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# FIREARM OWNERSHIP AND REGULATION: TACKLING AN OLD PROBLEM WITH RENEWED VIGOR

DAVID T. HARDY\*

During the decade 1964-1974, approximately six books,<sup>1</sup> forty-two legal articles,<sup>2</sup> and five Congressional hearings<sup>3</sup> were devoted solely to airing arguments on the desirability of firearms regulations. Despite what these numbers might suggest about the exhaustiveness of gun control studies, a close examination of the bulk of the pre-1975 publications disclosed a great shortage of empirical data and comprehensive analysis. With several exceptions, assertions and

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1. See C. BAKAL, *THE RIGHT TO BEAR ARMS* (1966); B. DAVIDSON, *TO KEEP AND BEAR ARMS* (1969); C. GREENWOOD, *FIREARMS CONTROL* (1972); R. KUKLA, *GUN CONTROL* (1973); G. NEWTON & F. ZIMRING, *FIREARMS AND VIOLENCE IN AMERICAN LIFE* (1969); R. SHERRILL, *THE SATURDAY NIGHT SPECIAL* (1974). See also L. KENNETT & J. ANDERSON, *THE GUN IN AMERICA* (1975).

2. This figure results from a cursory survey of the *Index of Legal Periodicals*. Many articles are either of limited depth or of narrow scope. Readers interested in examining the best of the general articles, pro and con, on both constitutional and policy issues, are referred to Hays, *The Right to Bear Arms, A Study in Judicial Misinterpretation*, 2 WM. & MARY L. REV. 381 (1960) (constitutional: opposing controls); Levine & Saxe, *The Second Amendment: The Right to Bear Arms*, 7 HOUS. L. REV. 1 (1969) (same); Levin, *The Right to Bear Arms: The Development of the American Experience*, 48 CHI.-KENT L. REV. 148 (1971) (constitutional: favoring controls); Note, *The Right to Bear Arms*, 19 S.C. L. REV. 402 (1967) (same); Benenson, *A Controlled Look at Gun Controls*, 14 N.Y.L.F. 718 (1968) (policy: opposing); Hardy & Stompoly, *Of Arms and the Law*, 51 CHI.-KENT L. REV. 62 (1974) (constitutional and policy: opposing); and Zimring, *Firearms Control: Hard Choices*, 8 TRIAL 53 (1972) (policy: favoring).

3. See *Hearings on H.R. 8828 Before the Subcomm. No. 5 of the House Comm. on the Judiciary*, 92d Cong., 2d Sess. (1972); *Hearings on S. 2507 Before the Subcomm. to Investigate Juvenile Delinquency of the Senate Comm. on the Judiciary*, 92d Cong., 1st Sess. (1971) [hereinafter cited as *Hearings on S. 2507*]; *Hearings Pursuant to S. Res. 48 Before the Subcomm. to Investigate Juvenile Delinquency of the Senate Comm. on the Judiciary*, 91st Cong., 1st Sess. (1969); *Hearings Pursuant to S. Res. 240 Before the Subcomm. to Investigate Juvenile Delinquency of the Senate Comm. on the Judiciary*, 90th Cong., 2d Sess. (1968) [hereinafter cited as *Hearings Pursuant to S. Res. 240*]; *Hearings Pursuant to S. Res. 35 Before the Subcomm. to Investigate Juvenile Delinquency of the Senate Comm. on the Judiciary*, 90th Cong., 1st Sess. (1967) [hereinafter cited as *Hearings on S. Res. 35*]. This listing does not include committee hearings or committee reports in which firearms regulations were discussed but only as one aspect of a larger problem, such as the reform of federal criminal laws. See also *Hearings Pursuant to S. Res. 72 Before the Subcomm. to Investigate Juvenile Delinquency of the Senate Comm. on the Judiciary*, 94th Cong., 1st Sess. (1975) (two vols.) [hereinafter cited as *Hearings Pursuant to S. Res. 72*]; *Hearings on Firearms Legislation Before the Subcomm. on Crime of the House Comm. on the Judiciary*, 94th Cong., 1st Sess. (1975) (eight parts) [hereinafter cited as *Hearings on Firearms Legislation*].

assumptions supplanted statistical data, and the discussion of the available data was limited to unsystematic references to selected cities and states.<sup>4</sup> Several recent studies, however, are important either for the raw data they have produced or for the insight into useful research techniques they permit. The data compiled by these studies will be indispensable in evaluating the results of future research. Moreover, the results of these and future studies may prompt a reassessment by the academic community of its long-standing support of additional firearm controls,<sup>5</sup> a viewpoint opposed primarily by laymen.<sup>6</sup>

The data supplied by recent research may be used to sketch answers to three general issues central to the firearms control debate. First, policymakers may wish to ascertain whether particular firearms, such as handguns or "Saturday night specials," play a prominent role in criminal activity or a disproportionate role in criminal firearms abuses generally. Similarly, it may be important to determine how criminals obtain firearms, whether by retail purchase, theft, or voluntary illegal transfers, and whether the firearms used illegally are acquired from intrastate or interstate sources. Second, information concerning the effectiveness of controls, such as regis-

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4. Such comparisons almost invariably conceal serious economic and cultural biases. The states and cities chosen to represent a sample of "firearm-controlling" jurisdictions are necessarily limited to relatively wealthy northeastern states with historically low violence rates, and the sample of "non-controlling" jurisdictions is comprised of relatively poor states where the "frontier ethic" is comparatively strong. See generally Hardy & Stompoly, *supra* note 2, at 80-81. Because relatively low violence rates tend to precede the imposition of firearms controls, rather than follow them, economic and social factors play a significant role in determining levels of violence. See *Hearings on S. 2507*, *supra* note 3, at 251 (British controls, in present form, date from 1937); H. BREERLY, *HOMICIDE IN THE U.S.* 27-28 (1932) (British homicide rates were but a fraction of American rates, even in the 19th century); Hardy & Stompoly, *supra* note 2, at 82-83 (citing experiences in Pennsylvania, New Jersey and Hawaii).

5. See, e.g., Bruce-Briggs, *The Great American Gun War*, 45 PUB. INTEREST 1 (1976); Caplan, *Restoring the Balance: The Second Amendment Revisited*, 5 FORDHAM URBAN L.J. 31 (1976); Kates, *Why a Civil Libertarian Opposes Gun Control*, 3 CIV. LIB. REV. 24 (1976); Murray, *Handguns, Gun Controls Laws and Firearm Violence*, 23 SOC. PROB. 81 (1975).

6. An example of this traditional intellectual-layman dichotomy occurred when a major legal publication decided to provide a forum for both sides of the firearm regulation issue. The "pro-gun" spokesman was Harold Glassen, who at the time of this written debate was the executive director of the National Rifle Association, while the writer for the "anti-gun" position was Franklin Zimring, professor of law at the University of Chicago, who had just finished co-authoring a major report to the National Commission on the Causes and Prevention of Violence. See Glassen, *Firearms Control: A Matter of Distinction*, and Zimring, *Firearms Controls: Hard Choices*, 8 TRIAL 52, 53 (1972). See also *RESTRICTING HANDGUNS: THE LIBERAL SKEPTICS SPEAK OUT* (D. Kates ed. 1979).

tration, strict licensing, or the complete ban of selected firearms, and about the deterrent effect of stricter sentencing or increased enforcement will be helpful in revising existing schemes and in designing new ones. Subsumed within the same question of the effectiveness of any system of controls is the determination of how readily any system may be evaded by criminals. For instance, licensing requirements often are circumvented by theft; pistol prohibitions may be avoided by the use of rifles or shotguns, or the intentional shortening of those weapons; and firearms regulations are ineffective against the use of knives or other weapons. Conversely, one might inquire whether civilian ownership of firearms deters crime and whether there are other social costs, such as the prosecution of otherwise law-abiding persons, that accompany stricter controls.

The studies that have addressed these issues during the past five years can be classified into three groups. The first group includes ownership surveys, which seek to document prevalence of ownership, legitimate use, and firearm owners' outlooks upon proposed legislation. Of these studies, this Article will examine the 1975 National Opinion Research Center survey of handgun ownership, the Decision Making Information survey of firearm owners, the Field-scope survey of defensive and aggressive use of handguns by owners in California, and the Crime Control Research Project study of police attitudes toward private firearm ownership.

The second group of projects that this Article will analyze includes criminal armament studies. These studies have attempted to determine the type of firearm used in criminal endeavors and the manner in which it was used, and to assess the impact of these findings upon proposed controls. In discussing these works, this Article will examine the portion of the Bureau of Alcohol, Tobacco and Firearms Concentrated Urban Enforcement project that identified the types of firearms used in crime and the section of the Police Foundation's firearm abuse survey that directly contradicts those findings. An unpublished study of the type and nature of firearms used in violent crimes in Florida also will be assessed.

The third category of studies under consideration includes surveys dealing with specific or general programs aimed at solving the difficulties associated with firearm use, such as the study of the Massachusetts' mandatory sentencing law conducted by the Harvard Center for Criminal Justice. An assessment of this study will be followed by an examination of the Concentrated Urban Enforce-

ment project, the California Attorney General's extensive study of weapons choice in firearms homicide, and statistical studies, conducted by Douglas Murray, of existing laws and their impact upon homicide and other crime rates.

This review obviously cannot reproduce these studies in their entirety, but an examination of each, followed by a critical assessment of its contribution to our knowledge of firearms use, abuse, and possible future legislation, will clarify the present state of knowledge and pinpoint areas where future research might be concentrated profitably.

#### FIREARM OWNERSHIP AND OWNER VIEWPOINTS

##### *National Opinion Research Center Survey*

The purpose of the survey conducted by the National Opinion Research Center (NORC) in 1973 was to discern the nature of firearm ownership.<sup>7</sup> Unlike previous studies, which were limited to mapping general patterns of firearms ownership, NORC attempted to correlate ownership with a number of variables ranging from religion and occupation to victimization by criminal act.

The data provided by the NORC study is intriguing. Authorities have stressed the increasing ownership of firearms in recent years, frequently noting that annual production is in the millions.<sup>8</sup> NORC, however, found that the percentage of households owning firearms had not changed materially since 1959.<sup>9</sup> Apparently, while the number of firearms has increased, this figure has not kept pace with the increase in the number of households.<sup>10</sup> A trend away from the purchase of shotguns and toward the acquisition of handguns also is evident, but the increase in pistol ownership is not much higher than that of rifle ownership over the same period.<sup>11</sup> These results clearly contradict most assumptions about patterns in both total

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7. The NORC survey is digested and reported in Wright & Marston, *The Ownership of the Means of Destruction: Weapons in the United States*, 23 Soc. PROB. 93 (1975).

8. See, e.g., *Hearings on Firearms Legislation*, *supra* note 3, at 1265 (statements of J. Conyers & G. Rademaker); 2 *Hearings Pursuant to S. Res. 72*, *supra* note 3, at 1535, 1553.

9. Wright & Marston, *supra* note 7, at 93-94.

10. *Id.* at 94.

11. The percentage of households reporting ownership of firearms declined slightly from 49% to 47%; of those households reporting firearms ownership, the percent owning a rifle increased 7%, from 55% to 62%. Pistol ownership went up 10%, from 32% to 42%, and shotgun ownership declined 7%, from 65% to 58%. *Id.*

firearm and handgun ownership.<sup>12</sup>

The data further indicates that the incidence of firearm ownership is inversely related to the degree of urbanization; ownership rates in rural areas are over twice those of large cities,<sup>13</sup> and a similar correlation obtains at all points between these extremes. Handgun ownership follows similar trends.<sup>14</sup> Racial differences also are significant; nearly 49% of whites own guns compared to only 38% of non-whites, yet total non-white handgun ownership nearly equals that of whites.<sup>15</sup> This may, in turn, be related to income trends, for firearm ownership and income appear strongly related. Only 30% of those earning under \$4,000 annually own firearms, while 58% of those who earn between \$10,000 and \$15,000, and 55% of those whose incomes exceed \$15,000 own guns.<sup>16</sup> Education and occupational prestige are the only social indicators that show no significant relation to firearm ownership.

The data on political affiliation indicates that firearm ownership is linked more strongly to politically conservative views on law enforcement and governmental spending.<sup>17</sup> Gun ownership also is significantly higher among persons who have been threatened with a gun or who have been beaten.<sup>18</sup> Ownership is lower, however, among those who have been threatened within the last year.<sup>19</sup> The incidence of criminal victimization tends to be lower among gun owners, either because gun ownership deters victimization or because victims of crimes became disillusioned as to a firearm's utility in discouraging crime.<sup>20</sup> Predictably, the highest level of opposition to

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12. See, e.g., 2 *Hearings Pursuant to S. Res. 72*, *supra* note 3, at 1975 (exhibit) ("In recent years there has been a great increase in the number of [handguns] available to Americans."); Zimring, *Firearms and Federal Law: The Gun Control Act of 1968*, 4 J. LEGAL STUD. 133, 173 (1975) ("[T]he rate at which new handguns enter the market has a special impact on handgun violence. The 2.4 million new handguns entering the market in 1968 . . . were associated with a far larger increase in handgun homicides.").

13. Of American households, 47.3% owned firearms. Rural area households posted a 65.5% ownership rate compared to 30.5% for large cities. Small towns, medium cities, and suburbs spanned the extremes, with 52.0%, 43.1% and 43.3%, respectively. Wright & Marston, *supra* note 7, at 96.

14. Of those households admitting ownership of any firearm, 23.1% in rural areas own handguns, as opposed to only 15.3% of large city households. *Id.*

15. White 20.2%; nonwhite 18.1%. *Id.*

16. *Id.*

17. *Id.* at 101-02.

18. *Id.*

19. *Id.* at 102.

20. The study, however, produces no data on which to make a selection between the two

additional firearm regulation comes from white, Protestant, handgun owners with high incomes,<sup>21</sup> while the highest level of support for firearm regulation comes from white suburbanites who do not keep guns.<sup>22</sup>

Although the NORC study includes more generalized data than most of the other studies to be examined, it nevertheless produces information of interest to students of firearms regulation. The lack of an increase in the proportion of households owning firearms may suggest that the upsurge in crimes involving firearms cannot be attributed simply to increases in gun ownership, as has been suggested previously.<sup>23</sup> The degree of difference in gun ownership between rural and urban areas also makes this conclusion doubtful because in each case the group with the highest homicide rate had the lowest rate of firearm ownership.<sup>24</sup> The impact of social determinants other than firearm ownership thus is emphasized. Also, the significant negative relationship between firearm ownership and crime victimization suggests that further study is needed to determine whether gun ownership minimizes the owner's exposure to crime or whether exposure to crime discourages gun ownership.

### *Decision Making Information Survey of 1975*

A study conducted during September and October 1975 by Deci-

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possible explanations. Wright and Marston consider the deterrence explanation suspect on the basis of an assumption that this explanation "grants to the privately-owned weapon more protective efficacy than seems warranted." *Id.* at 103. Felons have stated, however, that they do take firearm ownership into account in planning certain forms of crime. See 2 *Hearings Pursuant to S. Res. 72, supra* note 3, at 1334-35.

Curiously, an earlier study came to an opposite conclusion, that victimization is not lower among gun owners, and cited this conclusion as proof that guns are effective deterrents of burglary. Yeager, Alviani & Loving, *How Well Does a Handgun Protect Your Family?* 5 (U.S. Conference of Mayors 1976), reprinted in 2 *Hearings Pursuant to S. Res. 72, supra* note 3, at 1717, 1730 ("One might further hypothesize that if firearms are an effective deterrent against burglary, a larger portion of non-burglary victims would own guns than victims . . . . Apparently, having a gun in the house makes little difference as to whether that household is victimized by a burglary.").

The converse explanation seems doubtful in light of studies suggesting that even people who believe that guns are more dangerous than useful are likely to own guns for their protection. See note 59 *infra* & accompanying text.

21. Wright & Marston, *supra* note 7, at 106.

22. *Id.*

23. See note 12 & accompanying text *supra*.

24. See *Hearings on Firearms Legislation, supra* note 3, at 513 (poor); [1976] FEDERAL BUREAU OF INVESTIGATION, CRIME IN THE UNITED STATES: THE UNIFORM CRIME REPORTS 206 (rural) [hereinafter cited as UNIFORM CRIME REPORTS].

sion Making Information (DMI) confirms in large part the patterns of firearm ownership and distribution revealed in the NORC's findings but adds considerably more information about owners' attitudes towards firearms and possible civilian responses to future regulations. This survey found guns present in 41% of the households questioned, and, of these households, 50% admitted owning a pistol.<sup>25</sup> Gun ownership was found to be highest among residents of the Mountain States and the Southeast, in rural areas, and among those with an income in excess of \$15,000,<sup>26</sup> while it was lowest in the Northeast region, urban areas, and among those with an income of less than \$5,000.<sup>27</sup> Of the families owning firearms, the proportion that chose handguns, either alone or in addition to other firearms, was highest among black Americans, citizens with incomes of \$25,000 or more, and suburban households. These findings essentially confirmed the earlier NORC results.<sup>28</sup>

At this point the DMI survey shifted to a study of the general populace, including gunowning and non-gunowning persons, to determine attitudes toward and knowledge of firearm laws. This portion of the survey began by asking "unaided" questions to obtain direct and uncomplicated responses. Only 18% of the respondents indicated that they felt crime was the most important problem facing the United States; of this 18%, less than one-half of one percent believed that the prevalence of firearms was the major determinant of crime rates.<sup>29</sup> When asked what steps should be taken to reduce crime, 33% recommended stricter punishment, 23% opted for social programs, 11% for additional support to police, and 11% for various firearm regulations.<sup>30</sup> When asked to rank five possible alternatives for combating crime, those responding ranked firearms controls next to last, significantly behind basic "law and order" proposals.<sup>31</sup>

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25. 121 CONG. REC. 1 (1975) (Decision Making Information 1975 poll).

26. *Id.*

27. Thirty percent of those with an income of \$5,000 or less owned firearms. *Id.*

28. See notes 15-16 *supra*.

29. 121 CONG. REC. at 3.

30. *Id.*

31. *Id.* Of those persons who opted for stricter punishment, 9% favored the resumption of capital punishment. On a scale of one to five, with one indicating the highest perceived effectiveness, limits on plea bargaining and stiffer sentencing averaged 2.48; speedy trials and sentencing 2.51; and more police 2.81. Firearm registration and permits received an average perceived effectiveness response of 3.31, while reducing prison populations with outside rehabilitation had an effectiveness rating of 3.87.



The DMI study also took the unprecedented step of attempting to measure the respondents' knowledge of existing federal firearm laws. Out of five simple questions dealing with the Gun Control Act of 1968, 45% of the respondents secured only one or two correct answers;<sup>32</sup> 64% incorrectly thought that mail order purchases were still permissible; 72% thought that a private individual could sell to a nonresident of his state; and a slight majority erroneously believed that under existing laws even a convicted robber could purchase firearms legally.<sup>33</sup> These common misapprehensions raise legitimate questions as to the reliability and materiality of survey responses dealing with attitudes toward additional firearm controls. If, as the DMI survey suggests, the bulk of the population is uninformed as to the existing law, the integrity of their opinions on the need for change becomes suspect.

The DMI study also sought to document possible responses to future legislation. Rather than directly asking what the surveyed person's response to given forms of legislation would be, the survey used "projective sampling," asking what in their opinion would be the response of other persons in their class to the proposed laws. The results indicate that government agencies will encounter some contumacy even in enforcing relatively mild restrictions. When asked how many firearm owners would comply with a governmental order to surrender their firearms, only 24% believed that half of them would comply; 68% believed that fewer than half would comply, while only nine percent asserted that more than half would comply.<sup>34</sup> When asked the probable response to a much milder registration proposal, 30% felt half would comply, 23% felt that more than half would comply, and 47% felt that less than half would do so.<sup>35</sup> The latter result is an unenthusiastic endorsement of a relatively nonrestrictive program. However, current police estimates of non-compliance with existing registration laws approximate very closely the responses volunteered by the survey participants.<sup>36</sup> Moreover, the opposition to controls could be based upon what the people

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32. *Id.* at 5. Six percent of those responding missed all five answers; another 22% missed four out of five; and 23% missed three out of five. Only 11% answered all the questions correctly.

33. *Id.*

34. *Id.* at 8.

35. *Id.*

36. *Id.* at 7.

surveyed thought the practical consequences of the law would be, for 50% of those surveyed felt that the registration of their firearms would result ultimately in their confiscation.<sup>37</sup> Thus, although the DMI study generally confirms the results of the NORC study with reference to firearm and handgun ownership, it also demonstrates that a general understanding of existing firearm laws is lacking.

*Fieldscope Survey: Handgun Ownership and Use in California*

This California survey offers considerably more detailed information on firearm use than the two surveys already discussed. Compiled by the Bureau of Criminal Statistics of the California Department of Justice, the Poll of Handgun Ownership and Use<sup>38</sup> was based on a survey of 1,165 state residents during November, 1975. The study begins with a general inquiry into the quantity and form of handgun ownership. From the responses obtained, this study estimated that 2.6 million residents of that state own approximately 3 million handguns. Fifteen and one half percent of those responding owned handguns; 17.3% owned or had access to them. Focusing specifically on the motives underlying handgun use, the pollsters found that these weapons were kept predominantly for self-defense, but surprisingly many of those surveyed used the handgun for recreational activities as well.<sup>39</sup> Most of the owners had purchased their guns within the last five years.<sup>40</sup>

The survey emphasized two very different types of personal experiences with handguns, self-defense and victimization. First, data was compiled on the use of guns in self-defense. Of those responding, 8.6% reported that they had used a handgun for self-protection,<sup>41</sup> but the gun was actually fired in only 34% of defensive uses, and no one was hit in 69% of these shootings.<sup>42</sup> Second, the

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37. *Id.* at 5.

38. CAL. DEP'T OF JUSTICE, BUREAU OF CRIM. STATISTICS, *A Synopsis of a California Poll of Handgun Ownership and Use 1* (March 25, 1977) [hereinafter cited as *California Poll*].

39. *Id.* There is a curious regional variation in the proportion reporting self-defense as a primary motive. Southern California samples cited this motive 64% of the time; in Northern California, only 41% so reported. *Id.*

40. *Id.* at 2.

41. *Id.*

42. *Id.* at 3. Poor marksmanship, rather than the lack of lethal intent, has been discussed elsewhere as a possible explanation for the predominance of single hits in homicides. Hardy & Stompoly, *supra* note 2, at 104, 112 & n.281. The California study is the first to quantify the ability of a laymen, under stress conditions, to hit or miss an intended human

survey disclosed that 13% of those questioned had been accosted by a person brandishing a firearm.<sup>43</sup> The handgun was actually fired in only 22% of the reported threats, and no one was hit in 74% of these incidents.<sup>44</sup>

If 8.6% of handgun owners, about 1.25% of the population, have used handguns defensively, then the number of defensive uses may be in the millions.<sup>45</sup> Likewise, the low fatality rate for defensive uses, only 3%, suggests that previous conclusions concerning the effectiveness of handguns for defensive purposes may no longer be valid. The relatively low probability of injuring the intended victim similarly undermines the credulity of previous studies concluding that the absence of multiple wounds indicated a lack of serious intent to do harm, rather than poor marksmanship.<sup>46</sup>

One anomaly is obvious in the reported data: the number of threats exceeds the number of defensive uses.<sup>47</sup> An explanation may be that a use in defense is more likely to be viewed by observers as limited to the attacker, whereas an offensive threat may be perceived by everyone in the vicinity. Thus, more persons would report threats than defensive uses even though the number of threats may be less. Several factors support this explanation. Earlier studies have noted frequently the presence of several persons in the area of a violent crime.<sup>48</sup> In these instances threats have occurred more in places other than home or work, such as taverns, streets, and other

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target. Other studies have reported that most hits are in the arms or legs and that only 15% struck the chest or shoulders. *Hearings on Firearms Legislation*, *supra* note 3, at 1648. The proclivity of attackers to miss the target entirely three times out of four, and to miss the vital areas in over half of the remaining cases, contradicts claims that "[g]uns are quick and easy to use. They are deadly accurate . . ." 1 *Hearings Pursuant to S. Res. 72*, *supra* note 3, at 26 (testimony of E. Kennedy).

43. *Id.* at 2.

44. *Id.* at 3.

45. The figure is inflated somewhat by the fact that the survey question covered defensive use at any time in the past and thus may be spread out over many years. However, 35% of those reporting defensive use referred to incidents within the past two years, so that even annual figures may be in the hundreds of thousands. A certain amount of exaggeration may be present in that 10.5% of alleged defensive users replied "Don't remember" when asked when the use occurred. But even if some of the confrontations reported are fabricated, the number of verifiable instances of defensive use is still surprising.

46. See Zimring, *Is Gun Control Likely to Reduce Violent Killings?*, 35 U. CHI. L. REV. 721 (1968).

47. See text accompanying notes 41 & 43 *supra*.

48. See *Hearings on Firearms Legislation*, *supra* note 3, at 1056 (testimony of E. Henderson) (2 persons present in 40% of studied homicides; 3 or 4 in 30%; 5 or more in 16%).

public places; defensive uses, however, occur mostly in the home, where third parties are less likely to be present. Moreover, although reports of threats outstripped those of defensive uses by slightly over 50%, the firearm actually was fired defensively about 50% more often, so that the actual percentages of firing, and of killing or wounding, are virtually the same. The difference then may be attributed to the number of persons reporting the same incident rather than to the number of incidents.

The California study is the most useful assessment of firearm ownership, use, and defensive utility to date. Among other important discoveries, the survey indicates that self-defense is the predominant motive for handgun ownership, albeit by only a slight margin. A trend toward recent firearm acquisitions, and thus an increasing rate of ownership, likewise is revealed, a pattern also noted in other studies. The survey's major weakness is its sample size, which was limited to 1,165 individuals. Although this number of respondents is adequate for assessing general trends, whether it is sufficient to measure trends among defensive users of handguns may be questioned. This weakness can be corrected easily, though, by conducting larger surveys. The present lack of data on actual defensive use of handguns mandates that further inquiry be undertaken.

### *Crime Control Research Project: Police Attitudes*

The Crime Control Research Project, conducted by a private research institute at the behest of the Law Enforcement Officers' Association and the Second Amendment Foundation, sought to measure the attitudes of law enforcement officers nationwide towards the various approaches to firearms crime. The survey was sent to 14,000 chiefs of police, 3,000 sheriffs, and 17,000 officers,<sup>49</sup> resulting in over 6,300 responses.<sup>50</sup> Considering the relatively small population surveyed, the response was extremely large, permitting detailed analysis of the results. The results were broken down by issue and were further tabulated by type of officer, size of the city where employed, and years of experience in law enforcement.

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49. CRIME CONTROL RESEARCH PROJECT 2 (1977). The survey of police chiefs constituted 40% of the nationwide total; the 3,000 sheriffs studied comprised 97% of the total sheriff population; and the 17,000 police officers represented 4.5% of the total number of rank-and-file officers in the country.

50. *Id.* at 7.

On the whole the responses indicate a strong pessimism among law enforcement personnel concerning the effectiveness of firearms regulations. Nearly 80% were of the opinion that current gun control legislation had not deterred crime in their region.<sup>51</sup> Slightly less than half of those who responded believed that federal legislation prohibiting the sale, purchase, and possession of handguns by the general public would have no effect on crime rates, although 27% stated that such a law would reduce crime.<sup>52</sup> Approximately one-fourth of the officers urged that gun control legislation actually would increase crime.<sup>53</sup> The only form of legislation commanding majority approval was mandatory minimum sentencing of those committing a felony with a firearm, which was endorsed by 92% of the respondents as likely to reduce crime either somewhat or substantially.<sup>54</sup> Alternate forms of legislation to reduce firearms crimes were received unenthusiastically. Only 5.5% favored retaining current laws, and only 3.1% responded positively to a handgun prohibition.<sup>55</sup>

Even more interesting are the officers' responses when questioned about their impressions of the defensive utility of firearms. Because these officials are exposed daily to criminals and criminal activity, their opinions deserve special weight, and, indeed, Congressmen often have referred to officers' opinions on defensive utility,<sup>56</sup> though no general survey of their opinions had been attempted previously. The opinions obtained favored firearms as effective defensive tools. A significant majority, 75% of the officers, considered handguns to be effective in defending against property and personal crimes, although approximately 24% considered defensive use of firearms ineffective and often dangerous.<sup>57</sup> Nearly 88% of the officers stated that, as private citizens, they would keep a firearm for defense,<sup>58</sup> and

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51. *Id.* (79.1%; 10.1% felt crime had been reduced somewhat, only 1.2% felt it had been substantially reduced).

52. *Id.* at 8.

53. *Id.*

54. *Id.* at 12.

55. *Id.* at 14.

56. See, e.g., *Hearings on Firearms Legislation*, *supra* note 3, at 578 ("Every police officer can tell you a story of a gun taken from a law abiding citizen and that same gun used against that citizen."); 1 *Hearings Pursuant to S. Res. 72*, *supra* note 3, at 44 (referring to "what police officer after police officer reports to me. . . .", albeit citing as authority one government report).

57. CRIME CONTROL RESEARCH PROJECT at 15-16.

58. 86.5% of the officers reported they would keep a firearm for protection of family and property; 11.0% reported they would not. *Id.* at 17.

64% felt an armed citizenry serves as a deterrent to crime, as opposed to the 30% who believed it does not.<sup>59</sup> Surprisingly, a substantial majority of those officers who indicate that firearms did not deter crime and were ineffective in defending against it responded that, were they private citizens, they would keep firearms for self-defense.<sup>60</sup>

Analysis of the survey data also revealed that officers with less than one year of service were the most optimistic about the effectiveness of firearms controls. Oddly enough, the next most supportive group was comprised of policemen with more than 31 years experience.<sup>61</sup> Sheriffs were more pessimistic than police chiefs or rank-and-file officers.<sup>62</sup> Optimism regarding gun controls also tended to be related directly to the size of the city or jurisdiction that employed the officer.

The survey of the Crime Control Research Project exposes the attitudes of law enforcement personnel as a whole toward firearms and firearms regulation, a population that is important for its unique experience with criminals and their activities, and for its special role in enforcing the laws under examination. Once again, the survey may indicate a useful approach for future research; surveys of selected populations, such as judges or prosecutors, may yield information as to how strictly they believe firearms regulations might be enforced and what results they might expect. The Crime Control survey cannot be faulted for its sample size; the responses obtained from this limited population are approximately four times the number commonly used to assess opinions of the entire population on gun control.<sup>63</sup> Although the sample was selected randomly,<sup>64</sup>

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59. *Id.* at 19.

60. Nearly two-thirds of the officers believed that an armed citizenry does not deter crime, and nearly 70% of those indicated they believed the use of a handgun is ineffective in protecting one's person. *Id.* at 26.

61. *Id.* at 23, 30-31. This pattern did not hold true for all questions. Concerning federal registration, for example, all categories of officers gave optimistic answers in 24 to 27% of the cases, while 63.9 to 67.1% of the rank-and-file believed that registration has no effect on crime. The percentage of those voting for outlawing of handguns as the best answer to firearm crime fell steadily from 9.3% of officers with less than a year's experience to 2.8 to 3.2% of those with intermediate experience, to 2.0% of those with more than 31 years. *Id.* at 31.

62. For example, only 13.2% of sheriffs believed that crime would be reduced somewhat or substantially by handgun protection, compared to 27.2% of the rank-and-file and 28.9% of the chiefs of police. Twenty-three percent of the sheriffs felt that crime would be increased, compared to 26.2% and 21.4%, respectively. *Id.* at 8.

63. The study obtained 6,378 responses. The NORC survey of the entire American population amassed only 1,504 responses. Wright & Marston, *supra* note 7, at 93.

a bias against gun control may have been introduced by the inclusion of 97% of the sheriffs of the country, as opposed to only 40% of the chiefs of police, given that sheriffs were the least optimistic about the success of firearms regulation.<sup>65</sup> This potential bias was mitigated, however, because sheriffs were the smallest component of the survey population, constituting less than a quarter of the number of chiefs of police and about one-sixth of the number of rank-and-file officers surveyed.<sup>66</sup> Furthermore, there was a counterbalancing geographic bias in favor of controls. Police from large urbanized areas were least pessimistic toward regulation, and heavily urbanized states were overrepresented in the sample.<sup>67</sup> On balance, therefore, the Crime Control survey emerges as a valid assessment of police attitudes concerning the effectiveness of gun control legislation as a deterrent to criminal activity.

#### CRIMINAL ARMAMENT AND USE

The precise nature of criminal armament, and the manner in which it is employed in violation of the law, must be understood before effective firearm controls can be drafted. All forms of proposed regulation involve assumptions about the nature of firearms used in crime. Some proposals presuppose that less expensive firearms with short barrels play a disproportionately large part in criminal activity and that legislation singling these out for special attention may prove more effective. In other proposals the drafters have presumed that handguns are peculiarly suited to criminal use and that criminals would not substitute more unwieldy rifles and shotguns if handguns were unavailable. Also, most forms of regulation

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64. Names and addresses of police chiefs and sheriffs were obtained through *Police Times* magazine and the American Law Enforcement Officers Association. Rank-and-file listings were obtained by taking the first 340 names from each states' listing of subscribers to *Police Times*. CRIME CONTROL RESEARCH PROJECT at 2.

65. See note 62 *supra*.

66. See note 49 *supra* & accompanying text.

67. For example, New York, with 8.4% of the U.S. population, contributed 10.9% of the rank-and-file and 8.5% of the total officers surveyed. New Jersey, with 3.4% of the national population, contributed 5.8% and 4.9%, respectively, while Illinois, with 5.2% of the population, contributed 7.4% and 6.9%. CRIME CONTROL RESEARCH PROJECT at 36-37. Certain states whose law enforcement agencies might be expected to oppose controls were significantly underrepresented. For example, Texas, with 5.8% of the population, contributed only 1.7% and 3% of the rank-and-file and of all the policemen polled, while Virginia, which has 2.3% of the national population, contributed only 0.8% and 1.2%, respectively.

are based on assumptions about the effort that potential criminals will make to evade the law by paying higher "black market" prices for firearms or by constructing substitutes. Detailed analyses of the present state of criminal armament, and the manner in which it is employed, therefore, are vital to the firearm regulation debate.

*Bureau of Alcohol, Tobacco and Firearms' Concentrated Urban Enforcement Study*

In 1976, the Bureau of Alcohol, Tobacco and Firearms (BATF) decided to commission a pilot program to step up enforcement of federal firearm laws. This project was initiated in Washington, D.C., Boston, and Chicago, and was entitled Concentrated Urban Enforcement (CUE).<sup>68</sup> As part of the overall study, BATF traced and categorized firearms confiscated during the program period. The study conforms to its earlier surveys, which purportedly demonstrated that the "Saturday night special" played a primary role in firearm crimes and thus warranted special enforcement efforts.<sup>69</sup>

"Saturday night special" is an amorphous term describing a handgun characterized by low price, short barrel length, and small caliber. For the purpose of its studies, the BATF considered a firearm a "Saturday night special" if its retail cost was less than \$50, its barrel was 3 inches or shorter, and its caliber was .32 or less.<sup>70</sup> The CUE study purports to confirm earlier studies by asserting that "[t]he composite trend indicates a continuing predilection towards inexpensive, small caliber, short-barreled revolvers . . . [revealing] an overriding favoritism toward the smaller handgun . . . ." <sup>71</sup> A close examination of the study's results, however, suggests a much less definite conclusion. In the three cities surveyed, approximately one-fourth of the firearms traced fall within the defi-

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68. The CUE study is actually two publications; the first, published and compiled by the BATF itself, is entitled CONCENTRATED URBAN ENFORCEMENT (1977) [hereinafter cited as CUE]. The second, compiled by the BDM corporation, is FINAL REPORT: IMPACT ASSESSMENT AND EVALUATION OF OPERATION CUE VOLUME II: APPENDICES (1977) [hereinafter cited as CUE II]. For a discussion of Operation CUE's enforcement effort, see text beginning at note 222 *infra*.

69. U.S. BUREAU OF ALCOHOL, TOBACCO AND FIREARMS, PROJECT IDENTIFICATION (1976), reprinted in 1 *Hearings Pursuant to S. Res. 72, supra* note 3, at 355 [hereinafter cited as PROJECT IDENTIFICATION].

70. CUE, *supra* note 68, at 39-40.

71. *Id.* at 40.



inition of a "Saturday night special."<sup>72</sup> The percentage of traced firearms with calibers over .32 exceeded 40% in all three cities, and in two of the three it reached 49%.<sup>73</sup> The fraction of pistols costing \$50 or more ranged from 59% to 72%.<sup>74</sup> These figures, however, are not representative of the approximately 6,300 long-arms seized. Notably, about 34% of the long-arms seized and traced had barrels sawed to a length below the limit allowed by federal law.<sup>75</sup>

Approximately 42% of the firearms seized were purchased outside the state in which they ultimately were confiscated, and 80% were purchased outside the city where confiscated.<sup>76</sup> The majority of these "imported" firearms, however, were not brought into the city in bulk by illegal sellers but were purchased individually by citizens who either later moved to, or were on a temporary sojourn from, the city of confiscation.<sup>77</sup>

The conclusions of Operation CUE regarding confiscated firearms are open to serious question. First, the study had a limited statistical base: it was restricted to firearms seized in three areas, all of them major urban centers and none more than fifty miles from the state's border. As such, the choice of weapon and manner of obtaining it may not be indicative of nationwide trends. Second, a study entitled *Firearm Abuse: A Research and Policy Report*<sup>78</sup> furnishes a compelling indictment of the CUE results. Prepared by the Police Foundation, *Firearm Abuse* focused primarily on the type of illegal firearms use in ten major cities.<sup>79</sup> This report furnished both criticism of, and information directly contrary to, the CUE conclusions.

### *Police Foundation Report on Firearm Abuse*

After criticizing *Project Identification*,<sup>80</sup> the BATF study of

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72. *Id.* at 47, 50, 54.

73. *Id.* at 102, 110, 116.

74. *Id.* at 93.

75. *Id.* at 40-41. Federal law requires a rifle to have a barrel length of 16 inches. A shotgun's barrel should be 18 inches.

76. *Id.* at 59.

77. *Id.* at 61.

78. S. BRILL, *FIREARM ABUSE: A RESEARCH AND POLICY REPORT* (1977) (published by the Police Foundation, Washington, D.C.) [hereinafter cited as *FIREARM ABUSE*].

79. The cities chosen were Atlanta, Baltimore, Boston, Chicago, Detroit, Houston, New York, Philadelphia, San Francisco, and Washington, D.C. *Id.* at 4.

80. See note 69 *supra*.

firearms upon which the CUE project was modeled,<sup>81</sup> the *Firearm Abuse* report attacked the BATF's conclusions by noting that the data base for the BATF studies, identified as "crime guns" or "handguns used in crime,"<sup>82</sup> in fact included all guns taken into custody, temporarily or permanently, by police.<sup>83</sup> Included in and comprising from 20 to 25% of the sample were guns found by police and those voluntarily surrendered by citizens.<sup>84</sup> Also counted were the officers' own firearms turned in for inspection and citizens' firearms given to police for temporary safekeeping.<sup>85</sup> The remainder of the guns came from arrestees, who may or may not have been convicted of any crime.<sup>86</sup> Moreover, 50 to 60% of the arrestees had not been arrested for any crime involving use of the firearm but solely for illegally possessing the gun.<sup>87</sup> A study of guns "used in crime," when the only crime was carrying that gun, would seem to be an exercise in circularity.

*Firearm Abuse* began with an analysis of general figures designating firearm confiscation in selected cities. Wide disparities in guns confiscated per capita<sup>88</sup> and per officer<sup>89</sup> then were linked generally to the magnitude of illegal gun use<sup>90</sup> and the strictness of enforcement policies.<sup>91</sup> Even greater disparities among the cities were found

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81. CUE, *supra* note 68, at 37.

82. FIREARM ABUSE, *supra* note 78, at 24-25.

83. *Id.* at 23-24.

84. *Id.* at 24.

85. *Id.*

86. *Id.* Indeed, some authorities indicate that the conviction rate for weapons offenses is rather low. See *Hearings on Firearms Legislation*, *supra* note 3, at 580-81 (statement of D. Shields); *Id.* at 546-47 (testimony of S. Schiller).

87. FIREARM ABUSE, *supra* note 78, at 24. These individuals are frequently more interested in protecting themselves against crime than in committing crime. One judge of an urban court devoted solely to firearm offenses has stated:

Probably the most striking experience of gun court is one's exposure to the kinds of people that appear there as defendants. Most are in court on their first arrest, and many are old people. Shopkeepers, persons who have been previous victims of violent crimes, and others who carry guns because of a sincere belief in their need for protection constitute the greatest part of the call.

*Hearings on Firearms Legislation*, *supra* note 3, at 581.

88. FIREARM ABUSE, *supra* note 78, 27-28.

89. *Id.* at 29 n.7.

90. *Id.* at 29.

91. *Id.* at 33. Essentially, the measure of enforcement effort was the relation between guns seized and the level of firearms crime; if the underlying crime problem was the same, the assumption was that a higher rate of confiscations indicated more vigorous enforcement, rather than an increase in opportunities for enforcement. The study found the ten cities

in the location of the confiscation.<sup>92</sup>

The survey of the types of firearms seized yielded results radically different from those obtained by the earlier BATF studies. Most of the firearms confiscated were manufactured by reputable, well-established makers of expensive, high quality firearms.<sup>93</sup> In only one of the cities was a majority produced by manufacturers known for low-cost output; four cities reported percentages under 20%, and in seven of nine cities studied only 30% of the arms confiscated were produced by low-cost manufacturers.<sup>94</sup> Curiously, the one city reporting a majority of low-cost firearms was also the only city studied that had singled out such weapons for special restriction by prohibiting their sale.<sup>95</sup> These figures on manufacturers of seized firearms are reinforced by an analysis of BATF "trace requests."<sup>96</sup>

The assumption that a firearm is necessarily inexpensive because it is supplied by a manufacturer generally known for low-cost products is obviously erroneous. Recognizing this fact, the *Firearm Abuse* study moved to a limited, case-by-case price survey in which price estimates were obtained for each firearm contained in a sample of guns seized in New York City. Thirty percent were found to retail for \$60 or less; approximately the same proportion retailed for \$120 or more.<sup>97</sup> Excluding one atypically expensive firearm, a \$1,250

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tending to cluster into three categories. Those cities with high comparative measures of .95 to 1.02 included Chicago, Philadelphia and San Francisco. Cities with the middle range ratings of .57 to .68 included Atlanta, Baltimore, Boston, Houston, and Washington. "Low effort" metropolitan areas, those with ratings of .33 and .44, respectively, were Detroit and New York City. *Id.* This measure roughly corresponded with subjective assessments of police policy: Chicago and Philadelphia police departments tended to encourage aggressiveness in seeking firearms, while New York appeared more concerned with exercising restraint in searches. *Id.* at 34.

92. *Id.* at 38-40. For example, the percentage of confiscated firearms seized in a residence ranged from 54% in Washington, D.C., to 30.2% in New York; those seized in a place of business ranged from 15% in Atlanta to 1.5% in Washington; and street confiscations reached a high of 43% in New York and a low of 21% in Detroit. *Id.* at 38. The study notes that the relatively high residential rate is puzzling because aggressive enforcement efforts are less likely to result in residence searches than in automobile or street searches and frisks. *Id.*

93. *Id.* 46-48. The two manufacturers leading the list (625 and 617 guns of the group, as opposed to 483 for the third-place maker) were Colt and Smith and Wesson. *Id.* at 46. The companies known for producing "Saturday night specials" manufactured a total of only 15.9% of the sample. *Id.* at 48.

94. *Id.* at 52.

95. *Id.* at 53.

96. *Id.* at 61-62.

97. *Id.* at 57.

rifle, the average price was \$98.37.<sup>98</sup> When the study concentrated on the types of crime for which the firearm was seized, it found that 80% of the guns used in robberies cost over \$60, as did 69% of the firearms used for assault.<sup>99</sup> By contrast, only 33% of those seized during drug arrests retailed for over \$60.<sup>100</sup> Notably, these are retail prices; if the purchase were made illegally on the black market, the price could be several times the listed price.<sup>101</sup>

A second characteristic traditionally associated with the "Saturday night special" is its small caliber. Among the arms studied, caliber varied less than price. Within this sample, 28 to 43%, or an average of 33.8%, were less than .32 caliber;<sup>102</sup> 19.1% were .32 caliber; and 45% were larger than .32 caliber.<sup>103</sup> Robbery showed a larger-than-average use of small caliber guns, while a greater use of large calibers occurred in crimes such as murder, due perhaps to a predictably higher fatality rate resulting from their use.<sup>104</sup>

These findings contradicted the BATF's earlier studies and demonstrated that several factors prejudiced the BATF's results toward cheaper, smaller caliber guns. First, *Firearm Abuse* included information that the BATF had requested respondents to exclude when recording the figures used in its reports. This deleted information included older firearms which were likely to be more expensive and

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98. *Id.* at 56.

99. *Id.* at 59-60.

100. *Id.* at 60. The Harvard study of the Bartley-Fox Law found that the law had a dramatic effect on firearms possession in connection with narcotics charges. See note 181 & accompanying text *infra*. The unusually low price that this subclass of criminals is willing to pay for a firearm, and the ease with which they are deterred from using them, may suggest that narcotics offenders place a much lower priority on firearms ownership than do other classes of criminals.

101. *Id.* at 60.

102. *Id.* at 69.

103. *Id.*

104. *Id.* at 71. See also Zimring, *The Medium Is The Message: Firearm Caliber as a Determinant of Death From Assault*, 1 J. LEGAL STUD. 97, 103 (1972) (single wounds: .22 caliber fatal in 36% of sample, .33 in 83%). The LEAA has conducted extensive ballistics tests that similarly indicate the much greater deadlines of larger caliber handguns. U.S. DEPT OF JUSTICE, AN EVALUATION OF POLICE HANDGUN AMMUNITION: SUMMARY REPORT (1975). The purpose of the study was to determine, with ballistics tests and a "computer man," the relative index of stopping power for police consideration. Because the information used for programming consisted of expert opinion on what organ damage would cause instantaneous death, unconsciousness, or biomedical dysfunction, such as to totally incapacitate, the results are probably a better measure of the ability to kill or critically injure than to stop. A standard .22 pistol load attained a comparative rating of 2.3, compared to a maximum of 41.8 for the optimum .38 load, 50.0 for a .357 magnum, and 54.9 for the .44 magnum.

of a higher quality.<sup>105</sup> Second, the BATF procedures for pricing the firearms studied were crude; rather than determining the actual price for each firearm, the BATF assigned a price classification to each manufacturer. This process led to an erroneous valuation of the guns, for while the BATF classified all of one producer's output as the "under \$50 class," the *Firearm Abuse* study reported that some weapons manufactured by this maker actually sold for over \$100.<sup>106</sup> The BATF report also omitted long-guns entirely, which constituted about 22% of all the guns confiscated and which tended to be more expensive.

The *Firearm Abuse* study is in limited agreement with the BATF's conclusions concerning the age of confiscated firearms. While criticizing the BATF study for excluding older guns, for failing to determine actual dates of sale, and for including in the sample guns seized at different periods in different cities,<sup>107</sup> the *Firearm Abuse* survey agreed that recently purchased firearms are more likely to be confiscated by police than firearms owned for longer periods of time.<sup>108</sup> The *Firearm Abuse* study, however, differs with the BATF's tendency to downplay the significance of stolen guns because of biases in the latter's identification technique.<sup>109</sup> *Firearm Abuse* found a much higher percentage of stolen firearms, approximately 20%, in its seizure sample.<sup>110</sup> The firearms stolen were usually of the more expensive variety<sup>111</sup> and also tended to be confiscated more quickly after acquisition than were legally obtained firearms.<sup>112</sup>

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105. FIREARM ABUSE, *supra* note 78, at 57-58.

106. *Id.* at 58.

107. *Id.* at 94-95.

108. Firearms four to five years old were the most heavily represented class in the sample, followed by those three to four years old, and then those less than one year old. *Id.* at 100. Twenty-eight of the 109 seized firearms were over seven years old. *Id.* at 99. This sample, however, was limited to New York City, where long-term firearms ownership might be somewhat more uncommon than in less urbanized areas.

109. *Id.* at 102-03. The greatest bias in the BATF study was that guns were classified as stolen only if so entered on the National Crime Information Center computers, and few were. Furthermore, guns stolen from the factory were rarely reported.

110. *Id.* at 103. The study further notes that in New York City the theft rate among the minority of gunowners who are actually licensed amounted to 253 per 100,000 guns, or about one gun in four hundred being stolen yearly. *Id.* at 104. If the same rate holds true nationwide, over 100,000 handguns are being stolen annually from individuals. *Id.*

111. *Id.* at 107-08. Seventeen of the 28 guns in the sample were Smith and Wesson or Colt; others included Remington, Browning, and High Standards.

112. *Id.* at 106. Nine of the 22 guns stolen and later confiscated were stolen less than six months before confiscation; half were seized within a year of theft.

Any evaluation of *Firearm Abuse* must begin by conceding the limitations of the data that support its conclusions. As the study itself notes, conclusions based upon firearms seized by police are inherently flawed because confiscated guns are not necessarily those used in crimes. Even those actually seized in connection with a crime are often seized in the course of an arrest for illegal possession of a firearm, rather than for some independent criminal act.<sup>113</sup> Thus, the conclusion that stolen firearms "are the most dangerous firearms in circulation because they are the ones that most quickly become involved in crimes"<sup>114</sup> is questionable. Stolen firearms simply may be more readily abandoned and found by police, or carried by persons whom the police are more likely to stop, search, and arrest for possession or theft of the firearm. Also, the conclusion that newer firearms are involved disproportionately in crime is dubious because arrests for illegal possession of a firearm probably would concentrate on more recent purchases.

A second limitation of the *Firearm Abuse* report is its choice of jurisdictions for study. The authors chose ten major cities which, as they note, are located in different regions and have dissimilar firearm control systems.<sup>115</sup> All ten of the areas studied were among the fifteen largest cities in the nation;<sup>116</sup> no less-populated cities, towns, or rural areas were included in the sample. Moreover, while the cities studied represented only 9% of the nation's population, they had firearms crime rates higher than the national average.<sup>117</sup>

In spite of these limitations, the *Firearm Abuse* study's criticism of the BATF study's data base and interpretation, and the alternate conclusions reached in *Firearm Abuse*, illustrate the deficiencies in existing data. The report's suggestion of alternative enforcement strategies, some of which might be repugnant to civil libertarians,<sup>118</sup>

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113. See note 87 *supra*.

114. FIREARM ABUSE, *supra* note 78, at 107.

115. *Id.* at 4, 15.

116. *Id.* at 15.

117. *Id.* Of the ten cities studied, only two were west of the Mississippi and only one west of the Rio Grande. Whether the firearms difficulties of San Francisco, for example, can be considered typical of the entire western United States is dubious.

118. *Id.* at 134. The study notes that local police departments have been lax in developing use of informants, undercover agents who make illegal buys, and other tactics traditionally effective against illegal drug sellers. *Id.* At the same time, the study declares that it "is not meant to endorse without reservation the nation's approach to enforcing drug laws." *Id.* at 134 n.1. On the federal level, measures to implement these approaches are already in opera-

also provides an interesting contrast to BATF's views.<sup>119</sup>

*Florida Bureau of Criminal Justice Planning and Assistance:  
Handgun Regulation*

In late 1977, the Florida Bureau of Criminal Justice Planning and Assistance analyzed the extent of illegal firearms use in violent crime in that state.<sup>120</sup> The study, performed by Dr. D. Burr, an assistant professor of psychology at Florida Technological University, used a sample base consisting of 808 residents and 277 felony offenders.<sup>121</sup>

The survey of resident owners indicated a considerably higher rate of handgun possession than did the NORC<sup>122</sup> and DMI<sup>123</sup> studies. Forty-five percent of the households surveyed owned handguns; another 21% denied ownership, but interviews suggested a higher incidence of ownership in these households.<sup>124</sup> Thirty-seven percent of those admitting ownership possessed more than one handgun, yielding an average of 1.68 handguns per household acknowledging

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tion. In one case, for example, federal agents sent a felon and an out-of-state resident, equipped with electronic listening devices, into gunshops to purchase firearms; eight persons were indicted as a result. *Tucson Citizen*, Nov. 11, 1977, at 14A, col. 5. "No-knock" searches also have been employed with tragic results in at least one case when nonuniformed officers, acting on an incorrect tip, broke into a house. The owner, hearing his wife cry out and assuming they were criminal intruders, reached for an antique gun. He was shot and permanently paralyzed. See R. SHERRIL, *supra* note 1, at 275-76. The author comments that the federal agencies charged with enforcement have "shown less awareness of the Constitution than any other group of law enforcement officials at any level of government with the possible exception of Mississippi sheriffs," although conceding "that the Bureau of Narcotics, . . . the Customs Bureau, the Immigration and Naturalization Service, and the Internal Revenue Service has given the Treasury's ATFB agents strong competition for the title of Most Unconstitutional in Action." *Id.* at 280-81. One should also note that Congressional hearings are replete with calls to repeal the exclusionary rule in order to more adequately enforce gun laws. 2 *Hearings Pursuant to S. Res. 72, supra* note 3, at 1543-44, 2274; *Hearings on Firearms Legislation, supra* note 3, at 1589 (conceding that 50-75% of Ohio concealed weapon arrests involve illegal searches). One federal judge has opined that the exclusionary rule will block the effectiveness of any present or planned gun control program. *Wall Street Journal*, October 14, 1977, at 17. The difficulty encountered when searching for guns has led at least one city to offer a \$100 bounty to anyone turning in a citizen with an illegal gun. *Hearings Pursuant to S. Res. 72, supra* note 3, at 48.

119. FIREARM ABUSE, *supra* note 78, 116-21.

120. FLORIDA BUREAU OF CRIMINAL JUSTICE PLANNING AND ASSISTANCE, HANDGUN REGULATION PROJECT (Dec. 9, 1977) [hereinafter cited as FLORIDA HANDGUN REGULATION PROJECT].

121. *Id.* at 6, 16.

122. See notes 11-14 *supra* & accompanying text. ¶

123. See text accompanying note 25 *supra*.

124. FLORIDA HANDGUN REGULATION PROJECT, *supra* note 120, at 6-7.

ownership.<sup>125</sup> Ownership by whites was appreciably higher than black ownership, as was ownership by high income individuals.<sup>126</sup> Only 12% of the firearms owned met the definition of a "Saturday night special";<sup>127</sup> the average cost of new handguns purchased was \$130, while used guns cost an average of \$89.72.<sup>128</sup> Approximately half the firearms purchased were obtained through licensed dealers or pawn shops and thus were listed in dealer records; the other half were purchased from private individuals who were not required by law to keep records of these transactions.<sup>129</sup> Although for slightly over half the owners the principal reason for purchasing firearms was self-protection, slightly over one quarter named target shooting and 17% hunting as the primary purpose for handgun ownership.<sup>130</sup> Regarding storage of handguns, 77% replied that they stored their weapons in their residences, with 45% specifically mentioning their bedroom as the place of storage.<sup>131</sup> Nearly half indicated that they carried their handgun outside of their residence; one-third of these, 7% of the entire population interviewed, acknowledged that they carried their handgun on a daily basis.<sup>132</sup>

Focusing first upon the sociological characteristics of the felons surveyed, the Florida study revealed that persons typically involved in a handgun felony were young, not well educated, and either single or divorced.<sup>133</sup> Of those convicted of murder by use of a handgun, 64.7% were acquainted with their victim; 48% of the perpetrators of assault with a handgun were familiar to their victims.<sup>134</sup> Although handgun ownership tended to be greatest in the higher socioecon-

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125. *Id.* at 7.

126. *Id.* at 8.

127. *Id.* at 10. A "Saturday night special" is defined as "any low cost, easily concealed handgun." *Id.* (emphasis in the original).

128. *Id.* at 9.

129. *Id.* at 10.

130. *Id.* at 1.

131. *Id.* at 13.

132. *Id.* at 13-14.

133. *Id.* at 18.

134. *Id.* Why more handgun murder victims than assault victims are known by the perpetrator is not obvious. It may be that attacks on strangers are less likely to be intentionally lethal—a possibility any attorney with a domestic relations practice could confirm—or that assault and murder are completely distinct phenomena with different types of offenders and victims. The Florida data clearly indicates, however, that relatives and acquaintances form a significantly higher proportion of handgun murder victims than of handgun assault victims.



omic classes,<sup>135</sup> handgun crime tended to be concentrated in lower socioeconomic groups.<sup>136</sup>

Approximately the same portion of guns were purchased by felons from unlicensed, private sources as were purchased from licensed sources.<sup>137</sup> But licensed dealers were the source of fewer handguns used by felons than for guns used by the public generally.<sup>138</sup> The remainder of the guns used by felons were primarily stolen weapons, which accounted for 23.3% of the total.<sup>139</sup> Thus, handgun felons apparently steal or purchase stolen weapons rather than purchase them legitimately from private individuals.

Unlike the casual handgun owner, who is most likely to own a .22 caliber handgun, the felon generally was found to own a .38 caliber weapon<sup>140</sup> but with a barrel length of 3 inches or less.<sup>141</sup> The handgun felon also generally paid less for his handgun than the legitimate user. The average lawful user paid \$112 for his handgun; the average felon paid \$70 for a firearm purchased from a dealer and \$35 for those purchased from private individuals.<sup>142</sup>

The Florida study furnishes information to support several interesting conclusions concerning choice of firearm, method of acquisition, and socioeconomic characteristics of both legitimate and illegal handgun owners. Handgun felons tend to come from lower socioeconomic classes than do legitimate handgun users. The felon apparently prefers cheaper, short-barreled handguns, albeit of larger caliber, and also tends to shift his methods of acquisition from licensed dealers to theft. Although these results may not be indicative of patterns of handgun ownership and use outside of Florida, the methods used in conducting the research could be applied profitably in other regions to collect comparable data.

### *Firearms: Their Contributions to Violent Deaths in California*

In a study conducted by the California Department of Justice,

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135. *Id.* at 8.

136. *Id.* at 18.

137. *Id.* at 10-11, 19.

138. *Id.* at 10, 19. 23.9% of the convicted felons obtained their weapon from a public source as compared to 42.7% of legitimate users.

139. *Id.* at 19.

140. *Id.* at 20.

141. *Id.* 67.6% of the felons owned a handgun with a barrel length of 3 inches or less as compared to 25.8% of legitimate users.

142. *Id.*

entitled *Firearms: Their Contribution to Violent Deaths in California*,<sup>143</sup> all deaths reported in California between January 1 and June 30, 1975 were examined. This study is in many respects the most controversial of those published in the 1975-1977 period. Originally announced as the second part of a three-part study by the Office of the California Attorney General's Criminal Statistics sub-division, the report was scheduled for release in midsummer, 1977.<sup>144</sup> The press then reported that the study was not to be released for political reasons.<sup>145</sup> Subsequently, copies of an informal draft of the study<sup>146</sup> became available, but this text differed materially from the formal version of the study, which finally was released early in 1978.<sup>147</sup> An examination of this draft discloses statistical analyses and information previously unavailable and relevant to both firearms control and criminology in general.

The California Department of Vital Statistics collected data on violent deaths from coroners' offices throughout the state, placed this information on computer tape, and sent the tape to the Bureau of Criminal Statistics (BCS). The BCS augmented the data for three selected, largely urban counties through visits to coroners' offices and case-by-case examination of gunshot deaths to differentiate handgun deaths from those caused by other firearms.<sup>148</sup> The resulting information was then cross-tabulated according to type of weapon employed, type of crime, location, and cause of conflict.

The study notes that 19.2% of the violent deaths studied resulted from firearms use, including 59.4% of all willful homicides, 1.1% of

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143. BUREAU OF CRIMINAL STATISTICS, DIVISION OF LAW ENFORCEMENT, CAL. DEP'T OF JUSTICE, *FIREARMS: THEIR CONTRIBUTION TO VIOLENT DEATHS IN CALIFORNIA* (Feb., 1978) [hereinafter cited as CAL. FIREARMS REPORT].

144. Sacramento Union, Oct. 24, 1977, at C-1, col. 3.

145. *Id.*, Oct. 16, 1977, at B-1, col. 4. "The Sacramento Union obtained a copy of the politically volatile report which, inside sources say, has been undergoing 'laundering' within the Bureau of Criminal Statistics . . . Inside sources—who asked not to be named for fear of reprisal—have charged that the function of the traditionally independent bureau has been increasingly controlled . . . to avoid any possible controversy for his political candidacy." *Id.*, October 24, 1977, at C-1, col. 3. Representatives of the attorney general, in turn, took the position that the report was "fatally flawed" and inadequate for release to the public. *Id.* at col. 6.

146. Bureau of Criminal Statistics, Division of Law Enforcement, Cal. Dep't of Justice, *Firearms: Their Contribution to Violent Deaths in California* 7-8 (June 1977) (unpublished report on file at *William and Mary Law Review*) [hereinafter cited as Draft Report on Cal. Firearms].

147. CAL. FIREARMS REPORT, *supra* note 143, at 9.

148. Draft Report on Cal. Firearms, *supra* note 146, at 7-8.

accidents, and 44.5% of suicides.<sup>149</sup> Of the firearm deaths, 40.1% were found to be willful homicides, 3.5% accidents, and 56.4% suicides.<sup>150</sup> In contrast, violent deaths not involving firearms were predominantly accidents; the remainder resulted chiefly from suicide.<sup>151</sup>

The analytical portion of the study begins by considering geographic variations. Because the three selected counties were largely urban, their figures were compared with those pertaining to the remainder of the state to approximate rural-urban differences.<sup>152</sup> The study revealed that the percentage of deaths caused by firearms was significantly greater in urban areas than in rural areas, whereas the percentage of suicides attributable to firearms was significantly less in urban areas than in rural areas.<sup>153</sup>

The study also found that 81.5% of all firearm suicides occurred in residences, while only 52.7% of all firearm homicides occurred there.<sup>154</sup> Nevertheless, unlike the use of firearms generally, use of handguns did not differ significantly by location.<sup>155</sup> Any locational factors influencing the decision to use a firearm did not affect the choice between a handgun and a long-arm; handguns were used in 72.4% of residential and 78.1% of nonresidential willful firearm homicides.<sup>156</sup> With respect to homicides, the study further reported

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149. *Id.* at 11.

150. *Id.*

151. Accidents account for 76.7% of this total, with 16.7% suicides and 6.6% willful homicides. *Id.*

152. Of the three selected counties, Los Angeles, Riverside, and Santa Clara, Los Angeles County contributed 86.4% of all firearms deaths and approximately 88% of all handgun deaths. *Id.* at 10.

153. *Id.* at 12.

154. *Id.* at 15.

155. Handguns were used in 69.7% of residential and 66.0% of nonresidential suicides and in 72.4% of residential and 78.1% of nonresidential murders. *Id.*

156. This would seem to contradict the traditional notion that concealability is a prime asset of a handgun, since concealability is of less importance in an indoor attack versus an attack requiring transportation of the weapon in public. Another explanation is possible. The BCS data do not assess the attempts at homicide in and out of residences but only the numbers of successful homicides. To the extent that handgun marksmanship is marginal, see notes 42-44 *supra* & accompanying text, shots outside of a residence are apt to involve longer ranges and thus more misses. The handgun, therefore, could be used more often out of doors but result in fewer killings.

Both of these explanations find support in this study and in the earlier California studies cited above and undermine the arguments of those who are optimistic about handgun bans. To the extent that concealability is of little importance to accomplishing a homicide and long-arms are more likely to hit and thus to kill, a handgun ban may only reduce attacks minimally and increase the proportion resulting in hits substantially.

that the choice between handguns and long-arms was not motivated by whether the parties involved were strangers or acquaintances.<sup>157</sup> Similarly, the nature of the precipitating event was statistically insignificant to this decision.<sup>158</sup> Thus, handgun to long-arm ratios remained stable over a variety of situations and influences.

Other relationships appeared when these trends were compared with statewide findings. The percentage of firearm homicides inside residences varied with geographic location and was significantly higher in the selected urban counties than in the remainder of the state.<sup>159</sup> In contrast, the percentage of firearm use in nonresidential homicides is stable across the selected urban counties and rural areas.<sup>160</sup> This pattern correlates with other data indicating that the ratio of handgun to long-gun ownership tends to be higher in urban areas.<sup>161</sup> Total firearm ownership, however, tends to be higher in rural areas.<sup>162</sup>

Perhaps the most significant new information produced by the report is the statistical comparison between the probability of a fatal outcome in robberies committed with firearms and in robberies involving other weapons. Surveying over 26,000 firearm and 11,000 non-firearm robberies, the study concluded that the probability of a fatal outcome does not differ by any statistically significant amount.<sup>163</sup> The study speculates that non-firearm robberies are more likely to lead to actual physical conflict, resulting in more frequent use of the weapon.<sup>164</sup>

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157. In residences, handguns were used in 60.3% of willful firearm killings involving victims known or related to the offender and 65.2% of those deaths caused by strangers; in nonresidences, these figures were 73.4% and 74.2%, respectively. *Id.* at 16.

158. *Id.* See also *id.* Table 10, at 38.

In contrast, the location of homicides did differ radically when the precipitating factor was taken into account. Approximately one-half of all firearm homicides were residential. Of the residential firearm homicides, 90.3% were the result of interpersonal conflict, as opposed to 54.0% of nonresidential killings. Killings resulting from the commission of criminal offenses constituted 9.7% of residential and 46.0% of nonresidential murders.

159. *Id.* (handguns used in willful homicide: 72.4% in selected counties, 54.3% elsewhere).

160. *Id.* at 21 (handguns used in willful homicide: 78.1% urban and 75.7% rural).

161. *Id.* at 19-20.

162. *Id.*

163. *Id.* at 22 (firearm robberies resulted in willful homicide 0.8% of the time versus 0.7% in non-firearm robberies).

164. *Id.* at 21. This suggestion comports with the results of other studies. *E.g.*, 2 *Hearings Pursuant to S. Res. 72*, *supra* note 3, at 1734-35; U.S. DEP'T OF JUSTICE, CRIMES AND VICTIMS: A REPORT ON THE DAYTON-SAN JOSE PILOT SURVEY OF VICTIMIZATION 14-15 (1974). The latter study concluded,

Almost six times as many firearm deaths were caused by handguns than by long-guns during the data collection period.<sup>165</sup> The BCS cautioned against "misinterpretation or misuse" of those statistics, specifically disputing the assumption that handgun restrictions would reduce the total number of violent deaths.<sup>166</sup> The report suggested that this conclusion was contrary to the data and indicated that the use of long-guns in homicides and suicides is higher in rural areas where long-guns are more prevalent than handguns. Thus, the report concluded, restrictions on the availability of handguns correlate with higher rates of long-gun homicides.<sup>167</sup> Given the more lethal capacity of long-arms,<sup>168</sup> greater use may have serious effects on the overall fatality rate.

The final version of the report essentially reproduces portions of the data set forth in the earlier draft. Conspicuously lacking, however, is any reference to the data on the differing fatality rates in firearm and nonfirearm robberies. Much of the information concerning the location of firearm suicides and fatal accidents has been excluded, as has the comparison between handgun use in urban and rural residences. In contrast to the conclusion reached in the earlier

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In both Dayton and San Jose, assaults in which guns were used were less likely to result in injury than any other kind of assault, armed or not . . . . It may be that lack of injury merely represents poor aim on the part of numerous assailants. It may be that simply brandishing a gun produces the results intended by the offender. It is also possible that the lethal potential of a gun makes any confrontation . . . more likely to be reported . . . ."

*Id.*

165. Draft Report on Cal. Firearms, *supra* note 146, at 24.

166. *Id.*

167. "The upshot of this discussion of specific findings is the conclusion that restrictions placed on handgun ownership, without comparable restrictions on long guns, would very likely result in an increase in the use of long guns in all violent deaths." *Id.*

168. See Hardy & Stompoly, *supra* note 2, at 111-12 (citing data on the high miss probability of handguns in unskilled hands and military medical studies indicating that pistol bullets, even of the largest caliber, are less dangerous than rifle projectiles). See also Borja & Ransdell, *Treatment of Thoracoabdominal Gunshot Wounds in Civilian Practice*, 121 AM. J. SURGERY 580, 581 (1971) (noting that civilian wounds are inflicted by guns of lower velocity than the military, "causing far less damage"); Dziemien, Mehdelson & Lindsey, *Comparison of the Wounding Characteristics of Some Commonly Encountered Bullets*, 1 J. TRAUMA 341, 346-47 (1961) (experimental testing: .32 pistol transmits maximum of 7 joules of energy to target, compared to 180 for .30 military rifle); Taylor, *Gunshot Wounds of the Abdomen*, 177 ANN. SURGERY 174, 175 (1973) ("Shotgun injuries have not been compared with other bullet wounds of the abdomen as they are a thing apart . . . . [A]t close range they are as deadly as a cannon . . . .").

draft<sup>169</sup> that restrictions on the availability of handguns induce greater use of long arms, the final draft concluded, "On the basis of data presented in this report and the lack of concrete data on firearm ownership in California, at this time a direct relationship cannot be established between the accessibility of a firearm and the potential of using one in a willful homicide, suicide, or accidental death in the state."<sup>170</sup>

The initial version of the California study cannot be faulted for its methodology. Its sample size and comprehensiveness are unequalled, and unlikely to be equaled by any effort presently planned. Future studies, however, should avoid the seasonal variations noted in the California study, which may influence the result to an unknown degree.<sup>171</sup> Additionally, the generalized "rural-urban" county distinction should be refined into more particularized and quantifiable components. Despite these limitations, this study largely represents the current "state-of-the-art" for firearms regulation investigation.

#### FIREARM LAWS AND ENFORCEMENT PROGRAMS

##### *Harvard Center for Criminal Justice: Mandatory Sentencing for Firearm Law Violation*

A work produced by the Gun Law Project of the Harvard Law School's Center for Criminal Justice,<sup>172</sup> ominously entitled "And NOBODY Can Get You Out," is the first of several recent studies examining the impact of particular firearm control statutes. The Harvard study focused on the Massachusetts "Bartley-Fox Law",<sup>173</sup> effective April 1, 1975, which provided a one-year mandatory minimum sentence, without probation, parole, furlough or "good time", for carrying a firearm without a proper permit.<sup>174</sup> The law also im-

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169. Draft Report on Cal. Firearms, *supra* note 146, at 24.

170. CAL. FIREARMS REPORT, *supra* note 143, at 9.

171. Draft Report on Cal. Firearms, *supra* note 146, at 8-9.

172. Center for Criminal Justice, Harvard Law School, "And NOBODY Can Get You Out," The Impact of a Mandatory Prison Sentence for the Illegal Carrying of a Firearm on the Use of Firearms and on the Administration of Criminal Justice in Boston (July 14, 1976) (unpublished manuscripts available from the Center for Criminal Justice) [hereinafter cited as Harv. Gun Law Project]. A modified form of the report with limited updates on some data has been published. Beha, *And Nobody Can Get You Out*, 57 B.U. L. REV. 96 & 289 (1977).

173. MASS. ANN. LAWS ch. 269, § 10 (Michie/Law Co-op Supp. 1977). The popular name, "Bartley-Fox", is taken from the names of the bill's two principal sponsors.

174. The type of permit required differs with the firearm. As a practical matter, a person

posed limitations on the ability of prosecutors and the judiciary to mitigate its impact.<sup>175</sup> Because the penalties for illegally carrying a firearm had been enforced laxly in the past,<sup>176</sup> the new law's strictness marked a substantial change in its practical impact, amplified by an extensive advertising campaign prior to the law's enforcement.<sup>177</sup>

The study was confined to the first year of Bartley-Fox operation in the Boston area, the site of the majority of Bartley-Fox prosecutions in the state.<sup>178</sup> To compensate for this limitation, statistics on crime rates, court proceedings, and permit compliance were supplemented by interviewing officials, including defense attorneys and police, and by examining court files. The resulting data is relevant particularly for the study of gun control regulation, but it also may be useful in the study of mandatory sentencing, deterrence, and the impact of media exposure on law enforcement.

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carrying a rifle or shotgun is subject to the law only if he lacks either a license to carry or a Firearms Identification Card (FID), which allows possession and carrying of a rifle or shotgun. The carrying of a pistol, however, requires possession of a carrying permit. Having a license to possess but not to carry is no defense against the Bartley-Fox penalties. MASS. ANN. LAWS ch. 269, § 10 (Michie/Law Co-op Supp. 1977); see Harv. Gun Law Project, *supra* note 172, at 2-5.

175. In particular, the law prohibited two practices sometimes utilized in Massachusetts to avoid imposition of severe penalties: the continuance of a prosecution without a finding and the placing of the case on file. MASS. ANN. LAWS ch. 269, § 10 (Michie/Law Co-op Supp. 1977); see Harv. Gun Law Project, *supra* note 172, at 4-5. Neither plea bargaining nor reducing the charge was prohibited. *Id.* at 5.

176. In the year preceding the implementation of the new law, prison sentences were given in less than a quarter of all carrying convictions with most of the decisions imposing prison time appealed. When the after-appeal results are considered, only 14 of 108 convicted defendants actually received time. Harv. Gun Law Project, *supra* note 172, at 55. Prior to the amendments, one year was the *maximum* for carrying a rifle or shotgun without a permit. *Id.* at 5. Similar leniency in sentencing has been noted elsewhere. *Hearings on Firearms Legislation*, *supra* note 3, pt. 3, at 929. (Michigan: two-thirds of those convicted of carrying a weapon with unlawful intent not incarcerated); *Id.* pt. 4, at 1591 (13% of illegal weapons convicts in Ohio incarcerated); 2 *Hearings Pursuant to S. Res. 72*, *supra* note 3, at 274 (New York City Sullivan Act prosecutions: 29 of 182 convicted in 1973 were incarcerated); 1 *id.* at 837 (witness suggests D.C. gun law can be used as "back up" charge if serious charges cannot be proven, but first-offense usually gets probation); *Id.* at 36 (Philadelphia gun act 1971: 142 imprisonments, 505 probationary terms, 171 fines, and 92 suspended sentences).

177. Among other measures, press kits were mailed to four hundred media outlets in Massachusetts, legislative press releases were made, and three hundred hours of television and radio time were devoted to commercials concerning the law. These were backed by five newspaper ads appearing in twenty daily newspapers, two magazine ads, forty thousand bilingual posters, and 4,799 column inches of newspaper coverage. Harv. Gun Law Project, *supra* note 172, at 20-21.

178. *Id.* at viii.

The study begins by examining the mandatory minimum sentence and its enforcement by police, prosecutors, and the courts. Contrary to some predictions<sup>179</sup> and despite the radical change from former sentencing practices, little evasion of the law's requirements was found. However, charges for illegally carrying a firearm dropped by 31% following the law's effective date.<sup>180</sup> Whether this decrease was due to a reduced number of offenses or to police reluctance to enforce the new law in light of its more serious penalties is a subject for dispute. The researchers concluded that the former is the more likely explanation. The decline was sharpest in criminal activity such as drug offenses, in which police sympathy for the defendant is minimal.<sup>181</sup> The defendants charged were largely those who might expect police sympathy: half were not charged with any offense other than carrying a firearm without a permit, and 28% had no prior record.<sup>182</sup> The possibility that defendants otherwise subject to prosecution for carrying offenses were instead charged with illegal possession, a misdemeanor, either by police action or by prosecutorial bargaining, was minimized by a case-by-case study.<sup>183</sup> Judicial evasion similarly was found to be insignificant.<sup>184</sup>

The researchers noted that part of the reduction in the number of charges for illegal carrying resulted from a reluctance to impose the mandatory minimum sentence; the percentage of acquittals increased substantially when the defendant was charged only with illegal carrying.<sup>185</sup> Closer examination revealed that there was some legitimate basis for the bulk of the acquittals,<sup>186</sup> but this analysis focused on opinions of defense attorneys, without consulting the

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179. *Id.* at 51. Judges clearly viewed the carrying offense as one not meriting incarceration and, in fact, sentenced few defendants to prison terms prior to Bartley-Fox.

180. *Id.* at 67.

181. *Id.* at 68. The report's assumption that as a matter of course police do not sympathize even with some drug offenders is debatable. Without knowing the social and racial composition of those arrested and whether marijuana or "hard" drugs were involved, an accurate assessment of police sympathy is impossible. Nevertheless, the 49% drop in the number of charges seems intuitively to support the authors' assumption.

182. *Id.* at 69. Another 11% had only a minor court record.

183. *Id.* at 69-73.

184. *Id.* at 74-90.

185. It was estimated that roughly one-fifth of the defendants charged with carrying, who would have been convicted before the new act, were acquitted following its effective date. *Id.* at 77. This did not hold true where the defendants were charged with other crimes in addition to carrying. *Id.* at 47-48.

186. *Id.* at 78-85.



losing prosecutors.<sup>187</sup> The study concluded that judicial reluctance was a significant factor in sixteen to twenty-one of the fifty-three acquittals.<sup>188</sup> This disinclination manifested itself in a willingness to consider any plausible defense. The interviewed attorneys, however, indicated that unfortunate circumstances alone were not enough and that, in the absence of a defense, a conviction would result regardless of the equities.<sup>189</sup> In light of the studies suggesting that certain conviction is a more effective deterrent than a severe sentence,<sup>190</sup> the social costs imposed by the increase in unwarranted acquittals confirm that the practicality of this statute should be evaluated carefully.

In addition to the social costs associated with the greater number of unjustified acquittals, the new law inflated judicial costs by increasing the volume of appeals. Eighty-five percent of those convicted under the new law appealed, as compared with only 20% under the former statute.<sup>191</sup> A third social cost, not specifically addressed by the study, was that attending the conviction and prolonged incarceration of persons who for various reasons, such as lack of intent or lack of previous criminal record, society might prefer to keep out of prison. Twenty-eight percent of those charged had no criminal record, and 11% had records only in minor courts. Where carrying was the only offense charged, 48% of the defendants had at most a minor court record.<sup>192</sup> Indeed, several persons were arrested and charged in the course of reporting a crime of which they had been the victim.<sup>193</sup> In one publicized case, an unemployed welder, driving from Maine to Florida, was arrested and charged when he stopped to sleep at a rest area along the highway.<sup>194</sup> The arresting officer commented later that, although he recognized that a year's imprisonment "would have the effect of making a criminal

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187. *Id.* at 79-80.

188. *Id.* at 85.

189. *Id.* at 84-85.

190. *See, e.g.,* Antunes & Hunt, *The Impact of Certainty and Severity of Punishment on Levels of Crime in American States: An Extended Analysis*, 64 J. CRIM. L. AND CRIMINOLOGY 486, 489 (1973). *See also* Phillips & Votey, *Crime Control in California*, 4 J. LEGAL STUD. 327, 347 (1975) (likelihood of conviction has deterrent effect).

191. *Id.* at 64. Also, the number of defendants who failed to appear for trial, and presumably fled, increased by 38%. *Id.* at 63.

192. *Id.* at 69.

193. *Id.*

194. *Id.* at A-25.

out of [the defendant],” he was obligated to enforce the law.<sup>195</sup> Such social costs are probably an inevitable part of any mandatory sentencing program the aim of which is to deter violations by eliminating judicial and prosecutorial discretion.

After examining the law’s mandatory sentencing provisions and their impact on the legal system, the researchers analyzed the practical effect of the law on the availability of guns and on compliance with permit and license requirements. The Massachusetts permit law had not been obeyed widely prior to the new law’s effective date of April 1, 1975.<sup>196</sup> After this date, the issuance of permits to carry weapons increased to five times the former rate.<sup>197</sup> During March, April, and May of that year, despite the fact that the new law’s penalties applied only to carrying permits and not to ownership permits, the number of ownership permits issued increased tenfold, from a monthly average of under 10,000 to over 100,000.<sup>198</sup> In the months following May, however, the number once again fell beneath 10,000.<sup>199</sup> The publicity surrounding the new law’s enactment had not differentiated clearly between carrying and ownership requirements and, thus, apparently created a substantial deterrent effect beyond the actual scope of the new penalties.<sup>200</sup> Thus, the new penalties greatly stepped up conformance with the state’s firearm registration laws; but whether this increase included compliance

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195. *Id.* at A-26. In another case the defendant discovered that his high school ring had arrived C.O.D. When his wife refused to give him the money to release the ring, he took his gun to sell it. He had a carrying license, but it had expired some months before. On his way to sell the gun, he was stopped for drunk driving, and a search turned up the firearm. *Id.* at 182. His conviction and sentence were upheld against a variety of constitutional attacks. See *Commonwealth v. McQuoid*, \_\_\_\_ Mass. \_\_\_\_, 344 N.E.2d 179 (1976).

196. Harv. Gun Law Project, *supra* note 172, at 105.

197. *Id.* at 108.

198. *Id.* at 107-08.

199. *Id.*

200. *Id.* at 101, A-20 to A-23. This media confusion continues, three years after the law’s effective date. One newspaper recently reported that “[t]he Sun has discovered at least three instances in which persons charged with illegal possession of a firearm have escaped the supposedly mandatory year-long jail sentence.” *The Sunday Sun*, Sept. 11, 1977, A-1. The article also stated that the law covers “unauthorized possession or carrying of a firearm (handgun), rifle, or shotgun without a firearms identification card or a license to carry . . .,” that under the act “[p]lea bargaining is not permissible,” and that the state Dept. of Public Safety, as well as sponsor David Bartley, believed there should be no distinction between carrying and possession. *Id.* at A-4. The statute, however, makes this distinction and does not limit plea bargaining. See notes 174-75 *supra* & accompanying text.

by the "subculture of violence," which poses the worst crime control problems,<sup>201</sup> is questionable.

Beyond compliance with the permit requirements, proof of actual impact was found to be more difficult. The authors of the study noted that the reduction of the total number of firearms in circulation was not a direct objective of the new law<sup>202</sup> and concluded that "there is no clear evidence that the general circulation of firearms in Massachusetts has declined."<sup>203</sup> Some informal indicators, however, such as jailhouse interviews, conversations with defense attorneys, percentages of drug arrests in which illegal carrying also was charged, are cited to support the possibility that illegal carrying has declined following the law's enactment.<sup>204</sup>

In assessing the impact of the law on crime other than illegal carrying of firearms, the researchers displayed commendable caution in their statistical interpretation. The authors noted that gun homicides offer too small a sampling for valid short-range measurements<sup>205</sup> and that the use of firearms in other crimes in Boston historically has been lower than in most other large cities.<sup>206</sup> Figures

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201. See generally M. Wolfgang, *PATTERNS IN CRIMINAL HOMICIDE* 168-75 (1958); Gastil, *Homicide and a Regional Culture of Violence*, 36 *Am. Soc. Rev.* 412 (1971). One recent study of victims of knife and gun attacks found that 35% of the victims were themselves in possession of a gun or knife when attacked; 78% gave a history of drug usage, with 16% admitting heroin usage on the day of the attack. Kirkpatrick & Walt, *The High Cost of Gunshot and Stab Wounds*, 14 *J. SURGICAL RESEARCH* 260, 261-62 (1973).

202. "Bartley-Fox, by contrast, is aimed at deterring crimes (one of which is the illegal carrying of firearms) and affects the number of firearms in circulation indirectly, through the medium of such deterrence, if at all." Harv. Gun Law Project, *supra* note 172, at 112.

203. *Id.* at 115. The report characterizes "[i]nformation on this point [as] highly unreliable (especially for handguns) and likely to remain so." *Id.* The project declined to use public opinion polls on firearms ownership, since these concern entire regions rather than the state of Massachusetts and probably omit much illegal ownership. *Id.* at 112.

Extrapolation from the number of gun crimes backward cannot be used when the legislation deters illegal use, rather than simply limiting possession. *Id.* The number of legal, registered sales is easily quantified but excludes the entire illegal market, as well as person-to-person sales and sales out of state. This last indicator did tend to show a temporary depression but no clear long-term depression. *Id.* at 114-15. Guns voluntarily turned in to police increased after the law's effective date but amounted to far less than one percent of the estimated number of firearms in circulation. *Id.* at 115.

204. *Id.* at 119-21.

205. *Id.* at 129-30.

206. *Id.* at 130-31. One study conducted for the Law Enforcement Assistance Administration for a month after the law's effective date concluded that Boston firearm homicide rates were historically so low that a reduction would be possible only if the "new law worked a minor miracle." Harv. Gun Law Project, *supra* note 172, at 198 n.143 (citing Zimring, *Massachusetts' New Mandatory Minimum Sanction for Gun Law Violators: A Preliminary*

indicating a sharp decline in the use of guns in robberies in the two months following the statute's effective date were not considered proof of the new law's effectiveness. As the researchers observed, this monthly drop was exactly equal to the sudden rise during the month in which the law went into effect. The subsequent decline, therefore, probably is due to a regression toward the long-term trend.<sup>207</sup> Moreover, this decrease unfortunately was offset by the use of other weapons in robbery, leaving unchanged the total number of armed robberies.<sup>208</sup> Even this effect, however, appears to have been temporary.<sup>209</sup> Assaults with guns showed a long-term decline in proportion to those committed with other weapons, but this trend began just before the law's effective date.<sup>210</sup>

Although firearm homicides were not studied directly because the small numbers involved unduly amplified even insignificant trends,<sup>211</sup> the study compared homicides and aggravated assaults committed with guns and those committed with other weapons in an effort to assess the deadliness of each class of weapon.<sup>212</sup> The results showed that firearms were four times more lethal than other weapons.<sup>213</sup> Such comparisons, however, have been strongly criticized for their inaccurate characterization of the deadliness of non-firearm weapons.<sup>214</sup> While the study cautiously concluded that a

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*Research Design*, (Technical Assistance Assignment for the Law Enforcement Assistance Administration, U.S. Dep't of Justice, May 30, 1975).

207. Harv. Gun Law Project, *supra* note 172, at 140-42.

208. *Id.* at 142.

209. *Id.* at 144.

Whatever the cause of this shift, the effect appears to have been temporary, perhaps more a product of the publicity about the law than of any fundamental shift in the deterrence of firearm robbery . . . While Bartley-Fox may have been related to a temporary shift from firearm to other forms of armed robbery, that effect has dissipated. No net effect on the level of firearm use in robbery has occurred, although the true impact of the law may not be shown until and unless its ability to turn arrests into incarcerations is demonstrated and publicized.

*Id.*

210. *Id.* at 146-47.

211. For example, a change in the number of firearm homicides of only two per month would result in a 36% rate change. *Id.* at 149.

212. *Id.* at 150.

213. *Id.* at 151.

214. See Hardy & Stompoly, *supra* note 2, at 104-10. The argument that the aggravated assault/homicide ratio reflects the deadliness of the attacks in question has been undermined further by recent crime trends. In 1976, aggravated assaults increased nationwide by 10%, while homicides fell by 89%. [1976] UNIFORM CRIME REPORTS, *supra* note 24, at 8. If

comparison of gun homicide rates before and after the law's enactment disclosed a restraining effect on the increase in the homicide rate,<sup>215</sup> the stabilization or decline of homicide rates nationwide during this period,<sup>216</sup> following earlier increases, tends to undermine this conclusion.

The authors of Harvard's Gun Law Project conceded the report's primary limitation: its limited scope. "[T]here is no guarantee that even the limited set of effects the law has so far had in Boston would be repeated wherever a similar statute is enacted."<sup>217</sup> The report studies a city that historically has had a low level of firearms ownership, a low use of firearms in crime, and an unusual trial system.<sup>218</sup>

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the ratio indeed attests to deadliness, then attacks in 1976 were somehow nearly one-fifth less deadly than those the preceding year, but no explanation is apparent.

215. Harv. Gun Law Project, *supra* note 172, at 150-53. The project noted that gun homicides associated with commission of another felony fell from 19 to 10, although total felony homicides by all weapons only fell from 28 to 24. Other weapons apparently offset much of the decrease in gun homicides. Firearms assaults fell by 12%, but a rising fatality rate prevented a drop in related homicides. Non-firearm assaults showed an even steeper drop of 26% with a consequent decline in homicides. *Id.* at 150-52.

The Project concluded that

had Bartley-Fox not reversed the long-term growth in firearm assaults, we would almost certainly have experienced a very substantial increase in attack-related homicides during 1975. In fact, there was no change compared to 1974 . . . . Since an increase in such homicides might well have been predicted from prior trends, this result should not be read as "no effect," but rather as suggesting that the shift away from firearm use in assaults has played a stabilizing role containing the homicide rate at a time when aggravated assault is escalating sharply.

*Id.* at 155.

This conclusion is faulty for several reasons. There is strong ground to doubt that the reduction in firearm assaults is causally related to Bartley-Fox. The decrease in such assaults began *before* the law's effective date. *See* text accompanying note 210 *supra*. Non-gun assaults dropped simultaneously with gun assaults; in fact, non-firearm assaults declined over twice as steeply. Harv. Gun Law Project, *supra* note 172, at 152. This would suggest that the drop in gun assaults signified a general assault rate decline, rather than that a law aimed solely at regulating the carrying of a firearm was responsible. Finally, nationwide crime rates showed a slight homicide decline in 1975, followed by a steeper 8% decline in 1976. [1975] UNIFORM CRIME REPORTS, *supra* note 24, at 15; [1976] *id.* at 8.

216. Harv. Gun Law Project, *supra* note 172, at 150-55.

217. *Id.* at xvi. One researcher, in an attempt to find demographically similar cities to compare with those have relatively strict firearms controls, noted, "Another method of attempting to compare New York and Boston patterns would be to find cities similar to them in respects other than firearm policy . . . ," but concluded that ". . . there is no adequate comparison city for Boston." Zimring, *Firearms and Federal Law: The Gun Control Act of 1968*, 4 J. LEGAL STUD. 133, 176 (1975).

218. Harv. Gun Law Project, *supra* note 172, at xv.

Moreover, the study was confined to the first year of the law's operation, at the end of which many prosecutions were still awaiting trial *de novo* on appeal.<sup>219</sup> Follow-up studies should correct the last limitation, although the implementation of special enforcement efforts in Boston by federal authorities, begun shortly after the present study,<sup>220</sup> will complicate any later work greatly. But, despite its limitations, the Harvard study may serve as a valuable model for future research.<sup>221</sup>

### *Bureau of Alcohol, Tobacco and Firearms: Project CUE*

Operation CUE, in a second major study, sought to assess the effectiveness of enhancing BATF's manpower and enforcement efforts in selected cities.<sup>222</sup> This special enforcement program was

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219. At the time of the study, 47% of the 1975 cases were still pending. *Id.* at 65.

220. An update of the study has noted the presence of the federal effort as one barrier to assessing the law's impact upon crime. Beha, *supra* note 172, at 308-09.

221. One field available for research concerns mandatory sentencing for use of firearms in crime. These statutes would be narrower in scope than the Bartley-Fox Law, which applied to carrying a firearm but not to possession. These "criminal use" statutes apply special penalties for the use of firearms in crime. Such a law has been enacted in Florida where the statute provides a mandatory three-year minimum sentence, without parole, for use of a handgun in certain felonies. FLA. STAT. ANN. § 775.087(2) (West Supp. 1977). In its first year, robbery with a gun fell 38.5%. Human Events, May 7, 1977, at 14, col. 1. In contrast, knife robbery fell 12%, but robbery with "other weapons," principally clubs, rose by 93.9%. Letter from James Barrett, Executive Assistant to the Florida Attorney General, to Bill Garrison (June 28, 1977). Homicide fell 22%, but this decline was evenly distributed between gun and non-gun killings, suggesting that the statute had little impact on weapons choice. *Id.* Aggravated assault, similar to robbery-gun attacks, fell 14.5%; knife use increased 3%, but use of "other weapons" climbed 9.1%. *Id.*

A similarity between the Florida "criminal use" penalties and the Massachusetts "carrying" penalties merits further study. Both statutes seek to discourage use of firearms. Presumably, those of criminal intent, if deterred from gun use, would choose knives rather than clubs, which are less easily concealed and whose effective use depends more upon the aggressor's strength. Yet, in both Florida and Massachusetts, weapons-use patterns shifted towards "other weapons", mainly clubs, rather than knives. Florida experienced a decline in both gun and knife robberies, while "other weapons" robberies nearly doubled in a single year. Boston studies on assault weapons choice revealed a similar trend, with an appreciable shift to knives but predominately to the use of "other weapons." Harv. Gun Law Project, *supra* note 172, at 148. This may suggest that concealability differentials are not high priorities, at least in choosing a weapon for robbery. The conclusion that concealability may be of less importance is borne out by statistical studies in California, which indicate that a long-arm is just as likely to be used as a handgun outside of a residence where concealability would appear to be important. See notes 155, 156 *supra* & accompanying text. At the very least, these reported effects merit further detailed study to determine if the apparent shifts, in fact, mark an actual change in weapons choice or are merely coincidental.

222. See note 68 *supra* & accompanying text. For a discussion of Operation CUE's study of criminal armament, see text beginning at note 68 *supra*.

implemented in Washington, D. C., on February 16, 1976, and in Boston and Chicago on July 1, 1976. For purposes of comparison, St. Louis and Los Angeles were designated as "control cities" not subject to the CUE effort.<sup>223</sup> The CUE operation consisted essentially of increased federal personnel in each target city, stricter enforcement against sources of firearms flowing into the target cities from other areas, and educational programs for firearms dealers. The CUE study had a dual emphasis: first, to measure the effectiveness of the enforcement procedures and, second, to trace and examine the flow of firearms in commerce within the studied cities.<sup>224</sup>

BATF's assessment of the program's effectiveness, based on a statistical evaluation of CUE's direct impact upon prosecutions and its derivative impact upon crime levels, is largely self-serving. The report merely catalogs the number of investigations initiated and the number of resulting prosecutions and convictions,<sup>225</sup> without making direct comparisons with pre-CUE statistics.<sup>226</sup> The greater number of investigations, prosecutions, and convictions in the target cities than in the control cities might have been expected as a direct result of the increased resources provided by BATF. The number of BATF agents in Boston almost doubled; in Washington the number of agents tripled, and in Chicago the number increased four times.<sup>227</sup> The extremely detailed accounting of the time devoted in each city to each form of agent activity<sup>228</sup> also is deficient because

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223. CUE, *supra* note 68, at i.

224. *See id.* at v.

225. Through June, 1977, Washington claimed 1,483 investigations initiated, 530 defendants recommended for prosecution with 189 convicted at the time of the study. Chicago had 1,795 investigations commenced, 158 recommendations for prosecution, and 34 convictions. Boston reported 1552 investigations, 227 recommendations, and 39 convictions. The latter two cities, due to the brevity of the study period, had large numbers of pending investigations and judicial proceedings. *Id.* at 11-18, 85.

226. The study fails to list investigations, recommendations for prosecution, and convictions in the target cities for periods before Operation CUE. The only comparison given is with the control cities. No reason is given why the researchers assumed that, absent the special enforcement effort, control city figures would match target city figures. *Id.* at 11-18.

227. *Id.* at 1.

228. For each city, the study breaks down, to a tenth of a percent, the agents' time spent on street investigation, off-street investigation, report writing, and travel, together with the proportion of time spent on each type of violation. *Id.* at 2-4. The data is divided further into man-hours expended by city, by months, and by type of case. This breakdown consumes over half the pages of the report's second volume. CUE II, *supra* note 68, at C-1 to C-60.

the actual monetary cost of the program is not stated. Accordingly, no assessment can be made of the cost-effectiveness of the CUE approach as compared to alternative strategies against violent crime.

A more important issue is the impact of the CUE program upon crime levels. An early press release about CUE issued by BATF stressed the program's impact on crime and claimed impressive reductions, asserting that the program had "contributed significantly to a reduction of major violent crime committed with firearms."<sup>229</sup> The final report, in a one-page summary<sup>230</sup> supported by only three pages of exhibits,<sup>231</sup> reaches more conservative conclusions. According to the project's method of measurement, violent firearms crime declined over the program's span.<sup>232</sup> In the target cities, however, this reduction occurred before the program was implemented, and a similar reduction took place in both the control cities and the twenty largest urban areas of the country during the course of the program.<sup>233</sup> Although the study concludes that the rates decreased "more significantly" in the target cities during the program,<sup>234</sup> no attempt was made to quantify this difference; nor was there any proof that the rate of this decrease would not have been greater in the absence of the program.<sup>235</sup>

Considering the nature and source of the firearms surveyed, CUE concluded that they were predominately short-barreled, small caliber, inexpensive revolvers.<sup>236</sup> A shift during the CUE program away from newer pistols and toward older pistols and shotguns, including sawed-off shotguns,<sup>237</sup> was viewed as an indication of the program's effectiveness.<sup>238</sup> The study also noted that approximately 42% of the

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229. BATF Press Release, March 24, 1977, at 1.

230. CUE, *supra* note 68, at vii.

231. CUE II, *supra* note 68, D-13 to D-17.

232. CUE, *supra* note 68, at vi-vii.

233. *Id.* at vii.

234. *Id.*

235. Homicide rates began to decline nationally in 1975. This decline accelerated by a factor of eight in 1976. [1975] UNIFORM CRIME REPORTS, *supra* note 24, at 15.

236. CUE, *supra* note 68, at 40.

237. *Id.* at 50, 54. The study repeatedly refers to "a trend" during the CUE period toward use of long-arms with barrels sawed to less than the legal minimum. However, the data cited in support of this conclusion is somewhat weak. In Washington, such weapons increased from 19% of the sample to 23%, while in Chicago a decrease was noted from 31% to 22%. *Id.* at 106, 114. In Boston, only a slight increase in use, from 84% to 85%, was observed. *Id.* at 119.

238. *Id.* at 42-43.



firearms were first purchased outside the state in which they were confiscated and that 80% were purchased outside the city of confiscation.<sup>239</sup> The majority of these "imported" firearms, however, were not brought into the city in bulk by illegal sellers but were purchased by individuals who later moved or returned to the city.<sup>240</sup>

An assessment of BATF's analysis of the CUE program's effectiveness reveals numerous deficiencies. Underlying all of them is an apparent bias introduced by the researchers' desire to prove CUE's effectiveness and evident in the tendency to downplay or omit factors suggesting that CUE had only a limited impact. Specifically, the weaknesses in the report's conclusions can be attributed to the data base and the method of analyzing the program's impact on the crime rate and on the changes in firearms use.

One deficiency of the study is obvious: both the CUE program and the study concentrate on three cities, Washington, Chicago, and Boston. The choice of these "target cities", however, is unexplained. Because their criminal statistics historically have deviated greatly from national trends,<sup>241</sup> these cities cannot be characterized as "typical." Moreover, Boston is located in an area of lower-than-average firearms ownership in general,<sup>242</sup> while Chicago's entire re-

239. *Id.* at xi.

240. "[T]he majority of the firearm movement from States is occurring on an individual basis . . . . [A]n individual will acquire a firearm in another state through the actual purchase by relatives or friends and then transport that firearm back . . . . Self-protection appears to be the primary motive for acquisition and the lack of local purchase restrictions facilitates his action." *Id.* at 61.

241. For example, during 1975, the year prior to CUE, the homicide rates in the three cities dropped while national rates rose. The following chart is illustrative:

JURISDICTION	HOMICIDE RATE				
	1976	1975	1974	1973	1972
United States	8.8	9.6	9.7	9.3	8.9
Boston	3.8	5.3	5.6	5.7	4.6
Chicago	13.4	13.9	15.9	15.1	11.5
Washington, D.C.	10.1	12.0	13.4	13.2	12.4
St. Louis	13.1	16.1	13.9	13.4	12.7
Los Angeles	13.8	14.3	12.9	12.4	12.8

Source: [1972-1976] UNIFORM CRIME REPORTS, *supra* note 24, Table 5.

242. See G. NEWTON & F. ZIMRING, FIREARMS AND VIOLENCE IN AMERICAN LIFE 10 (1969) (Staff Report to the Nat'l Comm'n on Causes and Prevention of Violence) (gun ownership by households: any gun, 33% in the East, 49% national average; handguns, 15% in the East versus 20% national average); Harv. Gun Law Project, *supra* note 172, at xv (Massachusetts has a historically low gun crime rate).

gion has experienced unusually large declines in violence in recent years as compared with the rest of the nation.<sup>243</sup> In Boston, the Bartley-Fox law took effect prior to CUE and may have reduced firearm carrying to an even greater degree.<sup>244</sup> Boston's unusually low rate of firearms use was known to the BATF and was commented upon in reports issued prior to the city's inclusion in the CUE effort.<sup>245</sup> Similarly, Chicago's firearm population differed radically from national averages<sup>246</sup> and had been subjected to unusually aggressive local police enforcement<sup>247</sup> following the enactment of laws imposing mandatory sentences for firearms law offenses.<sup>248</sup> Finally, Washington has unusual features in terms of population,<sup>249</sup> social conditions, and political structure.<sup>250</sup> In addition to its failure to justify the choice of these "target cities", the study also neglects to explain why the largest metropolitan area, New York City, was excluded from the study.

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243. In 1975, for example, the murder rate dropped only 2% nationwide, but it fell 5% in the Northcentral region. [1975] UNIFORM CRIME REPORTS, *supra* note 24, at 15. The preceding year it had climbed 6% nationwide but fell 3% in the Northeast. [1974] *id.* at 15. In 1975, aggravated assaults rose 8% in the Northeast and 10% in the West but only 2% in Northcentral areas. [1975] *id.* at 20. Robbery likewise rose 8% in the Northeast, 10% in the West, and only 3% in the Northcentral region. *Id.* at 24. Curiously, firearms robberies were more prevalent in the Northcentral area (52.7%) than in the Northeast (32.7%) or in the West (44.4%). *Id.* at 26.

244. The Bartley-Fox Law went into effect in April, 1975. See note 173 *supra* & accompanying text. CUE went into effect in Boston in July, 1976, a year and a quarter later. CUE, *supra* note 68, at vi. Indeed, the final portion of the Harvard Gun Law Project noted the potential effect of the CUE program, then only in a planning stage. Harv. Gun Law Project, *supra* note 172, at 178.

245. One BATF study, initiated prior to CUE, stated that "[b]ecause of the enactment of the mandatory penalty section of the firearms regulations, the total number of firearms submitted in the Boston area was minimal for a major metropolitan area." PROJECT IDENTIFICATION, *supra* note 69, at 16.

246. Nationwide, long-arms substantially outnumber handguns. Studies indicate that the figures for Chicago are reversed, with approximately one-fifth more handguns than long-arms. See *Hearings on Firearms Legislation*, *supra* note 3, at 513 (testimony of F. Kane).

247. See note 91 *supra*.

248. *Hearings on Firearms Legislation*, *supra* note 3, at 580 (testimony of Judge D. Shields).

249. Washington's population grew by 38.8% between 1960 and 1970, a rate five times that of Boston (7.9%) and thrice that of Chicago (12.2%). U.S. DEP'T OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES 19-20 (1976) [hereinafter cited as STATISTICAL ABSTRACT OF THE U.S.].

250. The District of Columbia has no state government, and its jurisdiction is extremely limited in area. The SMSA (Standard Metropolitan Statistical Area) described by Washington, D.C., actually includes the District of Columbia, three Maryland counties, and four Virginia counties. CUE, *supra* note 68, at i.

Even more mystifying is the project's choice of Los Angeles and St. Louis as control cities. Why firearm-use rates in Los Angeles and St. Louis were considered appropriate for comparison with those in Boston, Chicago, and Washington is not apparent. The five cities are dissimilar in many respects. The cities vary widely in population density<sup>251</sup> and racial composition.<sup>252</sup> The control and target cities are located in different geographical regions with varying firearm possession rates.<sup>253</sup> The CUE report documents major differences in firearm commerce in the five cities.<sup>254</sup> Finally, and perhaps most significantly, the violent crime rates in the control cities historically have differed from those of the target cities.<sup>255</sup> For these reasons the apparent decline in crime levels realized by comparing the target cities to the control cities is suspect.

The methods employed to obtain the data also lack credibility. Although the target cities reportedly experienced decreases "in the rate and volume of violent firearm crimes,"<sup>256</sup> "violent firearm crime" was defined arbitrarily to exclude firearm murders; only aggravated assault and robbery were included.<sup>257</sup> This omission is

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251. Comparing target city Boston with control city St. Louis shows population density, in families per square mile, differing by about 30% (13,936 and 10,167, respectively); while target city Chicago and control city Los Angeles differ by nearly 250% (6,073 and 15,126). STATISTICAL ABSTRACT OF THE U.S., *supra* note 249, at 22-24.

252. Boston's 16.3% nonwhite population differs markedly from St. Louis' 40.9%. Chicago's 32.7% evinces a similar variance from Los Angeles' 17.9%. *Id.* Additionally, the CUE report fails to account for changes in age population in the control and target cities over the time in question and for the place of birth of newly-arrived persons. Several studies have determined that persons raised in areas with high violence rates have a higher homicide propensity, even after moving to another region, and that differing homicide rates can be explained in part by this factor. See, e.g., Gastil, *Homicide and a Regional Culture of Violence*, 36 AM. SOC. REV. 412 (1971); cf. Pettigrew & Spier, *The Ecological Structure of Negro Homicide*, in CRIME IN AMERICA 69 (B. Cohen ed. 1970).

253. See note 242 *supra* & accompanying text.

254. The CUE study's tables reveal that there are more licensed firearms dealers in control city St. Louis (1443) than in targets Washington (681) and Boston (553) combined. Chicago, with 1116, approaches Los Angeles' 1141. CUE, *supra* note 68, at 126.

255. See note 241 *supra*.

256. CUE, *supra* note 68, at vi-vii.

257. The exclusion is accomplished neatly. The text simply notes, after referring to decreases in "violent firearm crimes", that the graphs shown are based on "the combined total of robbery by firearm and aggravated assault by firearm, reported on a quarterly basis . . ." in the designated areas. *Id.* at vii. No explanation for the omission of homicides is given. In fact, the possibility of including homicides is not mentioned; nor is attention otherwise drawn to the choice. The researchers later added a cryptic postscript: "In regard to specific criminal acts, robbery and aggravated assault are two consistent categories that denote crimes of violence." *Id.* at 48. Again, no explanation for the choice or the meaning of "consistent categories" is given.

questionable because of the careful attention given to homicide rates in prior studies.<sup>258</sup> Moreover, homicide should be more responsive to firearm controls than robbery.<sup>259</sup> The omission is even more significant because in CUE's interim report murder-rate reductions in the first months of CUE were cited as definitive proof of its beneficial impact.<sup>260</sup> One possible, albeit controversial, reason for the oversight can be seen if murder rates are included. In light of this omission, it is interesting that the data shows a decrease in murder rates in the target cities prior to CUE, that during CUE the rate of decrease slowed in one city and accelerated in another, and that the decrease was greater in the control cities than in the target cities.<sup>261</sup> Overall murder rates, including all weapons, also show

258. See, e.g., authorities cited at note 2 *supra*.

259. In response to the argument that a criminal can always obtain a firearm, advocates of firearms regulations have noted that homicides are often crimes of passion without advance planning. See *Hearings on Firearms Legislation*, *supra* note 3, at 578 (testimony of J. Aspen); *Hearings on S. Res. 35*, *supra* note 3, at 877 (testimony of J. Tydings). But cf. Hardy & Stompoly, *supra* note 2, at 101 n.227 (crime of passion argument contradicts position that state controls are evaded by purchases in other states).

260. Indeed, murder by firearm was the first category listed under "Violent Crime By Firearm". U.S. BUREAU OF ALCOHOL, TOBACCO AND FIREARMS, INTERIM REPORT: ANALYSIS OF CUE at v (Feb. 15, 1977).

261. One of the tables published in the statistical appendices, but not mentioned in the main CUE study, lists figures for murders, robberies, and assaults in terms of the total number of these crimes, the number committed with firearms, and the percent committed with firearms. The table below lists the percentage change in these figures from two years before CUE to the year before CUE and from the year before CUE to the year of CUE operation.

City	Factor	Pre-Cue Change (%)	Cue Change (%)
Washington	Total crimes	+ 7.5	—20.3
	with gun:	+ 4.5	—25.7
	percent w/gun:	— 1.6	— 7.1
Chicago	total w/gun	—20.2	—16.3
		—31.3	—22.7
		—13.3	— 8.0
Boston	total	—12.4	—26.2
		— 9.4	— 9.3
St. Louis	Total	+10.5	—10.7
	w/gun	+16.7	—15.5
Los Angeles		+ 7.2	— 5.9
	Total	+ 1.2	+ 4.0
	w/firearms	+ 7.4	+ 7.5
		+ 9.9	0.0

Source: CUE II, *supra* note 68, at D-15.

The chart reproduced here illustrates the dangers of statistical interpretation. The dramatic decrease in the percent of violent crimes and firearm crimes could be interpreted as

trends unfavorable to CUE.<sup>262</sup>

Even if the disregard of gun-related homicides is justified, the CUE results are still of dubious value. The study uses this data to make three claims about the effect of CUE on the "violent firearm crime rate." First, the violent crime rate decreased "more significantly" in the target cities after CUE was implemented than before. Second, "more significant" decreases in the violent crime rate were reported in the target cities of Boston and Chicago than in the control cities. Third, the rate of violent crime decreased "more significantly" in the target cities than in a composite of the twenty largest metropolitan areas.<sup>263</sup> Each of these comparisons is misleading absent a careful consideration of other significant details. For example, the study's use of the term "more significantly" obscures the fact that target city rates were declining prior to CUE and continued to decline during CUE in the control cities, the target cities, and in the twenty largest metropolitan areas.<sup>264</sup> Although the

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strong evidence of a turnabout due to strict gun control laws. But, contrary to what the table might suggest, St. Louis is *not* where the strict enforcement was deployed that year. Likewise, a shift of only a few months in the comparison periods will measurably alter the results. If the time of comparison between years is calculated from July, when Operation CUE was commenced in Chicago and Boston, instead of February, the time of the Washington CUE operation, the turnaround is much less dramatic. The percentage of crime with firearms goes from -1.6 to -0.0, instead of +7.2 to -5.9; the number of crimes with firearms goes from 0.0 to 12.0, rather than +16.7 to -15.5. *Id.*

262. Between 1975 and 1976, homicide rates in control city St. Louis dropped by 18.75%, compared to a 16% drop in Washington and a less than 4% reduction in Chicago. Only Boston, of all the target cities, exceeded the St. Louis homicide rate decline. Chicago's rate decline in 1975-1976 was considerably less than its 12.5% decline the year before CUE. *See* note 241 *supra*.

263. CUE, *supra* note 68, at vii.

264. The number of crimes with and without firearms is listed by city for each month in the study's appendices. CUE II, *supra* note 68, at D-1 to D-12.

Some interesting observations may be made, bearing in mind the CUE initiation dates of February, 1976 for Washington and July, 1976 for Boston and Chicago. The most significant reductions in Boston firearms crime occurred in 1975. Firearm homicides fell to 56 that year, compared to 70 the year before. Firearm robberies hit peaks in early 1975 but fell sharply by the end of the year. At the time CUE was initiated, firearm use in robberies already had fallen to around 100 a month.

Chicago crime likewise sharply declined before CUE went into effect. In 1976, for the three months preceeding CUE, 538, 565, and 512 firearm robberies were reported compared to 749, 762, and 783 the year before. The drops were extremely pronounced in control city St. Louis where firearm homicide fell from 182 in 1975 to 126 in 1976 and firearm robberies fell from 3079 to 2581. What is even more interesting is that these firearm crimes fell more rapidly than non-firearm crimes. Homicides other than by gun fell only slightly, from 60 to 56, although non-gun robberies fell from 3209 to 2722. Gun assaults dropped from 1022 to 900, while non-

two chosen crimes did decline "more rapidly" during CUE,<sup>265</sup> this decline began prior to CUE.<sup>266</sup> Conclusions as to the cause of these declining crime rates therefore must be evaluated together with these additional factors.

CUE still might be considered a success, though, if it induced further decreases in crime rates that otherwise might have stabilized, or even increased again, after these initial declines, but the rates for the selected crimes were declining more rapidly in the target than in the control cities even before CUE,<sup>267</sup> and no significant difference in trends can be detected during the period of the program.<sup>268</sup> The use of other, more comparable control cities might yield radically different results. A comparison of Washington with nearby Richmond, for example, shows similar assault trends in both cities, both before and after CUE, and the decline in Washington's robbery rate during CUE is no greater than that observed in Richmond.<sup>269</sup> Thus, no comparison of the control cities with the target cities can be expected to bear reliable evidence of CUE's impact.

gun assaults increased from 2551 to 2700. These sharp declines in gun crime coupled with lesser declines or increases in non-gun crime in a control city indicate that a trend toward reduced use of firearms existed absent the stricter enforcement effort of CUE. The need for caution in interpretation of crime level changes is clear.

265. CUE, *supra* note 68, at vii.

266. See text following note 222 *supra*.

267. CUE's Chicago-Los Angeles comparison indicates that from mid-1974 to CUE's initiation in mid-1976, Los Angeles crime rates increased mildly, while Chicago rates fell steadily. Both Boston and St. Louis rates fluctuated more widely, but St. Louis' rates tended to be considerably higher. See CUE II, *supra* note 68, at D-5, D-6, D-11.

268. The study indicates approximately parallel declines for the designated crimes. See note 264 *supra*.

269. The following chart will illustrate the similarity:

ROBBERY	1975	1976
Washington	473.6	367.8
Richmond	284.3	182.3
AGGRAVATED ASSAULT		
Washington	222.2	204.8
Richmond	219.8	203.8

Source: [1976] UNIFORM CRIME REPORTS, *supra* note 24, at 68, 721; [1975] UNIFORM CRIME REPORTS, *supra* note 24, at \_\_\_\_.

Percentages were calculated from data in the CUE report. CUE II, *supra* note 68, at D-7, D-8. CUE classifies major violent crimes by "Gun" and "Total". The "Non-gun" figures used here are obtained by subtracting the former from the latter.

The third comparison, between the target cities and the twenty largest cities, suffers from similar defects. Accurate comparison with the CUE cities is almost impossible due to differing periods of reference. Figures for the CUE cities were reported on a quarterly basis, while figures for the major cities were listed annually. At the time of the study, CUE had been in effect only six months in two target cities and for one year in the third. A comparison with areas for which only full-year averages were available could not be made accurately.

Another useful comparison, completely missing from the CUE study but indispensable in assessing the impact upon crime rates of any firearm control measure, is a contrast of the rate of gun-related crimes with that of non-gun crimes. If firearm control affects overall crime rates, it must do so by decreasing that portion of the total crime rate attributable to firearm crime. Conversely, if a decline in firearm crime occurred simultaneously with a reduction in non-firearm crimes, it may be inferred that these reductions were part of a trend affecting all crime and were not due to the firearm control program.

In view of these deficiencies, and taking into account the supplemental information discussed above, the results are unfavorable to CUE. In Boston, the crime rate was diminishing even before CUE was implemented, and the gun-related crime rate was decreasing more rapidly than the non-firearm crime rate. Compared with the same period a year before, just prior to CUE's implementation, violent crime fell 10.3% overall, and violent gun crime fell 19.4% in the first half of 1976.<sup>269</sup> This steep decline in gun-related crimes tapered off after CUE was implemented. In the second half of 1976, gun crime fell only 4%, far less than the 19.4% decline for the first half of the year. These figures reveal that after CUE was implemented, the reduction in non-gun crime not only kept pace with the reduction in gun crime in Boston but exceeded it.

In Chicago, the rate of gun crime decreased 29.1% between the first half of 1975 and the first half of 1976, about twice the decline for non-gun crime.<sup>270</sup> During the latter half of 1976, when CUE was in effect, gun crime actually increased 7%, as compared with a 5.9% increase in non-gun crime.<sup>271</sup> Thus, the Chicago experience is even

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270. CUE II, *supra* note 68, at D-5, D-6 (non-gun crime fell 16.2%).

271. *Id.* at D-6.

more damaging to the CUE report's conclusions: a massive reduction in gun crime before CUE apparently was reversed upon implementation of the CUE program.

The crime rates in Washington, the one remaining target city, are more difficult to assess. Washington's CUE program went into effect in February, 1976, not a mid-year as in the other target cities. Moreover, Washington crime rates historically are unstable and are subject to wide fluctuation even when annual periods are compared.<sup>272</sup> Washington experienced a gun crime reduction during the months of February to December, 1976, compared with the same period in 1975, but non-gun crime also fell during that period.<sup>273</sup>

Objectively analyzed, then, the CUE report's data shows little favorable change in the gun crime rate during Operation CUE not otherwise attributable to trends affecting both gun and non-gun crime. Indeed, two of the three target cities show negative trends during CUE. Unlike earlier, private studies, no attempt was made to test statistically the alleged reductions in firearm crimes.<sup>274</sup> In view of these deficiencies, both in the sample selection procedures and in the method of analysis used in preparing the CUE report, the results are of questionable value in accurately assessing the impact of a stepped-up enforcement effort, such as Operation CUE, on the rate of gun-related crime.

On the assumption that the effectiveness of the CUE project could be measured by studying shifts in the nature of firearms used during the period of the project, the study noted a movement away from newer to older firearms and from handguns to long-guns such as shotguns and rifles.<sup>275</sup> This reduction in the use of newer guns

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272. For example, in the years 1963-1966, respectively, Washington homicide rates went down 3.5%, up 26.8%, up 49.0%, and then down 5.8%. Between 1951 and 1956, they fell by as much as 39.7% and rose by as much as 25% annually. REPORT OF THE PRESIDENT'S COMMISSION ON CRIME IN THE DISTRICT OF COLUMBIA 33 (1966). With random fluctuations of this magnitude, even dramatic annual changes cannot be attributed objectively to any one cause. Without advanced statistical testing, which CUE selectively omitted for crime rates, no determination can be made whether any 1974-1975 trends are due to CUE, to random fluctuations, or to some other cause such as variations in the age composition of the population. Since both non-gun and gun crimes behaved roughly alike during CUE, the latter explanations are probably correct.

273. Non-gun violent crime fell from 5,888 occurrences to 4963, a 15.7% drop, over this period. CUE II, *supra* note 68, at D-3, D-4.

274. The failure to subject the crime impact results to appropriate statistical analysis is more surprising because of the use of such analysis on the study's gun-impact results. CUE II, *supra* note 68, at D-24.

275. CUE, *supra* note 68, at 42-45.



purportedly reflected CUE's success in restricting the importation of newer firearms. Assuming that CUE indeed caused this shift from newer to older firearms, the study does not question whether this shift is socially desirable. Older firearms tend to be of larger caliber,<sup>276</sup> which can result in a greater number of fatalities.<sup>277</sup> Similarly, a shift from handguns to rifles and shotguns can lead to an increase in the number of lethal wounds inflicted in firearms attacks.<sup>278</sup> Thus, the increase in sawed-off rifles and shotguns, noted in the CUE study,<sup>279</sup> may be socially undesirable.<sup>280</sup>

The definition of "new guns" used in this portion of the study included firearms one to three years old, age being measured from the first retail sale.<sup>281</sup> For unexplained reasons, firearms less than a year old were excluded from this analysis. Yet at the time of the study's end, CUE had been in effect only six months in two jurisdictions and barely a year in the third. Thus, the definition of "new guns" excludes almost all firearms sold during CUE, while including many sold during the one and one-half to two year period before the program's implementation. Moreover, although it might be expected that any scarcity in the number of weapons available for illegal sale would be reflected in higher prices for these guns, BATF agents operating undercover in Boston paid approximately the same prices for illegal firearms during CUE as were paid prior to CUE,<sup>282</sup> suggesting that no unusual scarcity existed.

Although laudable in its purpose, the CUE report is disappointing. Both the data and its analysis are questionable in light of the

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276. FIREARM ABUSE, *supra* note 78, at 57-58.

277. See *Hearings on Firearms Legislation*, *supra* note 3, at 1621 (exhibit) (.38 caliber fatal in 35%, .32 caliber in 18%, and .22 caliber in 9% of Cleveland hospital admissions surveyed); Zimring, *The Medium is the Message: Firearm Caliber as a Determinant of Death From Assault*, 1 J. LEGAL STUD. 97, 103 (1972) (36% fatality rate for a head or chest wound with .22 caliber, 76% fatality rate for a head or chest with .38 caliber).

278. See DeMuth, *The Mechanism of Shotgun Wounds*, 11 J. TRAUMA 219 (1971); Hardy & Stompoly, *supra* note 2, at 112; Taylor, *Gunshot Wounds of the Abdomen*, 177 ANN. SURGERY 174, 175-76 (1973).

279. CUE, *supra* note 68, at viii.

280. See note 44 *supra*.

281. CUE, *supra* note 68, at 47, 51, 55, 95.

282. The average price paid for firearms by undercover agents making street purchases was \$95.30 in Washington, \$99.95 in Chicago, and \$92.90 in Boston. *Id.* at 91. Pre-CUE figures are available for Boston only when, in 1974, BATF agents were paying an average of \$87.21 per handgun. FIREARM ABUSE, *supra* note 78, at 91. A five-dollar increase over two years is scarcely indicative of a great shortage in supply.

sampling techniques and the methods of interpretation applied. The study suffers from an unfortunate excess of self-interest, manifest in either omitting or obscuring unfavorable indications.

*Douglas Murray: Statistical Analysis of Existing State Firearm Laws*

In 1975, Douglas Murray, a statistician at the University of Wisconsin, employed multivariant statistical techniques to test whether any relationship could be found between lower rates of violent crime and existing state firearm laws. Murray's study of firearms and firearm laws,<sup>283</sup> unlike the studies discussed previously, did not attempt to uncover new data. Rather, it relied upon previously reported data on firearms, firearm laws, and social variables to determine if existing laws had, or were likely to have, an impact upon violent crime unattributable to underlying social conditions.

Two previous studies, the earliest to use statistical tools to determine the impact of existing gun laws upon crime, essentially concluded that no relationship between firearm controls and violent crime rates could be proven.<sup>284</sup> These efforts subsequently were expanded and improved upon in three studies that also found no relationship between violent crime levels and either gun laws or gun ownership.<sup>285</sup> Critics of these studies argued that social variables other than gun laws and firearm ownership had not been considered adequately.<sup>286</sup> A later study accounting for these variables indicated

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283. Murray, *Handguns, Gun Control Laws and Firearm Violence*, 23 SOC. PROB. 81, 82 (1975).

284. WISCONSIN LEGISLATIVE REFERENCE LIBRARY, *THE REGULATION OF FIREARMS BY THE STATES* (Research Bulletin 130, 1960); NEWTON & ZIMRING, *supra* note 1, at 182 (describing unpublished study by Olin Mathieson Co.).

285. Krug, *The Relationship Between Firearms Ownership and Crime Rates: A Statistical Analysis* (Jan. 29, 1968), reprinted in 114 CONG. REC. 1496-97 (1968); Krug, *A Statistical Study of the Relationship Between Firearms Licensing Laws and Crime Rates* (March 27, 1967), reprinted in 113 CONG. REC. 20060, 20064 (1967).

286. E.g., Zimring, *Games with Guns and Statistics*, 1968 WIS. L. REV. 1113. Essentially, the arguments advanced in criticism were that the definition of "licensing state" was vague and overly inclusive, covering a variety of laws including several unenforced statutes, while excluding some states that ban the carrying of guns with or without a permit and including some where licensing only covers a few counties; that the study ignores other variables that can influence crime rates; and that it ignores the effects of interstate evasion.

Krug responded to these criticisms with a defense of his definition of "licensing state" (the state allegedly outlawing all carrying of guns only outlawed carrying them concealed, all licensing states allowing county-option plans also have other forms of licensing) and a statement that his analysis was intended to test only the general hypothesis that gun law states

that firearm controls had a significant impact upon violent crime.<sup>287</sup>

Using a multiple regression analysis, Murray sought to assess the impact of gun ownership and gun laws upon crime rates and to evaluate the relationship of gun laws to gun ownership, while avoiding the deficiencies of the earlier studies. The initial analysis sought to ascertain the relation between firearm controls and violent crime. The degree of firearm control in each state was quantified by a seven factor checklist.<sup>288</sup> Social variables were employed to predict fluctuations in the rates of the four major acts of violence;<sup>289</sup> the seven possible components of firearm controls then were applied and tested for statistical significance. The results were predominantly negative. Of twenty-eight resulting equations, not one proved statistically significant.<sup>290</sup> When all seven components were applied in unison, no significant change was noted. A significant relationship, however, did appear for one of the four crimes, aggravated assault,<sup>291</sup> but this may have been a chance occurrence.<sup>292</sup> The application of this improved analysis thus confirmed the results of earlier studies

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have lower crime rates than non-gun law states, not to isolate other variables that might explain the difference. See *Hearings Pursuant to S. Res. 240*, *supra* note 3, at 734. See also Murray, *supra* note 283, at 82.

287. Geisel, Roll & Wettick, *The Effectiveness of State and Local Regulation of Handguns: A Statistical Analysis*, 1969 DUKE L.J. 647. For criticism of this study, see Hardy & Stompoly, *supra* note 2, at 88, 92 (noting that the study failed to account for the possibility that cultural factors cause both homicide rates and firearms legislation; failed to consider cultural conditions generally; and included projected suicide reductions along with homicide); Murray, *supra* note 283, at 83 (study condensed variety of gun laws into a single variable; weighed that variable at same time as social variables, which may reduce the effect of the latter variables; tested an excessive number of variables, which can produce weights that are the product of a chance correlation; and used unstandardized regression coefficients that are "woefully inadequate" for comparing the relative importance of variables).

288. The seven factors were taken from other authors and consisted of: license or permit required to buy handgun; waiting period for handgun; must handgun sales be reported to police; is a license required to purchase handguns at retail; minimum age requirement; permit or license required to carry handgun openly; and permit or license required to carry handgun concealed. Murray, *supra* note 283, at 84-88.

289. The acts consisted of suicide, homicide, robbery, and assault. Accidents were included in the testing for the effects of ownership but not of gun laws because the study anticipated that such laws would have minimal impact "on random, non-criminal occurrences such as accidents." *Id.* at 88 n.5.

290. *Id.* at 88.

291. *Id.*

292. The author concluded that this was probably a chance occurrence because a relation was found only with age limitations, not with any of the other six forms of laws, and because aggravated assault was least likely to reflect firearms legislation since guns were used in only 18% of such assaults. *Id.*

that found no relationship between gun laws and violent crimes.<sup>293</sup>

The second level of study involved testing for a relationship between firearm legislation and access to handguns. Statistics of handgun ownership were not available on a state-by-state basis; instead, regional figures on handgun ownership were derived from Harris and Gallup polls.<sup>294</sup> The social variables employed to predict violent crime rates first were tested to determine the significance of their impact on handgun ownership. To the resulting models of pistol ownership, the various components of firearms legislation were introduced. Applied to the Harris poll figures, the results indicated that two components of firearm restrictions were significantly related to handgun ownership: age requirements and carrying permits.<sup>295</sup> No significant relationships, though, were obtained from similar tests of the Gallup poll figures.<sup>296</sup> Furthermore, even these relationships disappeared when all seven components were added to the model simultaneously,<sup>297</sup> which again suggests that these might have been the product of chance.<sup>298</sup> The Murray study concluded that existing firearm control laws bear no statistically demonstrable relation to handgun possession.

At its third level, the study attempted to test the relationship between gun ownership and violent crime rates. Using gun ownership figures garnered from the Gallup and Harris polls, a statistically significant relationship was found to exist between gun ownership and only one of the four major violent crimes, robbery.<sup>299</sup> However, as before, the probability that this relation was due to chance is high.<sup>300</sup>

The Murray analysis concluded, in accord with the earlier studies, that no significant relationship exists between firearm controls or handgun ownership and violent crime levels.<sup>301</sup> This conclusion is tempered by the study's principal shortcomings: the restricted data available at the time it was conducted and the limited value of regression analyses in this area. The quantification of firearm re-

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293. See notes 284-85 *supra*.

294. Murray, *supra* note 283, at 89.

295. *Id.*

296. *Id.*

297. *Id.* at 89-90.

298. *Id.* at 90.

299. *Id.* at 90-91.

300. *Id.*

301. *Id.* at 91-92.

strictions, while superior to earlier measures,<sup>302</sup> still cannot take into account such factors as the variety of controls that have arisen in recent years or the actual level of enforcement. In addition, it is difficult to assess the impact of interstate evasion of local controls upon the effectiveness of those restrictions. Given these limitations, the probative value of a comparison of state gun control regulations and crime rate variations is questionable.

### CONCLUSION

The breadth of information produced by the post-1974 studies prevents a simple summary of their conclusions or a brief statement of the points confirmed and contradicted by the individual studies. The major observations relevant to the formulation of future domestic firearm policies, however, may be grouped into two categories: those conclusions regarding the nature of firearm ownership and use and those relevant to the probable impact of additional firearm regulation.

The available information confirms the extensive nature of firearm ownership in the United States.<sup>303</sup> The various studies' conclusions, however, are in conflict as to the trends in ownership. The NORC survey indicates that firearm and handgun ownership has not been growing relative to population;<sup>304</sup> while the later California poll indicates that percentages of handgun ownership have been accelerating in recent years.<sup>305</sup> Surprisingly, the socioeconomic pattern of ownership corresponds inversely to the pattern of violent crime, gun ownership being more frequent among high income groups, rural areas, and non-minority racial groups.<sup>306</sup>

The primary motivation for handgun ownership appears to be self-defense, with other purposes nonetheless significant.<sup>307</sup> Curiously, even those who feel that handguns are inefficient and dan-

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302. Both the Krug and Geisel studies employed essentially a single measure for firearms legislation; thus, all states had to be classed either as "gun law" or "no gun law". See notes 285 & 287 *supra*. Murray, however, was able to test seven forms of gun laws. See note 288 *supra*.

303. See note 12 *supra* (NORC: 47% of population owned firearms, 42% of which owned handguns); text accompanying notes 38-39 *supra* (California Dep't of Justice: 15.5% own handguns).

304. See text accompanying note 9 *supra*.

305. See text accompanying note 40 *supra*.

306. See notes 13-16 *supra* & accompanying text.

307. See CUE, *supra* note 68, at 61; note 30 & accompanying text *supra*.

gerous when used for self-defense still are inclined to personal ownership.<sup>308</sup>

Weapon use in threats and in self-defense occur considerably more often than might have been supposed.<sup>309</sup> Both uses result in a surprisingly low "kill ratio", amounting to only 3 to 4%. In the majority of cases the firearm is not fired, either in defense or in aggression, and in the vast majority of cases where it is fired, no one is hit.<sup>310</sup> This very high ratio of uses to killings undermines existing appraisals of the defensive utility of firearms and suggests that defensive uses may be considerably more frequent than has been believed.<sup>311</sup> The utility of firearm use in self-defense is supported by the widespread favorable attitude of law enforcement officers.<sup>312</sup>

The application of this information to estimate the probable impact of firearm regulations should focus upon two issues: first, an assessment of the probability of evasion of firearm regulations, and, second, a determination of whether certain limited forms of regulation, such as those aimed at handguns or "Saturday night specials", are likely to produce significant results. As noted above, firearm ownership is extensive and, in the case of handguns, is motivated primarily by concern for personal safety. This pattern is sustained by the strong feelings regarding the defensive desirability of handguns. Accordingly, it is not surprising to find a significant interstate flow of firearms, which has the effect of negating the impact of state

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308. See note 60 *supra* & accompanying text.

309. See text accompanying notes 41 & 43 *supra*.

310. See notes 42 & 44 *supra* & accompanying text.

311. The only available information on how many crimes are prevented or even deterred by firearms is reflected in the number of deaths inflicted by firearms used in self-defense. Thus, the total picture of defensive use must be extrapolated from the number of deaths, based on assumptions as to the proportion between deaths and total uses. For example, one authority has estimated that only one in five hundred burglaries is prevented by defensive use of a firearm. But this conclusion is based solely on an estimate of the number of burglars killed in the studied city, less than two per year, and then an estimate as to how many would be wounded (twelve to twenty); the number of shots that totally miss or threats made without shooting are not included since "there are no available statistics on the frequency of such events." NEWTON AND ZIMRING, *supra* note 1, at 63. Thus the assumption is that total uses outnumber fatalities by a factor of between 6 and 10. If, as the California study suggests, fatalities result in only 3% of defensive uses, the real number of burglaries thus thwarted could be as high as five times the estimate given by these authorities. This would make such an occurrence nearly as frequent a result of burglary as criminal conviction. See R. CLARK, CRIME IN AMERICA 117 (1970) (only 3.2% of reported city burglaries result in conviction; actual burglaries are probably two to five times the number of reported burglaries).

312. See notes 57-59 *supra* & accompanying text.

and local regulations.<sup>313</sup> Contrary to expectations, however, most of this flow occurs at the individual level rather than via large-scale illegal dealers.<sup>314</sup> Individuals legally prohibited from purchasing firearms locally will travel to other jurisdictions where there are no restrictions.<sup>315</sup> Both the Police Foundation and CUE reports further document the utility of theft in providing illegal firearms, presently amounting to approximately twenty percent of the firearms seized.<sup>316</sup>

There is also strong evidence that restrictions on the type of weapon induce substitution with other weapons. Both the CUE and California reports suggest that once their availability is restricted, handguns are exchanged for long-arms,<sup>317</sup> which can be considerably more deadly.<sup>318</sup> The Harvard Gun Project also documents a tendency to shift from firearms to other weapons when the supply of firearms is restricted.<sup>319</sup> This shift to other weapons may not be as desirable as previously supposed. When used to threaten or in defense, firearms often are never fired, and, if they are, the result is usually a complete miss or a non-fatal wound.<sup>320</sup> The California study found no significant difference in fatality rates between robberies accomplished by firearms and those accomplished by other weapons.<sup>321</sup> Despite reductions in firearm carrying and a massive increase in compliance with the Massachusetts law,<sup>322</sup> the Harvard study could find little evidence of a direct impact on crime rates.<sup>323</sup> Murray's study was in accord, finding few statistically demonstrable relationships between firearms use and regulation and homicide rates.<sup>324</sup>

As to the type of regulation, the prevalence of substitutes noted above weakens the effectiveness of regulations aimed solely at handguns. The Police Foundation's attack on BATF studies, which sin-

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313. See CUE, *supra* note 68, at xi.

314. *Id.* at 61.

315. See text accompanying note 77 *supra*.

316. See notes 109-110 *supra* & accompanying text.

317. See text accompanying notes 167 & 275 *supra*.

318. See note 168 *supra*. The pistol fatality rate may be especially low if smaller caliber pistols are used. See note 279 *supra*.

319. See note 209 *supra* & accompanying text. See also note 221 *supra*.

320. See notes 42 & 44 *supra* & accompanying text.

321. See notes 163 & 164 *supra* & accompanying text.

322. See text accompanying notes 180 & 204 *supra*.

323. See notes 207-216 *supra* & accompanying text.

324. See text accompanying notes 290-301 *supra*.

gle out the "Saturday night special",<sup>325</sup> together with the BATF's failure to find a significant proportion of "Saturday night specials" involved in crime,<sup>326</sup> indicate that regulations concentrating on such firearms are inadequate. Minimum sentences of various types tend to find at least limited support as a deterrent in the Harvard study's results. Minimum sentencing reduced firearm carrying and dramatically increased compliance with firearm control laws,<sup>327</sup> although there was little actual impact upon homicide rates. Also, such proposals for mandatory sentences have been found repeatedly by surveys to have stronger support among the police and the public than other forms of firearm control such as registration, permit, or confiscation statutes, and thus appear politically more feasible.

In these respects the recent empirical studies on firearm regulation provide valuable information about firearms and firearm controls that was not available prior to 1975. They also provide possible guideposts for future investigation in this field. Several areas exist in which future study might prove especially profitable. First, additional surveys of the populace to determine weapons use in defense and aggression might be highly useful. The California survey provides data on only a small sample of persons for that state, and relevant only to handguns. Surveys of other areas, dealing with a broad spectrum of possible defensive weapons, would be considerably more informative. Moreover, a breakdown of the "fired but no one injured" responses to differentiate between warning shots and complete misses would be beneficial. Additional data on the nature of the attack defended against, in particular whether the attacker was armed and, if so, with what weapon, also might be helpful.

The data base used for the survey of violent deaths in California also is capable of great improvement. Extension of such a survey to other jurisdictions is appropriate, particularly if a more detailed breakdown between urban and non-urban areas can be given. The drawing of more detailed distinctions between residential and non-residential homicides, for purposes of determining whether the perpetrator logically would have been interested in concealing the weapon, is vital. The residence involved may be either the residence

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325. See text accompanying notes 82-87, 105-106 *supra*.

326. See CUE, *supra* note 68, at 47, 50, 54. In the three target cities, the percentages of "crime related handguns" within the BATF definition of "Saturday night special" were 25%, 25%, and 20% respectively.

327. See text accompanying notes 180 & 204 *supra*.



of the victim, of the perpetrator or, in domestic homicides, of both. Concealability might be essential in obtaining entry to the victim's residence, whereas it would not be a factor in the perpetrator's residence.

As a third major area where improvements are suggested, a survey of the specific nature of homicides would yield important data. Information about the range of the weapon, whether the offender attempted to conceal the weapon, whether he rationally chose the weapon for concealability or range, and other relevant details might be obtained. Reports of assaults and attempted murders also might be studied in order to single out those assaults that appear to be attempted murders and to determine whether a firearm attack is more or less likely to prove lethal. A determination about whether different social, economic, or other classes tended to have preferences for specific weapons also could be made.

Finally, studies of the influence of specific laws might improve upon the methodology chosen by the Harvard Center for Criminal Justice. The use of advanced statistical methods in comparing the crime rates of the state adopting controls with the crime rates of statistically similar states or regions might enable policymakers to separate the impact of the law from that of general social changes in the area. Studies of concealed weapons arrests that differentiate among the types of weapons seized might indicate whether the carrying of firearms has decreased in relation to the carrying of other weapons and whether former firearm carriers are substituting other weapons. Such an investigation, if undertaken by a governmental unit, should be delegated to an independent and scholarly concern, and specific measures should be taken to prevent the manipulation of figures that apparently occurred in the CUE report.