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EASING CONCEALED FIREARMS LAWS: EFFECTS ON HOMICIDE IN THREE STATES*

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I. INTRODUCTION

Restrictions on carrying concealed weapons are among the most common gun control policies.[1] These statutes limit who may have a deadly weapon—usually a handgun—hidden on their person when outside the home. By reducing access to guns in public, concealed weapons laws seek to make firearms less available for violence.[2]

Details of concealed weapons laws vary greatly among localities, but most approaches fall into two categories. One of these is a discretionary system, sometimes called "may issue" licensing.[3] Under this policy, legal authorities grant licenses only to those citizens who can establish a compelling need for carrying a gun.

The other approach is a non-discretionary, or "shall issue," system.[4] Here the authorities *must* provide a license to any applicant who meets specified criteria. Because legal officials are often unwilling to allow concealed weapons, adopting a shall issue policy usually increases the number of persons with permits to carry guns.[5]

In 1985, the National Rifle Association announced that it would

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1 *See* JAMES D. WRIGHT ET. AL., UNDER THE GUN: WEAPONS, CRIME, AND VIOLENCE IN AMERICA 243-72 (1983); Gary Kleck & E. Britt Patterson, *The Impact of Gun Control and Gun Ownership Levels on Violence Rates*, 9 J. QUANTITATIVE CRIMINOLOGY 249 (1993).

2 *See, e.g.*, Franklin E. Zimring, *Firearms, Violence, and Public Policy*, 265 SCI. AM. 48 (1991).

3 GARY KLECK, POINT BLANK: GUNS AND VIOLENCE IN AMERICA 411-14 (1991).

4 *Id.*

5 Paul H. Blackman, Carrying Handguns for Personal Protection: Issues of Research and and Public Policy (presented at the Annual Meeting of the American Society of Criminology (Nov. 1985)).

lobby for shall issue laws.[6] Several states, including Florida, Mississippi, and Oregon, have since changed from may issue to shall issue systems. Advocates of shall issue laws argue that such laws will both prevent crime and reduce homicides.[7]

This Article examines the frequency of homicides in the large urban areas of Florida, Mississippi, and Oregon, before and after their shall issue laws began. The analysis provides no support for the idea that the laws reduced homicides; instead, it finds evidence of an increase in firearm murders.

II. THE LAWS

On October 1, 1987, Florida adopted a shall issue law that greatly expanded eligibility to carry a concealed weapon.[8] The new statute required the state to grant a concealed weapon license to any qualified adult who had taken a firearms safety course. Those persons with a history of drug or alcohol abuse, a felony conviction, mental illness, physical inability, or who were not Florida residents were disqualified from obtaining a license.

Prior to the passage of the Florida shall issue law, county officials set their own standards for concealed carrying. Throughout the state, about 17,000 persons held permits, including 1,300 in Dade county (Miami) and 25 in Hillsborough county (Tampa).[9] The number of licenses rose steadily after the passage of the new law, reaching 141,000 in September 1994.[10]

Mississippi adopted a shall issue law on July 1, 1990.[11] The Mississippi law was similar to the Florida law, except that it did not require firearms safety training. Mississippi's earlier law was highly restrictive, generally allowing only security guards to have concealed weapons.[12] In contrast, the new law is more lenient; by November 1992, the state had issued 5,136 new licenses.[13]

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6 *Id.; see also* G. Ray Arnett, *Sincerely, GRA*, 133 AM. RIFLEMAN 7 (1985).

7 *See, e.g.*, WAYNE LAPIERRE, GUNS, CRIME, AND FREEDOM 29-39 (1994); David B. Kopel, *Hold Your Fire: Gun Control Won't Stop Rising Violence*, 63 POL'Y REV. 58 (1993).

8 FLA. STAT. ch. 790.06 (1992). *See* Richard Getchell, *Carrying Concealed Weapons in Self-Defenses: Florida Adopts Uniform Regulations for the Issuance of Concealed Weapon Permits*, 15 FLA. ST. U.L. REV. 751 (1987).

9 *See* Lisa Getter, *Accused Criminals Get Gun Permits*, MIAMI HERALD, May 15, 1988, at 1A; Stephen Koff & Bob Port, *Gun Permits Soar Through Loopholes*, ST. PETERSBURG TIMES, Jan. 7, 1988, at A1.

10 FLORIDA DEPARTMENT OF STATE, DIVISION OF LICENSING, CONCEALED WEAPONS/FIREARM LICENSE STATISTICAL REPORT FOR PERIOD 10/01/87 TO 09/30/94 (1994).

11 MISS. CODE ANN. § 45-9-101 (1991).

12 David Snyder, *New Miss. Gun-Permit Law Raises Visions of Old West*, TIMES-PICAYUNE (New Orleans), Aug. 13, 1990, at A1.

13 Grace Simmons, *Police Want Concealed Guns Banned From Cars*, CLARION-LEDGER (Jack-

Oregon adopted a shall issue law on January 1, 1990, in a compromise between supporters and opponents of stricter gun control measures.[14] Oregon's new law required county sheriffs to provide a concealed handgun license to any qualified adult who had taken a firearms safety course. People who could not obtain a license included: those with outstanding arrest warrants, those on pretrial release, those with a history of mental illness, or those with a felony or recent misdemeanor conviction.

In addition to easing laws on concealed carrying, Oregon's new law also tightened standards for buying a gun. While the old law barred convicted felons from owning handguns, the new law prohibited convicted felons from owning any type of firearm. Oregon's new law also lengthened the waiting period for handgun purchases and required more detailed background checks. It further prohibited most persons ineligible for a concealed handgun license from obtaining any firearm.

Before the passage of the new law in 1991, Oregon's sheriffs issued concealed handgun licenses at their discretion. In 1989, there were fewer than 500 licensed carriers in Clackamas, Multnomah, and Washington counties, the core of the Portland metropolitan area.[15] By October 1993, the number of licenses in these counties grew to 16,000.[16]

III. Possible Effects of Shall Issue Licensing on Crime

While the shall issue policies clearly increased the number of persons licensed to carry concealed weapons in Florida, Mississippi, and Oregon, their effects on crime are less obvious. There are grounds to believe that crime might increase, decrease, or remain the same after a shall issue law is passed.

Shall issue licensing might reduce crime by deterring criminal offenders. Criminals generally wish to avoid victims who may be carrying guns.[17] Knowledge that many citizens have concealed weapons could discourage attempts at crime, especially crimes against strangers and crimes in public areas.

On the other hand, shall issue licensing also might raise levels of criminal violence. This is so because shall issue laws increase the

son), Nov. 11, 1992, at A1.

14 Or. Rev. Stat. § 166.291-§166.295 (1991). *See also,* Rhonda Canby, *1989 Oregon Gun Control Legislation,* 26 Willamette L. Rev. 565 (1990).

15 Bill MacKenzie, *Packin' the Heat,* Oregonian (Portland), Nov. 4, 1993, at A1.

16 *Id.*

17 *See, e.g.,* James D. Wright & Peter H. Rossi, Armed and Considered Dangerous: A Survey of Felons and Their Firearms 141-59 (1986).

number of persons with easy access to guns. Zimring and Cook argue that assaults are often impulsive acts involving the most readily available weapons.[18] As guns are especially deadly weapons, more firearm carriers might result in more homicides.

Advocates of shall issue licensing cite figures showing that few legal carriers misuse their guns.[19] Yet greater tolerance for legal carrying may increase levels of illegal carrying as well. For example, criminals have more reason to carry firearms—and to use them—when their victims might be armed.[20] Further, if permission to carry a concealed weapon is easy to obtain, citizens and law enforcement officials may be less apt to view illegal carrying as a serious offense.

Still, shall issue licensing may be irrelevant to crime. Even in areas with shall issue policies, only a small fraction of adults have licenses to carry guns. Many citizens keep guns in their homes, and police officers often carry guns when off-duty and in plain clothes. The increase in available firearms due to shall issue licensing may be of little consequence.

IV. Existing Evidence on the Effects of Shall Issue Licensing

Most empirical discussions of shall issue licensing compare homicides in Florida before and after the beginning of its law. Homicide is the most accurately recorded crime, reducing the influence of measurement error on the comparison. Florida adopted its law earlier than did the other states, providing more time to study the effects.

All existing comparisons of Florida homicide rates before and after the passage of the Florida shall issue law found that Florida homicides decreased after the shall issue law. The National Rifle Association, for example, notes that Florida's homicide rate fell by 21% when comparing 1987 with 1992.[21]

Although the Florida experience appears to support a deterrent effect, the existing comparisons suffer from several weaknesses. First,

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18 Franklin Zimring, *Is Gun Control Likely to Reduce Violent Killings?*, 35 U. Chi. L. Rev. 721 (1968); Philip J. Cook, *The Technology of Personal Violence, in* 14 Crime & Jus.: Ann. Rev. Res. 1 (Michael Tonry ed., 1991).

19 *See, e.g.*, LaPierre, *supra* note 7, at 36-38; Jeffrey R. Snyder, *A Nation of Cowards*, 113 Pub. Interest 40 (1993). *See also* Florida Department of State, *supra* note 10.

20 In a survey of prison inmates, Wright and Rossi found that a majority of gun-carrying criminals cited armed victims as an important motivation for their actions. Wright & Rossi, *supra* note 17, at 150. Of course, criminals rarely will know with certainty if a potential victim has a concealed gun. Even unarmed victims may therefore be more vulnerable to harm.

21 National Rifle Association, Institute for Legislative Action, Fact Sheet: Carrying Concealed Firearms (CCW) Statistics (1994). *See also* LaPierre, *supra* note 7, at 33; Kopel, *supra* note 7, at 63; George F. Will, *Are We 'A Nation of Cowards'?*, Newsweek, Nov. 15, 1993, at 92-93.

these studies all use Uniform Crime Report data compiled by the Federal Bureau of Investigation (FBI). In 1988, the FBI did not publish crime counts for Florida. Evaluations based on the FBI data thus must ignore 1988 or use estimates of the 1988 total. This is important because 1988 was the first full year after the law's passage.[22]

Second, the existing evaluations use short time series of annual data. Even in Florida, there are few annual observations after the law began, and most comparisons only include those years immediately prior to the law's passage. Because crime increases and decreases over time due to the operation of many factors, comparisons using short time series are highly prone to the influence of chance events that briefly push homicides above or below their average levels.

Third, the existing comparisons examine total homicide rates for the entire state. If some areas respond differently to the laws than do others, a statewide analysis may miss important effects. For example, the influence of shall issue laws may be greatest in urban settings where crime is most prevalent. If this is true, including rural areas in an analysis would make it more difficult to detect changes in violence. Similarly, combining firearms and other weapon homicides might mask effects unique to one type of murder.

Fourth, most existing studies compare homicide levels before the shall issue law only with levels in 1991 or later. In February 1991, Florida adopted background checks of handgun buyers, and in October 1991, it began a waiting period for handgun purchases.[23] Comparisons that use only 1991 or later years cannot separate the effects of the shall issue law from those of the other two laws. The reductions in homicides that these studies claim may as easily be due to the other policies as to shall issue licensing.

In short, current evaluations leave much room for doubt about the effects of the Florida law. The shall issue laws in Mississippi and in Oregon have not received even this limited attention. A more detailed analysis using data from all three states would allow stronger inferences about the impact of the policies.

V. Research Design

A. Study Design and Data

Similar to existing evaluations of shall issue licensing, this study used an interrupted time series design to estimate average homicide

[22] In addition, from 1988 through 1991 Florida did not report data to the FBI that distinguished firearms homicides from homicides by other means. Existing comparisons use only total homicide counts.

[23] Fla. Stat. chs. 790.065, 790.0655 (1992).

levels before and after shall issue policies began.[24] We studied patterns in Florida, Mississippi, and Oregon. In addition, we analyzed monthly homicide counts and examined only large urban areas within the three states. To find if the laws influenced gun deaths differently, firearm homicides were separated from homicides by other means.

We conducted analyses for Dade (Miami), Duval (Jacksonville), and Hillsborough (Tampa) counties in Florida, and for Hinds (Jackson) county in Mississippi. Because there were relatively few homicides in Multnomah county (Portland), we combined Clackamas, Multnomah, and Washington counties in Oregon. For each area, we used death certificate data compiled by the National Center for Health Statistics (NCHS) to count monthly homicides through December 1990.[25] Health departments in Florida, Mississippi, and Oregon provided additional cases from January 1991, to December 1992.

For all areas except Miami, we studied the period between January 1973 and December 1992 (240 months). We confined our Miami analysis to January 1983 through December 1992 (120 months) because of an unually sharp increase in homicide rates in May 1980 after an influx of Cuban refugees. In late 1982 the rates appeared to stabilize.[26]

In total, there were 177 months before the shall issue law in Jacksonville and Tampa, and 57 months before the shall issue law in Miami. For all three Florida cities there were 63 months after the law. In Mississippi there were 210 pre-law months and 30 post-law months. In Oregon there were 204 pre-law months and 36 post-law months.

To remove the effects of systematic variation from each time series, we developed autoregressive integrated moving average (ARIMA) noise models.[27] The noise models allow for variables, such as poverty or age structure, which influenced homicides both before and after the legal changes. If not controlled, these variables may bias inferences about the laws.

After developing suitable noise models, we added intervention models to measure changes in homicides following the shall issue laws.[28] We considered three intervention models: an abrupt permanent change model, a gradual permanent change model, and an ab-

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[24] *See* THOMAS D. COOK & DONALD T. CAMPBELL, QUASI-EXPERIMENTATION: DESIGN AND ANALYSIS ISSUES FOR FIELD SETTINGS 207-32 (1979).

[25] Department of Health and Human Services, National Center for Health Statistics, Inter-University Consortium for Political and Social Research, Mortality Detail Files, 1968 to 1990 (1993).

[26] Still, we reached similar conclusions when we analyzed all 240 months of Miami data.

[27] GEORGE E. P. BOX ET AL., TIME SERIES ANALYSIS: FORECASTING AND CONTROL (3d ed. 1994).

[28] *Id.* at 462-69.

rupt temporary change model.[29] For each series, the abrupt permanent change model provided the best fit to the data.[30]

Our analysis avoids the major problems of previous comparisons. The NCHS data collection system is independent of the FBI, allowing us to use 1988 Florida homicide counts.[31] The long monthly time series provides more stable estimates of homicide patterns before and after the shall issue laws began. By studying firearms and other weapon murders separately in several areas, we can more precisely isolate any changes due to the laws.

B. THREATS TO VALIDITY AND SUPPLEMENTARY ANALYSIS

Interrupted time series studies are among the strongest non-experimental research designs.[32] Still, as is true with any design, time series studies do not eliminate all threats to valid inference.

Perhaps the most important threat to the design's validity is "history," the possibility that a permanent change in another variable produced an observed effect.[33] For example, suppose that each area adopted other policies that influenced crime when they began their shall issue laws. These policies then would be confounded with the laws, and they would be historical threats to validity.

The major method we used to avoid historical threats was replication of the analysis in five metropolitan areas. An unnoticed historical event may have increased or decreased homicides in any single area after its shall issue law began. Yet if similar outcomes occur in several different places after the laws, historical events become a less plausible explanation of the change.[34] With a consistent set of results, an historical explanation would require that each area witness permanent changes in other causes of homicide at about the time its law began. These changes would have to influence homicides in the same way in each area, increasing them in all five areas or decreasing them in all five areas.

The areas in our study are geographically separated and demographically diverse, and they adopted their laws at three different

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29 *See* DAVID MCDOWALL ET AL., INTERRUPTED TIME SERIES ANALYSIS 83-85 (1980.

30 *Id.* at 83-85 (discussing criteria for selecting the best-fitting model).

31 For a description of the FBI and NCHS data collection systems, see Marc Riedel, *Nationwide Homicide Data Sets: An Evaluation of the Uniform Crime Reports and the National Center for Health Statistics Data, in* MEASURING CRIME: LARGE-SCALE, LONG-RANGE EFFORTS 175 (Doris Layton MacKenzie et al. eds., 1990).

32 *See* DONALD T. CAMPBELL & JULIAN C. STANLEY, EXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS FOR RESEARCH 37-43 (1963).

33 COOK & CAMPBELL, *supra* note 24, at 211.

34 CAMPBELL & STANLEY, *supra* note 32, at 42 (pointing out that the natural sciences heavily rely on time series designs, and use replications to rule out rival hypotheses).

times. While the replications cannot entirely rule out history, a consistent set of results would greatly narrow the range of historical events that could account for an effect. On the other hand, a varied pattern of results, with large increases or decreases in only one or two areas, would support an historical explanation.

Beyond replication, we used two additional methods to assess historical threats. First, we searched for other legal changes, especially changes in firearms laws, which might affect homicides. The most significant laws we found were Florida's background check, adopted in February 1991, and waiting period, adopted in October 1991.[35]

Florida's waiting period and background check laws began more than three years after shall issue licensing, leaving little data to estimate their effects. Still, we included these laws in a supplementary analysis to verify that they were not confounded with the licensing policy. Because the waiting period followed the background checks closely in time, we considered them as a single law that began in February 1991.

As a second check on historical threats, we estimated models that included homicide counts for the entire United States as an additional independent variable. This analysis studied whether homicide changes in the five areas simply mirrored national patterns; that is, homicide levels may have changed after the laws only because of events common to the nation as a whole. If this were true, the shall issue laws would not influence homicides net of the national counts.

We could obtain national homicide counts only through the end of 1991.[36] This limits the amount of data after the shall issue laws, especially in Mississippi and Oregon. Still, the national analysis provides an idea of whether broad historical events can explain any observed local changes.

Besides considering historical threats, we also conducted a supplementary analysis that used homicide rates instead of homicide counts. The population of all five areas grew over the study period, especially in the Florida cities. Homicide counts thus may have changed after the laws in part because of increases in the populations at risk.

To remove the influence of population, we estimated models for homicide rates per 100,000 persons. Only annual population figures

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[35] FLA. STAT. chs. 790.065, 790.065 (1992). As we noted earlier, Oregon changed several other features of its firearms laws when it adopted shall issue licensing. Because these other changes began with the shall issue policy, we cannot separately estimate their effects.

[36] Department of Health and Human Services, National Center for Health Statistics, Inter-University Consortium for Political and Social Research, Mortality Detail Files, 1968 to 1991 (1994).

were available, so we aggregated homicides in each area by year.[37] Because the annual data provided few cases to study changes in rates, we next pooled all five areas using a fixed effects analysis of variance model.[38] This created a single set of data, with seventy observations before the laws and twenty after the laws.[39] As in the main analysis, we then estimated separate equations for firearm homicides and for homicides by other methods.

In the pooled equations we first removed the mean homicide rates for each area and year. This controls for constant rate differences between the areas and for events that similarly influenced rates across all areas in a given year.[40] We then included intervention variables to measure the effects of the shall issue and (for the Florida cities) background check and waiting period laws.

VI. RESULTS

Estimates of the effects of the shall issue laws on the monthly homicide counts appear in Table 1. To simplify the presentation, we report only the means before the laws and the changes in homicides after the laws began.[41]

The results in Table 1 show that firearms homicides increased in four of the five areas in the post-law period. Except the increase in Miami and the decrease in Portland, these changes were statistically significant ($p < .05$). Expressed as percentages, the changes varied from a decrease of 12% (Portland) to an increase of 75% (Jacksonville).[42] Considering each area as a replication of the same experiment, gun homicides increased by an average of 26%. An inverse normal combined test of statistical significance easily rejected the null

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37 For 1973-1978 we used county-level population estimates from U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES (various years). For 1980-1992 we used unpublished Census Bureau estimates. The Census Bureau did not estimate county populations in 1979, and we interpolated values for that year.

38 *See* CHENG HSIAO, ANALYSIS OF PANEL DATA (1986).

39 Florida and Mississippi began their laws in the middle of the year. In the annual analysis we placed the interventions for these states at the first full year after the laws, 1988 for the Florida cities and 1991 for Jackson. Oregon's law began in January 1990, so we placed Portland's intervention at 1990.

40 HSIAO, *supra* note 38, at 138-40.

41 An appendix that describes the analysis in more detail is available from the authors.

42 The NCHS data include civilian justifiable homicides, in which private citizens killed criminals during attempted felonies. We thus cannot dismiss the possibility that part of the rise in firearms murders was due to permit holders who shot offenders in self-defense. Still, justifiable homicides are rare, and it is not plausible that they could account for the bulk of the increase. According to FBI data for 1992, there were 262 justifiable handgun homicides in the entire United States, 1.7% of the 15,377 firearm murders. *See* FEDERAL BUREAU OF INVESTIGATION, CRIME IN THE UNITED STATES, 1992, at 15-22 (1993).

hypothesis of zero overall change.[43]

In contrast to gun homicides, homicides by other means did not show a consistent pattern of effects. Homicides without firearms increased in Tampa and Jacksonville, but they fell in the other three areas. Across all five areas, the average change in homicides without guns was an increase of less than 1%. In combination, this change was statistically insignificant.

Table 2 contains the analysis for the Florida cities that includes the state's waiting period and background check laws. These results provide no evidence that the original estimates were due to confounding between the other laws and shall issue licensing. Adding the other laws slightly increased the coefficients for the shall issue policy, but it did not alter their statistical significance.

Although not central to our study, it is worth noting that the levels of each Florida firearms series decreased after the waiting period and background checks began. Yet homicides without guns also fell in two cities, and the policies should influence only firearm crimes. The results do not point to any strong conclusions about the waiting period and background check laws.

Table 3 presents the analysis that adds national homicide counts to control for patterns in the United States as a whole.[44] In each area, there was a positive relationship between local homicide patterns and patterns in the nation. Still, including the national counts only modestly changed the estimates for shall issue licensing.

Finally, Table 4 reports the results for the annual homicide rates. Here the coefficient for the shall issue policies is the average effect across all five cities. Gun homicides increased on average by 4.5 per 100,000 persons, a value significantly different from zero. In contrast, murders without guns decreased insignificantly. Gun homicides fell insignificantly following Florida's waiting period and background check laws, while other weapon homicides increased.

VII. Discussion

Across the five areas, firearms homicides increased in the aftermath of the shall issue laws. In contrast, homicides without guns remained steady. These findings were little altered when we considered other laws, controlled for variations in national homicide counts, and

[43] *See* Larry V. Hedges & Ingram Olkin, Statistical Methods for Meta-Analysis 39-40 (1985). The test assumes that the replications are independent. Because we include three cities from the same state in the analysis, this is probably only approximately correct.

[44] Because the national counts were not stationary in level, we used their first differences in this analysis. *See* Box, *supra* note 27, at 89-130 for a discussion of nonstationary time series models.

allowed for population change.

The pattern of results leads us to two conclusions, one stronger than the other. The stronger conclusion is that shall issue laws do not reduce homicides, at least in large urban areas. If there were such a decrease, other events would have to push murders up strongly enough to mask it in all five areas that we studied. Such events are possible, of course, but we believe that they are extremely unlikely.

The weaker conclusion is that shall issue laws raise levels of firearms murders. Coupled with a lack of influence on murders by other means, the laws thus increase the frequency of homicide. This interpretation is consistent with other work showing that policies to *discourage* firearms in public may help prevent violence. For example, studies by Pierce and Bowers and by O'Carroll et al. found that laws providing mandatory sentences for illegal gun carrying reduced firearms crimes in Boston and Detroit.[45] Similarly, Sherman et al. found that gun crimes fell during a Kansas City program that confiscated firearms from people who carried them outside their homes.[46]

Despite this evidence, we do not firmly conclude that shall issue licensing leads to more firearms murders. This is so because the effects varied over the study areas. Firearms homicides significantly increased in only three areas, and one area witnessed an insignificant decrease. In combination, the increase in gun homicides was large and statistically significant. Yet we have only five replications, and two of these do not clearly fit the pattern.

The statistical significance of the combined results aside, the analysis implies that shall issue policies do not *always* raise levels of gun murder. Sometimes, at least, local conditions operate to blunt any effects. The areas without significant increases, Portland and Miami, may be unusual, but we lack the data to examine whether this is true.

Stated in another way, we cannot completely dismiss historical events as an explanation of the increases in firearms murders. One would need a complex theory to explain how history could mask a *decrease* in homicides after the laws. Historical accounts of the apparent *increase* might be much simpler. One would then be left with the hypothesis that the effects of the laws are nil.

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45 Glenn L. Pierce & William J. Bowers, *The Bartley-Fox Gun Law's Short-Term Impact on Crime in Boston*, 455 ANNALS AM. ACAD. POL. & SOC. SCI. 120, 120-37 (1981); Patrick W. O'Carroll et al., *Preventing Homicide: An Evaluation of the Efficacy of a Detroit Gun Ordinance*, 81 AM. J. PUB. HEALTH 576 (1991).

46 Lawrence W. Sherman et al., *The Kansas City Gun Experiment*, NATIONAL INSTITUTE OF JUSTICE RESEARCH IN BRIEF (Jan. 1995). Sherman and associates note that about 20% of the seized firearms were legally carried.

A more definitive analysis should be possible in the future. Besides Mississippi and Oregon, six other states have adopted shall issue laws based on the Florida model. Four of these—Alaska, Idaho, Montana, and Wyoming—have small populations and low levels of criminal violence.[47] As a result, it would be difficult to perform a statistically meaningful analysis of changes in homicides after their laws began.

Yet, two more populous states, Arizona and Tennessee, enacted shall issue licensing in 1994.[48] Given several years of experience with the laws in these areas, future research could provide more certain estimates of the effects on firearms violence.

Between January 1995 and March 1995, the legislatures of Arkansas, Utah, and Virginia sent shall issue laws to their Governors for signature.[49] Similar laws were pending in an additional fourteen states, including California, Illinois, and Texas.[50] Given this level of interest, it is likely that shall issue licensing will continue to receive attention in the future.

While our analysis does not allow a firm conclusion that shall issue licensing increases firearms homicides, it does suggest caution about these laws. Some observers consider strict limits on firearms outside the home to be among the most effective forms of gun control.[51] Beyond any influence on violence, the policies are easy to enforce and they do not inconvenience most gun owners. When states weaken limits on concealed weapons, they may be giving up a simple and effective method of preventing firearms deaths.

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47 ALASKA STAT. §§ 18.65.700-8.65.720 (1994); IDAHO CODE § 18-3302 (1993); MONT. CODE ANN. § 45-8-321 (1993); WYO. STAT. § 6-8-104 (1994).

48 ARIZ. REV. STAT. ANN. § 13-3112 (1994); TENN. CODE ANN. § 39-17-1315 (1994).

49 Roger Worthington, *Support Mounting for Concealed Guns*, CHI. TRIB., Mar. 6, 1995, at A1.

50 Sam Howe Verhovek, *States Seek to Let Citizens Carry Concealed Weapons*, N.Y. TIMES, Mar. 6, 1995, at A1.

51 *See* Mark H. Moore, *The Bird in Hand: A Feasible Strategy for Gun Control*, 2 J. POL'Y ANALYSIS & MGMT. 185 (1983); SAMUEL WALKER, SENSE AND NONSENSE ABOUT CRIME: A POLICY GUIDE 179-198 (2d ed. 1989).

Table 1

MEAN NUMBERS OF HOMICIDES PER MONTH, BY JURISDICTION AND METHOD, BEFORE AND AFTER IMPLEMENTATION OF SHALL ISSUE LICENSING

Type of Homicide and Location	Before the Shall Issue Law	Change After the Shall Issue Law*			
	no./mo.	no./mo.	SE	%	t-Statistic
Firearm					
Miami	25.88	0.79	1.09	+3	0.73
Jacksonville	6.24	4.78	0.61	+75	7.84
Tampa	4.91	1.10	0.44	+22	2.50
Portland area	2.79	−0.34	0.35	−12	−0.98
Jackson	3.64	1.57	0.47	+43	3.34
Mean change = +26.2%		Inverse normal combined Z = −6.01, p < .0001			
Other Methods					
Miami	9.58	−0.73	0.63	−8	−1.16
Jacksonville	2.85	1.03	0.32	+36	3.22
Tampa	2.74	0.48	0.42	+17	1.14
Portland area	2.46	−0.58	0.38	−24	−1.53
Jackson	1.34	−0.30	0.27	−22	−1.11
Mean change = −0.2%		Inverse normal combined Z = +0.25, p = .8023			

* Difference between the mean number of homicides per month before implementation of the shall issue law and the mean number after its implementation.

Table 2

MEAN NUMBERS OF HOMICIDES PER MONTH IN FLORIDA AREAS, BY JURISDICTION AND METHOD, BEFORE AND AFTER IMPLEMENTATION OF SHALL ISSUE LICENSING AND WAITING PERIOD AND BACKGROUND CHECK LAWS

Type of Homicide and Location	Before the Laws	Change After the Shall Issue Law*			Change After the Waiting Period and Background Check Laws**		
	no./mo.	no./mo.	SE	t-Statistic	no./mo.	SE	t-Statistic
Firearm							
Miami	25.88	2.25	1.19	1.89	−3.99	1.51	−2.64
Jacksonville	6.21	6.10	0.61	10.00	−3.11	0.86	−3.62
Tampa	4.91	1.35	0.52	2.60	−0.68	0.77	−0.88
Other Methods							
Miami	9.60	0.11	0.53	0.21	−2.48	0.68	−3.65
Jacksonville	2.86	1.25	0.38	3.29	−0.60	0.56	−1.07
Tampa	2.74	0.42	0.49	0.86	0.17	0.72	0.24

* Difference between the mean number of homicides per month before implementation of the shall issue law and the mean number after its implementation, controlling for the waiting period and background check laws.

** Difference between the mean number of homicides per month before implementation of the waiting period and background check laws and the mean number after their implementation, controlling for the shall issue law.

Table 3

MEAN NUMBERS OF HOMICIDES PER MONTH, BY JURISDICTION AND METHOD, BEFORE AND AFTER IMPLEMENTATION OF SHALL ISSUE LICENSING, CONTROLLING FOR NATIONAL HOMICIDE COUNTS

Type of Homicide and Location	Constant	Change After the Shall Issue Law*			Coefficient for National Homicide Counts**		
	no./mo.	no./mo.	SE	t-Statistic	slope	SE	t-Statistic
Firearm							
Miami	25.86	1.55	1.12	1.38	0.0144	0.0063	2.29
Jacksonville	6.23	5.36	0.64	8.37	0.0015	0.0019	0.79
Tampa	4.91	1.17	0.49	2.39	0.0014	0.0015	0.93
Portland area	2.80	−0.44	0.42	−1.05	0.0015	0.0014	1.07
Jackson	3.62	1.61	0.57	2.82	0.0011	0.0013	0.85
Other Methods							
Miami	9.62	−0.43	0.55	−0.78	0.0010	0.0051	0.20
Jacksonville	2.86	0.96	0.35	2.74	0.0181	0.0214	0.85
Tampa	2.75	0.81	0.45	1.80	0.0077	0.0205	0.38
Portland area	2.46	−0.28	0.43	−0.65	0.0039	0.0019	2.05
Jackson	1.35	0.22	0.27	0.81	0.0027	0.0013	2.08

* Difference between the mean number of homicides per month before implementation of the shall issue law and the mean number after its implementation, controlling for national homicide counts.

** Slope estimate for influence of national homicide counts, controlling for the shall issue law.

Table 4

POOLED ANNUAL HOMICIDE RATES, BEFORE AND AFTER IMPLEMENTATION OF SHALL ISSUE LICENSING AND WAITING PERIOD AND BACKGROUND CHECK LAWS

Firearms Homicide Rate Per 100,000			
	Coefficient Estimate	SE	t-Statistic
Shall Issue Licensing	4.52	1.75	2.58
Waiting Period and Background Check	−3.25	2.09	−1.55
Constant	11.20	0.53	21.13
Other Methods Homicide Rate Per 100,000			
	Coefficient Estimate	SE	t-Statistic
Shall Issue Licensing	−0.16	0.75	−0.21
Waiting Period and Background Check	1.81	0.90	2.01
Constant	5.02	0.23	21.83