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The Relaxing of Virginia's Concealed Weapon Law: Its Relationship to the Crime Rates for Murder, Aggravated Assault and Robbery

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A Thesis submitted in partial fulfillment of the requirements
for the degree of Master of Science at
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by

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Abstract

THE RELAXING OF VIRGINIA'S CONCEALED WEAPON LAW: ITS RELATIONSHIP TO THE CRIME RATES FOR MURDER, AGGRAVATED ASSAULT AND ROBBERY

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A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science at Virginia Commonwealth University.

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The primary objective of this research is to examine the relationship between the relaxation of Virginia's concealed weapon law, which became effective July 1, 1995, and three crime-related variables. Although there have been two major studies conducted in this area on a national basis, this research represents the first time a study has been conducted in Virginia. A secondary objective of this research is to examine relevant data to determine if this change in the law influenced the purchasing behavior of citizens regarding handguns and the issuance rate for concealed weapon permits.

An interrupted time-series design is employed in examining the data for three crime-related variables over a six-year period, July 1, 1990 through June 30, 1996. Multiple Linear Regression is used to determine the characteristics

of the trend data. Additionally, data for the two weapons-related variables are examined over a three-year period, July 1, 1993 through June 30, 1996. The research is an attempt to show that after the relaxing of the concealed weapon law (independent variable), (1) the crime rates for murder, aggravated assault and robbery increased, (2) the number of concealed weapon permits issued by the courts increased and (3) the number of handguns sold by Virginia's federally licensed firearms dealers increased (dependent variables).

Uniform Crime Reporting data were used in the analysis of the crime-related variables for the six-year period of this study. Data from the Firearms Transaction Center of the Department of State Police were used in the examination of the weapon-related variables for the only three years that this data has been collected. Because the effective date of the change in Virginia's concealed weapon law was July 1, 1995, only one year of data after the change was available for analysis.

The study revealed that the change in Virginia's concealed weapon law had no significant impact on the crime rates for murder, aggravated assault and robbery. The research reflected that the rate of concealed weapon permits issued by the courts increased significantly -- over 400% -- after the law changed. The number of handguns and total firearms sold decreased during each of the three years that data had been collected, and then decreased in the first year after passage of the relaxed law. However, handguns as a

proportion of total firearms sold actually increased after the change in Virginia's law.

During the past few years, several states have enacted legislation that changed their concealed weapon laws from "may issue" to "shall issue." The effect of these changes on crime rates is still undetermined. Because of the lack of data points after passage of Virginia's law, no firm conclusions can be reached concerning the influence that this change has had on crime rates. Additional research needs to be done in this area after more data becomes available to determine if a relationship exists.

CHAPTER I

INTRODUCTION

Background

The total level of violent crime, that is, murder, rape, robbery and aggravated assault is in the midst of a surge in Virginia. The overall violent crime rate in Virginia was relatively steady from 1972 to 1987. However, since 1987 the overall violent crime rate has increased by 28%. The 1991 overall violent crime rate in Virginia was 379 violent crimes per 100,000, by far the highest rate in the past twenty years (Governor's Commission on Violent Crime in Virginia - Final Report, 1994).

Two of the reasons which have been advanced for the Commonwealth's sudden unexpected surge in violence has been an increase in juvenile violent crime and the proliferation of handguns. Firearms, particularly handguns, are the weapons of choice in most violent criminal acts. Handgun murders in Virginia are accelerating at an alarming pace (Governor's Commission on Violent Crime in Virginia - Final Report, 1994).

The increase in violent crimes and the increased use of firearms during the commission of these crimes have resulted in demands being placed on the Congress and state legislatures to place more controls on the ownership and use of firearms, particularly handguns. Citizens are concerned about the drastic increase in the number of homicides, aggravated assaults and injuries occurring in the State and in this Country involving the use of firearms. They are concerned about the safety of their children in our elementary, middle and high schools where shootings have occurred at an alarming rate between various gangs. Another concern that has surfaced recently relates to the escalating costs of medical expenses resulting from the treatment of gunshot wounds suffered by uninsured victims of drug-related shootings. Frequently, these costs are passed on to the taxpayers. In fact, in a recent article in the Richmond Times-Dispatch newspaper, the administrative assistant to the Mayor of the City of Richmond encouraged parents to obtain burial insurance to pay the funeral costs for their children in the event one of them was murdered on the city's streets (Slayings, 1995).

These demands have resulted in the enactment of various types of gun control legislation, including the passage of the "Brady Bill" by the United States Congress, signed into law by President Clinton on November 30, 1993, that regulate the possession, use and purchase of firearms. One example of gun control legislation in Virginia is the statute enacted by the 1989 session of

the General Assembly creating Virginia's Instant Background Check for prospective firearm purchasers. This legislation requires a prospective purchaser's criminal history be reviewed by the Department of State Police before a federally licensed firearms dealer can sell that individual a firearm (Code of Virginia). This program, the first of its kind in the nation, has been very successful in identifying those individuals prohibited by federal and/or state law from possessing a firearm. From November 1, 1989, the date this program was implemented in Virginia, through June 30, 1996, over 1,102,412 firearms transactions have been processed. Of this total number of transactions processed, 9,884 individuals have been denied approval to purchase weapons because of federal and/or state criminal laws which prohibited them from possessing a firearm. During this same period of time, this program also identified 778 of the prospective purchasers of firearms as being wanted fugitives (Tate, 1996).

Some other legislative initiatives enacted in Virginia to limit the availability of firearms for possible use in the commission of violent crimes include action by the 1993 session of the General Assembly that limits the number of handguns that an individual can purchase within any thirty-day period to one and prohibits the possession and transportation of handguns by any person under 18 years of age (Code of Virginia). Several other attempts by local governments to limit the possession of firearms in government-owned

facilities, such as recreational centers and city parks, have had varying degrees of success when considered by the Virginia General Assembly.

However, not everyone supports strict controls on the purchase, possession and ownership of firearms. This particular issue remains a matter of great debate between anti-gun control groups, such as the National Rifle Association (NRA), who oppose any type of firearm control, and pro-gun control groups, such as Handgun Control, Inc., who favor strict firearm controls.

Against the arguments of the gun control lobbyists, who want to further decrease the number of weapons or ban guns altogether, are the voices of those who contend that gun laws are unrealistic solutions to crime, and serve only to deny a valid form of self-defense to law abiding citizens (Kopel, 1995).

One of the arguments used by the anti-gun control advocates is that any legislation that impinges an individual's right to own or possess a firearm is violative of the Second Amendment of the U. S. Constitution. The pro-gun control advocates assert that this argument is inconsistent with the courts' historical interpretation of Second Amendment rights and that the proliferation of firearms, particularly handguns, contribute to the increase in the commission of violent crimes in the United States.

A recent development occurring in this country has been the introduction of legislation in various states to ease the restrictions on carrying concealed weapons. This development is a cause of concern for law enforcement officers

who must be even more alert for weapons that can now be lawfully concealed on or about the person of individuals whom they may confront either in a domestic violence situation, a drunk driving incident or similar situations (Kopel, 1993).

Restrictions on carrying concealed weapons are among the most common gun control policies (Kleck and Patterson, 1983). Typically, these statutes limit who may have a deadly weapon, usually a firearm, hidden on their person when outside the confines of the home. The rationale behind these concealed weapon statutes is that by reducing access to guns in public, firearms will be less available for violence (Zimring, 1991).

Details of concealed weapon laws vary greatly among localities, but most approaches fall into two categories. One of these is a discretionary system, sometimes called "may issue" licensing. Under this policy, legal authorities grant licenses only to citizens who can establish a compelling need for them. The other approach is a nondiscretionary, or "shall issue" system. 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 (Blackman, 1985).

In 1985, the NRA announced that it would lobby for "shall issue" laws (Blackman, 1985). Several states, including Florida, Mississippi, Oregon and

Virginia, have since changed from "may issue" to "shall issue" systems. Advocates of shall issue laws argue that they will prevent crime, and suggest that they have reduced homicides in areas that adopted them (Kopel, 1993). Opponents of these nondiscretionary laws point to studies that show homicides have actually increased in areas after the enactment of "shall issue" laws (McDowall et al., 1995).

Virginia's concealed weapon statute, § 18.2-308 of the Code of Virginia, for years fell into the discretionary or "may issue" category with the Circuit Court Judges having the discretion of issuing a concealed weapon permit based upon the applicant's need to carry a firearm in a concealed manner (Appendix A). However, the 1995 session of the General Assembly amended and reenacted § 18.2-308, effectively changing Virginia's concealed weapon statute from a discretionary or "may issue" to a nondiscretionary or "shall issue" statute (Appendix B).

The Problem

The contention by anti-gun control advocates that easing the restrictions on issuing concealed weapon permits will reduce violent crime is a conclusion that is vigorously opposed by gun control advocates. The argument by the NRA and anti-gun control advocates is that the criminal element will be less inclined

to victimize a citizen who is armed and who can defend himself/herself with deadly force if necessary (Kopel, 1993).

One dangerous trend of these self-defense arguments to which law enforcement and community leaders must respond is the "domestic arms buildup." In many urban areas, citizens who feel vulnerable to crime purchase handguns for self-protection. Ownership of a firearm is a complex issue that has been the subject of considerable debate and research. The research to date has not clearly indicated whether the increase of firearm ownership has served to increase or decrease levels of crime. A number of researchers cite indirect evidence that handguns have contributed to the level of violence in the United States. Furthermore, there is little evidence supporting the claim that owning a gun reduces one's chances of victimization or alleviates a person's fear of crime. There is some evidence that possessing a weapon actually increases a person's chances of injury when confronting a criminal (Geller, 1991).

The concerns of law enforcement officers in Virginia are that the availability of handguns may escalate domestic violence from physical assaults to homicides, traffic disputes from gesturing and fisticuffs to homicides or freeway shootings and bar fights from assaults to homicides. There is also concern that the availability of handguns may even escalate those incidents involving citizens who resist arrest for driving drunk or disorderly conduct from

a situation in which the officer is subjected to verbal abuse or physical assault to a deadly force situation (Cochran, and Jones, 1995).

Purpose of the Study

This research examined the rates for murders, aggravated assaults and robberies involving the use of firearms occurring over the six-year period of July 1, 1990 through June 30, 1996. The number of concealed weapon permits issued from July 1, 1993 through June 30, 1996, the first two years under the "may issue" law and the last year under the "shall issue" law, were examined. The number of permits issued under both the "may issue" and "shall issue" concealed weapon statutes were compared. Finally, data reflecting the number of handguns sold by Virginia's federally licensed firearms dealers were collected for the same three-year period.

The purpose of this study was to determine if the crime rates for murder, aggravated assault and robbery; the rate of concealed weapon permit issuance; and the number of handguns sold by Virginia's federally licensed firearms dealers were influenced by the change in the concealed weapon law.

Organization of the Study

The thesis is organized into five chapters. Chapter One contains the introduction. Chapter Two provides an overview of the literature focusing on

the relaxing of concealed weapon laws and the commission of the crimes of murder, aggravated assault and robbery. Chapter Three provides a detailed description of the methodology used in the study. Chapter Four focuses on the results or findings of the study. Finally, Chapter Five provides the conclusions, discussion, and recommendations for future research.

Summary

The focus of this Chapter has been on the increase of violent crime in Virginia and the United States since 1987 and the demands placed on the Congress and state legislatures to place more control on the ownership and possession of firearms, particularly handguns. Gun control as a method of addressing violent crime is a very controversial issue. Anti-gun control groups oppose any type of gun control while pro-gun control groups favor strict gun control or even bans on certain firearms. Some of the legislative initiatives enacted in Virginia to control the ownership and possession of firearms have been: (1) the instant background check for prospective firearms purchasers, (2) limiting to one the number of handguns that an individual can purchase within any thirty-day period and (3) prohibiting any person under 18 years of age from possessing and transporting a handgun.

The most recent, and probably the most debated, development concerning firearms control in Virginia and several other states has been the

enactment of legislation easing the restrictions on laws regulating carrying a concealed weapon in public. This thesis will examine the relationship of relaxing Virginia's concealed weapon law to the violent crimes of murder, aggravated assault and robbery, the number of concealed weapon permits issued by the courts and the number of handguns sold by Virginia's federally licensed firearms dealers. The next four chapters of this thesis describe the results of the literature review, explain the methodology used, describe the findings and present the conclusions of this research.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter reflects a review of the literature in the field of criminal justice and other fields relative to concealed firearms and violent crime. An exhaustive review of the literature revealed little empirical evidence relative to this study. A review of the national and international indices of thesis and dissertations related to this study was also conducted using the Virginia Commonwealth University Libraries' On-line Databases. Several divergent views on weapons, handguns in particular, were explored, and the chapter concludes with the hypotheses that will support either the acceptance or repudiation of these views.

Related Literature in Criminal Justice

Data concerning the use of firearms during the commission of violent crimes is contained in various documents found at the state and national levels. Crime in Virginia, published annually by the Uniform Crime Reporting (UCR) section of the Department of State Police, contains data reported by

Virginia law enforcement agencies. Crime in the United States, published by the United States Department of Justice, contains the same type of data for all states. The National Crime Victimization Survey, published by the United States Department of Justice, also contains data involving these crimes that are reported by victims.

Related Literature in Other Fields

The NRA aggressively asserts that concealed weapons will enable law abiding citizens to protect themselves from the criminal element, presumably by resisting victimization with deadly force. Handgun Control, Inc. advocates strict control of gun ownership to reduce the number of firearms in public which, they contend, in turn will result in a reduction in violent crime (Kopel, 1993).

Anti-gun control advocates are of the opinion that "gun control" is a red herring that has been deflecting attention from the true causes of crime, namely, the breakdown of the family, failed social welfare programs, and increasing hopelessness among male youth, especially in our troubled inner-cities (Kopel, 1995).

Robin (1991), examining various arguments concerning gun control, concluded that data from a variety of sources suggest that armed citizens may indeed be a credible and formidable deterrent to crime commission and crime completion. He was of the opinion that this data tends to support survey

findings that protection and self-defense are the primary reasons for firearms ownership.

Several studies concerning firearms and violence have been conducted by the medical profession. An article in the New England Journal of Medicine reported a gun in the home is 43 times more likely to cause the death of a family member or friend than a criminal. The study concluded: "The home can be a dangerous place. We noted 43 suicides, criminal homicides, or accidental gunshot deaths involving a gun kept in the home for every case of homicide for self-protection. In light of these findings, it may be reasonably asked whether keeping firearms in the home increase a family's protection or places it in greater danger" (Kellerman & Reay, 1986, p. 1560).

Related Studies

A study conducted by the Department of Criminology and Criminal Justice at the University of Maryland, entitled "Easing Concealed Firearm Laws: Effects on Homicide in Three States," examined the frequency of homicides in large urban areas of Florida, Mississippi and Oregon before and after their "shall issue" laws became effective. According to the findings of this study, after passage of “shall issue” laws, the average monthly homicides by gun increased 74 percent in Jacksonville, 43 percent in Jackson, 22 percent in Tampa and three percent in Miami; Portland experienced a 12 percent

decrease. The researchers found that while homicides by gun increased after the less restrictive laws were adopted, homicides by other means remained steady. All three states reported large increases in the number of people who were issued concealed weapon permits after passage of the "shall issue" laws.

McDowall, Lofton and Wiersema (1995) concluded that although advocates of relaxed concealed weapon laws argue that they will prevent crime, and suggest that they have reduced homicides in areas that adopted them, caution should be used in accepting these arguments. These researchers pointed out that when states weaken limits on concealed weapons, they may be giving up a simple and effective method of preventing firearm deaths. They further concluded that the analysis provided no support for the idea that the "shall issue" laws reduced homicides; instead, they found evidence of an increase in firearm murders (McDowall, et al., 1995).

The NRA has challenged this study and cited a study they conducted in Florida comparing UCR data for Florida with UCR data for the United States from 1987 through 1992. This analysis found that there had been a 21% decrease in the homicide rate between 1987 and 1992 (NRA, 1994). The Maryland researchers noted that due to the UCR reporting irregularities in Florida in 1988[1], an analysis relying on UCR data is inherently suspect. Further, the NRA data reflects statewide homicide statistics for Florida, while

[1] Data for 1988 were not reported by the state of Florida (Crime in the United States-1988).

the Maryland researchers cited statistics from specific urban areas (McDowall, et al, 1995).

Another study, related to concealed weapon laws and conducted by Lott and Mustard (1996), examined county-wide crime data reported to the FBI's Uniform Crime Reports (UCR) for a 16 year period (1977 through 1992), comparing crime rates before and after the introduction of "shall issue" concealed weapon laws. According to their findings, the introduction of "shall issue" laws deters violent crimes and appears to produce no increase in accidental deaths. They found that when state "shall issue" laws went into effect in a county, murder fell by 8.5 percent, rape fell by 5 percent and aggravated assault fell by 7 percent. Lott and Mustard reported that in 1992, there were 18,469 murders, 79,272 rapes, 538,368 robberies and 861,103 aggravated assaults in counties without "shall issue" laws. Based upon their analysis of the data, they reached a conclusion that if counties not having right-to-carry concealed gun provisions had adopted them in 1992, the United States would have experienced a decline of approximately 1,570 murders, 4,177 rapes, 60,363 aggravated assaults and 11,898 robberies during that year (Lott & Mustard, 1996).

Lott and Mustard also found that the areas where violent crime decreased, property crimes increased. They attributed this phenomenon to the notion that criminals fear that their victims may be armed and thereby changed

to criminal activity where the probabilities of contact between the criminal and the victim were minimal. Contrary to the findings in the University of Maryland study, Lott and Mustard concluded that concealed handguns have their greatest deterrent effect in the highest crime counties. An analysis of the costs of the different types of crime based upon lost productivity, out-of-pocket expenses such as medical bills and property losses, losses for fear, pain, suffering and lost quality of life, lead Lott and Mustard to estimate that the economic gain from allowing concealed handguns to be at least $6.2 billion in 1992 dollars (Lott & Mustard, 1996).

After reviewing Lott and Mustard's research, Black and Nagin (1996) conducted an independent study on the effects of "shall issue" laws. When they compared crime rate trends two to three years after "shall issue" laws were enacted with rates two to three years prior to enactment, they found no clear pattern in the results indicating that "shall issue" laws reduce violent crime. According to their study, violent crime decreased in some states after these laws were enacted, but actually increased in other states after passage of these laws.

Ludwig (1996) presented a critique of Lott and Mustard's study and concluded that "shall issue" laws had no significant effect on states' murder rates after controlling for changes in poverty and crime cycles. He further stated that crime tends to be cyclical with somewhat predictable declines

following several years of increases, and is affected by levels of poverty and programs by the criminal justice system to address rising crime.

Other studies that relate to the impact of relaxing carrying concealed weapon legislation more generally include Armed and Considered Dangerous, a project funded by the National Institute of Justice, conducted by James D. Wright and Peter M. Rossi in 1986.

Wright and Rossi surveyed 1,982 felons incarcerated in state prisons about their acquisition and use of firearms. They found that approximately 40 percent of respondents had been deterred from committing a crime because they knew or believed that their victim was armed, and approximately 56 percent would not attempt to victimize a person who was known to be armed. These results seem to support claims that more street crime would be prevented by increased numbers of armed citizens. However, 62 percent of respondents cited concerns that a potential victim would be armed as a principal motivation for using a firearm in crime. It could be asserted, therefore, that more criminal assailants would use firearms in crime if they perceived that more of the general public may be armed (Wright and Rossi, 1986).

There have been some studies, whose accuracy have been severely questioned by gun control advocates, that suggest guns have been used routinely by citizens to resist victimization. Kleck (1993) suggested that there were between 800,000 to 2.4 million protective uses of guns each year.

The statistics for the number of times guns are used for self-protection are not collected by law enforcement agencies. However, data from other sources, including the the National Crime Victimization Survey, cast some doubt on the findings of Kleck. According to the United States Department of Justice, on average per year in 1987 through 1992, about 62,000 victims of violent crime, about 1 percent of all victims of violence, used a firearm to defend themselves. Another 20,300 used a firearm to defend their property during a theft, household burglary or motor vehicle theft (U.S. Department of Justice, 1994).

Additionally, researchers at the University of Maryland, who also analyzed the National Crime Victimization Survey, estimated that between 1987 and 1990, there were approximately 65,000 incidents per year when victims used guns against criminals (McDowall and Wiersema, 1992).

McLemore (1985) examined seven arguments to determine a prudential gun control policy and focused his investigation on the examination of public documents. One of the seven arguments examined was the claim that control of access to and use of firearms would not significantly reduce crime and violence. He found this to be a valid claim with qualifications. He indicated that various factors suggest a handgun's "objective dangerousness" is an insufficient reason for strict controls. McLemore concluded that crime and

violence are not directly related to handgun access, and private handguns provide minimal self-protection (McLemore, 1985).

Clearly, existing research on the impact of relaxed concealed weapon laws on violent crime is very limited. Projections based on current research that attempt to predict the likely results of similar legislative initiatives in other states or areas cannot be made with confidence.

Hypotheses

The primary contention of this study is that as the number of concealed weapon permits issued by the courts increases, the number of murders, aggravated assaults and robberies involving the use of firearms, will increase. It seeks to establish a relationship between the relaxation of Virginia's concealed weapon law and the crime rates for murder, aggravated assault and robbery involving the use of firearm. This objective is accomplished by examining the statistical relationship between the number of concealed weapon permits issued and the crime rates for murder, aggravated assault and robbery involving the use of firearms, before and after the change in Virginia's concealed weapon law.

The hypotheses to be investigated are as follows:

H-1. The easing of the restrictions on obtaining concealed weapon permits by the 1995 session of the General Assembly will

result in an increase in the crime rates for murder, aggravated assault and robbery involving the use of a firearm.

H-2. The easing of the restrictions on obtaining concealed weapon permits by the 1995 session of the General Assembly will result in an increase in the number of permits issued by the courts.

H-3. The easing of the restrictions on obtaining concealed weapon permits by the 1995 session of the General Assembly will result in an increase in the number of handguns sold by Virginia federally licensed firearms dealers.

Objectives of the Study

The objectives of this study are: (1) to examine a variable (change in the concealed weapon law) which can be related to an increase or decrease in crime rates for murder, aggravated assault and robbery involving the use of firearms, and (2) to determine if the ready availability of a concealed handgun has an effect on the crime rate, either positively, as espoused by the pro-gun lobby, or negatively, as espoused by the gun control advocates.

Generalization of the Study

The focus of this study will be the number of concealed weapon permits issued in Virginia from July 1, 1993 through June 30, 1996 to determine if there is a relationship between the change in Virginia's law, effective July 1, 1995,

from a discretionary or "may issue" to a nondiscretionary or "shall issue" statute, and the crime rates for murder, aggravated assault and robbery. While there have been at least two studies that examined the relationship between the relaxing of concealed weapon laws in other states and violent crime, there has been no study conducted in Virginia concerning this subject. Although this research is somewhat hampered because of the limited number of years of data, continued validation of this study may offer support for a relaxed concealed weapon laws/violent crime relationship in Virginia and other states as well.

Summary

This chapter has focused on the arguments made, both pro and con, that the relaxing of concealed weapon laws by the states will have a positive or negative effect on the violent crime rate. Proponents of the relaxing of concealed weapon laws argue that criminals will be fearful of victimizing someone who may be armed. Opponents of this legislation argue that the availability of handguns will result in more violence, including accidental shootings in the home, and will not deter crime.

The purpose of this thesis is to determine if there is a relationship between the change in Virginia's concealed weapon statute and the crime rates for murder, aggravated assault and robbery involving the use of firearms. This

research should determine if the change in statute has an influence on the crime rates for the three violent crimes identified.

CHAPTER III

METHODOLOGY

Introduction

This chapter discusses the data collection, variables, and analytical procedures which include research design and analysis used in this research. The primary hypotheses of this study are that the easing of the restrictions on obtaining concealed weapon permits by the 1995 session of the Virginia General Assembly will result in an increase in the number of murders, aggravated assaults and robberies involving the use firearms, an increase in the number of concealed weapon permits issued by the courts, and an increase in the number of handguns sold in Virginia by federally licensed firearms dealers.

Data Collection Procedures

Representatives from the UCR Section of the Department of State Police will be interviewed, and data will be collected. Specifically, the number of murders, aggravated assaults and robberies reported by law enforcement

agencies in Virginia for the period of July 1, 1990 through June 30, 1996 will be collected and analyzed.

Databases in the Firearms Transaction Center (FTC) of the Department of State Police will be queried to determine the number of concealed weapon permits issued by the courts from July 1, 1993 through June 30, 1996 and the number of handguns sold by Virginia's federally licensed firearms dealers during the same period of time.

Although UCR does distinguish between shotguns, rifles, other "long guns" and handguns in their data collection for homicides on a calendar year basis as reported in Crime in Virginia, the UCR staff is unable to provide the needed data on a fiscal year basis (Poole, 1996).

The Office of the Chief Medical Examiner of Virginia (OCME) is able to provide the data for the number of homicides involving the use of handguns and the total number of deaths caused by a handgun. This data will be collected from the database of the OCME for the period of July 1, 1990 through June 30, 1996 and will be used to provide the relative utilization of handguns versus the total amount of firearms used in murder and all deaths.

The type of firearm used in aggravated assault and robbery is not reported to UCR. Law enforcement agencies report whether or not a firearm was used in these crimes, but not the type of firearm used. Since UCR is the only statewide repository that collects data on all major crimes, there are no

other sources to query to determine the frequency with which handguns were used during the commission of aggravated assault and robbery. Accordingly, the UCR data for these crimes will reflect those committed with firearms.

Fiscal years, which begin on July 1 and end on June 30 of the following year in Virginia, will be used in the data collection procedures for this study. Laws enacted by each session of the Virginia General Assembly become effective on July 1 following adjournment unless a different effective date is specified in the legislation. The "relaxed" concealed weapon permit law became effective on July 1, 1995.

Data Reliability

The data used in this study are collected by the Department of State Police and the OCME pursuant to mandates of the Code of Virginia. All law enforcement agencies in the Commonwealth are required by law to report certain crimes to the UCR Section of the Department of State Police. Virginia law further requires that the OCME be notified of all sudden, unattended and/or violent deaths occurring within the Commonwealth.

Since July 1, 1993, the courts have been required by statute to report data for each concealed weapon permit issued by them to the Department of State Police. The Code of Virginia was amended, effective July 1, 1993, mandating all federally licensed firearms dealers conducting business in

Virginia to report the number and types of firearms sold by them to the FTC of the Department of State Police.

The data for UCR crimes, concealed weapon permits issued, handguns sold and homicides and deaths caused by handguns will be extracted from databases designed by the state agencies charged by law with the responsibility of collecting this information. Consequently, the results of this study should reflect a high degree of accuracy concerning the data used.

Uniform Crime Report

The number of murders, aggravated assaults and robberies reported to UCR for the period July 1, 1990 through June 30, 1996 involving the use of a firearm will be collected. These numbers will be converted to rates per 100,000 to minimize the influence of population changes over the six-year period of the study.

The crime rates for murder, aggravated assault and robbery occurring during the period of July 1, 1990 through June 30, 1995 will be compared with the crime rates for the same crimes occurring during the period of July 1, 1995, the effective date of the nondiscretionary or "shall issue" law, through June 30, 1996 to determine if there is a relationship between the change in statute and the crime rates for these offenses.

Firearms Transaction Center

The databases of the FTC containing information on concealed weapon permits issued by the courts for the period July 1, 1993 through June 30, 1995 will be queried; this database reflects the number of permits issued prior to the relaxing of Virginia's concealed weapon statute by the 1995 session of the General Assembly. Data also will be collected from this same database for permits issued during the fiscal year July 1, 1995 through June 30, 1996, the first full year that the relaxed concealed weapon law was in effect. Prior to July 1, 1993, concealed weapon permits were maintained by each individual court throughout the Commonwealth. Consequently, only three years of data, two years reflecting the number of concealed weapon permits issued under the discretionary or "may issue" law and one year reflecting the number of permits issued after the passage of Virginia's nondiscretionary or "shall issue" concealed weapon permit law, will be available for this study.

Data reflecting the number of handguns sold in Virginia by federally licensed firearms dealers during the three-year period beginning July 1, 1993 through June 30, 1996 will be collected and analyzed. Prior to July 1, 1993, Virginia law prohibited the FTC from collecting any information concerning the type and number of firearms sold by a firearms dealer. Therefore, only two years of data, July 1, 1993 through June 30, 1995, reflecting the number of

handguns sold in Virginia prior to the enactment of the nondiscretionary or "shall issue" concealed weapon permit law will be available for this study. Only one year of data, July 1, 1995 thorough June 30, 1996, reflecting the number of handguns sold after passage of the "shall issue" law will be available for this research.

The number of concealed weapon permits issued by the courts and the number of handguns sold during the period of July 1, 1993 through June 30, 1995 will be compared with the number of concealed weapon permits issued and handguns sold from July 1, 1995 through June 30, 1996 to determine if there is a relationship between the change in the statute and this data.

Office of the Chief Medical Examiner

Data reflecting the number of deaths caused by gunshot wounds in Virginia, which are reported to the OCME, will be collected and analyzed during this study. Data for homicides and all deaths caused by all firearms will be collected, as well as data concerning the number of homicides and all deaths caused by handguns, for the period of July 1, 1990 through June 30, 1996. The number of deaths and the number of homicides caused by handguns during the period of July 1, 1990 through June 30, 1995 will be compared with the number of deaths and homicides occurring under the same circumstances for the period of July 1, 1995 through June 30, 1996 to determine if there is a

relationship between the change in statute and the number of deaths and homicides attributable to handguns.

Confidentiality of Participants

All data collected will be aggregate and cannot be related to any identifiable citizen of the Commonwealth.

Study Variables

Independent Variable

The independent variable used in this study is the change in Virginia's concealed weapon permit statute. As a time series analysis, time is also an independent variable for this study.

Dependent Variables

Two classes of dependent variables will be examined in this study. In the first class, three crime-related variables, crime rates for murder, aggravated assault and robbery will be analyzed. In the second class, two weapons-related variables will be analyzed. These variables are the number of concealed weapon permits issued and the number of handguns sold in Virginia during the three fiscal years covering July 1, 1993 through June 30, 1996.

Analytical Procedures

All three research hypotheses suggest that the change in the concealed weapon law from a "may issue" to a "shall issue" statute will result in a change in consumer firearms buying behavior and a change in criminal behavior. That is, the behavior patterns that existed prior to the change in the law will change in the directions predicted by the hypotheses. The first hypothesis suggests that violent crime (murder with a firearm, aggravated assault with a firearm, and robbery with a firearm) will increase. The second hypothesis suggests that the number of concealed weapons permits issued will increase, and the third suggests that hand gun sales will increase.

The analytical technique that will detect the predicted behavioral changes is the interrupted time series design as shown in Cook and Campbell (1979) with the law change being the time series interruption. The interrupted time-series design consists of a series of measurements of the dependent variable(s) taken at equal intervals before the interruption and a series of measurements of the same variable taken at equal intervals after the interruption. Regression characteristics (i.e., regression trend line slope, y-axis intercept of the line, and Multiple R Squared) will be compared for significant differences (Cook & Campbell, 1979).

Crime data for the five years prior to the change and one year after the change are available for this research; however, weapons data and concealed weapons permit data are available for only the two years prior to the change and one year after the change. The Department of State Police was not authorized by statute to collect data related to the number of handguns sold or concealed weapon permits issued until July 1, 1993. Therefore, only the crime data will provide a viable time-series before the change; neither the crime data, the weapons data, nor the concealed weapons permit issuance data will provide a viable time-series after the change. Thus, two basic approaches to the analysis will be required. Each approach will be more thoroughly discussed in the following paragraphs.

The first analytical method is for the crime data. Multiple Linear Regression will be used to determine the characteristics of the time-series trend data (Anderson, Sweeney and Williams, 1987). Using the SPSS linear regression module, the regression analysis vital characteristics (i.e., Multiple R squared, trend line slope, and standard error of the slope) will be determined for each type of violent crime for the pre-change period (Norusis, 1993).

The general interpretation of Multiple R squared is the proportion of variability in the dependent variable (the three crime rates) accounted for by the independent variable (time). The general interpretation of slope is the amount of increase (or decrease) in the dependent variable for a change of

one unit in the independent variable (Kerlinger & Pedhazur, 1973). For all statistical tests, the null hypothesis will be tested and states that the value of the hypothesized slope or Multiple R Squared is zero. That is, the regression line accounts for no variability in the dependent variable and the slope of the line is zero. Non-significant values for Multiple R Squared and slope lead to acceptance of the null hypotheses. However, if the Multiple R Squared and the slope are statistically significant, the null hypotheses cannot be accepted. Thus, the alternative hypothesis is all that remains, namely the Multiple R Squared and slope are significantly different from zero.

From the slope of each regression line and the last value of each respective dependent variable in each pre-change series, the next value in each series (i.e., the first value of the dependent variable after the change) will be predicted. This will be compared to the actual value of the respective dependent variable in this the first, and only, period after the change. A fundamental assumption of regression analysis is that the value of the dependent variable calculated (using the regression equation) for any given value of the independent variable is the arithmetic mean of a population of values at that particular value of the independent variable (Kerlinger, 1973; Kerlinger & Pedhazur, 1973). The fundamental question becomes, then, whether or not the observed value of the dependent variable could have been

drawn from the population of values represented by the calculated value of the independent variable.

The difference between these two values of the dependent variable (actual value minus predicted value) divided by the standard error of the slope provides a t-statistic to test the null hypothesis that this latest value of the dependent variable was no different from what could have occurred under pre-change conditions. A statistically significant t-value, however, would indicate that the actual value did not come from a population of values representing pre-change conditions. The interpretation would be that the law change, as the only difference accounted for between the pre- and post-change years, resulted in the predicted behavioral change.

The second analytical method is for the weapons sales and concealed weapon permit issuance data. Each series has but two values for the dependent variable prior to the change and one value after the change. The analysis here will rely on judgment in evaluating the magnitude and direction of each post-change value of the dependent variable. The results of this analysis will lack scientific rigor and not lead to any firm conclusions. Rather, the results here will be suggestive of future directions for research.

All three hypotheses being tested in this study suggest that the enactment of the "relaxed" concealed weapon law will affect the behavior of the dependent variables over time. Thus, a time series analysis is in order for this

study (Norusis, 1993). Rather than use the total number of crimes committed, the number of permits issued and the number of handguns sold, rates (per 100,000 population) are used to counteract the impact of population shifts.

Summary

Data for violent crimes involving the use of a firearm will be collected from UCR databases. Related homicide and death-related data concerning firearms will be collected from the OCME. Weapons and concealed weapon permit data will be collected from the databases of the FTC. This study will employ an Interrupted Time Series Design with an analysis using multiple linear regression technique.

CHAPTER IV

FINDINGS

Introduction

The three hypotheses to be tested concern crime-related variables in the first and weapons-related variables in the second and third. These hypotheses will be addressed in that order. The integration of the two classes of variables will occur in the next chapter where the impact of the results and findings will be discussed.

Hypothesis Tests

Hypothesis 1

The first hypothesis predicted that the liberalization of the concealed weapon permit issuance law to "shall issue" would lead to increases in the rates of murder with a firearm, aggravated assault with a firearm, and robbery with a firearm. The time series data for each type of major crime is shown in Table 1. As can be seen in Table 2, each series had a non-significant Multiple R Squared and slope value, supporting the null hypotheses that the rate of change in each of the crimes was zero. However, the actual values for murder

Table 1

UCR Violent Crime Data Used for Hypothesis Tests

Fiscal Year	Population	Murders				Aggravated Assaults				Robberies			
		Number	Rate	Number With a Firearm	Rate	Number	Rate	Number with a Firearm	Rate	Number	Rate	Number with a Firearm	Rate
1990/91	6,187,358	540	8.73	362	5.85	11,760	190.06	2,425	39.19	8,287	133.93	3,632	58.70
1991/92	6,286,000	601	9.56	413	6.57	12,615	200.68	2,455	39.06	8,856	140.88	3,980	63.32
1992/93	6,394,700	538	8.41	388	6.07	12,627	197.46	2,483	38.83	8,721	136.38	4,064	63.55
1993/94	6,490,700	553	8.52	368	5.67	12,354	190.33	2,360	36.36	9,369	144.34	4,303	66.29
1994/95	6,551,700	514	7.85	368	5.62	12,526	191.19	2,090	31.90	8,488	129.55	3,852	58.79
1995/96	6,618,400	491	7.42	326	4.93	12,604	190.44	2,050	30.97	8,370	126.47	3,851	58.19

Source: Virginia State Police Uniform Crime Reporting Section

Note. All rates are expressed per 100,000 population

Table 2

Regression Analysis of FY 1990/91 through FY 1994/95 UCR Crime Data and Analysis of FY 1995/96 Crime Rate Prediction Error

	Murder		Aggravated Assault		Robbery	
	Total	With a Firearm	Total	With a Firearm	Total	With a Firearm
R Squared	0.50	0.31	0.070	0.76	0.017	0.013
F Ratio (all DF = 1, 3)	3.03, n.s.	1.33, n.s.	0.22, n.s.	9.69, n.s.	0.052, n.s.	3.98, n.s.
Slope	-0.28	-0.13	-0.81	-1.72	-0.49	0.25
t-calculated	-1.75, n.s.	-1.15, n.s.	-0.47, n.s.	-3.11, n.s.	-0.23, n.s.	0.20, n.s.
Std. Error of Slope	n/a	0.12	n/a	0.55	n/a	1.26
FY 94/95 Value	n/a	5.62	n/a	31.9	n/a	58.79
Predicted for FY 95/96	n/a	5.49	n/a	30.18	n/a	58.05
Actual FY 95/96 Value	n/a	4.93	n/a	30.97	n/a	58.19
FY 95/96 Prediction Error	n/a	-0.56	n/a	0.79	n/a	0.14
t-calculated	n/a	-4.7, n.s.	n/a	1.44, n.s.	n/a	-0.11, n.s.

Note. For each series regressed, $n = 5$, the number of years in each series of pre-change years. The actual values used in the series regressed are as shown in Table 1.

and aggravated assault shown in Table 1 did demonstrate a slight declining trend in the actual values.

For each of the three types of violent crime involving use of a firearm shown in Table 1, the next value in the series after the change was computed and is shown in Table 2. Note from Table 2 that the FY 1995/96 predicted (computed) value next in each series yielded a calculated t less than the critical $t = 2.353$ (one-tail) needed to support the hypothsis that the crime rate increased significantly after the change. Thus, each of the three post-change values could have occurred as a continuation of pre-change conditions. Figure 1 is a graphical portrayal of the pre-change trends and the first period following the change. The first hypothesis of this study was not supported.

Figure 1
Interrupted Time Series: Three Violent Crimes (With Firearm) for FY 1990/91 through 1994/95 and Impact of the July 1, 1995 Change in Concealed Weapon Law on FY 1995/96 Data

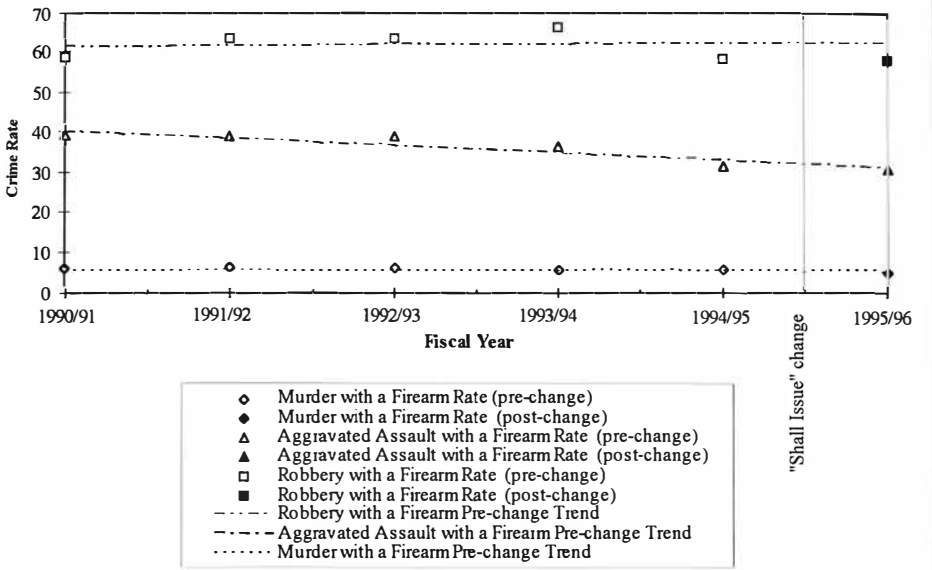


Table 3
Handgun Deaths and Homicides as Proportion of All Firearms Deaths and Homicides

Fiscal Year	Firearms Homicides	Handgun Homicides	Homicides: Handgun as % of all Firearms[1]	Firearms Deaths	Handgun Deaths	Deaths: Handgun as % of all Firearms[2]
FY 1990/91	384	327	85%	983	733	75%
FY 1991/92	439	390	89%	1001	785	78%
FY 1992/93	417	360	86%	977	756	77%
FY 1993/94	426	375	88%	1009	789	78%
FY 1994/95	394	356	90%	1005	800	80%
FY 1995/96	355	320	90%	904	720	80%

Source: Office of the Chief Medical Examiner of Virginia

[1] Trend is $r = .76$, significant at $p < .1$
[2] Trend is $r = .90$, significant at $p < .05$

While the rates of crimes committed with a firearm did not increase as hypothesized, some additional data from the Office of the Chief Medical Examiner as shown in Table 3 provided some interesting insights. Note from Table 3 that while deaths and homicides were either holding steady or slightly declining, the proportion of firearms deaths and homicides that were committed with a handgun was increasing slightly. In fact, as noted in Table 3, the 0.90 correlation coefficient for the trend line was r = 0.90 and significant at the .05 level or less.

Hypothesis 2

The second hypothesis predicted that the number of concealed weapons permits issued after the law change would be significantly higher than before the change. As can be seen in Table 4, the rate of concealed weapons permit issuance in the first year after the change was larger than the rate in the last year before the change. No statistical test was available to test this hypothesis. However, the magnitude of the increase by a factor in excess of 4

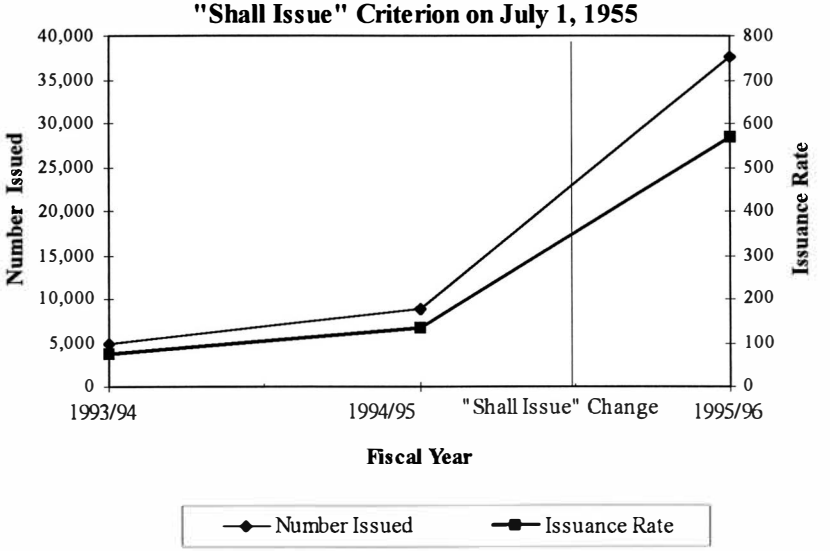
Table 4

Interrupted Time Series: Concealed Weapon Permit Issuance Rates for FY 1993/94 through FY 1995/96

	Concealed Weapons Permits	
Fiscal Year	Number Issued	Issuance Rate
1993/94	4,881	75.2
1994/95	8,817	134.65
1995/96	37,624	568.59

of concealed weapon permits issued, as shown both in Table 4 and Figure 2, provides tentative support for this hypothesis.

Figure 2
Interrupted Time Series:
Concealed Weapon Permits Issued and the Change to "Shall Issue" Criterion on July 1, 1955



Hypothesis 3

The third hypothesis predicted that the sales of handguns would increase substantially after the change in the law. From visual inspection of the sales data in Table 5, it can be seen that both total firearms sales and handgun sales were in a state of decline and continued so after the law change. However, as shown in Figure 3, the sales of handguns as a proportion of total firearms sales did increase over the three year period for which data

Table 5
Firearms Sales Data Used for Hypothesis Tests

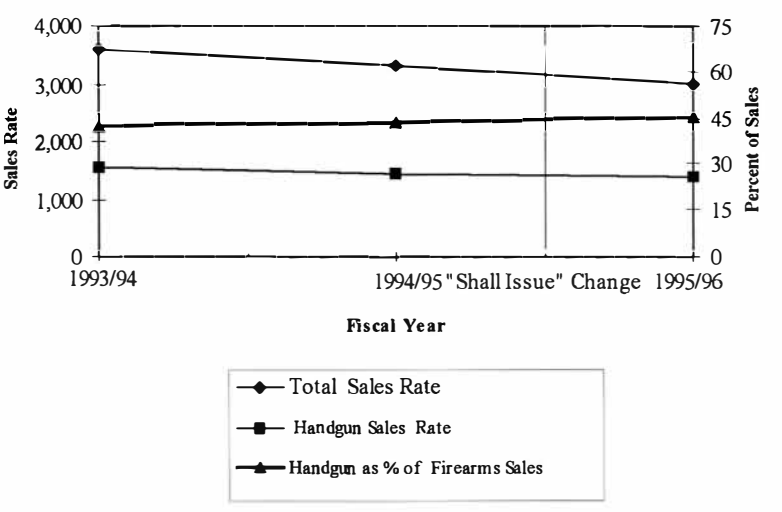
Fiscal Year	Total Firearms Sold		Handguns Sold		Handgun Sales as % of Firearms Sales
	Number	Sales Rate	Number	Sales Rate	
1993/94	234,204	3,608.14	100,067	1,541.63	42.7
1994/95	216,536	3,306.90	94,085	1,436.85	43.4
1995/96	198,485	2,999.62	90,423	1,366.52	45.6

Source: Virginia State Firearms Transaction Unit

Note. All rates are expressed per 100,000 population

were available. As with the case of the second hypothesis, no reliable statistical test was available to test this hypothesis, but visual inspection of the data provides mild support for the third hypothesis.

Figure 3
Interrupted Time Series: Firearms Sales, Handgun Sales and the CWP Law Change to "Shall Issue" Criterion on July 1, 1995



Summary

Support of the three hypotheses was mixed. The first hypothesis concerning violent crime increasing after relaxation of the concealed weapons permit law was not supported. Contrary to the assertions of the gun control advocates, violent crime in Virginia did not increase after the relaxation of the concealed weapon law. The second hypothesis that the number of concealed weapon permits issued would increase after the relaxation of the law was supported. The third hypothesis that the number of handguns sold in Virginia would increase after relaxation received moderate support. That is, while total firearms and total handgun sales were declining both before and after the liberalization, the number of handguns as a proportion of total firearms sold increased after the change. These results lead to some conflicting conclusions and suggest the existence of some issues not previously discussed. These issues will be addressed more fully in the next chapter.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The objective of this research was to examine the relationships between the relaxation of Virginia's concealed weapon law and crime rate, weapons buying behavior and concealed weapon permit issuance rates. The results of the hypotheses tests were mixed. In this chapter, the possible reasons for these findings will be explored. Recommendations for further research will be provided.

Results of the Hypothesis Tests

An interrupted time-series design was employed in this research. While ARIMA models are the best way to analyze this type of design, there are insufficient data points after the enactment of the "shall issue" law to use such a model. Instead, linear regression was used. The lack of available data points is due to the Department of State Police not being authorized to collect data on the number of concealed weapon permits issued and the number of handguns sold until July 1, 1993. Because the "shall issue" statute became

effective on July 1, 1995, only one year of data after the treatment was available for analysis.

Crime-Related Variables

The first hypothesis suggested that relaxing Virginia's concealed weapon law would result in an increase in the number of murders, aggravated assaults and robberies committed with firearms. As discussed in Chapter IV, the crime rates for these three crimes were decreasing prior to the change in the concealed weapon law, effective July 1, 1995, and continued to decrease after enactment of the "shall issue" statute. Therefore, the first hypothesis was not supported by the data.

Weapons-Related Variables

The second hypothesis suggested that the change in the concealed weapon law would result in an increase in the number of concealed weapon permits issued by Virginia's courts. The rate of permits issued by the courts increased markedly -- over 400% -- after the law changed. Accordingly, the second hypothesis was supported.

The third hypothesis suggested that the easing of the restrictions on the concealed weapon law would result in an increase in the number of handguns sold by Virginia's federally licensed firearms dealers. This study reflected that the rates of firearms and handguns sold declined over the three-year period of

this study; however, handgun sales as a proportion of total firearms sales increased after the "shall issue" law was enacted. Thus, the third hypothesis received only moderate support.

Alternative Hypothesis

The hypothesis that the "shall issue" law would result in an increase in the crime rates for murder, aggravated assault and robbery was not supported by this research. The research reflected that the rates for these crimes actually experienced a slight decrease after the introduction of the treatment. Readers are urged, however, to use caution before drawing any conclusions based on this finding due to the insufficient number of data points available for analysis after the introduction of the "shall issue" law. Additionally, the possibility of several alternative hypotheses suggests that other factors may have influenced the decline in the crime rate.

The crime rate in Virginia and the United States has been declining steadily each year after peaking in 1991 (Crime in the U. S. and Crime in Virginia). As Ludwig (1996) noted, crime rates are cyclical with somewhat predictable declines following several years of increases. The crimes rates in the United States and Virginia began increasing in 1987 before peaking in 1991. This cyclical theory is one of the variables not controlled during the hypothesis testing. As the figures and table for the crime-related variables reflect, the crime rates for murder, aggravated assault and robbery have been

declining in Virginia each year since 1991, and this pattern continued into 1995/96, after the enactment of the "shall issue" law.

There have been several statutory initiatives enacted in Virginia which also may have influenced the crime rates in the state. The major "gun-control" initiatives, the instant background check, limiting the number of handguns an individual can purchase to one in any thirty-day period and prohibiting anyone under 18 years of age from possessing a handgun, have been discussed in this study. However, several other legislative initiatives have been enacted in Virginia to address violent crime and repeat offenders. These initiatives include the abolition of parole, "three-strikes-and-you're-out" legislation and the Juvenile Justice Reform Act. The legislation abolishing parole for certain violent crimes became effective January 1, 1995. The "three-strikes-and-you're-out" legislation, which mandates a life sentence without parole for a third felony conviction, became effective on July 1, 1994. The Juvenile Justice Reform Act, which mandates that juveniles, 14 years of age or older, who commit specified violent crimes be tried as adults, became effective July 1, 1996 (Code of Virginia). The combination of these initiatives, whose objectives are to target the violent criminal, could possibly have had an influence on the crime rates in Virginia.

One of the more interesting arguments concerning crime rates is the manner in which they are influenced by unemployment rates. Stanley and

Timmer are of the opinion that the typical American community or city that experiences increases in unemployment will also experience increases in street crime. They state that decent jobs not only reduce unemployment, but can also begin to lessen some income inequity, both which should lead to reductions in violent and property crime. They concluded by noting that all advanced industrial nations that have instituted a full employment policy and program have lowered their violent and property crime rates well below those of the United States (Stanley and Timmer, 1985). In his critique of the study by Lott and Mustard, Ludwig (1996) noted that after controlling for poverty and crime cycles, "shall issue" laws had no significant effect on states' murder rates.

In reviewing the unemployment and crime rates in Virginia from 1980 through 1995, both remained relatively consistent in paralleling each other throughout this entire period (Appendix C). The unemployment rate in Virginia has been decreasing each year since peaking at 6.4% in 1992. The crime rate in Virginia has also experienced a decrease in each year beginning in 1992.

Some examples of other external factors influencing crime rates in Virginia are (1) the attitude of the public toward law enforcement, (2) community policing initiatives, (3) police reporting practices, (4) density and size of the community population, and (5) the attitudes of the court and prosecutors in addressing violent crime.

Although the hypothesis that suggested the crime rates for murder, aggravated assault and robbery would increase after enactment of the relaxed concealed weapon law was not supported, it is possible that the decrease in these three crimes was caused by other external factors.

The weapons-related hypotheses were supported by this research, although the hypothesis that the number of handguns sold was only moderately supported by the data. The number of concealed weapon permits issued by the courts increased by approximately 400% the first year that the "shall issue" law was in effect. Although the total number of firearms and handguns have decreased during each of the three years in which this data has been collected, the sales of handguns sold as a proportion of total firearms sold reached its highest point after the passage of the "relaxed" law. The fact that this is occurring during a period when the crime rate in Virginia and in the country is at its lowest point since 1991 suggests that the analysis of crime patterns and patterns of fear are not consistently related. The President's Commission on Law Enforcement and Administration of Justice noted that what the country does about crime depends ultimately upon how Americans see crime (President's Commission, 1967). Public opinion polls that document the fact that crime is among the nation's top concerns are used by politicians to formulate their political platforms in which they portray crime as a major issue. This continues to be practiced even though the evidence suggests that the fear

of crime exceeds the reality (Voigt et al, 1994). This fear of crime or the perception that victimization is a real possibility may be a factor that explains the support for these two hypotheses.

Implications of Findings

A review of the literature and related studies reflected that very little has been done to evaluate the relationship between relaxing concealed weapon laws and crime rates. With few exceptions, most of the information currently available has been distributed by both pro-gun control advocates and anti-gun control advocates. This information deals more with the emotional issues of gun control rather than examining the issues empirically, such as done here with the relationship between relaxing concealed weapon laws and crime rates. Because several states have recently enacted "shall issue" laws, the research in this field should increase as more data becomes available.

The availability of data for this study was another problem experienced in this research. Because the General Assembly placed restrictions on collecting weapons-related data, only three years of data reflecting the number of concealed weapon permits issued and handguns sold were available for this research. Consequently, there were two years of data collected under the "may issue" law and only one year of data collected under the "shall issue" law. Due to the lack of data points, a meaningful analysis could not be conducted using the interrupted time series design.

This research indicated that the number of concealed weapon permits issued by the courts increased significantly after the passage of the "shall issue" law. Additionally, even though the total number of firearms and handguns sold decreased in the 1995/96 fiscal year, the number of handguns sold as a percentage of total firearms sold actually increased after enactment of the "shall issue" statute. The finding that the number of concealed weapon permits issued increased after the change in the law is consistent with the findings of other studies conducted in this area. One could argue that the increase in the percentage of handguns sold to all firearms sold could be attributed to the public's perception of crime rather than actual crime rates. The literature suggests that handguns are used more for personal protection than "long" guns which are typically used for hunting, competitive shooting and related sports.

Although this study has reflected that the crime rates for murder, aggravated assault and robbery decreased after passage of the "shall issue" statute, there are too many external factors that may have influenced these findings to conclude that the change in the concealed weapon law had any influence on these crime rates. The literature suggests that crime rates are cyclical with somewhat predictable declines following several years of increases, and is affected by such external factors as unemployment and programs initiated by the criminal justice community to address rising crime.

The crime rate in Virginia, after peaking in 1991, has decreased each year thereafter. The decrease in the crime rate in 1995/96 was consistent with the decreases that Virginia has experienced during each of the three years preceding the change in the concealed weapon law. Thus, it cannot be implied from this study that the change in the concealed weapon law influenced the crime rate in 1995/96.

Recommendation

Further research needs to be conducted when sufficient data are available to analyze the impact of the "shall issue" statute on the crime rates in Virginia. This research should recognize the influence that other variables such as the cyclical trends of crime rates, unemployment, community policing and other criminal justice initiatives to address crime may have on crime rates. Additionally, future research in this area should consider the affects of legislative initiatives such as parole abolition, the Juvenile Justice Reform Act and "three strikes and you're out" legislation may have on the crime rates in Virginia. Since very limited research has been conducted in this area, future research should contain validation of the research reflected in this report. By building on the current conclusions and recommendations, future research should provide a better insight into the relationship between the relaxing of concealed weapon laws and crime rates. As reflected in this study, there are numerous opinions concerning this issue. Future studies based on sufficient

data points for analysis should provide a more accurate assessment of this relationship.

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APPENDIX A

"May Issue Law":

§ 18.2-308. Carrying concealed weapons; when lawful to carry.—

A. If any person carries about his person, hidden from common observation, (i) any pistol, revolver, or other weapon designed or intended to propel a missile of any kind, or (ii) any dirk, bowie knife, switchblade knife, ballistic knife, razor, slingshot, spring stick, metal knucks, blackjack, or (iii) any flailing instrument consisting of two or more rigid parts connected in such a manner as to allow them to swing freely, which may be known as a nun chahka,, nun chuck, nunchaku, shrunken, or fighting chain, or (iv) any disc, of whatever configuration, having at least two points or pointed blades which is designed to be thrown or propelled and which may be known as a throwing star or oriental dart, or (v) any weapon of like kind as those enumerated in this subsection, he shall be guilty of a Class 1 misdemeanor. A second violation of this section or a conviction under this section subsequent to any conviction under any substantially similar ordinance of any county, city, or town shall be punishable as a Class 6 felony, and a third or subsequent such violation shall be punishable as a Class 5 felony. Any weapon used in the commission of a violation of this section shall be forfeited to the Commonwealth and may be seized by an officer as forfeited, and such as may be needed for police officers, conservators of the peace, and the Division of Forensic Science shall be devoted to that purpose, subject to any registration requirements of federal law, and the remainder shall be disposed of as provided in § 18.2-310. For the purpose of this section, a weapon shall be deemed to be hidden from common observation when it is observable but is of such deceptive appearance as to disguise the weapon's true nature.

B. This section shall not apply to:

1. Any person while in his own place of abode or the curtilage thereof;

2. Any police officers, sergeants, sheriffs, deputy sheriffs or regular game wardens appointed pursuant to Chapter 2 (§ 29.1-200 et seq.) of Title 29.1;

3. Any regularly enrolled member of a target shooting organization who is at, or going to or from, an established shooting range, provided that the weapons are unloaded and securely wrapped while being transported;

4. Any regularly enrolled member of a weapons collecting organization who is at, or going to or from, a bona fide weapons exhibition, provided that the weapons are unloaded and securely wrapped while being transported;

5. Any person carrying such weapons between his place of abode and a place of purchase or repair, provided the weapons are unloaded and securely wrapped while being transported;

6. Campus police officers appointed pursuant to Chapter 17 (§ 23-232 et seq.) of Title 23; and

7. Any Person actually engaged in lawful hunting, as authorized by the Board of Game and Inland Fisheries, under inclement weather conditions necessitating temporary protection of his firearm from those conditions.

C. This section shall also not apply to any of the following individuals while in the discharge of their official duties, or while in transit to or from such duties:

1. Carriers of the United States mail in rural districts;

2. Officers or guards of any state correctional institution;

3. [Repealed.]

4. Conservators of the peace, except that the following conservators of the peace shall not be permitted to carry a concealed weapon without obtaining a permit as provided in subsection D hereof: (a) notaries public; (b) registrars; (c) drivers, operators or other persons in charge of any motor vehicle carrier of passengers for hire; (d) commissioners in chancery;

5. Noncustodial employees of the Department of Corrections designated to carry weapons by the Director of the Department of Corrections pursuant to § 53.1-29;

6. Law-enforcement agents of the Armed Forces of the United States and federal agents who are otherwise authorized to carry weapons by federal law while engaged in the performance of their duties;

7. Law-enforcement agents of the United States Naval Criminal Investigative Service; and

8. Harbormaster of the City of Hopewell.

D. Any person may apply in writing to the clerk of the circuit court of the county or city in which he resides for a two-year permit to carry a specific type of concealed weapon. The application shall be under oath and shall be made on a form prescribed by the

Supreme Court, reguiring only that information necessary to determine eligibility for the permit. The court, after consulting the law-enforcement authorities of the county or city and receiving a report from the Central Criminal Records Exchange, shall issue such permit if the applicant is of good character, has demonstrated a need to carry such concealed weapon, which need may include but is not limited to lawful defense and security, is physically and mentally competent to carry such weapon and is not prohibited by law from receiving, possessing, or transporting such weapon. The court may further require proof that the applicant has demonstrated competence with a handgun by one of the following:

1. Completing any hunter education or hunter safety course approved by the Department of Game and Inland Fisheries or a similar agency of another state;

2. Completing any National Rifle Association firearms safety or training course;

3. Completing any firearms safety or training course or class available to the general public offered by a law-enforcement agency, junior college, college or private or public institution or organization or firearms training school utilizing instructors certified by the National Rifle Association or the Department of Criminal Justice Services;

4. Completing any law-enforcement firearms safety or training course or class offered for security guards, investigators, special deputies, or any division or subdivision of law enforcement or security enforcement;

5. Presenting evidence of equivalent experience with a firearm through participation in organized shooting competition or military service;

6. Obtaining or previously having held a license to carry a firearm in this Commonwealth or a locality thereof, unless such license has been revoked for cause;

7. Completing any firearms training or safety course or class conducted by a state-certified or National Rifle Association-certified firearms instructor; or

8. Completing any other firearms training which the court deems adequate.

A photocopy of a certificate of completion of any of the courses or classes; an affidavit from the instructor, school, club, organization, or group that conducted or taught such course or class attesting to the completion of the course or class by the applicant; or a copy of any document which shows completion of the course or class or evidences participation in firearms competition shall constitute evidence of qualification under this subsection.

Persons who previously have held a concealed weapons permit shall be issued, upon application, a new two-year permit unless there is good cause shown for refusing to reissue a permit. If the circuit court denies the permit, the specific reasons for the denial shall be stated in the order of the court denying the permit. Upon denial of the application and request of the applicant made within ten days, the court shall place the matter on the docket for an ore tenus hearing. The applicant may be represented by counsel, but counsel shall not be appointed. The final order of the court shall include the court's findings of fact and conclusions of law.

No fee shall be charged for the issuance of such permit to a person who has retired from service as a magistrate in the Commonwealth or as a law enforcement officer with the Department of State Police, or with a sheriff or police department, bureau or force of any political subdivision of the Commonwealth of Virginia, after completing twenty years' service or after reaching age fifty-five nor to any person who has retired after completing twenty years' service or after reaching age fifty-five from service as a law-enforcement offlcer with the United States Federal Bureau of Investigation, Bureau of Alcohol, Tobacco and Firearms, Secret Service Agency, Drug Enforcement Administration or Naval Criminal Investigative Service. Any fee charged by the court associated with the processing of an application, including costs associated with the consultation with law-enforcement agencies, shall not exceed twenty-five dollars. The order issuing such permit shall be provided to the State Police and the law-enforcement agencies of the county or city.

Any person denied a permit to carry a concealed weapon under the provisions of this subsection may, within thirty days of the final decision, present a petition for review to the Court of Appeals or any judge thereof. The petition shall be accompanied by a copy of the original papers filed in the circuit court, including a Copy of the order of the circuit court denying the permit. Subject to the provisions of § 17-116.07 B, the decision of the Court of Appeals or Judge shall be final.

E. As used in this article:

"Spring stick" means a spring-loaded metal stick activated by pushing a button which rapidly and forcefully telescopes the weapon to several times its original length.

"Ballistic knife" means any knife with a detachable blade that is propelled by a spring-operated mechanism.

APPENDIX B

"Shall Issue Law":

§ 18.2-308 (Effective until January 1, 1998) Personal protection; carrying concealed weapons; when lawful to carry.

A. If any person carries about his person, hidden from common observation, (i) any pistol, revolver, or other weapon designed or intended to propel a missile of any kind; (ii) any dirk, bowie knife, switchblade knife, ballistic knife, razor, slingshot, spring stick, metal knucks, or blackjack; (iii) any flailing instrument consisting of two or more rigid parts connected in such a manner as to allow them to swing freely, which may be known as a nun chahka, nun chuck, nunchaku, shuriken, or fighting chain; (iv) any disc, of whatever configuration, having at least two points or pointed blades which is designed to be thrown or propelled and which may be known as a throwing star or oriental dart; or (v) any weapon of like kind as those enumerated in this subsection, he shall be guilty of a Class 1 misdemeanor. A second violation of this section or a conviction under this section subsequent to any conviction under any substantially similar ordinance of any county, city, or town shall be punishable as a Class 6 felony, and a third or subsequent such violation shall be punishable as a Class 5 felony. Any weapon used in the commission of a violation of this section shall be forfeited to the Commonwealth and may be seized by an officer as forfeited, and such as may be needed for police officers, conservators of the peace, and the Division of Forensic Science shall be devoted to that purpose, subject to any registration requirements of federal law, and the remainder shall be disposed of as provided in §18.2-310. For the purpose of this section, a weapon shall be deemed to be hidden from common observation when it is observable but is of such deceptive appearance as to disguise the weapon's true nature.

B. This section shall not apply to:

1. Any person while in his own place of abode or the curtilage thereof;

2. Any police officers, including Capitol Police officers, sergeants, sheriffs, deputy sheriffs or regular game wardens appointed pursuant to Chapter 2 (§29.1-200 et seq.) of Title 29. 1;

3. Any regularly enrolled member of a target shooting organization who is at, or going to or from, an established shooting range, provided that the weapons are unloaded and securely wrapped while being transported;

4. Any regularly enrolled member of a weapons collecting organization who is at, or going to or from, a bona fide weapons exhibition, provided that the weapons are unloaded and securely wrapped while being transported;

5. Any person carrying such weapons between his place of abode and a place of purchase or repair, provided the weapons are unloaded and securely wrapped while being transported;

6. Campus police officers appointed pursuant to Chapter 17 (§23-232_et seq.) of Title 23;

7. Any person actually engaged in lawful hunting, as authorized by the Board of Game and Inland Fisheries, under inclement weather conditions necessitating temporary protection of his firearm from those conditions; and

8. Any State Police officer retired from the Department of State Police and any local law-enforcement officer retired from a police department or sheriffs office within the Commonwealth (i) with a service-related disability or (ii) following at least fifteen years of service, other than a person terminated for cause, provided such officer carries with him written proof of consultation with and favorable review of the need to carry a concealed weapon issued by the chief law-enforcement officer of the agency from which the officer retired.

C. This section shall also not apply to any of the following individuals while in the discharge of their official duties, or while in transit to or from such duties:

1. Carriers of the United States mail;

2. Officers or guards of any state correctional institution;

3. [Repealed.]

4. Conservators of the peace, except that the following conservators of the peace shall not be permitted to carry a concealed weapon without obtaining a permit as provided in subsection D hereof: (a) notaries public; (b) registrars; (c) drivers, operators or other persons in charge of any motor vehicle carrier of passengers for hire; or (d) commissioners in chancery;

5. Noncustodial employees of the Department of Corrections designated to carry weapons by the Director of the Department of Corrections pursuant to § 53.1-29;

6. Law-enforcement agents of the Armed Forces of the United States and federal agents who are otherwise authorized to carry weapons by federal law while engaged in the performance of their duties;

7. Law-enforcement agents of the United States Naval Criminal Investigative Service; and

8. Harbormaster of the City of Hopewell.

D. Any person twenty-one years of age or older may apply in writing to the clerk of the circuit court of the county or city in which he resides for a five-year permit to carry a concealed handgun. Notwithstanding §15.1-29.15, a county or city may enact an ordinance which requires any applicant for a concealed handgun permit to submit to fingerprinting for the purpose of obtaining the applicant's state or national criminal history record. The application shall be made under oath before a notary or other person qualified to take oaths and shall be made only on a form prescribed by the Department of State Police, in consultation with the Supreme Court, requiring only that information necessary to determine eligibility for the permit. The court shall consult with the law-enforcement authorities of the county or city and receive a report from the Central Criminal Records Exchange. As a condition for issuance of a concealed handgun permit, the applicant shall submit to fingerprinting if required by local ordinance in the county or city where the applicant resides and provide personal descriptive information to be forwarded with the fingerprints through the Central Criminal Records Exchange to the Federal Bureau of Investigation for the purpose of obtaining criminal history record information regarding the applicant, and obtaining fingerprint identification information from federal records pursuant to criminal investigations by state and local law-enforcement agencies. Upon completion of the criminal history records check, the State Police shall return the fingerprint cards to the submitting local agency. The local agency shall then promptly notify the person that he has twenty-one days from the date of the notice to request return of the fingerprint cards. All fingerprint cards not claimed by the applicant within twenty-one days of notification by the local agency shall be destroyed. Fingerprints taken for the purposes described in this section shall not be copied, held or used for any other purposes. The court shall issue the permit within forty-five days of receipt of the completed application unless it is determined that the applicant is disqualified. If the applicant is later found by the court to be disqualified, the permit shall be revoked.

E. The following persons shall be deemed disqualified from obtaining a permit:

1. An individual who is ineligible to possess a firearm pursuant to §§ 18.2-308.1:1, 18.2-308.1:2 or § 18.2-308.1:3 or the substantially similar law of any other state or of the United States.

2. An individual who was ineligible to possess a firearm pursuant to § 18.2-308.1:1 and who was discharged from the custody of the Commissioner pursuant to § 19.2- 182.7 less than five years before the date of his application for a concealed handgun permit.

3. An individual who was ineligible to possess a firearm pursuant to § 18.2-308.1 :2 and whose competency or capacity was restored pursuant to § 37.1-134.1 less than five years before the date of his application for a concealed handgun permit.

4. An individual who was ineligible to possess a firearm under §18.2-308.1:3 and who was released from commitment less than five years before the date of this application for a concealed handgun permit.

5. An individual who is subject to a restraining order, or to a protective order and prohibited by § 18.2-308.1:4 from purchasing or transporting a firearm.

6. An individual who is prohibited by § 18.2-308.2 from possessing or transporting a firearm, except that a permit may be obtained in accordance with subsection C of that section.

7. An individual who has been convicted of two or more misdemeanors within the five-year period immediately preceding the application, if one of the misdemeanors was a Class 1 misdemeanor, but the judge shall have the discretion to deny a permit for two or more misdemeanors that are not Class 1. Traffic infractions or reckless driving shall not be considered for purposes of this disqualification.

8. An individual who is addicted to, or is an unlawful user or distributor of, marijuana or any controlled substance.

9. An individual who has been convicted of a violation of § 18.2-266 or a substantially similar local ordinance or of public drunkenness within the three-year period immediately preceding the application, or who is a habitual drunkard as determined pursuant to §4.1-333.

10. An alien other than an alien lawfully admitted for permanent residence in the United States.

11. An individual who has been discharged from the Armed Forces of the United States under dishonorable conditions.

12. An individual who is a fugitive from justice.

13. An individual who it is alleged, in a sworn written statement submitted to the court by the sheriff, chief of police or attorney for the Commonwealth, in the opinion of such sheriff, chief of police or attorney for the Commonwealth, is likely to use a weapon unlawfully or negligently to endanger others. The statement of the sheriff, chief of police or the attorney for the Commonwealth shall be based upon personal knowledge or upon the sworn written statement of a competent person having personal knowledge.

APPENDIX C

Table C-1

Crime and Unemployment in Virginia: Calendar Years 1980-1995

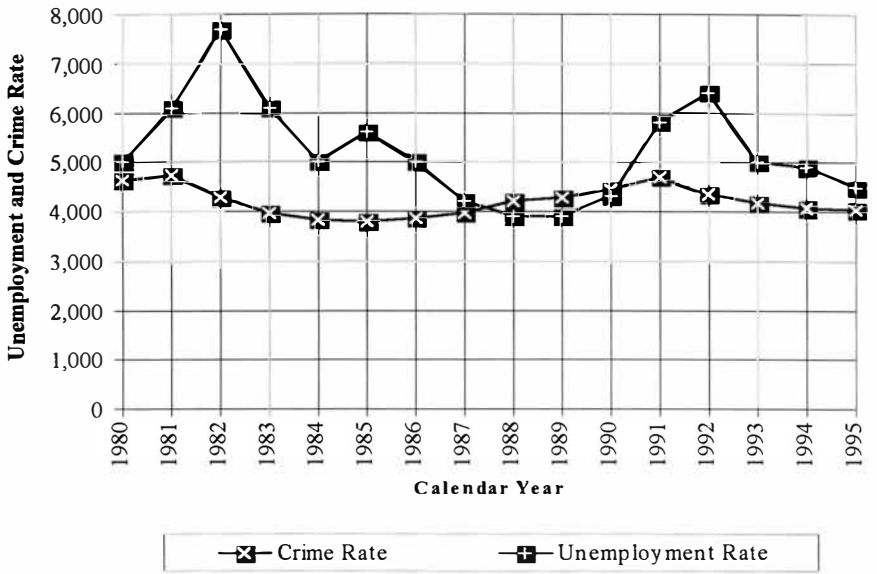
Year	Overall Crime Rate	Unemployment Rate
1980	4,614.96	5,000
1981	4,740.44	6,100
1982	4,275.75	7,700
1983	3,974.53	6,100
1984	3,808.96	5,000
1985	3,800.86	5,600
1986	3,851.04	5,000
1987	3,979.50	4,200
1988	4,210.15	3,900
1989	4,269.29	3,900
1990	4,440.83	4,300
1991	4,680.82	5,800
1992	4,360.75	6,400
1993	4,177.46	5,000
1994	4,074.03	4,900
1995	4,031.03	4,500

Sources: Virginia State Police Uniform Crime Reporting Section
Virginia State Employment Commission

Note. All rates are expressed per 100,000 population

Figure C-1

Unemployment and Crime in Virginia



Source: Virginia State Police Uniform Crime Reporting Section
Virginia State Employment Commission

Note. Unemployment is shown as a rate per 100,000 population rather than percentage to be comapatable with the crime rate expressed as crimes per 100,000 population

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