safety advocates improperly defined the problem as an either-or decision between treating the automobile as "(a) a public health menace, or (b) a technological embodiment of America's political freedom" and asserting that this mistake hindered the success of automobile safety regulation).

188. See Cunningham, *supra* note 53 *passim*.

surround firearms. If the public need for firearms is considered while addressing the performance failures of the existing product the "right to bear" is not infringed while the quality of what is borne is enhanced.

In relation to the ability of unintended users to gain access to firearms and put them to unintended use, it is clear that firearms, as they are currently designed, are unsafe. Child-play becomes injury and death.¹⁸⁹ Adolescent immaturity, frustration, and dysfunction become arrest, assault, suicide, and homicide.¹⁹⁰ A firearm bought for protection or sport becomes a valued instrument for the commission of crime.¹⁹¹

Despite the proliferation of state, local, and federal firearms regulations, their focus on distinguishing between dangerous weapons and dangerous people¹⁹² has failed to protect innocent members of society from ordinary firearms. Criminal sanction for the negligent storage of firearms¹⁹³ is effective only to the extent that it may convince other firearm owners to safely secure their weapons. Despite being market-wide in scope, industry efforts to prevent theft, to childproof, personalize, or to provide a safe firearm¹⁹⁴ have had limited success at preventing unintended misuse.

Various problems exist with the common law products liability scheme as it applies to firearms. Civil liability offers only post-injury remedies and enforces safety standards on manufacturers that vary in effectiveness because they are limited by jurisdictional bounds. The absence of federal standards may in fact weaken product liability standards.¹⁹⁵

Should any state choose to enact mandatory performance standards, they would be limited in effectiveness by their narrow application. The potential for an illegal gun trade from states without such measures would also limit effectiveness. To force uniform industry compliance with such a measure, a large number of states, or a few very populous states, would have to implement similar regulations.

189. See *supra* notes 54-61 and accompanying text.

190. See *supra* notes 62-86 and accompanying text.

191. See *supra* notes 87-93 and accompanying text.

192. See *supra* notes 114-16 and accompanying text.

193. See White, *supra* note 121.

194. See *supra* notes 101-13 and accompanying text.

195. See generally Teresa Moran Schwartz, *The Role of Federal Safety Regulations in Products Liability Actions*, 41 VAND. L. REV. 1121 (1988).

The problems addressed above parallel the rationale for the enactment of the CPSA.¹⁹⁶ Furthermore, the regulatory model created by the CPSA and utilized on products such as cigarette lighters exemplifies regulation at the federal level that is successful at reducing risks associated with the nature of products as they are designed.¹⁹⁷ By applying the CPSA model to firearms it is possible to envision a federally mandated performance standard that addresses the unreasonable risk associated with firearms.

2. The Method: CPSA Scrutiny

The umbrella standard under which the Commission operates specifies that all of its rules must be "reasonably necessary to prevent or reduce an unreasonable risk of injury."¹⁹⁸ Prior to promulgating a standard the Commission must make "appropriate findings," which include:

- (1) the degree and nature of the risk of injury the rule is designed to eliminate or reduce;
- (2) the approximate number of consumer products, or types or classes of consumer products, subject to the rule;
- (3) the need of the public for the consumer products subject to the rule, and the rule's probable effect on the utility, cost, or availability of such products to meet that need;
- (4) any means of achieving the objective of the order while minimizing adverse effects on competition or disruption or dislocation of manufacturing and other commercial practices consistent with public health and safety;
- (5) the rule's potential benefits and costs;
- (6) any reasonable alternatives to the rule;
- (7) significant issues raised by comments;
- (8) that the rule (including its effective date) is reasonably necessary to eliminate or reduce an unreasonable risk of injury associated with the product;
- (9) that the promulgation of the rule is in the public interest;

196. See *supra* notes 154-71 and accompanying text (stating that the CPSA was created in order to help protect the public against unreasonably harmful consumer products).

197. See *supra* notes 172-80 and accompanying text.

198. 15 U.S.C. § 2058(f)(1)-(3) (1994).

- (10) that no other standard would adequately protect the public if the rule declares that the product is a banned hazardous product;
- (11) that if a voluntary safety standard has been adopted, compliance with the voluntary standard will not be adequate or there will not be substantial compliance with the voluntary standard;
- (12) the benefits of the rule bear a reasonable relationship to its costs; and
- (13) the rule imposes the least burdensome requirement which prevents or adequately reduces the risk of injury for which the rule is being promulgated.¹⁹⁹

These requirements create a thorough administrative procedure and a detailed framework for analysis of the proposed firearm standard.²⁰⁰

This analysis will introduce the requirements of the proposed standard and suggest options for regulatory implementation and enforcement within the federal framework. The proposed standard will then be analyzed against the findings required by the CPSA. Before concluding, the major challenges facing such a proposal will be discussed in detail. Throughout the analysis the recent development and implementation of the safety standard for cigarette lighters will be utilized as analogous administrative precedent for the development of a standard for firearms.

B. The Proposal: Command and Control

1. Detailing the Proposal

In stating the purpose and extent of application of the standard for cigarette lighters, the Commission stated that “[t]hese requirements are intended to make the lighters . . . resistant to successful

199. § 2058(f)(1)-(3).

200. Each of these requirements need not be explored for the purposes of this argument. Considering that there are no issues raised by comments to this proposal, (7) need not be considered. In that this proposal is intended to reduce loss of life and money, it is assumed to be in the public interest, thus (9) will not be considered. In that this proposal does not involve declaring firearms to be a banned hazardous substance, (10) will not be considered. Also, in that there are no industry-wide voluntary standards, (11) will not be considered. To avoid duplication of analysis, (5) and (12) will be considered together in the cost-benefit section, as will (4), (6) and (13) in the analysis of alternatives. To simplify the analysis, (3) will be divided into two parts.

operation by children younger than 5 years of age. This standard applies to all disposable and novelty lighters."²⁰¹

The proposed safety standard for firearms has a singular purpose that is achieved by linking two requirements. Its intent is to reduce unintended uses of firearms by unintended users. The proposed standard's requirements are intended to make all firearms resistant to successful operation by children under age five and by individuals who are not the legitimate owner or user.

To achieve these goals, it is necessary that the firearm safety standard contain several performance requirements similar to those created by the Commission for cigarette lighters.²⁰² The proposed standard would require that:

(a) The mechanism or system of a firearm that makes the product resist successful operation by children must:

- i. reset itself automatically after each operation of the triggering mechanism of the firearm;
- ii. not impair safe operation of the firearm when in normal use;
- iii. be effective for the expected life of the firearm;
- iv. not be easily overridden or deactivated by a child under the age of five; and
- v. if tampered with, disable the firearm.

(b) The mechanism or system of a firearm that makes the product resist successful operation by anyone who is not the owner of the firearm must:

- i. reset itself automatically when the firearm is reloaded;
- ii. not impair safe operation of the firearm when in normal use;
- iii. be effective for the expected life of the firearm;
- iv. not be easily overridden or deactivated;
- v. operate only one firearm;

201. 16 C.F.R. § 1210.1 (1993).

202. The cigarette lighter regulation requires that "(a) [the] lighter . . . shall be resistant to successful operation by at least 85 percent of the child-test panel. . . . (b) [t]he mechanism or system of a lighter . . . that makes the product resist successful operation by a child must: (1) reset itself automatically after each operation, . . . (2) not impair safe operation of the lighter when used in a normal and convenient manner, (3) be effective for the reasonably expected life of the lighter, and (4) not be easily overridden or deactivated." § 1210.3.

- vi. not be easily discovered; and
- vii. if tampered with, disable the firearm.

An example of how a modified handgun would perform under this standard provides a mental image of what this proposal demands. Modifications similar to those included in the lemon squeezer may sufficiently childproof a handgun.²⁰³ Added to these modifications, however, would be some form of personalization mechanism. This may consist of a simple key carried by the owner that unlocks the triggering mechanism of the firearm. Thus, to operate such a handgun the user would first have to unlock the personalization mechanism, then apply sufficient pressure to the child-resistance mechanism before pulling the trigger.

The necessity for each of the proposal's requirements deserves explanation. Section (a)(i) is the most important as it provides for a permanently child-resistant firearm. The mechanism must automatically reset after each shot to eliminate the risk that the mechanism can be left disengaged. Like the existing firearm "safeties,"²⁰⁴ such a risk would reduce the potential benefits of child-resistance in that firearms would still be operable by children when the mechanism is either intentionally or unintentionally left disengaged.

The personalization mechanism, however, functions more like a "safety." Section (b)(i) allows for uninterrupted use of the firearm between reloading. Although this will result in a potential "off" period for the personalization device, it is necessary for the proper functioning of the firearm. The safest option is to require deactivation of the personalization device after every shot. This requires, however, the repeated deactivation of the personalization mechanism. Such a requirement would adversely affect the utility of a firearm.

At the other extreme, the personalization mechanism could be completely elective and only activated by the conscious decision of the user. Like existing safeties, then, personalization would be only an additional feature. Thus, by resetting at reloading or at the user's election, practicality is balanced with safety. The mechanism will allow the owner to keep a firearm for emergencies without

203. See *supra* notes 101-02 and accompanying text (discussing the function of the lemon squeezer).

204. See *supra* note 103 and accompanying text.

having to worry about disengaging the personalization mechanism. If the firearm is stolen while the personalization mechanism is deactivated it could be used, but only until it needed more ammunition.

Sections (a)(ii) and (b)(ii) insure that the mechanisms do not interfere with the intended use of the firearm. This is necessary to insure that the modified firearms are safe for the user and still function as desired. Sections (a)(iii) and (b)(iii) insure that both mechanisms will last as long as the firearm. Sections (a)(iv) and (b)(iv) make certain that neither mechanism can be bypassed by its focus group. This is to prevent "hotwiring" of firearms, whereby the safety devices could be permanently disengaged without affecting the function of the firearm.

Section (b)(v) requires that the method for disengaging the personalization mechanism must be effective only for one firearm. This prevents the foreseeable circumstance in which the key for one type of firearm unlocks all firearms of that type. Like a padlock or the ignition of an automobile, this requirement mandates a combination or key-specific firearm. The child-resistance section does not have this requirement, as one method may be suited for many types of firearms.

Section (b)(vi) requires that the method for disengaging the personalization mechanism, be it a key or a combination, must be difficult to obtain in the event that a firearm is stolen. A receipt, registration, or some other proof of ownership are examples of what can be required before a key copy or combination is issued. Sections (a)(v) and (b)(vii) further guard against possible "hotwiring" of a firearm by requiring that the triggering mechanism be disabled if either mechanism is tampered with.²⁰⁵

2. Regulatory and Enforcement Alternatives

This proposal could be implemented in at least two ways. Firearms could be brought into the jurisdiction of the Commission with a proviso that they would not be labelled as barred hazardous substances. This alternative was presented to Congress in 1991 within the Gun Safety Act.²⁰⁶ The Act was referred to the Com-

205. Certainly gunsmiths and manufacturers should have the ability to repair any broken personalization mechanism. However, it is suggested that gunsmiths be required to obtain proof of ownership before conducting any repair.

206. Statements on Introduced Bills and Joint Resolutions, S892, 102d Cong. 1st Sess.,

mittee on Commerce, Science, and Transportation, but was not enacted.²⁰⁷

The regulation of automobile safety provides another regulatory model. Although automobiles in a generic sense are consumer products, Congress regulates their safety through a distinct entity—The National Highway and Traffic Safety Administration (“NHTSA”). Formed pursuant to the enactment of the National Traffic and Motor Vehicle Safety Act,²⁰⁸ the NHTSA is a structural predecessor of the Commission.²⁰⁹ The NHTSA was required to establish “appropriate federal motor vehicle safety standards.”²¹⁰ It implemented a system of studying automobile accidents and made it an offense to offer for sale or introduce into interstate commerce any non-conforming vehicle.²¹¹ NHTSA standards were also to be minimum performance standards.²¹²

Thus, at least two regulatory alternatives are available. Firearms could be included in the multi-subject jurisdiction of the CPSC, with limitations on the Commission preventing it from banning firearms. On the other hand, a single-subject regulatory agency similar to the NHTSA could be empowered with oversight of firearm safety. The parallel structures of Commission and NHTSA authority serve as an effective federal regulatory model for the improvement of firearm safety.

C. CPSC: Required Findings

1. Degree and Nature of the Risk of Injury

The Commission noted that the cigarette lighter safety standard was “designed to reduce the risk of death and injury from acciden-

137 Cong. Rec. S5854 (April 23, 1991) (remarks of Sen. Howard Metzenbaum). A report within that proposal contains a comprehensive study conducted by the General Accounting Office of accidental firearm deaths and injuries and the relative reduction of these numbers that would be achieved by including child-resistance or load-indicating mechanisms. *See id.*

207. *See id.*; Bill Tracking Report, 102d Congress, 1st Session, S 892 Gun Safety Act of 1991.

208. Pub. L. No. 89-563, 80 Stat. 718 (repealed by Pub. L. No. 103-727, 100 Stat. 941 (1994)).

209. *See MASHAW & HARFST, supra* note 187, at 4.

210. *Id.*

211. *See id.* at 48.

212. *See id.* at 47.

tal fires started by children playing with lighters.”²¹³ The Commission cited the annual amount of property damage, the number of lives lost, and the number of injuries caused by these fires.²¹⁴ Injuries included thermal burns, anoxia, and others that were less serious.²¹⁵ The Commission concluded that “[f]ires started by young children (under age 5) are those which the standard would be most effective at reducing.”²¹⁶

The nature of the risk the proposed firearm safety standard intends to reduce is the risk of death and injury from accidental shootings caused by young children playing with firearms, the risk created by the availability of firearms for accidental misuse or for use in suicide and crime by adolescents, and the risk created by the availability of stolen firearms for use in crime.

Roughly 500 children and teenagers die each year from accidental firearm discharges, while perhaps five times that many are injured.²¹⁷ The annual suicide rate for adolescents is around 1,500, with the vast majority of these involving a firearm.²¹⁸ Adolescent possession of firearms has also resulted in violent death in schools, increased arrests for firearm possession, and increased juvenile firearm homicide.²¹⁹ Approximately 500,000 firearms a year are stolen in robberies of homes and commercial operations and many of these are used in crime.²²⁰ These unintended uses by unintended users also result in hundreds of millions of dollars of costs each year.²²¹

The degree to which these risks would be reduced will depend on many factors. Modified firearms would initially compose only a small percentage of the total firearm market.²²² Although the initial percentage of the total market occupied by the modified firearms would be small, it would still represent millions of firearms. Factored into this will be the effective success rate of the firearms

213. See Safety Standard for Cigarette Lighters, 58 Fed. Reg. 37,587, 37,587 (1993).

214. See *id.*

215. See *id.*

216. *Id.*

217. See *supra* note 58-61 and accompanying text.

218. See *supra* note 84-86 and accompanying text.

219. See *supra* notes 71-83 and accompanying text.

220. See *supra* notes 87-92 and accompanying text.

221. See *supra* notes 95-100 and accompanying text.

222. If the market average of 4.3 million modified firearms were to be introduced in the first year, the number of safer firearms would represent less than 2% of the market.

designed under the specifications of this standard. Even assuming that the child-resistant firearms, as with the cigarette lighters, would have an eighty-five percent child-resistance rate,²²³ the yearly reduction of death and injury would increase along with the increasing percentage of safer firearms in the market. In time, when the vast majority of firearms in the market are child-resistant, the number of accidents involving children will begin to be reduced by up to eighty-five percent.

With the personalization mechanism the degree of reduction is more difficult to estimate. If the mechanism were completely resistant to use by anyone who does not possess the means for disengaging it, then success will depend on such factors as the number of times the device is activated between reloading, the difficulty of acquiring the method for deactivation, in addition to the percentage of the market held by the safer weapons. Again, the initial reduction would be small. It would increase over time, however, with the introduction of the safe firearms.

2. Number and Type of Consumer Products to be Regulated

The Commission noted that the cigarette lighter standard covers "certain flame-producing devices . . . primarily intended for use in lighting cigarettes and other smoking materials."²²⁴ Lighters subject to the rule are gas- or liquid-fueled, mechanical or electric, and of various physical configurations.²²⁵ Six hundred million are sold each year, with 100 million in use at any given time. Ninety-five percent are pocket-sized disposable butane lighters, while the other five percent are mostly pocket-sized refillable butane lighters.²²⁶ Thirty million households have at least one, while ownership of more than one is typical in most households, especially those with smokers.²²⁷

All types and classes of firearms produced after the implementation of the proposal would be subject to the performance standard. Depending on the market, anywhere from 3 to 5.7 million firearms are produced each year, with an annual industry average since 1973 of 4.5 million.²²⁸ In 1994, the most recent year with

223. See *supra* note 203.

224. See Safety Standard for Cigarette Lighters, 58 Fed. Reg. 37,587, 37,587 (1993).

225. See *id.*

226. See *id.*

227. See *id.*

228. See Market Analysis, *infra* p. 1024.

comprehensive production figures, domestic firearm manufacturers produced almost 2.6 million handguns and approximately 2.5 million rifles and shotguns.²²⁹ Half of all American households own a firearm, with an average of 4.1 firearms in each of these homes.²³⁰

3. Public Need for the Product

In analyzing the public need for cigarette lighters, the Commission noted that “[c]onsumers use lighters primarily to light smoking materials.”²³¹ It was also noted that lighters fulfill the same need filled by matches, and that disposable butane lighters are the closest substitute for matches because of their convenience and low price.²³² The Commission found that since the 1960s lighters have steadily replaced matches as the product preferred by American consumers.²³³

Legitimate consumer needs served by firearms include sport, collection, and self-defense. For members of the public who own firearms as a safeguard against government tyranny, there is no substitute. Some sporting needs could be met by cross-bows or non-powder firearms. It is unlikely, however, that the consumer demand for firearms used in sport would be totally replaced. Similarly, it is unlikely that consumers who choose firearms for self-defense would choose to protect themselves instead with stun-guns, pepper mace, or any other similar products. Firearms produced under the proposed standard may be valued as much as collectibles as those currently in production, thus that need will likely be unaffected.

4. Effects of Proposed Standard

In addressing the effects of its standard on the utility of cigarette lighters, the Commission noted that performance modifications would require “additional-action switches, levers, or buttons, thereby increasing the difficulty of product activation.”²³⁴ The Commission noted that, depending on the method chosen by the manu-

229. *See id.*

230. *See supra* notes 29-30 and accompanying text.

231. Safety Standard for Cigarette Lighters, 58 Fed. Reg. 37,587, 37,587 (1993).

232. *See id.*

233. *See id.* at 37,587-88.

234. *See id.* at 37,588.

facturer, the result may be increased difficulty of use by adults.²³⁵ This, it was noted, would reduce effectiveness of the standard because some users would rely on matches instead.²³⁶ It was also recognized that some types of lighters would be discontinued.²³⁷

The Commission recognized that in order to implement the mandated modifications, cigarette lighter manufacturers would be faced with expenses in areas such as "research and development, product redesign, tooling and assembly process changes, certification and testing, and other administrative activities."²³⁸ It was estimated that "[t]otal per unit cost/production costs for the various lighter types may increase by . . . an average of less than 20 percent."²³⁹ The Commission noted that these costs would be borne by the manufacturer and passed off to the consumer in the form of higher retail prices.²⁴⁰

Despite these problems, the Commission determined that the cost increase would be well offset by the benefits, that a wide range of lighters would still be available, and that those models that were discontinued would not have a significant impact on what is available to serve the consumer need.²⁴¹

The relative sophistication of the technology used to achieve the proposed standard for firearms would have varying effects on the utility that is necessary to meet the consumer need. The challenge for manufacturers will be to present a product that satisfies the requirements of the proposed standard in a low-cost manner and with as little effect on the utility of the weapon as possible.

Suggestions for low-tech personalization mechanisms include combination or push-button locking devices,²⁴² automatic locks,²⁴³ or locks with keys. Low-tech child-resistance measures

235. *See id.* Anyone who has used a modified lighter understands the term "increased difficulty."

236. 58 Fed. Reg. 37,587.

237. *See id.*

238. *See id.*

239. *See id.* at 37,588.

240. *See id.*

241. *See* 58 Fed. Reg. at 37,588.

242. *See* Sabra Chartrand, *Patents*, N.Y. TIMES, Aug. 8, 1996, at C6 (reporting that two Florida inventors have patented an owner-installed combination lock for handguns).

243. *See* Katherine Kaufer Christoffel, *Toward Reducing Pediatric Injuries From Firearms: Charting a Legislative and Regulatory Course*, PEDIATRICS, Aug. 1991, at 294, 297-99, 301 (proposing several measures including engineering modifications like muzzle ve-

may include dual-action requirements such as those of the lemon squeezer, built-in trigger guards suited for adult hands, or trigger-pull requirements beyond the strength of children.²⁴⁴

Suggestions for high-tech personalization devices have included palm-print activation devices²⁴⁵ and computer chips or voice recognition devices.²⁴⁶ Similar measures could be implemented to make the product child-resistant. Low-tech modifications would certainly make the use of the firearm more cumbersome. High-tech alterations may also decrease ease of use, but potentially to a lesser extent.

The ease of use of firearms, however, is exactly the problem that results in the unintended misuses documented above. If firearms are made more cumbersome it is a sacrifice that must be made to increase safety. This added difficulty should only be considered to the extent that it may render the firearm completely unusable for its intended use. Leaving the design to the manufacturer will likely ensure that ease of use is a primary consideration in the modification.

Regardless of the specific design modification chosen by manufacturers, the cost of producing firearms subject to this proposal will be higher than those produced now. High-tech alternatives may be simpler to use, but may prove to be too expensive for some consumers.²⁴⁷ As with cigarette lighters, manufacturers' costs would be passed on to consumers in the form of higher retail prices. These increased per unit costs should be viewed as an internalization of the costs of lives lost and health care dollars spent because of unintended consequences—albeit at a lesser rate.²⁴⁸

locity limits, loading indicators, and automatic trigger locks).

244. *See id.*

245. *See* Lea Sitton, *Move Seeks to Regulate Gun as Consumer Product*, NEW ORLEANS TIMES-PICAYUNE, May 8, 1994, at A7.

246. *See* Aborn, *supra* note 132, at 1221 (suggesting computer chip with a corresponding encoded ring for the shooter).

247. *See* Sitton, *supra* note 245 (quoting a spokesman for Smith & Wesson who noted that "requiring manufacturers to install high-tech safety features would price the product out of the average gun owners reach").

248. *Compare supra* notes 94-100 and accompanying text (documenting some of the costs for unintended uses in 1985) *with infra* notes 261-63 and accompanying text (discussing the potential annual costs of a 20% increase in sales price per firearm). The current federal tax on firearms, which brought in \$164 million in 1992, also fails to compensate for these costs. *See* French, *supra* note 114 at 1043.

It is also likely that some firearms unable to incorporate these modifications would be discontinued. Some handguns are dangerous as manufactured because of delicate triggering mechanisms.²⁴⁹ Nonetheless, a large variety of firearms will likely remain available under the proposed safety standard.

5. Reasonable Necessity of the Standard

The Commission noted that research on cigarette lighters “demonstrate[d] that lighters covered by the standard pose an unreasonable risk of death and injury to consumers.”²⁵⁰ The Commission allowed cigarette lighter manufacturers one year before the new standard became effective. It did so to “provide manufacturers and importers . . . adequate time to design, produce, and market safer lighters.”²⁵¹ Fearing that manufacturers would increase production of cigarette lighters before the standard’s effective date, the Commission also provided a safeguard against stockpiling.²⁵²

It would also be necessary to include such measures and safeguards within the proposed firearm safety standard. Design modifications and testing procedures of the magnitude required by the proposed standard would certainly take time, as would refitting the production process and marketing the safer firearms. Firearm manufacturers should be given sufficient time to carefully develop the necessary modifications, implement the production changes, and market the redesigned products to the public. This process could be supplemented by cooperation in testing and design by the regulatory body overseeing the standard’s implementation. One year may be adequate, but further study of the manufacturing process and the needs of producers would be necessary to determine the effective date.

Stockpiling should be guarded against in this proposal as well. Firearm production statistics show production increases of approxi-

249. *See* *Rock v. Arkansas*, 483 U.S. 44, 47 (1987) (discussing the delicate trigger mechanism of the Hawes .22 Deputy Marshal, a handgun that “was defective and prone to fire, when hit or dropped, without the trigger’s being pulled”); Christopher D. McKinney et al., *Accidental Deaths Involving Derringer Handguns: A Report of Three Cases*, J. OF FORENSIC SCI., May 1990, at 730 (reporting three different cases where a Derringer discharged when dropped, killing its owner).

250. *See* Safety Standard for Cigarette Lighters, 58 Fed. Reg. 37,557, 37,588 (1993).

251. *Id.*

252. *See id.* at 37,591. Manufacture or import of cigarette lighters could not exceed a rate set by the standard. The stockpiling provision provided a rate set at a previous production or importation baseline plus twenty percent. *See id.*

mately two million firearms between 1992 and 1993.²⁵³ Thus, the potential exists for substantial increases in production in response to a regulation such as this that would significantly alter the product. If a comfortable baseline for production was established, perhaps at industry average over the previous five or ten years, it would prevent manufacturers from overproducing the more dangerous and less expensive firearms and adding these to the existing supply.

The research conducted into the unintended uses of firearms by unintended users documents the extent of the unreasonable risk posed by firearms as they are currently designed. This risk parallels that presented by other products before the enactment of the CPSA.²⁵⁴ It is reasonable to assume that consumers are aware of the risks associated with firearm ownership. These risks rise to the level of unreasonableness as consumers may not be able to comprehend the damage done to society by the frequency and severity of unintended misuses of firearms. Although the firearms industry provides methods to cope with this risk in the form of add-on trigger locks or gun safes,²⁵⁵ these methods are not employed to the extent needed to avoid significant costs to society. Consumers may be willing to pay the price that would be associated with reducing or eliminating the risk by adding child-resistance and personalization features to firearms.

When a loaded firearm is left within reach of children, whether or not its safety is engaged, there is little that stands in the way of the risk being realized. If a firearm is not kept in a lock box or guarded by a trigger lock, there is nothing in the design of a firearm that prevents an adolescent or a thief from taking possession of the weapon and putting it to ill use. These risks make it apparent that it is reasonably necessary that firearms should have greater safety included in their design.

253. See Market Analysis, *infra* p. 1024.

254. See *supra* notes 154-60 and accompanying text. The NCPS, in discussing the concept of unreasonable risk:

[S]uggested that even though a risk may be associated with the use of a particular product, it may still be unreasonable if 'consumers do not know that it exists . . . are unable to estimate its frequency or severity . . . do not know how to cope with it,' or if it can be reduced or eliminated at a price the consumer is willing to pay.

LEMOV, *supra* note 155, § 1.09, at 1-12 to 1-13.

255. See *supra* notes 104-10 and accompanying text.

6. Cost-Benefit

The Commission concluded that the benefit derived from the cigarette lighter standard "strikes the most reasonable balance between risk reduction benefits and potential costs."²⁵⁶ The Commission estimated that the \$385 million annual loss in lives, injuries, and property would be reduced by \$205-270 million, evidencing a net gain of between \$115-180 after factoring in the increased consumer cost.²⁵⁷ The Commission estimated that there would be a fifteen to twenty percent per unit price increase for cigarette lighters.²⁵⁸ At that rate, it was estimated that the total annual increase in cost to consumers would be \$90 million, for less than a \$1 million cost per life saved.²⁵⁹

It should be noted that the cost of creating that savings would be born substantially by the consumers of cigarette lighters, those benefitting from their ease of use. The same can be said of the costs of the proposed firearm safety standard. Those bearing the burden of the increased cost will be those benefitting from the use of the product. In this way the regulation shifts the burden from those affected by unintended use to those whose needs are served by the product.

A cost-benefit analysis of a standard requiring personalization and child-resistance of firearms is hindered by several variables. These variables form a complex equation that defies any simple explanation of costs and benefits. On the cost side, it is difficult to determine how much the retail price of firearms would be increased. It can be assumed that firearm manufacturers will likely pass the increased prices of research, development, manufacture, and marketing along to the consumer in the form of higher retail prices. However, without further research into these costs, the best that can be managed is only an estimate of the per unit percentage increase.

Between 1973 and 1994 an average of 4.5 million firearms were introduced into the market each year.²⁶⁰ Using a price of \$500.00 per unit, which represents the median price of the hand-

256. See Safety Standard for Cigarette Lighters, 58 Fed. Reg. 37,557, 37,588 (1993).

257. See *id.*

258. See *id.* at 37,566.

259. See *id.* at 37,588.

260. See Market Analysis, *infra* p. 1024.

gun, rifle, and shotgun prices cited above,²⁶¹ and an assumed price increase of twenty percent,²⁶² the increased cost to consumers would be \$430 million in an average year.

There are even more variables on the benefit side of the analysis. The annual benefit to society will be measured by the effective rate at which the design improvements reduce unintended misuses, and the percentage of the market composed of these safer firearms. This effective rate is the combined actual rates of reduction for the child-proofing and personalization mechanisms. As noted, the actual rate of reduction for the child-proofing mechanism may be fixed (for example, at complete resistance to eighty-five percent of a child test panel;²⁶³ while the actual rate of reduction for the personalization mechanism will largely depend on consumer behavior (for example, modified firearms may be personalized forty percent of the time). The percentage of the market occupied by the safer firearms will depend on their annual sales and the amount of older weapons removed from the supply.

The market percentage may be an unreliable variable as overall benefit may be more accurately gauged by the percentage of households with safer weapons. If the fifty percent ownership rate remains constant, as it has over the last forty years,²⁶⁴ then the safer firearms will likely result in a growing percentage of safer households. Some households, however, will be adding a safer firearm to an arsenal of unsafe weapons. The new households that choose as their first firearm a personalized and child-resistant firearm, however, will have only safe firearms. Thus, the risk reduction in some households will be closer to the effective rate of the safer firearms, while the risk reduction in others will be less significant.

The benefits to society would be measured by reducing the annual cost to society of firearm violence, estimated in 1985 at \$750 million for some unintended uses,²⁶⁵ by the overall reduction rate. In an average year the increased consumer cost of \$430

261. See *supra* notes 32-35 and accompanying text.

262. This percentage increase is not meant to imply that the cost of manufacturing safer firearms will parallel that of manufacturing safer cigarette lighters. It is chosen only for the sake of estimating increased costs.

263. See *supra* note 203 and accompanying text.

264. See *supra* notes 29-32 and accompanying text.

265. See *supra* notes 94-100 and accompanying text.

million would be subtracted from the monetary benefit achieved by the effective reduction rate to determine the net gain to society.

7. Alternatives

The Commission considered the merits of many alternative solutions to the cigarette lighter problem throughout its decision making process. It decided against allowing for a voluntary standard, worked to insure that the standard was the least burdensome requirement on industry and consumers, studied different performance and test requirements, considered different definitions for the scope of the standard, and worked to minimize effects on competition and business practices.²⁶⁶ The Commission incorporated some alternatives into its standard and concluded that none of the other alternatives "would have higher expected net benefits than the [final] standard."²⁶⁷

This analysis of alternatives to the personalization and child-resistance standard will consist of a discussion of any reasonable alternatives, and any alternative means of implementing the standard that minimizes effects on competition, manufacture, and commercial practices. The analysis will also consider whether the rule imposes the least burdensome requirement that adequately reduces the risk.

One alternative to this proposal relates to scope. As presented, this proposal covers all firearm makes, models, and classes. It is necessary for this standard to cover all types of firearms in order to achieve maximum effectiveness. While one type of firearm may be less frequently misused in a particular manner, it may be more frequently misused in another fashion. For example, the primary weapon used in crime and suicide is the handgun.²⁶⁸ Nonetheless, shotguns and rifles still account for a significant percentage of these misuses. Thus, the highest possible effective reduction rate of unintended uses is achieved by including all types of firearms.

Another alternative in scope would be to require only one of the safety features. Minimizing the effect of the proposed standard to include only childproofing would certainly begin to reduce the number of lost lives every year, but a vast number of unintended uses would persist. By just personalizing firearms, many unintended

266. See Safety Standards for Cigarette Lighters, 58 Fed. Reg. 37,557, 37,588 (1993).

267. *Id.*

268. See Aborn, *supra* note 132, at 418.

uses would be avoided, but the danger would still remain for children who may gain access to firearms with the personalization mechanism deactivated.

Additional features could be added to the standard to further improve firearm safety. Requiring a load indicator would be another method of reducing accidental deaths and injuries in adults. A load indicator would make it clearly visible to the handler of the firearm that the firearm is loaded. This alternative requirement was presented to Congress as part of Brady II.²⁶⁹ The study conducted for that act determined that load indicators may avert up to two-thirds of all accidental firearm injuries and deaths, as many of them occur when the user is not aware that the weapon is loaded.²⁷⁰

The proposed standard sets the child-resistance limit at five years of age.²⁷¹ This age was chosen in part because accidents involving children that age or younger are a result of children playing with weapons.²⁷² In a recent study comparing the hand strength of children to their mothers, it was found that at age five children begin to develop more substantial strength.²⁷³ The study noted that the average handgun requires less than ten pounds of pressure to pull its trigger.²⁷⁴ With children using two fingers and their mothers using one, it was found that twenty-five percent of three to four year-olds, seventy percent of five to six year-olds, and ninety percent of seven to eight year-olds could operate a trigger with ten pounds of resistance, while ninety five percent of the mothers could do the same.²⁷⁵

Another factor in setting the five-year-old limit was the experience of the Commission in establishing the standard for cigarette lighters. In doing so, they realized that the older the child is the

269. See *supra* note 139 (quoting specific language from the Act).

270. *Id.*

271. See *supra* notes 203-04 and accompanying text.

272. See Choi et al., note 58 and accompanying text.

273. Of the sixty-five handguns tested, 59 required less than 10 pounds of pressure, and 40 of these required less than 5 pounds. See Sara M. Naureckas et al., *Children's and Women's Ability to Fire Handguns*, 149 ARCH. OF PEDIATRICS AND ADOLESCENT MED., 1318, 1320 (1995).

274. See *id.*

275. See *id.* That study also noted that one objective in improving health for the nation is working toward implementing fifty state laws that minimize the likelihood of firearm discharge by children. See U.S. PUBLIC HEALTH SERVICE, HEALTHY PEOPLE 2000: NATIONAL HEALTH PROMOTION AND DISEASE PREVENTION OBJECTIVES (1991).

more difficult it is to create an effective child-resistance standard.²⁷⁶ Raising that age limit would necessarily increase the burdens on manufacturers by requiring that the child-resistant devices be more complicated. Conversely, lowering that standard would likely fail to create significant benefits.²⁷⁷

Should the child-resistance and personalization aspects of this proposal be left to firearm manufacturers to conform with via a voluntary standard, it is likely that the problems identified would be similar to those noted by the Commission in relation to cigarette lighter manufacturers. The Commission was primarily concerned that the level of conformance with a voluntary standard would be unacceptable.²⁷⁸ Even allowing for generous estimates of industry compliance, the Commission noted that reliance on a voluntary standard would not "adequately reduce the unreasonable risk associated with lighters."²⁷⁹

It is important to consider the effects that a mandatory standard would have on competition, manufacturing, and existing commercial practices of firearm manufacturers. With a particular focus on small businesses that would be affected by the cigarette lighter standard,²⁸⁰ the Commission "adopted [alternatives] if they would not reduce the expected annual net benefits of the rule."²⁸¹ The proposed standard for firearms would have a significant impact on the existing manufacturing process, commercial practices, and competitive nature of the industry. By creating the performance standards detailed above, but leaving the details of the modification to the manufacturers, the incentive will be in place for manufacturers to solve the problem at the least cost to themselves, and extending that least-cost solution to consumers in the way of the minimum increase in retail price. Different manufacturers could then develop different solutions to the same problem, allowing for retail sales competition to define what is the most desired modification by the consumer.

276. See Safety Standard for Cigarette Lighters, 58 Fed. Reg. 37,557, 37,588 (1993).

277. See Unintended Fatality Chart, *infra* p. 1025 (noting the accidental fatalities and the age at which they occur).

278. See 58 Fed. Reg. at 37,588.

279. *Id.*

280. See *id.* This focus is required by the Regulatory Flexibility Act, 5 U.S.C. §§ 601-12 (1994).

281. 58 Fed. Reg. at 37,574.

However, some manufacturers, especially the smaller firms, would likely fall behind in such an open race. Because of this, the implementation of the proposed standard should be conducted in such a way so as to minimize the impact on the more sensitive elements of the industry. Be it managed by the Commission or a similar regulatory body, the transition would best be accomplished by industry-administration cooperation. When it developed the standard for cigarette lighters, the Commission conducted all of the testing needed to establish the standards. If one solution is found that best satisfies the requirements of the standard, government licensing of the successful design patent would minimize the impact on small firearm manufacturers.

D. Addressing the Challenges

Several problems with the proposal remain that were not discussed in sufficient detail above. Primary among these is the problem of the approximately 230 million unsafe firearms already in circulation. One commentator noted that “[i]mplicitly, any curb on the production of weapons likely would prove fruitless as a short-term solution to the supply of guns on the street.”²⁸² Similarly, any improvement in the performance of firearms would be faced by the challenge presented by the existing supply of firearms that do not perform as safely. Assuming that obsolescence would have a minimal effect on the existing supply of firearms, and that the amount of firearms produced would reflect the recent industry average, this proposal would result in a market composed of only small percentage of safer firearms. With 230 million unsafe weapons, less than two percent of the market would be composed of safer firearms provided that the first year’s production reflected the industry average of 4.3 million.

One solution to this problem that is within the power of both the Commission and the NTHSA is the product recall option. Such an option creates problems like those faced by the drafters of the CPSA when choosing to exempt firearms. Declaring all existing firearms defective and subjecting them to a recall order would result in enormous political and logistical problems. These problems would likely prove so significant as to make such an option completely impracticable.

282. Cunningham, *supra* note 53, at 238 n.20.

It would be better to provide for retro-fitting or destruction of unsafe firearms at the election of the owner. Federal, state, or local governments could provide for destruction of the more dangerous weapons. Some municipalities have used gun buy-back programs, with varying success, to remove weapons from circulation in an effort to decrease crime.²⁸³ Additionally, manufacturers and gunsmiths could provide for the permanent addition of child-resistance and personalization devices to previously manufactured weapons. These approaches may hasten the removal of unsafe weapons from the market.

The most practicable and workable long-term solution is to create safer firearms and be patient. Considering the usable life of a firearm,²⁸⁴ it is likely that relying on obsolescence alone would take anywhere from twenty to fifty years to reach a substantial reduction of the volume of the more dangerous weapons. Consumer behavior and incentive programs could accelerate this decrease. Because an average of 4.3 million new firearms are produced every year, the immediate impact of the introduction of safer firearms would still be substantial. With the proposed standard in place, time would be on the side of the safer firearms.

As mentioned above, there is the possibility that the safer firearms would have a greater impact than is measured by their market percentage. Because half of American households own a firearm, and because that number has remained relatively constant, some households would be adding a safer firearm to a collection of unsafe firearms, while other households would possess only a safer firearm. Potentially, then, the number of households owning an unsafe firearm would remain the same, while the number of households owning safer firearms would increase over time.

Certainly, there are foreseeable problems with the consumer reaction to firearms produced under the proposed standard. Dr. Christoffel has noted that a sense of safety may breed carelessness.²⁸⁵ Thus, the effective reduction rate of the safer firearms

283. See Ann Belser, *Gun Buy-Back Program Begins*, PITTSBURGH POST-GAZETTE, Dec. 2, 1995, at C2; *9 Gun Buy-Back Sites Set in N.O., Jefferson*, TIMES-PICAYUNE (New Orleans) Dec. 1, 1995, at B4; Ellen O'Brien, *352 Guns Turned in During '95 Buy-Back*, BOSTON GLOBE, Nov. 1, 1995, at 20.

284. See *supra* note 12 and accompanying text.

285. Katherine Kaufel Christoffel, *Toward Reducing Pediatric Injuries From Firearms: Charting a Legislative and Regulatory Course*, PEDIATRICS, Aug. 1991, at 294, 301 (noting that people might become careless, thinking that they have "safe" guns).

may be reduced by a greater number of consumers choosing to leave their weapons loaded or otherwise relaxing their guard around firearms. Consumers may also want to disengage both protective measures if they felt they were unnecessary.²⁸⁶ Thus, the requirement that the mechanisms be difficult or impossible to disengage is essential.

The standard also provides that the personalization mechanism can be left disengaged between reloading. While this is necessary to allow for necessary functioning of the firearm during use, it presents some problems. Although the child-resistant mechanism should remain engaged after every use, children able to circumvent the childproofing feature would then have access to a firearm able to discharge. Adolescents and criminals would certainly be able to operate a weapon with the personalization feature left disengaged and be able to use it until the ammunition runs out. Thus, the proposed standard still requires consumers to use firearms in a responsible fashion.

CONCLUSION

The place firearms occupy within the American marketplace, in quantity, function, and mystique, has created a tragic and violent conundrum. Any solution is likely to be complicated and problematic. This proposed solution is no different. Firearms are a peculiar consumer good in that they are specifically mentioned in the Constitution, meet certain consumer needs for which they alone are suitable, yet remain available for use by any individual for any purpose. This peculiar nature results in a substantial and unreasonable risk to the public health. A significant measure of this unreasonable risk can be reduced by requiring that all firearms are child-resistant and personalized. Mandatory performance requirements may be a workable approach to improving firearm safety. By respecting the cultural values that surround firearms and the consumer needs satisfied by firearms, the CPSA approach allows consumers to use firearms for their intended purpose albeit with potentially greater difficulty. This approach, however, begins to eliminate the numerous tragic deaths and injuries that result from firearm misuse by children, adolescents and criminals. Obvious problems remain,

286. See Sitton, *supra* note 245 (interviewing an industry representative who stated that consumers would always want to undo the mechanisms).

but the nature and gravity of the tragedy that unfolds in our society on a daily basis must be addressed. If not, we can expect more of the same: child-play becomes death; adolescent depression and dysfunction become suicide, homicide, and violent crime; easy access becomes criminal use. The problem-solving model utilized to great effect by the Commission presents one method of reducing that damage.

JAMES T. DIXON

TABLE 1. DOMESTIC FIREARM MARKET ANALYSIS								
Year	Handguns	Rifles	Shotguns	Total Produced	Export #	Export %	Import	Total
1973	1,734,154	1,836,730	1,271,428	4,842,312	278,920	5.8%	859,000	5,422,392
1974	1,714,989	2,104,650	1,803,240	5,622,879	336,685	6.0%	1,113,000	6,399,194
1975	2,023,601	2,126,470	1,595,053	5,745,124	421,510	7.3%	793,000	6,116,614
1976	1,832,785	2,112,022	1,336,858	5,281,665	482,608	9.1%	918,000	5,717,057
1977	1,879,645	1,932,773	1,225,043	5,037,461	555,480	11.0%	751,000	5,232,981
1978	1,877,077	1,787,591	1,195,876	4,860,554	541,422	11.1%	1,040,000	5,359,132
1979	2,124,280	1,876,470	1,319,510	5,320,260	515,009	9.7%	886,000	5,691,251
1980	2,369,643	1,936,078	1,339,410	5,645,131	517,374	9.2%	754,000	5,882,757
1981	2,537,229	1,680,945	1,155,567	5,373,741	588,703	11.0%	690,000	5,475,038
1982	2,628,623	1,622,890	878,568	5,130,081	445,621	8.7%	665,000	5,349,460
1983	1,966,836	1,109,830	959,663	4,036,329	793,106	19.6%	838,000	4,081,223
1984	1,580,551	957,518	772,993	3,311,062	265,750	8.0%	774,000	3,819,312
1985	1,550,071	1,140,669	769,505	3,460,245	183,461	5.3%	697,000	3,973,784
1986	1,427,627	970,541	641,482	3,039,650	216,714	7.1%	701,000	3,523,936
1987	1,658,832	1,006,100	857,949	3,522,881	241,958	6.9%	1,064,000	4,344,923
1988	1,745,722	1,144,707	928,070	3,818,499	254,454	6.7%	1,277,000	4,841,045
1989	2,031,425	1,407,317	935,541	4,374,283	259,303	5.9%	1,007,000	5,121,980
1990	1,838,895	1,156,213	848,948	3,844,056	353,927	9.2%	845,000	4,335,129
1991	1,838,266	883,482	828,426	3,550,174	398,432	11.2%	1,009,000	4,160,742
1992	1,525,218	676,808	805,761	3,007,787	295,370	9.8%	583,000	3,295,417
1993	2,655,478	1,171,872	1,148,939	4,976,844	412,942	8.3%	*863,200	5,427,102
1994	2,581,961	1,324,240	1,254,926	5,161,127	401,253	7.8%	*863,200	5,626,291
Total	43,122,908	31,965,916	23,872,756	98,961,580	8,756,785	8.8%	18,990,400	109,330,254
Avg.	1,960,132	1,452,996	1,085,125	4,498,254	398,036	8.8%	863,200	4,969,557

Sources: See Ann Y. Smith, *Shooting Industry Market Trend Analysis*, SHOOTING INDUSTRY, Dec. 1993 at 144; Russ Thurman, *Firearms Business Analysis*, SHOOTING INDUSTRY, June 1996 at 54.

Age	1985	1986	1987	1988	1989	1990
1-4	41	31	36	41	38	31
5-9	58	97	66	51	59	56
10-14	177	143	144	185	172	146
15-19	241	238	220	266	294	305
Totals	517	509	466	543	563	538

Source: LOIS A. FINGERHUT, U.S. DEP'T OF HEALTH AND HUMAN SERVICES, FIREARM MORTALITY AMONG CHILDREN, YOUTH, AND YOUNG ADULTS 1-34 YEARS OF AGE, TRENDS AND CURRENT STATUS: UNITED STATES, 1985-1990, 13-14 (Mar. 23, 1993).

Annual Violations		Percent Increase from Prior Reading		
Year	Number	1970	1980	1990
1970	17,111	-	-	-
1980	21,203	124%	-	-
1990	33,123	194%	156%	-
1992	49,907	291%	235%	151%

Source: 1994 DATA BOOK, *supra* note 77, at 205, no. 316.

TABLE 4. UNITED STATES POPULATION, IN THOUSANDS			
Age	1970	1980	1985
All Ages	203,212	226,545	238,741
1-19	73,484	68,925	66,743
1-4	13,669	12,815	14,268
5-9	19,956	16,700	16,822
10-14	20,789	18,242	17,101
15-19	19,070	21,168	18,552

Source: LOIS A. FINGERHUT & JOEL C. HEINMAN, U.S. DEP'T OF HEALTH AND HUMAN SERVICES, TRENDS AND CURRENT STATUS IN CHILDHOOD MORTALITY, UNITED STATES 1900-1985, 1 (1989).