

SOUTHWEST TEXAS STATE UNIVERSITY

**THE EFFECTIVENESS OF FIREARM CONCEAL CARRY LAWS ON THE  
INCIDENCE AND PATTERN OF VIOLENT CRIME**

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## CHAPTER ONE

### Introduction and Statement of Research Question

#### Introduction

The American society was born in a revolutionary spirit based on strict individuality and the guarantee of liberty. These fundamental principles have endured civil insurrection, world war and immense social change. Democracy and freedom remain characteristically American. But, America is also characteristically violent. America is one of the most violent countries in the free world. Americans are, at an alarmingly increasing rate, victimized by violent crime.

The nation's most comprehensive national measure of crime is the Uniform Crime Report (UCR) published annually by the Federal Bureau of Investigation (FBI). According to the UCR publication, *Crime in the United States - 1991*, since 1987 the number of violent crimes reported to law enforcement authorities has increased twenty-nine percent. This equates to a twenty-four percent increase in the number of reported violent crimes per 100,000 inhabitants. In 1991, a murder was reported to the police every twenty-one minutes, a forcible rape every five minutes, a robbery every forty-six seconds, and an aggravated assault every twenty-nine seconds. Americans have good reason to fear violent crime.

Numerous strategies have been adopted to reduce the incidence of violent crime. Traditionally, the focus has been on the treatment of the offender. Crime suppression is typically reactionary, and comparatively little attention has been given to prevention. Even less attention has been given to equipping potential victims with the skills to defend themselves against an assailant. To reduce the likelihood and/or success of violent crime

victimization most states have implemented programs allowing citizens to carry a weapon. Typically, the privilege to carry a concealed weapon in public is granted through the issuance of a license or permit. Specific, often stringent, criteria must be met by the applicant for the issuance of such a license. These programs should not be confused with traditional gun control strategies designed to either:

- 1) reduce the availability of firearms to violent or potentially violent individuals, and/or
- 2) reduce the likelihood that the gun, if obtained, will be used in violent crime.

Conceal carry laws are designed to provide a legal means for an individual to carry a firearm for personal protection. These laws are based on the premise that an armed potential victim is less vulnerable than an unarmed potential victim. A criminal, therefore, is less likely to attack knowing the potential victim is armed. If, however, the criminal misjudges his potential victim and attacks the probability of success is reduced and the probability of injury to the criminal is increased. The armed citizen is therefore an occupational hazard to the criminal.

### **Research Purpose**

The effectiveness of conceal carry laws on the incidence and pattern of violent crime is the central theme of this applied research project. The purpose of this research is explanatory. Two hypotheses will be tested.

**Hypothesis #1 State laws allowing a citizen to obtain a license or permit to carry a concealed firearm reduce the rate of violent crime.**

**Hypothesis #2 State laws allowing a citizen to obtain a license or permit to carry a concealed firearm reduce the percentage of violent crimes involving firearms.**

While there is considerable research on traditional gun control initiatives, the literature is somewhat lacking in research on the effect of firearm conceal carry laws on violent crime. This project is intended to supplement this limited body of knowledge. In doing so, it is hoped, that public administrators and policy makers will be better equipped with empirically based research when considering firearm conceal carry laws.

Three states have been chosen to participate in this project. These states, Florida, Pennsylvania and Oregon all have recently enacted similar firearm conceal carry laws allowing citizens to carry a firearm for personal protection. A comparison of these states' firearm conceal carry laws appears in Chapter Three.

Violent crime rate data from the Federal Bureau of Investigation Uniform Crime Reporting Program is used to evaluate the effect of these states conceal carry laws. Violent crime includes murder or non-negligent manslaughter, forcible rape, robbery and aggravated assault. The violent crime rates, by state and for each crime are represented in chart and graph formats. The study uses an interrupted time series comparison model, with the effective year of each states' law as the midpoint of the evaluation period.

The experimental design described above is strengthened by using a control. A regional partner has been selected for each participant state. These regional partners do not have firearm conceal carry laws. However, in most all other criteria they are very similar to participant states. The states chosen as control states are Texas (Florida), Illinois (Pennsylvania) and Arizona (Oregon). The violent crime rates and percent of reported

firearm use in each control state are also represented in chart and graph formats. While no intervention point is available for control states, the evaluation period will be the same between matching state pairs. For example, the effective date of Florida's conceal carry law is October 1, 1987. The analysis period will be 1983 through 1991 with 1987 as the mid or intervention point. Similarly, this same evaluation period will be used to compare the violent crime rates in Florida's regional partner - Texas.

This project is a straight-forward experimental design involving observations on either side of an intervention. Data used for the analyses is collected under highly controlled procedures, the same in each state. And, a control mechanism has been designed to further validate the findings and test the hypotheses. A detailed discussion of the research and its findings is in the chapters that follow. For introductory purposes each chapter is summarized below.

## **Chapter Summaries**

Chapter Two reviews the literature on the subject of gun control. Almost all research in this field focuses on the effectiveness of traditional gun control initiatives. Broadly, the literature is classified into two distinct categories.

- a. research on the relationship between the availability of firearms and their use in violent crime
- b. research on the effectiveness of specific gun control initiatives.

There is very little research on the effectiveness of conceal carry laws on the incidence or pattern of violent crime.

Chapter Three outlines the historical and legal setting of gun control. The U.S.

Constitution's guarantee of the ". . . right to keep and bear arms." is the primary law allowing the civilian ownership of firearms. This chapter discusses the U.S. Supreme Court rulings that have expanded and constrained this Amendment. Federal regulation of firearms is primarily guided by the Gun Control Act of 1968. However, gun control is chiefly a state issue. Almost every state and many municipalities regulate firearms to some degree. This chapter also includes a comparison of the conceal carry laws of the states participating in this research.

Chapter Four analyzes the methodologies used in gun control research. In addition, this chapter discusses briefly the variables used in other research projects. The majority of Chapter Four focuses on the specific methodology chosen for this project.

Chapter Five analyzes the project's findings. The violent crime rates (murder, aggravated assault, rape and robbery) and reported use of firearms in each participant state are compared to the rates in that states' regional partner. This analysis is the basis upon which the hypotheses are tested.

Chapter Six summarizes the research project. In this chapter particular attention is given to whether or not the findings support or do not support the hypotheses. Also the relative strengths and weaknesses of the research project are identified and discussed in this chapter. The chapter ends with conclusive remarks that serve as a basis for further study.

The review of the literature in the following chapter attempts to define the relationship between the availability of firearms and the incidence or pattern of violent crime. In this chapter the conceptual foundations of this relationship are also discussed.

## CHAPTER TWO

### A Review of the Literature

The civilian ownership of firearms is one of the most deeply rooted traditions in America. Early colonists relied upon firearms for harvesting game and protection from adversarial Indian tribes. Indeed, the success of the American Revolution can, in part, be attributed to the prevalence of firearms in the colonies and the proficiency of the colonists in their use.

Civilian firearm ownership was so much a part of revolutionary America that Virginian James Madison had little difficulty imbedding the ". . . right to keep and bear arms . . ." into the Bill of Rights. Since then, firearms have been a visible part of the American experience.

Along with this heritage comes a less glamorous American reality - violence. Americans own a greater number and variety of guns than do the citizens of other Western democracies. However, unfortunately, Americans use their guns against each other more often (Zimring 1986:1). The likelihood of the average American household suffering burglary or robbery over a ten year period is about ten times greater than the chance of injury from all natural disasters combined. (Kates 1991:121). According to the FBI Uniform Crime Reports (UCR), 1,900,000 violent crimes were reported to the police in 1991. This rate of 758 violent crimes per 100,000 residents is a five percent increase over 1990, a 28 percent increase over 1987 and a 45 percent increase over 1982 (U.S. Department of Justice FBI 1992:10).

The relationship between the availability of firearms and the incidence of violent crime committed with guns is the central theme of this chapter. Similarly, the research on the

extent to which gun control laws affect the pattern and incidence of violent crime is reviewed.

## **The American Heritage of Gun Ownership**

### **How firearms are classified**

The classification of firearms varies between jurisdictions. For the purposes of this paper firearms are broadly classified into three categories.

Long guns are firearms designed to be fired with two hands. Normally, long guns are rested upon the shooter's shoulder when fired. This category includes rifles and shotguns. These weapons are the least concealable but are potentially more lethal. Many weapons in this classification can be modified to improve concealability. An emerging subclassification of long guns receiving considerable recent attention is the assault rifle. These weapons are nominally distinguishable from other rifles. Typically assault rifles can be adapted to hold large amounts of ammunition in their magazine.

Handguns are firearms designed to be fired easily with one hand. These weapons are highly concealable. Because of their frequency of use in violent crime handguns are most typically the target of gun control initiatives.

Antique or collectible firearms are weapons that are owned for their aesthetic or monetary value. These weapons are almost never used in violent crime. In fact, many of these weapons are never fired for any reason.

### **Reasons for ownership**

There are three primary motivations for owning a firearm - sport or recreation, protection or self defense and collection.

The most common reason for owning a firearm is for sport or recreation (Greene 1987:595; McDowall 1986:137). Some researchers have estimated that sport guns outnumber defensive guns three to one (Whitehead and Langworthy 1989:270). However, the reason for ownership can vary depending upon the type of gun. Recreational owners typically own long guns rather than handguns (Zimring and Hawkins 1987:31).

Conversely, Zimring found that self defense is the most common motivation for owning a firearm (Zimring 1986:1). Other researchers documented that either the fear of crime (McDowall 1986:137) or a lack of confidence in the police or courts (Whitehead and Langworthy 1989:267) are the most common reasons for gun ownership. Kates and Kleck argue that the defensive use of firearms is ". . . enormously more frequent than has been realized." (Kates 1991:164; Kleck 1990a:278). They suggest that the primary motivation for gun ownership is the potential for criminal victimization.

### **Extent of ownership**

The typical gun owner lives in a small town, is Protestant and has a higher than average income (Wright 1990:94). In addition, most adult owners also owned guns as children (Whitehead and Langworthy 1989:264).

Estimates of the number of guns owned range from 100 million (Greene 1989:595) to 130 million (Zimring 1986:1) to 160 million (Kleck 1990c:125). Firearms are acquired in different ways. Most guns are transferred privately between individuals. In a chilling report on felons, Wright and Rossi found that a substantial percentage (32%) of the weapons used to commit crime are stolen. Of the weapons purchased by felons only 35 percent are acquired through retail establishments. The rest are purchased from family and friends

(38%) or in the black market (26%) (Wright and Rossi 1985: 35-6).

Much of the research on firearm availability is in some way related to estimates of gun density. These estimates are elusive. The most universally accepted estimate of gun density is based on Cook's 1979 evaluation of the proportion of violent crimes involving guns to the total number of violent crimes. Cook's measurement of gun density is discussed in more detail later in this paper.

## **Violent Crime**

### **Definition of violent crime**

The definition of violent crime varies between jurisdictions. But, for the purposes of this paper, the UCR definition will be used since this is the most universally accepted. Violent crime includes murder and non-negligent manslaughter, aggravated assault, forcible rape, and robbery. Violent crime involves force or the threat of force (U.S. Department of Justice - FBI 1992:10).

### **Measurement of violent crime**

Most research involving the extent or nature of crime is based on one of two statistical measures, both administered by the U.S. Department of Justice. These surveys are very different but complimentary.

The FBI's Uniform Crime Report (UCR) program has collected information on a select group of crimes since 1929. Data is compiled from crimes reported to the police. Approximately 96 percent of the U.S. population is represented in this survey. UCR is currently moving from a summary based system to an incident based system.

The Bureau of Justice Statistics since 1973 has conducted the National Crime Victims

Survey (NCVS). This survey collects details on the frequency and nature of crime from 49,000 households, or 101,000 persons. Data on crime is collected regardless of whether or not it is reported to the police. The NCVS focuses on victims. It is an ongoing survey.

The definitions and types of crimes analyzed vary between these two measurements.

Other key differences in these crime measures are outlined in Table 2.1.

**TABLE 2.1**

**Key Differences Between Major Crime Surveys**

<b>Uniform Crime Reports</b>	<b>National Crime Victims Survey</b>
*only collects crime reported to police	*includes crimes reported or not
*rate per 100,00 persons	*rate per 1,000 households
*classified by police	*classified by interviewer
*rates based on actual count	*rates based on sample

(U.S. Department of Justice - FBI 1992:388-9)

Assessments of the effectiveness of gun control are sometimes limited by the constraints of crime statistics. Many factors influence the over and under reporting of crime. The recollection of the victim may change over time. Most researchers however recognize these limitations.

**Firearm Use in Violent Crime**

**Extent of firearm use (quantity)**

In 1991 firearms were used in 31 percent of all murders, robberies and aggravated assaults, collectively. Handguns are used in 80 percent of all murders involving firearms (U.S. Department of Justice - FBI 1992:17). The single most common weapon used by armed offenders is a firearm (Rand et al 1986:1; Bastian and DeBerry 1992:7). From 1973

to 1982, 37 percent of all violent victimizations were committed by armed offenders (Rand et al 1986:1). From 1979 to 1987 handguns were used in 10 percent of all violent crimes. During this period handguns were used in 7 percent of all rapes, 18 percent of all robberies, 8 percent of all assaults, 22 percent of all aggravated assaults and 40 percent of all homicides (Rand 1990:2). These percentages were based on data from the NCVS.

#### **Severity of firearm use (quality)**

According to the NCVS in 87 percent of nonfatal crimes involving handguns the offender did not fire the gun but instead used the weapon to intimidate the victim (Rand 1990:1). Few victims are injured with guns. In only 19 percent of attacks when the gun is actually fired did the offender hit his target. Even highly trained New York City police officers only hit their intended target 39 percent of the time (Kleck and McElrath 1991:47). These statistics should not, however, suggest that guns are not efficient tools for criminals. Victims of robbers wielding handguns are more apt (80%) to lose property than victims of robbers without handguns (26%). Victims of handgun crime are less likely to take self protective measures than victims of violent crime not involving firearms (Rand 1990:4). Offenders armed with a gun are in general more likely to complete the crime than unarmed offenders (Rand et al 1986:2). This presents a complicated picture of the severity of firearm use in violent crime. Guns are used in a minority of violent crimes. But, guns are a factor in nearly two-thirds of all criminal events resulting in injury or death of the victim (Cook 1990:134). Generally the more lethal the weapon the less likely an injury will occur. However, if injury does occur it is more likely to be fatal if a firearm is used (Kleck and McElrath 1991:684; Rand et al 1986:4; Zimring 1986:1).

## **Firearm use for self-protection**

Opponents of gun control laws argue that the civilian ownership of firearms actually deters crime. They argue that armed victims are less likely to be attacked, and if attacked less likely to be injured. Proponents of gun control argue that the presence of a firearm in an altercation encourages further violence with more severe results. Kleck and McElrath support both points of view. These researchers find that the presence of a gun in a threatening situation tends to affect the altercation in one of four ways.

- 1) facilitation-the weapon may encourage the victim to attack
- 2) triggering-the weapon may increase aggression
- 3) inhibition-the weapon may inhibit or deter the attack
- 4) redundancy-offenders with guns are less likely to injure victims

(Kleck and McElrath 1991:672)

## **Conceptual Basis of Gun Control**

### **General objective of gun control**

Few issues cause more heated political debate than gun control. Even outside the adversarial political arena, in the seemingly pristine environment of academic research, there is considerable disagreement. The central idea of firearm control is ". . . to reduce the . . . occasions each year when guns are used illegitimately without unduly disrupting the millions of occasions when guns are used legitimately." (Zimring 1986:1). There is general agreement that gun control should be aimed at restricting gun possession among persons with prior records of violence. Gun control should be applied equally across all guns to avoid the substitution of more lethal weapons. Further, federal intervention isn't necessary given the diversity of needs among the states. Enforcement must depend on voluntary compliance. And, some form of liability should be imposed on individuals illegally transferring weapons

(Kleck 1990b:159-60).

### **Policy goals of gun control**

The policy goals of gun control are to:

- 1) reduce the availability of firearms to violent or potentially violent individuals, and
- 2) reduce the likelihood that the gun, if obtained, will be used in violent crime.  
(Wright and Rossi 1985:45)

### **Residual effects of gun control**

Any legislative mechanism designed to affect human behavior has residual effects.

Sometimes the law works as intended. Often it does not. Wright, Rossi and Daly inventoried the desired end effects, intermediate effects, and side effects of gun control legislation.

#### **\*Desired end effects**

- Reduction in the use of weapons in crime
- Reduction in stock of weapons held by private households
- Reduction in accidental injuries, deaths or suicides from weapons
- Reduction in stock held by criminals
- Reduction in stock of certain types of weapons

#### **\*Desired intermediate effects**

- Regulating the weapons production system
  - Restrictions on the manufacture of weapons
  - Restrictions on the importation of weapons
- Regulating the distribution system
  - Restrictions on the sale and transfer of weapons
- Regulating ownership
  - Restrictions on ownership
- Regulating usage
  - Restrictions on carrying weapons
- Raising the costs of weapons ownership and use
- Raising the penalties for improper use

### **\*Possible side effects**

- Substitution of other weapons for firearms in crime
- Creation of illegal manufacturing, distribution, and transfer systems
- Higher costs to the criminal justice system
- Higher costs to the administering agency
- Higher costs to weapons users
- Restrictions on legal uses of firearms for recreational purposes  
(Wright, Rossi and Daly 1983:277)

### **Weapon substitution**

An important side effect of gun control receiving considerable attention is weapon substitution. Briefly stated, if guns are less available then criminals will use other weapons. The extent of this phenomena is the subject of considerable academic debate. However, almost all researchers recognize some level of weapon substitution as a response to rigorous gun control. One of the most avid proponents of gun control, Frank Zimring, proposes that offenders will use less lethal weapons, such as knives. Since knives are less lethal than guns the rate of injury and death may be reduced but not necessarily the incidence of violent crime. Don Kates and Gary Kleck independently disagree with Zimring. They propose that violent offenders will use more lethal weapons such as shotguns, shortened to improve concealability. Thus, injury and death will increase (Wright and Rossi 1985:41). The latter view is supported by a survey of felons conducted by Wright and Rossi in 1985 called *The Armed Criminal in America*. In this survey of 1,874 felons in eleven states' prisons, 40 percent indicated they would use a sawed off shotgun if handguns were not available. Many of the respondents, however, had difficulty visualizing a world without guns. The predatory felons in the survey would not be affected by a total gun ban (Wright and Rossi 1985:47-9). Judging from this, weapon substitution is a serious consideration for gun control policy

makers.

## Survey of Research Findings

### Categories of gun control research

Most of the research on the influence of guns on violent crime occurred during two distinct periods. The first period of intensive research was during the debate on the federal Gun Control Act of 1968. These studies are typically philosophical discussions on gun control. The second period of research began in the early 1980's and continues to date. This period is characterized by empirical and time-series analyses.

The research in the latter period is further classified into two distinct categories. The first category of research is concerned with the effect of gun availability, or density, on the incidence of violent crime. Central to this research are the following questions.

- 1) To what extent, if any, do levels of gun ownership in the general population affect (crime) rates?
- 2) To what extent, if any, do crime rates affect levels of gun ownership?  
(Kleck 1990c:124)

The second category of research analyzes the effect of specific gun control initiatives on violent crime. Typically, research in this area compares the incidence and pattern of violent crime in a particular jurisdiction before, then after, the implementation of a gun control strategy.

The general research on gun control has been criticized for the following reasons. First, much of the research is slanted toward either pro-gun or pro-control ideology. Second, the experimental design and/or interpretation of the results often reflect the bias of the author. Third, crime statistics are limited and do not account for regional variances in demographics,

economics or history. Fourth, the long term effects of legislative remedies are often different than the short term results. And finally, it is difficult to assess the effectiveness of any legislative remedy to deviant behavior independent of other factors (Wright, Rossi and Daly 1983:3).

### **The relationship between gun availability and violent crime**

The characteristic hypothesis in this category of research is that an increase in the availability of firearms will cause an increase in the incidence of violent crime involving guns.

The most comprehensive research in this category is a three year study of violent crime involving guns conducted by Wright, Rossi and Daly. This study, completed in 1983, challenges every major empirical assumption justifying strict gun control as a method for reducing criminal and domestic crime (Nisbet 1990:89). The findings of these researchers are summarized by the following passage.

There is no compelling evidence that the private ownership of firearms among the general population is, in itself, an important cause of criminal violence. This is not to conclude that guns are not a cause of crime, but rather that no one has yet persuasively demonstrated this to be the case (Greene 1987:595).

In a later report, Wright and Rossi attempt to determine how and why criminals obtain and use firearms. Their report, *The Armed Criminal in America*, is a survey of nearly 2,000 felons in eleven state prisons. This report produces more skepticism on the effectiveness of gun control as a means to reduce the availability of firearms to the more dangerous members of society (Wright and Rossi 1985).

Later these researchers again dispute the claim that the availability of guns produces more crime and violence. For evidence they cite the differences in the manner in which criminals

and noncriminals obtain guns (Wright and Rossi 1990:121).

Other researchers propose that violent crime is more predictably caused by social, political, economic or cultural factors than by the availability of weapons. Don Kates and Gary Kleck suggest that firearm violence is a consequence of the above factors rather than a cause of violence. Their research further suggests that an increase in weapons availability may in fact be a reaction to violent crime rather than a cause (Nisbet 1990:90).

Kates further asserts that gun laws designed to reduce weapon density cannot dramatically reduce crime. Further, even wholesale confiscation would leave enough firearms for criminal use (Zimring and Hawkins 1990b:165-6).

Franklin Zimring, one of the most prolific writers in the field, maintains that weapons availability does affect the incidence of violent crime. He and Gordon Hawkins report significant links between firearm availability and the use of guns in violent crime (Zimring and Hawkins 1987:53, Zimring and Hawkins 1990a:171). Evidence to support these findings is based on an analysis of weapons permit issuance and the proportion of gun to non-gun violent attacks (homicide and aggravated assault) in the city of Detroit. From 1965 to 1968 the percentage of gun related violent attacks increased along with an increase in the number of permits issued to carry a firearm. This increase is illustrated in Table 2.2.

**TABLE 2.2**

**The Relationship Between the Availability of Firearms and the Percentages of Gun Related Violent Attacks**

	<u>PERMITS ISSUED</u>	<u>VIOLENT ATTACKS</u>	
		<u>Gun</u>	<u>Non-gun</u>
1965	4,576	100	100
1966	6,416	110	118
1967	10,782	163	127
1968	17,760	217	118

The incidence and pattern of gun related robbery had a similar experience (Zimring and Hawkins 1987:46-7).

Zimring asserts that if homicides were the result of single minded intentions to kill, laws designed to reduce firearm availability would have no effect on the homicide rate. Those individuals with a focused desire to kill would use other means. However, not all homicides are so unambiguously motivated. A significant portion of homicides are not the result of a single minded intention to kill. Instead, most homicides arise from a series of events. Individuals embroiled in conflicts will use the most available weapon. If that weapon is a gun the probability of death is greater. If that weapon were a knife the chances of survival for the victim are improved substantially (Zimring 1968:721). Later, Zimring and Hawkins reported that the availability of a firearm will make some attacks possible, particularly attacks against the least vulnerable victims or when range and concealment are necessary (Zimring and Hawkins 1990a:171).

In a 1986 analysis of crime in 58 of the largest cities in the U.S., David McDowall finds that the crime rate and availability of firearms form a ". . . vicious cycle . . ." so that

increases in one lead to increases in the other." (McDowall 1986:135).

Using Cook's measure of gun density McDowall finds that as the density of guns increases the proportion of robbers using firearms also increases. This, however, did not affect the overall rate of robbery (McDowall 1986:141-2). In a later study McDowall finds that firearm density had a substantial impact on Detroit's murder rate. He asserts that a one percent increase in the gun density index produces more than a one percent increase in homicides (McDowall 1992:1090).

Finally, Philip J. Cook proposes that if measures to reduce the availability of guns are successful the pattern of violent crime may change along three dimensions.

- 1) the distribution of violent crime
- 2) the seriousness of violent crime
- 3) the overall rate of violent crime

Cook suggests that the availability of guns encourages offenders to attack more victims, particularly the least vulnerable. A reduction in the presence of firearms would reduce the chances of death to the victim (Cook 1990:145).

#### **Specific firearm control initiatives**

Much of the recent research attempts to determine the effectiveness of certain firearm control initiatives on the incidence or pattern of violent crime. Some researchers find that in jurisdictions with stricter gun control laws there is a reduction in suicides but not homicides or accidental deaths (Lester and Murrell 1986:318). Others dispute such findings citing the difficulty in assessing the effectiveness of a single law on human behavior. It is difficult, they propose, to define effectiveness or what might have happened had the law not been passed (Wright, Rossi and Daly 1983:274). It has been further argued that such research is

limited to state or local problems and that the findings of one study may not be reliable in other jurisdictions (Wright, Rossi and Daly 1983:5). The remainder of this chapter is a discussion of the research on the effectiveness of specific types of firearm control laws on violent crime.

### **Laws prohibiting the carrying weapons**

The city of Detroit is one of the most crime ridden cities in America. In January 1987 Detroit's city council passed an ordinance against the carrying of firearms in public. Violation of this ordinance could result in a mandatory jail sentence. The Wayne county prosecutor initiated a no plea bargaining rule. Two independent research projects attempt to analyze the effectiveness of this ordinance. The first attributes only a slight reduction in public homicides to the ordinance. These researchers cite the laxity of enforcement, limited jail space and the unwillingness of judges to impose mandatory sentences as factors contributing to the disappointing results (O'Carroll 1981:576). The second analysis, involving a longer period of time, reports a significant drop in gun related homicides. Similar reductions were in robberies or assaults are not reported (Loftin and McDowall 1981:164-7).

In 1975, the Massachusetts legislature imposed a one year mandatory sentence for illegally carrying a firearm. This law is commonly called the Bartley-Fox Amendment. A short term evaluation reports a statistically significant decrease in armed robbery (20%) and armed assault (18%). No change is reported in homicides (Deutsch and Alt 1977:565-7). In a later, longer term analysis other researchers find that reductions in armed assaults and robberies were offset by increases in unarmed assaults and robberies. Weapon substitution is

evident in assaults but not in robberies. Armed homicides decreased but unarmed homicides did not suggesting the amendment did deter armed homicides (Pierce and Bowers 1981:137).

#### **Laws prohibiting the possession of firearms**

Like Detroit, the District of Columbia is also a city besieged by crime. In 1986 a law was passed banning handgun possession in the District. According to Loftin et al, the law resulted in a significant reduction (25%) of homicides. Interestingly, there was not a similar reduction in homicides in the adjacent metropolitan areas of Virginia and Maryland (Loftin et al 1991:1615). In another analysis, Jones finds that reductions only occurred in homicides resulting from arguments among acquaintances (Jones 1981:149).

#### **Laws imposing a mandatory sentence for the use of a firearm during the commission of a crime**

In 1975 Florida imposed a three year mandatory add on sentence for offenders using firearms during felony offenses. An analysis of homicides, robberies and assaults in three cities (Tampa, Miami, Jacksonville) finds no change in the overall rate of violent crime. The researchers also find that the mandatory sentence was relatively light compared to the average overall sentence imposed on felony offenders (Loftin and McDowall 1984:258).

In 1981, the state of New Jersey enacted the Graves Act imposing a mandatory sentence for the possession of a firearm during the commission of ten selected crimes. In a 1989 assessment of the act's effectiveness on homicides, robberies and aggravated assaults only armed robberies show a significant and continuous decrease. There is evidence of weapon substitution in aggravated assaults (Stout 1989 150-73).

#### **Laws requiring licensure to carry concealed firearms**

Several states have passed legislation allowing individuals to carry concealed firearms. In

these jurisdictions an individual may obtain a special permit or license to carry a firearm. Typically, a series of stringent requirements must be met before the license will be granted. Individuals with prior criminal records, a history of violence or mental illness are in all cases barred from licensure. In some states training on firearm safety and non-violent conflict resolution is required. These licensing strategies have to date been effective in reducing homicide.

In 1989 Oregon passed a concealed carry law. Since then the homicide rate in Oregon has dropped 21 percent. This was despite an 8 percent increase in homicides nationwide.

From 1985 to 1989 the homicide rate in Pennsylvania rose more than three times faster than the national average. In 1989 Pennsylvania passed a concealed carry law. Since then, Pennsylvania's murder rate has dropped to a lower level than the national average.

In 1987 Florida passed a concealed carry law. Since then the homicide rate in that state has fallen 6 percent. This was despite a nationwide homicide rate increase of 13 percent (Committee on Public Safety-Texas Legislature 1992:82-83).

### **Comparative Studies**

Some researchers attempt to draw conclusions about the effectiveness of gun control laws by comparing similar cities with differing approaches to gun control.

#### **East St. Louis/Evanston**

Jung and Jason compare two cities in Illinois - East St. Louis and Evanston. Although these cities are in the same state there are significant differences in their size and proportional minority populations. East St. Louis banned the possession of firearms in public. Evanston outlawed the possession of firearms anywhere in the city. Initially East St.

Louis experienced significant increases in both firearm related assaults and robberies. Evanston experienced no post intervention change. Eventually, crime rates in both cities returned to pre-intervention rates. Interestingly, the researchers note differences in the amount of press coverage during the pre-intervention period (Jung and Jason 1988:520-1).

### **Seattle/Vancouver**

Seattle, Washington and Vancouver, British Columbia are very similar cities demographically. Vancouver has a more restrictive approach to handgun registration than Seattle. Although the rates of crime are similar the use of handguns is more prevalent in Seattle. In fact, assaults are seven times more likely to involve a handgun and murders are 4.8 times more likely to be committed with a handgun in Seattle (Sloan et al 1988:1258).

### **Summary**

It is clear that laws prohibiting the carrying of firearms are at least slightly effective in reducing homicides. However, with one exception these prohibitions do not effectively reduce robbery or assaults.

Laws prohibiting the possession of firearms result in initial reductions in homicides. Over a longer period of time however the reduction is less significant. The experiences of the District of Columbia and East St. Louis, Illinois are, in this regard, similar. In both studies the researchers attribute the encouraging initial results on intense media coverage of the law.

Laws imposing a mandatory sentence for the use of a firearm during the commission of a crime are almost always unsuccessful in reducing violent crime. Only in the case of robbery in New Jersey did such laws produce a significant reduction of crime over a sustained

period. The research on these laws finds that the unwillingness of judges to impose mandatory sentences and the relative shortness of add-on sentences for felony convictions were the chief reasons for the failure of these laws.

Laws allowing citizens the opportunity to obtain a license to carry a concealed weapon in public seem to be effective in reducing overall homicide rates, at least initially. These laws however, are too new to conclude their effectiveness. \*

Table 2.3 summarizes the findings of the research in this category.

TABLE 2.3

## Summary of the Research

JURISDICTION Researcher(s)	EFFECT ON VIOLENT CRIME		
	HOMICIDE	ROBBERY	ASSAULT
<b><i>LAWS PROHIBITING THE CARRYING OF FIREARMS</i></b>			
<b>DETROIT</b>			
O'Carroll (1981)	slight reduction	no change	no change
Loftin and McDowall (1981)	slight reduction	no change	no change
<b>MASSACHUSETTS</b>			
Deutsch and Alt (1977)	no change	significant reduction	significant reduction
Pierce and Bowers (1981)	reduction	no change	no change
<b><i>LAWS PROHIBITING THE POSSESSION OF FIREARMS</i></b>			
<b>DISTRICT OF COLUMBIA</b>			
Loftin et al (1991)	significant reduction	not studied	not studied
Jones (1981)	slight reduction	not studied	not studied
<b><i>LAWS IMPOSING A MANDATORY SENTENCE FOR THE USE OF A FIREARM DURING THE COMMISSION OF A CRIME</i></b>			
<b>FLORIDA</b>			
Loftin and McDowall (1984)	no change	no change	no change
<b>NEW JERSEY</b>			
Stout (1989)	no change	significant reduction	no change
<b><i>LAWS REQUIRING LICENSURE TO CARRY CONCEALED FIREARMS</i></b> <i>(as reported by the Committee on Public Safety-Texas Legislature)</i>			
OREGON	significant reduction	not studied	not studied
PENNSYLVANIA	significant reduction	not studied	not studied
FLORIDA	significant reduction	not studied	not studied

## Conclusion

Firearms are very much a part of the American heritage. Unfortunately firearms play all to frequent a role in violent crime. It is unclear after reviewing the literature whether the availability of firearms is a cause of or a reaction to violent crime. Many jurisdictions have attempted to retard violent crime by implementing a variety of laws designed to either;

- 1) reduce the access of firearms to violent individuals, and/or
- 2) reduce the likelihood firearms will be used for violent crime once obtained.

These laws, at least initially, cause reductions in some violent crimes involving firearms. In many cases, however, the overall rate of violent crime is not reduced. This suggests the presence of individuals predisposed toward criminal activity without regard to the difficulties imposed to obtaining firearms.

Overwhelmingly, the body of research on this subject can be characterized as an attempt to define the relationship between the availability of firearms and the incidence or pattern of violent crime. Except for the aforementioned report to the Texas Legislature, there are no formal evaluations on the effectiveness of conceal carry laws on violent crime.

The next chapter is a survey of the numerous laws affecting the possession and transfer of firearms.

## CHAPTER THREE

### The Legal Setting

#### Federal Law

The most important federal law on firearms is the Second Amendment right ". . . to keep and bear arms. . ." This right gained substantial support in 1943 through a supportive U.S. Supreme Court ruling in U.S. vs Tot (319 U.S. 463). This ruling struck down a provision of the now invalid Federal Firearms Act that presumed an individual acquired a firearm through interstate commerce if found guilty of a criminal offense involving a firearm. However previously, in 1939 the Court let stand laws that restrict the possession and use of certain types of weapons. In U.S. vs Miller (397 U.S. 174) the Court ruled that restrictions placed on sawed-off shotguns were constitutional (Knapp and Stoffel 1981:3).

In 1968, amid general public concern about social order, Congress passed the Gun Control Act 18 U.S.C. 44. This act is still the premier law affecting the possession, sale, transfer, manufacture, delivery and use of firearms in the United States. This law, like all other gun control laws, arose from frustration and political pressure to address violent crime (Greene 1987:593).

#### State Law

The sheer number of state and local firearm ordinances clearly indicates that gun control is a state issue (Knapp and Stoffel 1981:3). There are over 20,000 state and local gun control laws affecting over three-quarters of the U.S. population (Wright 1990:96). Gun control laws are popular with the public. In a 1986 Gallup Poll, 60 percent to 70 percent of

the public favored stricter laws and restrictions on gun use. Of those favoring stricter laws, 41 percent acknowledged owning a gun (Greene 1987:592). Resistance to gun control is, however, especially high in areas of high violent crime (McDowall 1991:1097). Gun control laws are generally more restrictive in the Northeast and larger cities (Wright, Rossi and Daly 1983:283).

Frank Zimring offers the most useful classification of gun control laws.

### Common Gun Control Strategies

Place and manner restrictions - separate illegitimate from legitimate use of firearms by regulating the place and manner of their use.

Stiffer penalties for firearm violence - impose longer or mandatory penalties for the use of weapons while committing crime.

Prohibiting high risk groups from ownership - prohibit violent criminals, young, substance abusers or the mentally incompetent from gun ownership.

Permissive licensing - either require a license to purchase a weapon or an application to purchase with or without a waiting period.

Registration - requires all guns to be registered with owners.

Cutting down on the handguns - focuses on restricting possession, transfer or use of handguns because of their concealability and history of use by violent offenders.

(Zimring 1986:2-3).

In response to highly publicized criminal acts involving assault rifles there is a trend to restricting these weapons in a similar fashion to handgun bans (Greene 1987:596).

Table 3.1 illustrates the distribution of gun control laws across the country. The gun control laws in this chart are broadly classed between laws that regulate the purchase of firearms and laws that regulate the carrying of weapons.

TABLE 3.1

## State Firearm Control Initiatives

	PURCHASE		Registration	CARRY	
	<u>Application, Waiting Period</u>	<u>Permit to Purchase</u>		<u>License to Carry Openly</u>	<u>License to Carry Concealed</u>
Alabama	x			x	x
Alaska					
Arizona					
Arkansas					x
California	x				x
Colorado					x
Connecticut	x			x	x
Delaware					x
Florida	x			x	x
Georgia				x	x
Hawaii	x	x	x	x	x
Idaho					x
Illinois	x	x	x		
Indiana	x		x	x	
Iowa		x		x	x
Kansas	x	x	x		
Kentucky					
Louisiana					x
Maine				x	
Maryland	x			x	x
Massachusetts		x		x	x
Michigan		x	x	x	x
Minnesota	x	x		x	x
Mississippi			x		
Missouri		x			
Montana					x
Nebraska					
Nevada					x
New Hampshire					x
New Jersey	x	x		x	x
New Mexico					
New York		x	x	x	x
North Carolina		x			
North Dakota					x
Ohio	x	x			
Oklahoma					
Oregon	x				x
Pennsylvania	x			x	x
Rhode Island	x			x	x
South Carolina				x	x
South Dakota	x				x
Tennessee	x				
Texas					
Utah					x
Vermont					
Virginia	x	x			x
Washington	x			x	x
West Virginia				x	x
Wisconsin	x				
Wyoming				x	

## Comparison of Participating States' Conceal Carry Laws

Conceal carry laws are essentially licensing programs designed to allow qualified individuals to carry firearms for personal protection. They are intended to be equally effective in allowing "law-abiding" citizens permission to carry firearms as they are in restricting this privilege from dangerous or potentially dangerous individuals. Conceal carry laws are evaluated and compared on the basis of their criteria for licensure. The most common areas of concern are:

- |                         |                                   |
|-------------------------|-----------------------------------|
| 1. minimum age          | 6. recent violent misdemeanors    |
| 2. residency            | 7. mental illness or commitment   |
| 3. felony conviction    | 8. handgun competency             |
| 4. outstanding warrants | 9. fingerprints or photo required |
| 5. pre-trial release    | 10. duration of permit            |

The following Table 3.2 illustrates the similarities and differences between the conceal carry laws of the states participating in this research.

**TABLE 3.2**

### Comparison of Participating States' Conceal Carry Laws

CRITERIA	FLORIDA	PENNSYLVANIA	OREGON
Minimum Age	21	21	21
Residency	no requirement	state	county
Felony Convictions	x	x	x
Outstanding Warrants		x	
Pre-Trial Release		x	
Recent Violent Misdemeanor	x	x	x
Mental Illness or Commitment	x	x	x
Handgun Competency	x	x	x
Fingerprint or Photo Required	x		x
Duration of Permit	3 years	5 years	2 years

"x" indicates the presence of a licensing criteria

The following chapter discusses research methodology. This chapter begins with an analysis of methodologies used in previous gun control research projects. The majority of the chapter is devoted to a discussion of the methodology used in this research project.

## CHAPTER FOUR

### Methodology

#### Commonly Used Methodologies

Although some variances exist, most research on gun control has used one of the following methodologies.

- 1) cross sectional studies that attempt to estimate the natural variations in gun control legislation by states or other political subdivisions on weapon related crime.
- 2) time series studies that attempt to examine the shifts in relevant crime rates following introduction of gun control law, and
- 3) process studies that attempt to show how particular changes in gun control policies are implemented through intermediate effects. (Wright, Rossi and Daly 1983:283)

Table 4.1 illustrates the methodologies used in the research previously identified in Table 2.1. The most common methodology is the interrupted time series analysis.

Data applied to this methodology is either the percent of gun to non-gun related crime or the incidence crime. Comparisons between similar jurisdictions are also common.

Periodically researchers apply various methods to test the statistical significance of changes in crime rates. Other researchers use surveys, case reviews, PROBIT and ARIMA analyses. The collection of data as well as the data sets vary. However, almost all research in this field relies upon the comparison of crime rates, either quantitatively or qualitatively, before, then after, the intervention of a gun control strategy.

#### Independent and Dependent Variables

The independent variables in the research cited in Table 4.1 are either the intervention of a traditional gun control strategy or a conceal carry law. In most cases the intervention point is defined as the effective date of the statute. The dependent variables in the research

TABLE 4.1

Previously Used Research Methodologies

JURISDICTION Researcher(s)	EFFECT ON VIOLENT CRIME	METHODOLOGY USED
<b><i>LAWS PROHIBITING THE CARRYING OF FIREARMS</i></b>		
DETROIT O'Carroll (1981)	slight reduction of homicides	interpreted time series analysis
Loftin and McDowall (1981)	slight reduction of homicides	interpreted time series analysis
MASSACHUSETTS Deutsch and Alt (1977)	significant reduction of robbery and assault	multiplicative empirical - stochastic models and time series analysis
Pierce and Bowers (1981)	reduction of homicides	interpreted time series analysis ARIMA
<b><i>LAWS PROHIBITING THE POSSESSION OF FIREARMS</i></b>		
DISTRICT OF COLUMBIA Loftin et al (1991)	significant reduction of homicides	interpreted time series analysis
Jones (1981)	slight reduction of homicides	experimental design comparing percent of crimes involving guns against control jurisdictions
<b><i>LAWS IMPOSING A MANDATORY SENTENCE FOR THE USE OF A FIREARM DURING THE COMMISSION OF A CRIME</i></b>		
FLORIDA Loftin and McDowall (1984)	none	interpreted time series analysis
NEW JERSEY Stout (1989)	significant reduction of robbery	interpreted time series analysis
<b><i>LAWS REQUIRING LICENSURE TO CARRY CONCEALED FIREARMS (as reported by the Committee on Public Safety-Texas Legislature)</i></b>		
OREGON PENNSYLVANIA FLORIDA	significant reduction of homicides in all three states	not reported

cited in Table 4.1 are either the incidence of crime or the percentage increase of gun usage during the commission of violent crime. The type of crime studied varies, however, all crime categories broadly fit the UCR definition of violent crime.

### **Research Methodology**

For this research project an interrupted time-series comparison group methodology is most appropriate. This design is useful in determining how an interruption (in this case the enactment of a conceal carry law) affects behavior. But the real strength of this methodology is in its ability to compare the behavior of the treated group against a similar but untreated group.

The time-series design is a strong methodology for two reasons. First, a time-series analysis ". . . eliminates the bias that results when one makes only one observation of a phenomena." Data collected at one point does not reflect a trend. Absent this, the researcher cannot determine whether or not the observed behavior is abnormally high or low. Second, the design is strengthened by an increase in the number of observations over time. The number of observations is directly proportional to the reliability of the researcher's conclusions. (Bingham and Felbinger: 1989).

Ideally, the data used, or observations made, before and after the interruption should be the same in both the experimental and control groups. In addition, the methodology used to collect the data should be consistent throughout the evaluation period. Crime rate statistics from the Uniform Crime Reporting (UCR) program are particularly well suited for this methodology. UCR data is collected under specific guidelines. The crime type definitions are consistent from state to state regardless of the inevitable variances between state criminal

statutes. Equally important, the UCR data collection methodology has not changed significantly during the evaluation period.

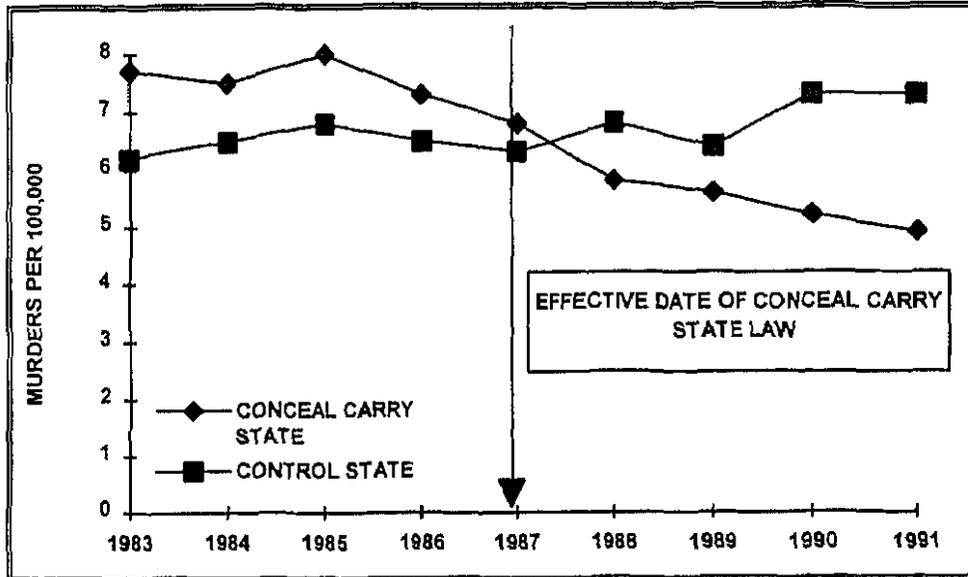
The interruption is defined, for this research project, as the effective year of the state's conceal carry law. This interruption point is the midpoint of the evaluation period for a particular state. Complete UCR data is available through calendar year 1991. The period of time from the effective year through 1991 is half of the evaluation period. The same number of years before the effective year is the other half of the evaluation period. Since the effective years will vary, each participating state may have a slightly different evaluation period. However, the control states will use the same evaluation period as their regional partners.

For each participating state an interrupted time-series analysis will be conducted for each crime type (murder, aggravated assault, rape, and robbery). Conclusions are made on whether or not the data supports the hypothesis that conceal carry laws reduce violent crime. An identical interrupted time-series analysis will be conducted using the percentage of reported firearm use for each crime type in each participating state. (Except for rape since the UCR program does not collect the percentage of reported rapes involving firearms). This analysis is used to determine the effect of conceal carry laws, if any, on the use of firearms in violent crime. As a control, the crime rates and percentages of reported firearm use during the same evaluation period in each state's regional partner are compared. This part of the analysis takes advantage of one of the strengths of the methodology. Data used in the project will be represented in charts and graphs.

Figure 4.1 includes three hypothetical graphs illustrating whether or not the findings

FIGURE 4.1  
HYPOTHETICAL ILLUSTRATIONS  
CONCEAL CARRY STATE / NO CONCEAL CARRY STATE

GRAPH A  
SUPPORTS THE HYPOTHESIS



GRAPH B  
WEAKLY SUPPORTS THE HYPOTHESIS

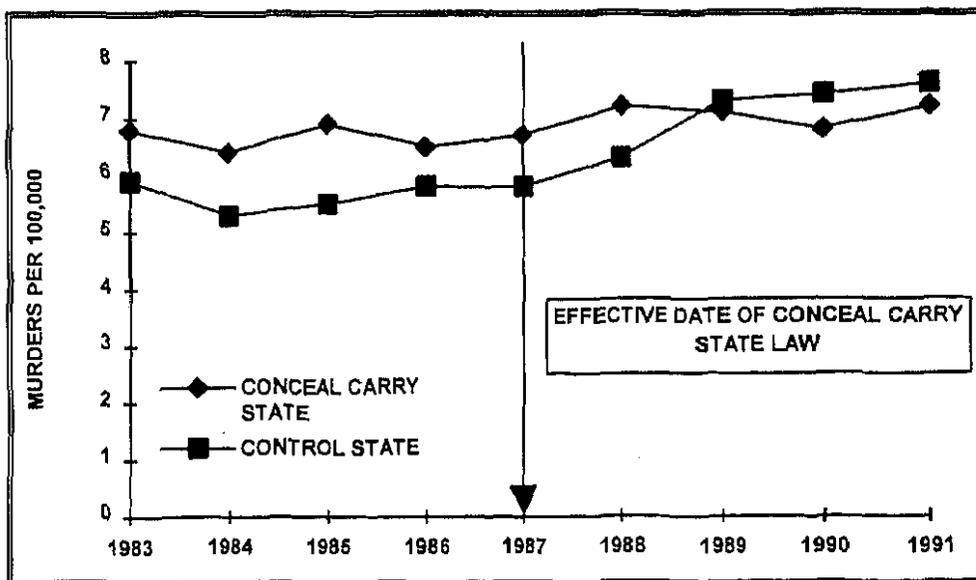
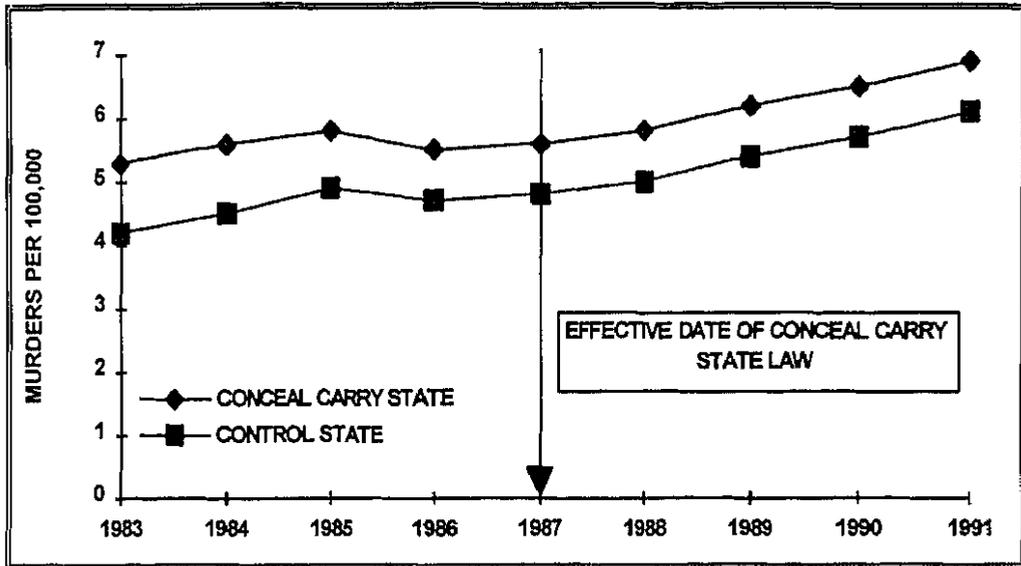


FIGURE 4.1  
HYPOTHETICAL ILLUSTRATIONS  
CONCEAL CARRY STATE / NO CONCEAL CARRY STATE  
(continued)

GRAPH C  
DOES NOT SUPPORT THE HYPOTHESIS



support, weakly support or do not support the hypothesis. In graph A the crime rate of the conceal carry state decreased substantially after the effective year of its conceal carry law. During the same period the crime rate in the control state without a conceal carry law increased substantially. This data supports the hypothesis that conceal carry laws reduce the incidence of violent crime. In graph B the violent crime rate of the conceal carry state increased slightly after the effective date of its conceal carry law. The violent crime rate in the control state also increased but at a faster rate than in the conceal carry state. This data provides weak support to the hypothesis that conceal carry laws reduced the incidence of violent crime. In graph C the violent crime rate in the conceal carry state increased at the same rate as in the control state. This data does not support the hypothesis.

Since sufficient comparative data exists there is no need to conduct statistical tests. The performance of crime rates and the percentage change in reported firearm use can be adequately represented in graph form. The hypothesis can then be tested by a visual evaluation of the graphs.

### **Criteria for Participant State Selection**

The incidence and pattern of violent crime can be related to a number of causal factors. Economic conditions, poverty, despair, urban blight and education for example are factors that, to varying degrees, affect crime rates. Rather than accounting for these factors through a weighted multiple regression formula, this study compares raw crime rate data between states. The comparison is between states with firearm conceal carry laws and similar states without such laws. It is of utmost importance to conduct these comparisons between states with a high degree of similarity. The following criteria were used to select states with

conceal carry laws to participate in this research.

Florida, Pennsylvania and Oregon were selected as participant states with firearm conceal carry laws. The primary basis of this selection was the relative contemporary nature of their firearm conceal carry laws. Secondly, these states represent geographic, historical and political diversity.

As a control three states without conceal carry laws were selected - Texas, Illinois and Arizona. Comparison of violent crime rates and reported firearm use are conducted between regional pairs.

Florida/Texas  
Pennsylvania/Illinois  
Oregon/Arizona

The control states were chosen primarily on the basis of their similarity and proximity to their regional partner. Other selection criteria are:

- 1) Population
  - a) relative rank
  - b) racial distribution
- 2) Urban density
- 3) Overall density
- 4) Proximity to regional partner
- 5) Number of residents per law enforcement officer
- 6) Participation in Uniform Crime Reporting System
- 7) No firearm conceal carry law

As illustrated on the following Table 4.2 the conceal carry and control states are similar in many respects.

**TABLE 4.2**  
**Comparison of Participating States**

	<b>*Florida</b>	<b>Texas</b>	<b>*Pennsylvania</b>	<b>Illinois</b>	<b>*Oregon</b>	<b>Arizona</b>
Population	12,937,926	16,986,512	11,881,643	11,430,602	2,842,321	3,665,228
Rank	4	3	5	6	29	24
Density Per Square Miles	239.60	64.86	265.10	205.61	29.61	32.25
Racial Distribution						
White	83.1%	75.2%	88.5%	78.3%	92.8%	80.8%
Black	13.6%	11.9%	9.2%	14.8%	1.6%	3.0%
Hispanic	12.2%	25.5%	2.0%	7.9%	4.0%	18.8%
American Indian	NR	NR	NR	NR	NR	5.6%
Percent Urban Population	84.3%	79.6%	69.3%	83.3%	67.9%	83.8%
Number Residents Per Peace Officer	1:422	1:468	1:534	1:388	1:613	1:483
Effective Date of Conceal Carry Law	10-1-87	N/A	1-1-87	N/A	1-1-90	N/A
UCR Participant	Yes	Yes	Yes	Yes	Yes	Yes

\* = Conceal Carry State

NR = Not Reported

Sources:           The Book of the States, Council of State Governments, Lexington, Kentucky. 1992.

                      The World Almanac and Book of Facts, Pharos Books, Mark S. Harmon, Ed. (1992) New York.

                      Crime in the United States, Federal Bureau of Investigation, Washington D.C. 1991.

In this chapter the various methodologies used in similar research projects are discussed. Additionally, the independent and dependent variables used in previous similar research are identified. Most importantly, the appropriate methodology for this project is chosen. In the following chapter the individual and collective findings are analyzed by state, then compared between regional partners.

## CHAPTER FIVE

### Analysis of Findings

In this chapter the violent crime rates and percent of reported firearms use of each participating conceal carry state are compared to each state's regional partner. The intention of this analysis is to provide evidence that supports, weakly supports or does not support the hypotheses.

This chapter is divided into three sections. Each section analyzes the findings of a particular conceal carry state and its regional partner. The sections are appropriately titled as follows.

Florida/Texas  
Pennsylvania/Illinois  
Oregon/Arizona

In the opening comments of each section the effective date of the conceal carry law of the state is identified. The effective year of the conceal carry law is the midpoint of the evaluation period. Complete UCR crime rates are available through calendar year 1991. The evaluation period is as an equal number of years before and after the intervention year always ending in calendar year 1991. Within each section crime rates and the percentages of reported firearm use are discussed independently and by crime type.

UCR crime rates can be profoundly affected by significant changes in population estimates, changes in data collection methods or a re-definition of crime type. For example, since the incidence of murder is relatively low, even a slight numeric increase in this crime can have a substantial affect on the rate per 100,000 population. It is important to know this when evaluating crime trends. Significant factors that could affect the outcome of these

analyses are, if necessary, identified throughout the chapter.

### **Florida/Texas**

In 1987 the state of Florida enacted its firearms conceal carry law. This statute applies to the carrying of any weapon, including knives. Specifically, the effective date of this law was October 1, 1987. Since then approximately 80,000 Floridians have been issued a license to carry a concealed weapon.

The intervention point is calendar year 1987. Completed UCR data is available through calendar year 1991, four calendar years after the intervention year. Therefore, the analysis period is from 1983 through 1991, nine full calendar years. Contrasting UCR data from the state of Texas is available for the same period. It should be noted that the crime rates and percent of gun related crime reported by Florida in 1988 are based on estimates provided by the FBI. Also, in 1989 Florida began using the more inclusive FBI definition of aggravated assault. The percentage of reported firearm use for rape is not available in either Florida or Texas.

### **Murder**

The murder rates and percentage of reported firearm use for Florida and Texas are summarized in the following Table 5.1.

TABLE 5.1

Murder Rates and Percentage of Reported  
Firearm Use 1983-1991  
Florida/Texas

Florida	1983	1984	1985	1986	*1987	1988 <sup>1</sup>	1989	1990	1991
Murder	11.4	11.6	11.5	11.8	10.9	11.4	11.0	10.5	9.7
Rate chg since 1987					0	+5	+1	-4	-1.2
% w/gun	47.5	46.3	42.6	45.8	51.0	62.0	63.2	63.1	63.2
% chg since 1987					0	+11.0	+12.2	+12.1	+12.2
<b>Texas</b>									
Murder	14.2	13.1	13.0	13.5	11.7	12.0	11.9	14.1	15.3
Rate chg since 1987					0	+3	+2	+2.7	+3.6
% w/gun	66.0	64.0	65.0	65.0	64.0	65.0	66.0	68.0	70.0
% chg since 1987					0	+1.0	+2.0	+4.0	+6.0

\*Effective year of Florida's conceal carry law  
, for Florida based on FBI estimates

The average annual murder rate in Florida before 1987 was 11.6 per 100,000 population. After 1987, the average annual murder rate was 10.6 per 100,000 population. By contrast, the average annual murder rate in Texas before 1987 was 13.4 per 100,000 population and 17.6 per 100,000 population after 1987. The linear graph representation of these murder rates in Figure 5.1 shows that Florida's murder rate has steadily declined since 1987 while Texas' murder rate has increased during the same period. This data supports the hypothesis that conceal carry laws reduce the incidence of violent crime. \*

The average annual percentage of reported firearm use in Florida murders before 1987 was 45.5 percent. After 1987, the average annual percentage of reported firearm use in Florida murders was 62.9 percent. By contrast, the average annual percentage of reported

firearm use in Texas murders before 1987 was 65.0 percent and 67.2 percent after 1987. The linear graph representation of these percentages in Figure 5.2 shows that the percentage of firearm use in Florida murders was relatively constant prior to 1987. However, beginning in 1987, and particularly 1988, the percentage of reported firearm use increased substantially and remained constant from 1988 through 1991. The percentage of reported firearm use remained relatively constant in Texas murders throughout the evaluation period until 1991. This data does not support the hypothesis that conceal carry laws reduce the percentage of violent crime involving firearms.

### Aggravated Assault

The aggravated assault rates and percentage of reported firearm use for Florida and Texas are summarized in the following Table 5.2.

**TABLE 5.2**  
**Aggravated Assault Rates and Percentage of**  
**Reported Firearm Use 1983-1991**  
**Florida/Texas**

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>*1987</u>	<u>1988<sub>1</sub></u>	<u>1989<sub>2</sub></u>	<u>1990<sub>2</sub></u>	<u>1991<sub>2</sub></u>
<b>Florida</b>									
Aggravated Assault	508.0	532.5	568.9	606.0	604.6	651.1	676.5	748.3	734.0
Rate chg since 1987					0	+46.5	+71.9	+143.7	+129.4
% w/gun	27.0	24.6	28.0	27.9	28.5	29.5	27.8	27.2	20.4
% chg since 1987					0	+1.0	-.7	-1.3	-8.1
<b>Texas</b>									
Aggravated Assault	268.3	267.5	292.4	353.9	344.9	358.1	376.5	435.0	484.7
Rate chg since 1987					0	+13.2	+31.6	+90.1	+139.8
% w/gun	23.0	23.0	23.0	24.0	23.0	24.0	24.0	25.0	29.0
% chg since 1987					0	+1.0	+1.0	+2.0	+6.0

\*Effective year of Florida's conceal carry law

<sub>1</sub> for Florida based on FBI estimate

<sub>2</sub> for Florida years 1989-1991 rates are based on use of more inclusive FBI definition of aggravated assault

The average annual aggravated assault rate in Florida before 1987 was 553.8 per 100,000 population. After 1987, the average annual aggravated assault rate was 702.5 per 100,000 population. By contrast, the average annual aggravated assault rate in Texas before 1987 was 295.5 per 100,000 population and 413.6 per 100,000 population 1987. The linear graph representation of these rates in Figure 5.1 shows that both Florida's and Texas' aggravated assault rates have increased steadily throughout the nine year evaluation period. This data provides some weak support of the hypothesis that conceal carry laws reduce the incidence of violent crime. Florida's aggravated assault rate is leveling off and Texas' aggravated assault rate is steadily climbing.

The average annual percentage of reported firearm use in Florida aggravated assaults before 1987 was 26.9 percent. After 1987 the average annual percentage of reported firearm use in Florida aggravated assault was 26.2 percent. By contrast, the average annual percentage of reported firearm use in Texas aggravated assaults before 1987 was 23.2 percent and 25.5 percent after 1987. The linear graph representation of these percentages in Figure 5.2 shows that the percentage of firearm use in Florida and Texas aggravated assaults was relatively constant from 1983 through 1990. In 1991 Florida reported a substantial percentage decrease in firearm use while Texas that year reported a substantial percentage increase in firearm use. This data supports the hypothesis that conceal carry laws reduce the percentage of violent crimes involving firearms.

### **Rape**

The rape rates for Florida and Texas are summarized in Table 5.3. The percentage of reported firearm use in rapes is not collected in either state.

TABLE 5.3

Rape Rates 1983-1991  
Florida/Texas

Florida	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>*1987</u>	<u>1988,</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
Rape	48.8	51.0	53.2	52.8	50.0	49.6	49.2	51.3	52.8
Rate chg since 1987					0	-.4	-.8	+1.3	+2.8
<b>Texas</b>									
Rape	40.3	45.9	51.1	51.6	48.1	48.4	46.8	51.5	53.4
Rate chg since 1987					0	+.3	-1.3	+3.4	+5.3

\*Effective year of Florida's conceal carry law  
for Florida based on FBI estimate

The average annual rape rate in Florida before 1987 was 51.4 per 100,000 population. After 1987, the average annual rape rate was 50.7 per 100,000 population. By contrast, the average annual rape rate in Texas before 1987 was 47.2 per 100,000 population and 50.0 per 100,000 population after 1987. The linear graph representation of these rates in Figure 5.1 shows that rape remained relatively constant in both states throughout the nine year evaluation period. This data does not support the hypothesis that conceal carry laws reduce the incidence of violent crime.

**Robbery**

The robbery rates and percentage of reported firearm use for Florida and Texas are summarized in the following Table 5.4

TABLE 5.4

Robbery Rates and Percentage of  
Reported Firearm Use 1983-1991  
Florida/Texas

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>*1987</u>	<u>1988<sub>1</sub></u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
<b>Florida</b>									
Robbery	265.6	277.4	314.8	367.3	355.6	402.0	400.0	410.8	402.2
Rate chg since 1987					0	+46.4	+44.4	+54.9	+46.6
% w/gun	37.6	35.4	33.9	33.5	34.1	37.1	40.1	42.2	37.9
% chg since 1987					0	+3.0	+6.1	+8.1	+3.8
<b>Texas</b>									
Robbery	189.3	178.5	193.6	239.9	226.6	234.2	223.1	260.9	286.5
Rate chg since 1987					0	+7.6	-3.5	+34.3	+59.9
% w/gun	53.0	48.0	49.0	46.0	43.0	39.0	37.0	41.0	44.0
% chg since 1987					0	-4.0	-6.0	-2.0	+1.0

\*Effective year of Florida's conceal carry law  
for Florida based on FBI estimate

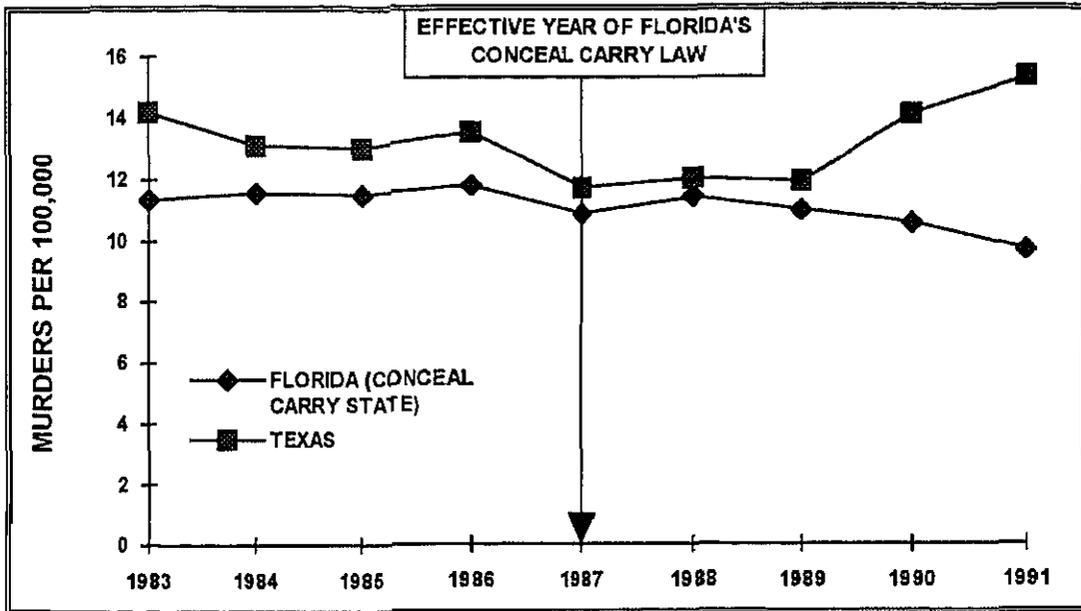
The average annual robbery rate in Florida before 1987 was 306.3 per 100,000 population. After 1987, the average annual robbery rate was 403.7 per 100,000 population. By contrast, the average annual robbery rate in Texas before 1987 was 200.3 per 100,000 population and 251.2 per 100,000 population after 1987. The linear graph representation of these robbery rates in Figure 5.1 shows a steady increase of robberies in both states throughout the evaluation period. This data provides weak support to the hypothesis that conceal carry laws reduce the incidence of violent crime. Florida's robbery rate has leveled off since 1987 while Texas' robbery rate has steadily declined.

The average annual percentage of reported firearm use in Florida robberies before 1987 was 35.1 percent. After 1987, the average annual percentage of reported firearm use in Florida robberies was 39.3 percent. By contrast, the average annual percentage of reported firearm use in Texas robberies before 1987 was 49.0 percent and 40.2 percent after 1987.

The linear graph representation of these percentages in Figure 5.2 shows a steady decrease in the percentage of reported firearm use in Florida prior to 1987 followed by a steady increase in the percentage after 1987 until 1991. From 1983 through 1989 the percentage of reported firearm use in Texas robberies steadily decreased. This was followed by significant increases in 1990 and 1991. This data does not support the hypothesis that conceal carry laws reduce the percentage of violent crime involving firearms.

FIGURE 5.1  
 VIOLENT CRIME RATES  
 FLORIDA / TEXAS  
 1983 - 1991

MURDER



AGGRAVATED ASSAULT

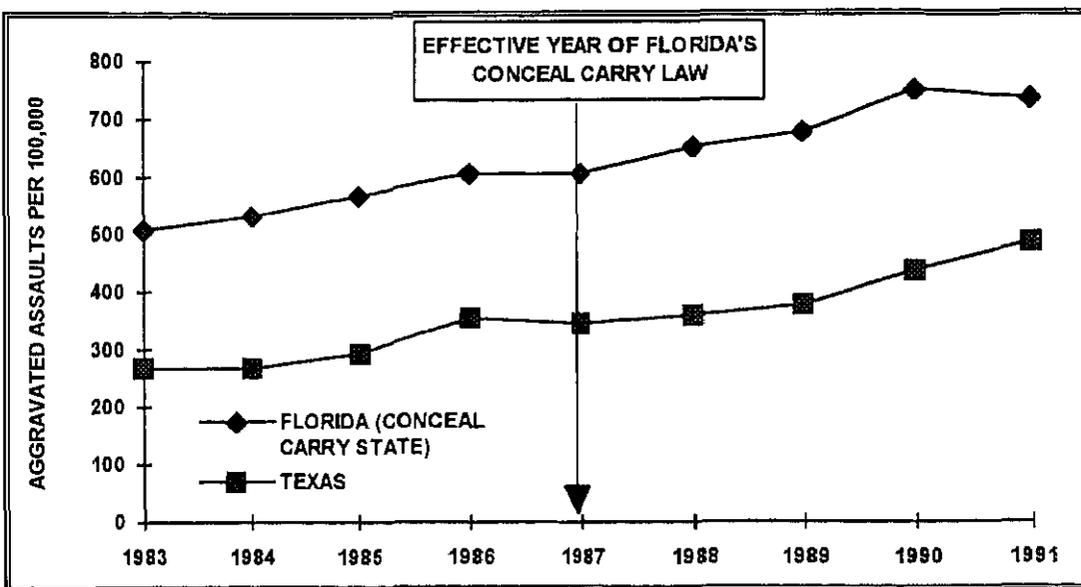
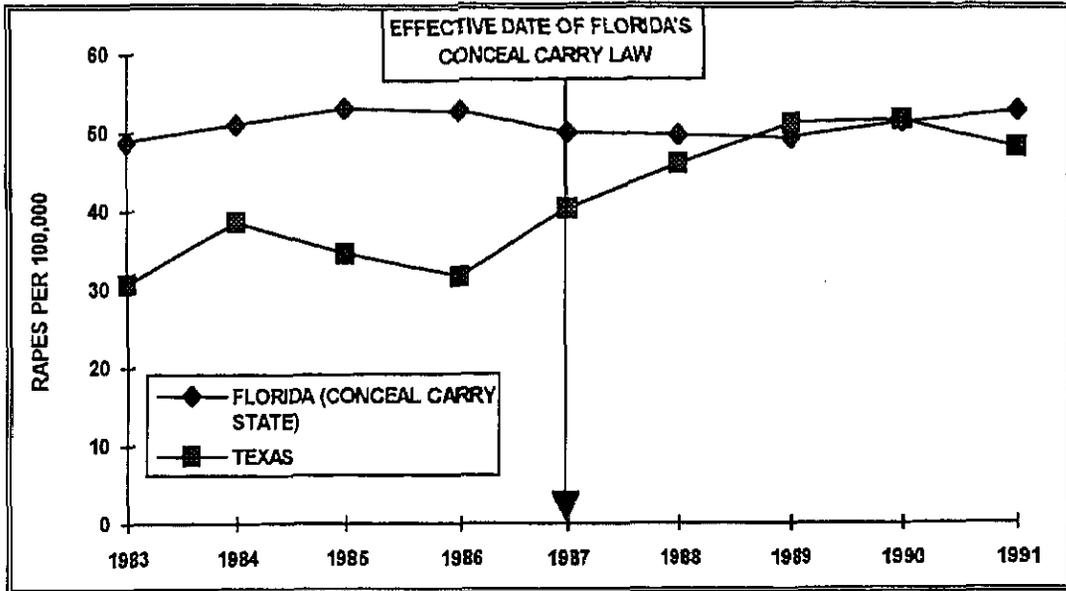
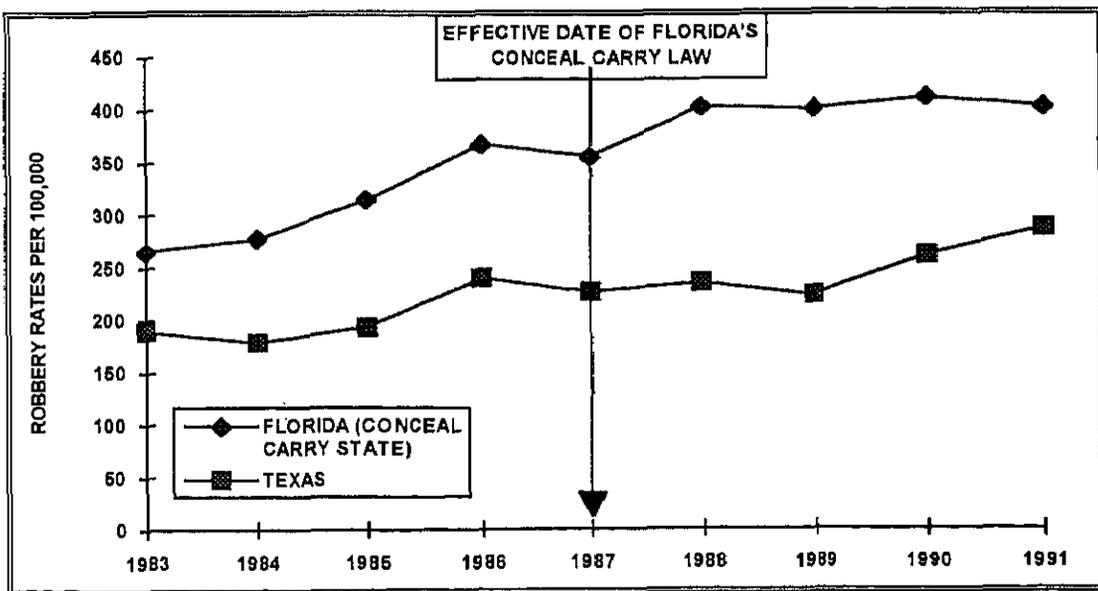


FIGURE 5.1  
 VIOLENT CRIME RATES  
 FLORIDA / TEXAS  
 1983 - 1991  
 (continued)

RAPE

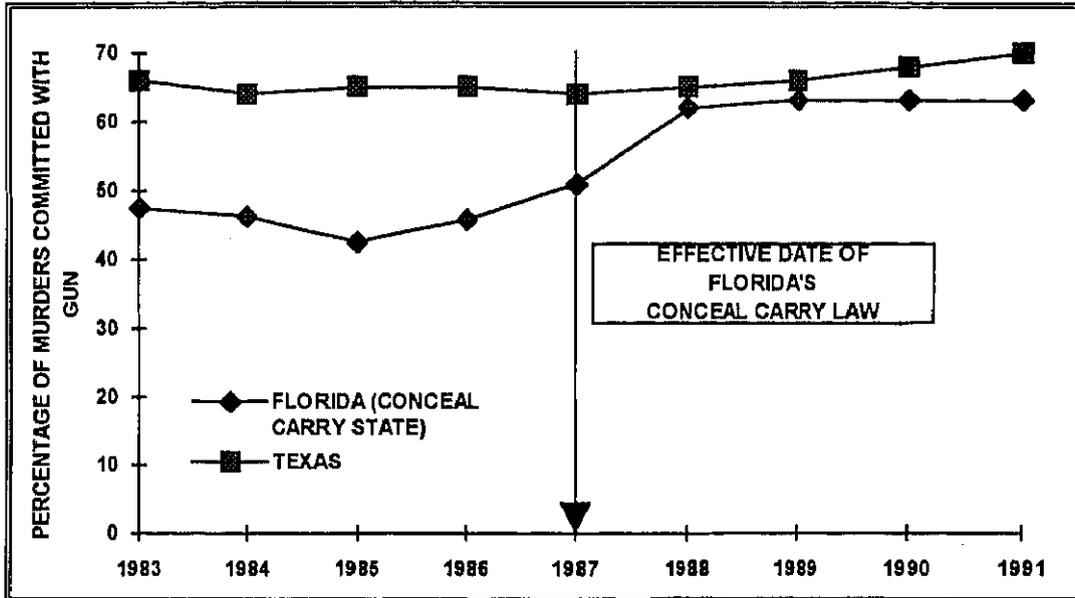


ROBBERY



**FIGURE 5.2**  
**PERCENTAGE OF REPORTED FIREARM USE BY CRIME TYPE**  
**FLORIDA / TEXAS**  
**1983 - 1991**

**MURDER**



**AGGRAVATED ASSAULT**

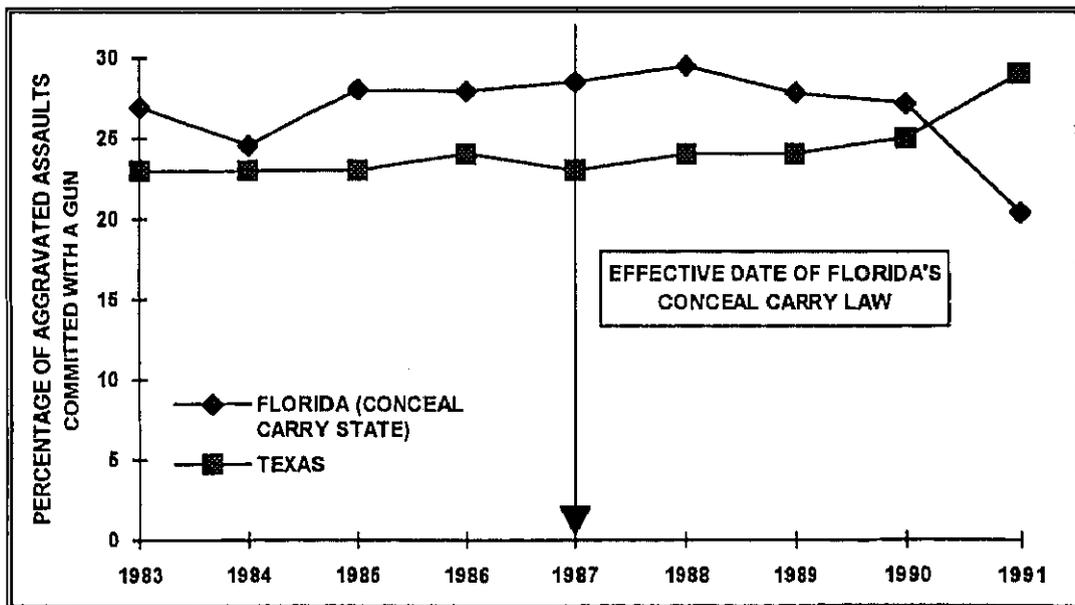
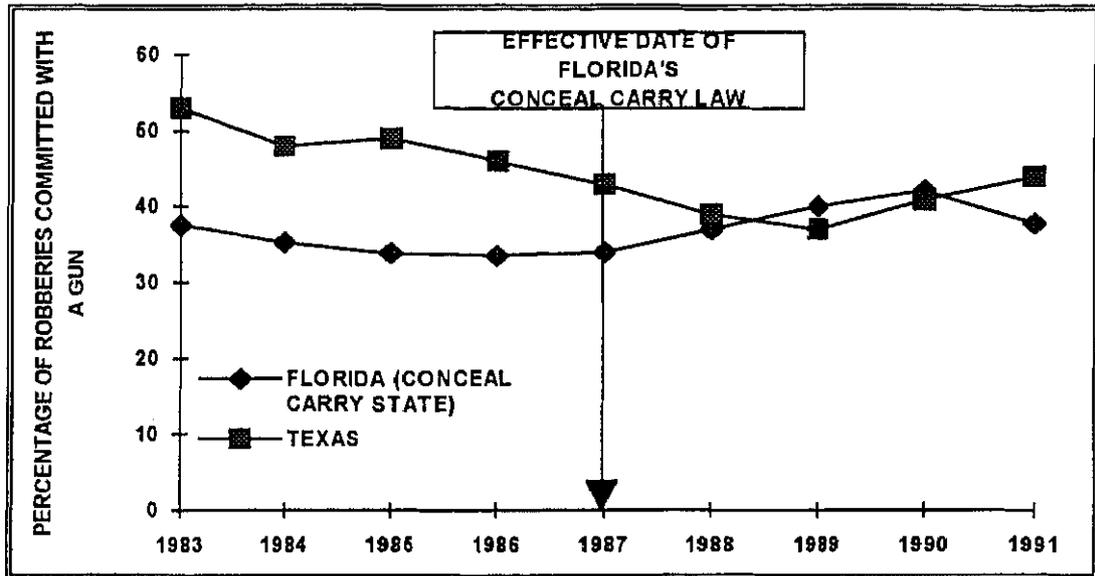


FIGURE 5.2  
PERCENTAGE OF REPORTED FIREARM USE BY CRIME TYPE  
FLORIDA / TEXAS  
1983 - 1991  
(continued)

ROBBERY



## **Pennsylvania/Illinois**

In 1987, Pennsylvania enacted a state-wide firearm concealed carry law. Previously licenses to carry concealed firearms were acquired through the county sheriff. Licensing was haphazard and standards were not applied equally throughout the state. In 1987 the Pennsylvania legislature adopted standard licensing procedures and requirements. The effective date of this law was January 1, 1987. The intervention point for analysis is calendar year 1987. Complete UCR data is available through calendar year 1991, four years after the intervention year. Therefore, the analysis period is from 1983 through 1991, nine full calendar years.

The UCR data for these states comes directly from preceding publications of *Crime in the United States*. Except for 1991, UCR did not publish the percentage of firearms used by type of crime by state. Unfortunately, except for murder, Pennsylvania did not consistently collect the percentage of firearms used during the evaluation period. Therefore, in this section, the percentage of firearm use in aggravated assault, rape and robbery between the two states is not compared. The percentage of reported firearm use in Illinois is reported but only for consistency.

### **Murder**

The murder rates and percentage of reported firearm use for Pennsylvania and Illinois are summarized in the following Table 5.5.

TABLE 5.5

Murder Rates and Percentage of Reported  
Firearm Use 1983-1991  
Pennsylvania/Illinois

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>*1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
<b>Pennsylvania</b>									
Murder	4.9	4.5	4.6	5.5	5.4	5.5	6.3	6.7	6.3
Rate chg since 1987					0	+1	+9	+1.3	+9
% w/gun	43.6	50.9	50.7	46.2	53.5	50.5	52.7	54.7	56.9
% chg since 1987					0	-3.0	-.8	+1.2	+3.4
<b>Illinois</b>									
Murder	9.7	9.0	8.0	8.9	8.3	8.6	9.0	10.3	11.3
Rate chg since 1987					0	+3	+7	+2.0	+3.0
% w/gun	48.7	48.1	47.1	48	44	50	47.4	59	59.3
% chg since 1987					0	+6.0	+3.4	+15	-15.3

\*Effective year of Pennsylvania's conceal carry law

The average annual murder rate in Pennsylvania before 1987 was 4.9 per 100,000 population. After 1987 the average annual murder rate was 6.2 per 100,000 population. By contrast, the average annual murder rate in Illinois before 1987 was 8.9 per 100,000 population and 9.8 per 100,000 after 1987. The linear graph representation of these murder rates in Figure 5.3 shows Pennsylvania's murder rate increased after 1987. However, Pennsylvania's rate of increase was much slower than Illinois. This data supports the hypothesis that conceal carry laws reduce the incidence of violent crime.

The average annual percentage of reported firearm use in Pennsylvania murders before 1987 was 48.5 percent. After 1987 the average annual percentage of reported firearm use in Pennsylvania murders was 53.7 percent. By contrast, the average annual percentage of reported firearm use in Illinois' murders before 1987 was 47.9 percent before 1987 and 53.8 percent after 1987. The linear graph representation of these percentages in Figure 5.4

illustrates that both Pennsylvania and Illinois are experiencing an upward trend in the percentage of murders committed with firearms. This data does not support the hypothesis that conceal carry laws reduce the percentage of violent crime involving firearms.

### Aggravated Assault

The aggravated assault rates for Pennsylvania and Illinois are summarized in the following Table 5.6.

**TABLE 5.6**  
**Aggravated Assault Rates and Percentage of**  
**Reported Firearm Use 1983-1991**  
**Pennsylvania/Illinois**

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>*1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
<b>Pennsylvania</b>									
Aggravated Assault	145.0	144.5	155.0	175.8	193.3	193.5	198.0	222.3	221.1
Rate chg since 1987					0	+2	+4.7	+29.0	+27.8
% w/gun			Not Available						
<b>Illinois</b>									
Aggravated Assault	248.6	380.6	380.3	433.5	435.2	450.6	465.4	523.6	531.8
Rate chg since 1987					0	+15.4	+30.2	+88.2	+96.6
% w/gun	15.1	22.8	22.0	23.0	21.1	20	20	20.1	20.2
% chg since 1987					0	-1.1	-1.1	-1.0	-0.9

\*Effective year of Pennsylvania's conceal carry law

The average annual aggravated assault rate in Pennsylvania before 1987 was 155.1 per 100,000 population. After 1987 the average annual aggravated assault rate was 208.7 per 100,000 population. By contrast, the average annual aggravated assault rate in Illinois before 1987 was 360.8 per 100,000 and 492.8 per 100,000 after 1987. The linear graph representation of these rates in Figure 5.3 shows that aggravated assaults increased in both states after 1987. However, Pennsylvania's rate of increase since 1987 has not been as

dramatic as Illinois'. This data provides some weak support to the hypothesis that conceal carry laws reduce the incidence of violent crime.

## Rape

The rape rates for Pennsylvania and Illinois are summarized in Table 5.7. The percentage of firearm use is not collected in either state.

TABLE 5.7

Rape Rates 1983-1991  
Pennsylvania/Illinois

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>*1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
<b>Pennsylvania</b>									
Rape	20.6	23.2	24.3	25.1	26.2	24.9	24.6	25.8	28.7
Rate chg since 1987					0	-1.3	-1.6	-.4	+2.5
<b>Illinois</b>									
Rape	31.5	31.2	27.7	32.4	38.4	38.5	35.7	39.4	40.0
Rate chg since 1987					0	+1	-2.7	+1.0	+1.6

\*Effective year of Pennsylvania's conceal carry law

The average annual rape rate in Pennsylvania before 1987 was 23.3 per 100,000 population. After 1987 the average annual rape rate was 26.0 per 100,000 population. By contrast, the average annual rape rate in Illinois before 1987 was 30.7 per 100,000 population and 38.4 per 100,000 after 1987. The linear graph representation of these rates in Figure 5.3 shows that rapes decreased in Pennsylvania after 1987. However, Pennsylvania's rape rate is beginning an upward trend. In Illinois the rape rate dipped in 1989, however this state experienced an overall increase in rape after 1987. This data does not support the hypothesis that conceal carry laws reduce the incidence of violent crime.

## Robbery

The robbery rates for Pennsylvania and Illinois are summarized in the following Table 5.8.

**TABLE 5.8**  
**Robbery Rates and Percentage of**  
**Reported Firearm Use 1983-1991**  
**Pennsylvania/Illinois**

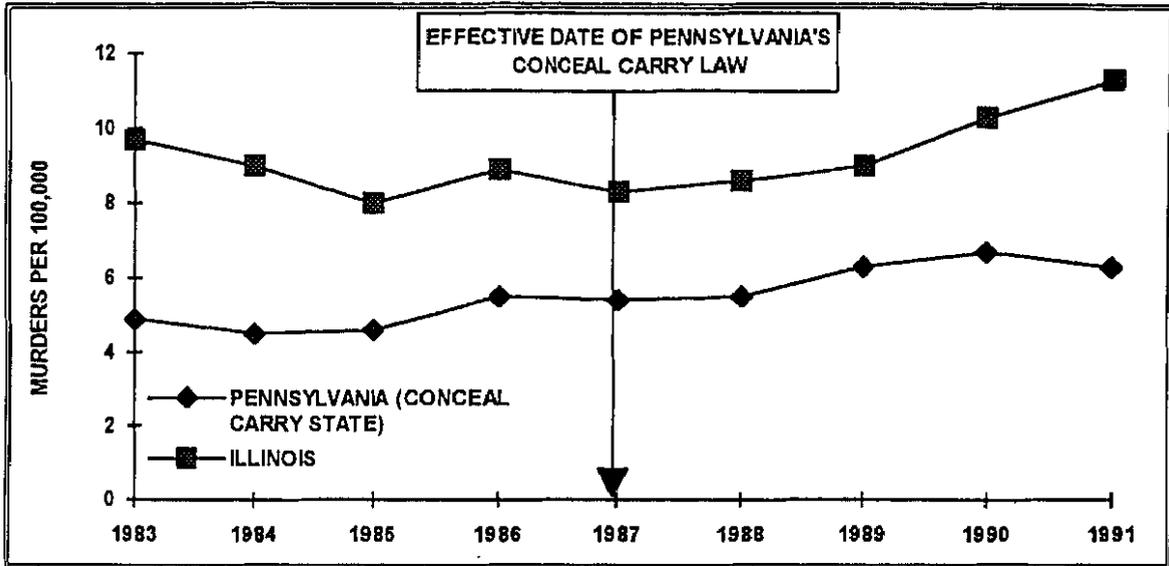
	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>*1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
<b>Pennsylvania</b>									
Robbery	172.3	148.4	147.0	152.1	144.4	138.1	149.7	176.2	193.9
Rate chg since 1987					0	-6.3	+5.3	+32.2	+49.5
% w/gun				Not Available					
<b>Illinois</b>									
Robbery	263.6	303.8	287.1	325.3	314.3	312.7	335.7	394.0	456.1
Rate chg since 1987					0	-1.6	+21.4	+79.7	+141.8
% w/gun	28.7	26.3	26.6	26.4	23.3	24.1	28.1	28.1	36.5
% chg since 1987					0	+ .8	+4.8	+4.8	+13.2

\*Effective year of Pennsylvania's conceal carry law

The average annual robbery rate in Pennsylvania before 1987 was 154.9 per 100,000 population. After 1987 the average annual robbery rate was 164.5 per 100,000 population. By contrast, the average annual robbery rate in Illinois before 1987 was 294.9 per 100,000 and 374.6 per 100,000 after 1987. The linear graph representation in Figure 5.3 shows a steady increase in both states throughout the evaluation period. However, this data provides weak support to the hypothesis that conceal carry laws reduce the incidence of violent crime. Although Pennsylvania's robbery rate did increase after 1987, the rate of this increase was less than that in Illinois.

FIGURE 5.3  
 VIOLENT CRIME RATES  
 PENNSYLVANIA \ ILLINOIS  
 1983 - 1991

MURDER



AGGRAVATED ASSAULT

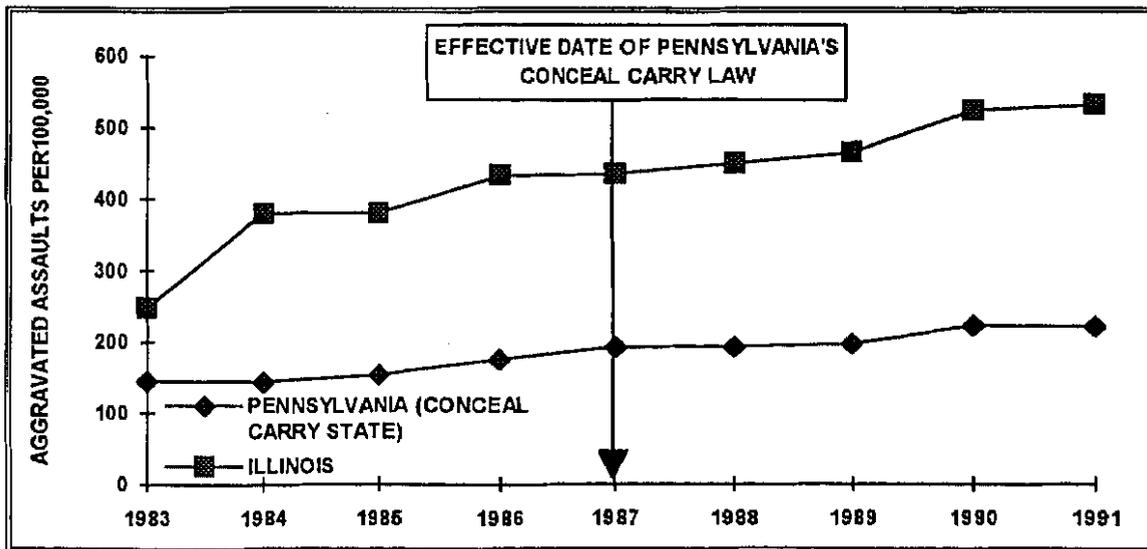
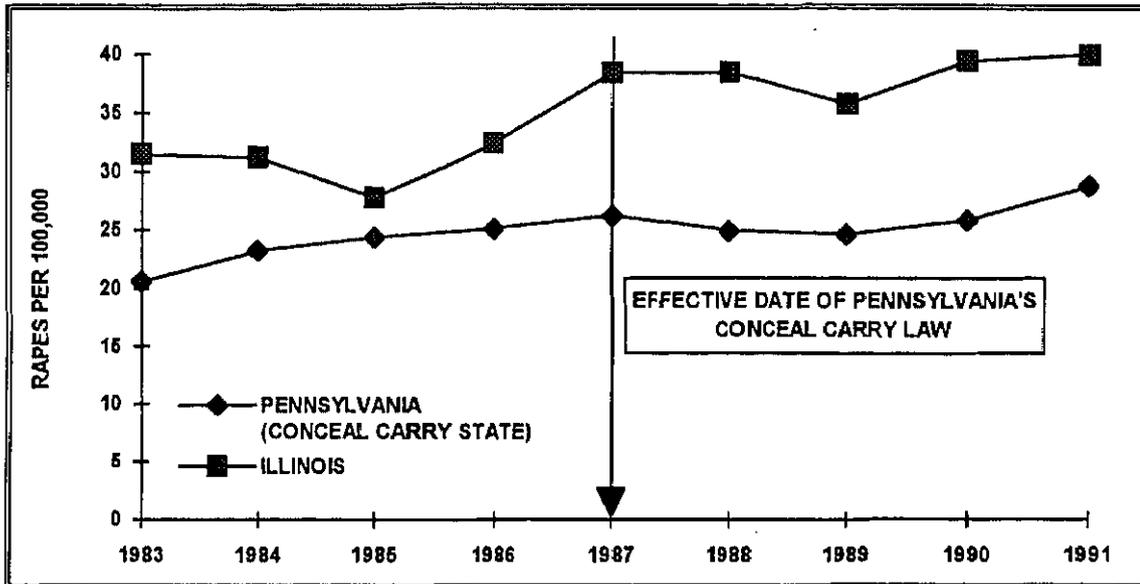


FIGURE 5.3  
 VIOLENT CRIME RATES  
 PENNSYLVANIA \ ILLINOIS  
 1983 - 1991  
 (continued)

RAPE



ROBBERY

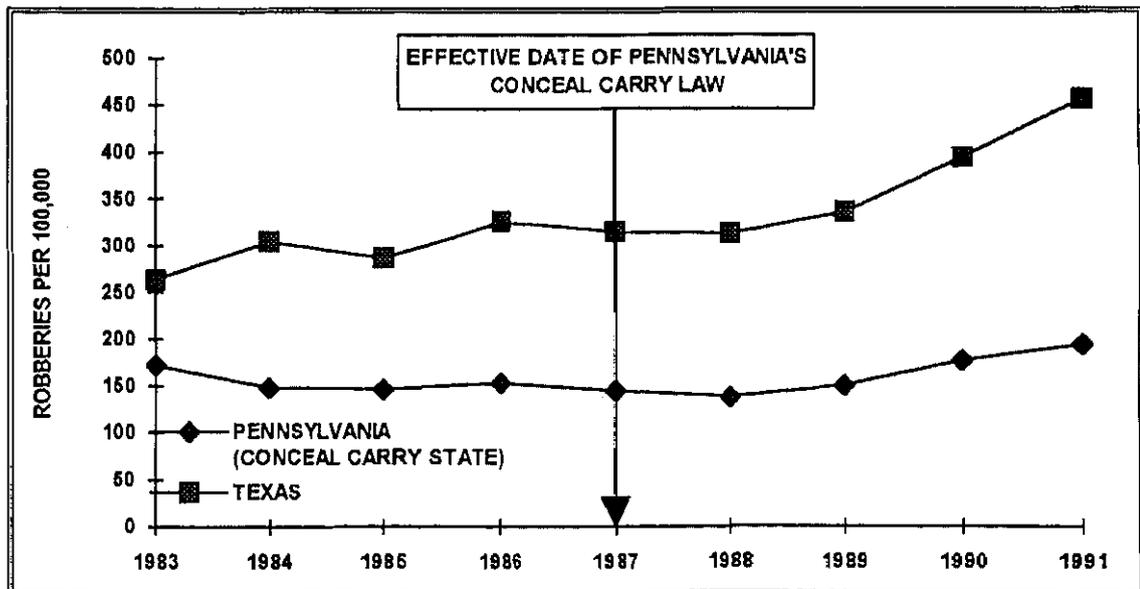
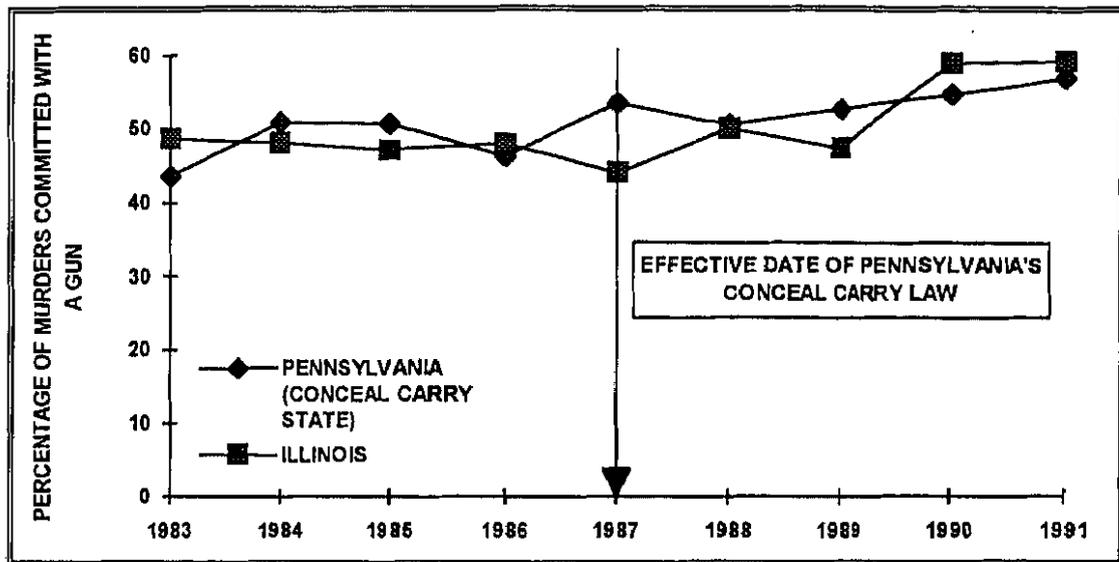


FIGURE 5.4  
PERCENTAGE OF REPORTED FIREARM USE BY CRIME TYPE  
PENNSYLVANIA / ILLINOIS  
1983 - 1991

MURDER



## Oregon/Arizona

In 1990, Oregon enacted a statewide firearm concealed carry law. Like Pennsylvania, Oregon's concealed carry licensing program was inconsistent. Some sheriffs freely issued licenses while other flatly refused to. In 1990 Oregon adopted standard licensing procedures and requirements. The effective date of this law was January 1, 1990. The intervention point for analysis is calendar year 1990. Complete UCR data is available through calendar year 1991. Therefore the analysis period is from 1989 through 1991, three full calendar years.

In 1986 Oregon reported a population decrease. In that same year the number of murders increased substantially, the number of rapes and aggravated assaults increased slightly and the number of aggravated assaults decreased slightly. The most profound effect of this was the murder rate per 100,000. In 1984 and 1985 the murder rates were 4.85 and 4.56, respectively. In 1986 the murder rate was 6.60 followed by 5.72 in 1987 and 5.11 in 1988. Although this statistical aberration occurred before the evaluation period it is an important footnote to this study.

The relatively short (three years) evaluation period for these states is a noteworthy \* deficiency. UCR statistics are of better use over longer periods. As an attempt to overcome this, the pre- and post-intervention annual average rates and percentages will both include the reported rates and percentages for 1990, the effective year. It should be noted that the two previous evaluation periods (both nine years) do not include the effective year in their pre- and post-intervention annual average rates and percentages. Any analysis of the data for these two states with respect to the hypotheses should be considered preliminary.

## Murder

The murder rates and percentage of firearm use for Oregon and Arizona are summarized in the following Table 5.9.

**TABLE 5.9**  
**Murder Rates and Percentage of**  
**Reported Firearm Use 1989-1991**  
**Oregon/Arizona**

	<u>1989</u>	<u>*1990</u>	<u>1991</u>
<b>Oregon</b>			
Murder	4.6	3.9	4.4
Rate chg since 1990			+.5
% w/gun	50.8	50.0	42.6
% chg since 1990			-7.4
<b>Arizona</b>			
Murder	7.5	7.5	7.6
Rate chg since 1990			+.1
% w/gun	58.0	66.0	66.0
% chg since 1990			0

\*Effective year of Oregon's conceal carry law

The average annual murder rate in Oregon before and during 1990 was 4.2 per 100,000 population. During and after 1990 the average annual murder rate was 4.1 per 100,000 population. By contrast, the average annual murder rate in Arizona before and during 1990 was 7.5 per 100,000 population and 7.5 during and after 1990. The linear graph representation in Figure 5.5 of the murder rate in Oregon during the evaluation period reflects a decrease during the effective year, 1990. However, the murder rate returned to its pre-intervention level in 1991. Murder rates remained constant throughout the three year evaluation period in Arizona. This preliminary data does not support the hypothesis that

conceal carry laws reduce the incidence of violent crime.

The average annual percentage of reported firearm use in Oregon murders was 50.4 percent before and during 1990. During and after the effective year the average annual percentage of reported firearm use in Oregon murders was 46.3 percent. By contrast the average annual percentage of reported firearm use in Arizona murders was 62.0 percent before and during 1990. During and after 1990 the average annual percentage of reported firearm use in Arizona murders was 66.0 percent. The linear graph representation of these percentages in Figure 5.6 shows an overall decline in reported firearm use in Oregon during the evaluation period, with a substantial percentage decrease occurring after the effective year. For Arizona, Figure 5.6 illustrates a substantial percentage increase in reported firearm use in murders for 1990 but remaining constant in 1991. This preliminary data supports the hypothesis that conceal carry laws reduce the percentage of violent crimes involving firearms.

#### **Aggravated Assault**

The aggravated assault rates and percentage of reported firearm use for Oregon and Arizona are summarized in the following Table 5.10.

TABLE 5.10

Aggravated Assault Rates and Percentage  
Of Reported Firearm Use 1989-1991  
Oregon/Arizona

	<u>1989</u>	<u>*1990</u>	<u>1991</u>
<b>Oregon</b>			
Aggravated Assault	317.4	310.5	295.9
Rate chg since 1990			-14.6
% w/gun	22.6	20.5	20.8
% chg since 1990			+ .3
<b>Arizona</b>			
Aggravated Assault	395.6	432	448
Rate chg since 1990			+16
% w/gun	32.0	33.0	32.0
% chg since 1990			-1.0

\*Effective year of Oregon's conceal carry law

The average annual aggravated assault rate in Oregon before and during 1990 was 313.9 per 100,000 population. During and after 1990 the average annual aggravated assault rate was 303.2 per 100,000 population. By contrast, the average annual aggravated assault rate in Arizona before and during 1990 was 413.0 per 100,000 population and 440.0 per 100,000 population during and after 1990. The linear graph representation of these rates in Figure 5.5 shows that Oregon's aggravated assault rates steadily declined throughout the three year evaluation period. By contrast, Figure 5.5 illustrates a steady increase in the rate of aggravated assaults for Arizona during the evaluation period. This preliminary data supports the hypothesis that conceal carry laws reduce the incidence of violent crime.

The average annual percentage of reported firearm use in Oregon aggravated assaults is 21.5 percent before and during 1990. During and after 1990 the average annual percentage

of reported firearm use in Oregon aggravated assault was 20.6 percent. By contrast, the average annual percentage of reported firearm use in Arizona aggravated assaults before 1987 was 32.5 percent before and during 1990. During and after 1990 the average annual percentage of reported firearm use in Arizona aggravated assaults is also 32.5 percent. The linear graph representation of these percentages in Figure 5.5 shows a slight decrease in the percent of firearms used in Oregon aggravated assaults during and after 1990. By contrast, Figure 5.5 shows that the annual average percent of reported firearm use in Arizona aggravated assaults remained constant throughout the three year intervention period. This preliminary data does not support the hypothesis that conceal carry laws reduce the percentage of violent crime involving firearms.

### Rape

The rape rates for Oregon and Arizona are summarized in Table 5.11. The percentage of reported firearm use in rapes is not collected in either state.

**TABLE 5.11**  
**Rape Rates 1989-1991**  
**Oregon/Arizona**

	<u>1989</u>	<u>*1990</u>	<u>1991</u>
<b>Oregon</b>			
Rape	47.0	46.8	53.0
Rate chg since 1990			+6.2
<b>Arizona</b>			
Rape	34.3	40.0	42.0
Rate chg since 1990			+2.0

\*Effective year of Oregon's conceal carry law

The average annual rape rate in Oregon before and during 1990 was 46.9 per 100,000 population. During and after 1990 the average annual rape rate in Oregon was 49.9 per 100,000 population. By contrast, the average annual rape rate in Arizona before and during 1990 was 37.1 per 100,000 population and 41.0 per 100,000 population during and after 1990. The linear graph representation of these rates in Figure 5.5 reflects a very slight decrease in Oregon's rape rate before and during 1990 followed by a substantial increase in 1991. Figure 5.5 also reflects a steady increase in the rape rate for Arizona throughout the three year evaluation period. This preliminary data does not support the hypothesis that conceal carry laws reduce the incidence of violent crime.

### **Robbery**

The robbery rates and percentage of reported firearm use for Oregon and Arizona are summarized in the following Table 5.12.

TABLE 5.12

**Robbery Rates and Percentage of  
Reported Firearm Use 1989-1991  
Oregon/Arizona**

	<u>1989</u>	<u>*1990</u>	<u>1991</u>
<b>Oregon</b>			
Robbery	154.3	145.2	150.3
Rate chg since 1990			+5.1
% w/gun	31.1	28.4	28.7
% chg since 1990			+.3
<b>Arizona</b>			
Robbery	135.9	158.8	164.6
Rate chg since 1990			+5.8
% w/gun	40	42	37
% chg since 1990			-5.0

\*Effective date of Oregon's conceal carry law

The average annual robbery rate in Oregon before and during 1990 was 149.7 per 100,000 population. During and after 1990 the average annual robbery rate in Oregon was 150.3 per 100,000 population. By contrast, the average annual robbery rate in Arizona before and during 1990 was 147.3 per 100,000 population and 161.7 per 100,000 population during and after 1990. The linear graph representation of these robbery rates in figure 5.5 reflects a decrease in Oregon during 1990 followed by an increase in 1990. By contrast, Figure 5.5 reflects a steady increase in the robbery rates for Arizona during the three year intervention period. This preliminary data does not support the hypothesis that conceal carry laws reduce the incidence of violent crime.

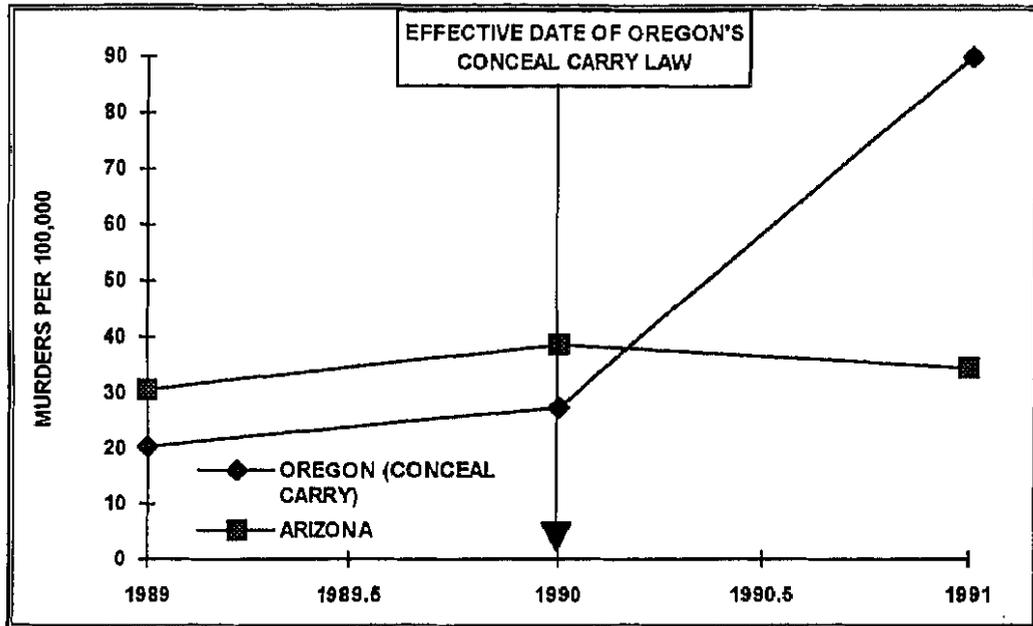
The average annual percentage of reported firearm use in Oregon robberies before and during 1990 was 29.7 percent. During and after 1990 the average annual percentage of

reported firearm use in Oregon robberies was 28.5 percent. By contrast, the average annual percent of reported firearm use in Arizona robberies before and during 1990 was 41.0 percent and 39.5 percent during and after 1990. The linear graph representation of these percentages in Figure 5.6 illustrates a decline in the percentage of firearms used in Oregon robberies before 1990 and remaining constant thereafter. By contrast, Figure 5.6 reflects an increase in the percentage of firearms reported used in Arizona robberies from 1989 to 1990 followed by a substantial decrease from 1990 to 1991. This data does not support the hypothesis that conceal carry laws reduce the percentage of violent crime involving firearms.

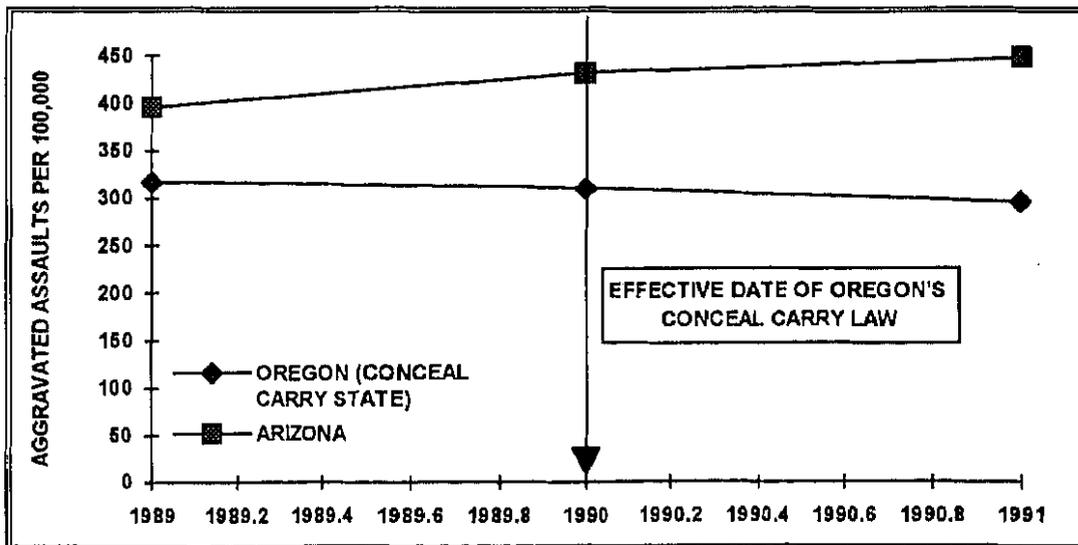
In the next chapter the findings are interpreted with respect to their usefulness to evaluating the hypotheses. Following that is the final word on the importance of this research for public administrators.

FIGURE 5.5  
 VIOLENT CRIME RATES  
 OREGON / ARIZONA  
 1989 - 1991

MURDER

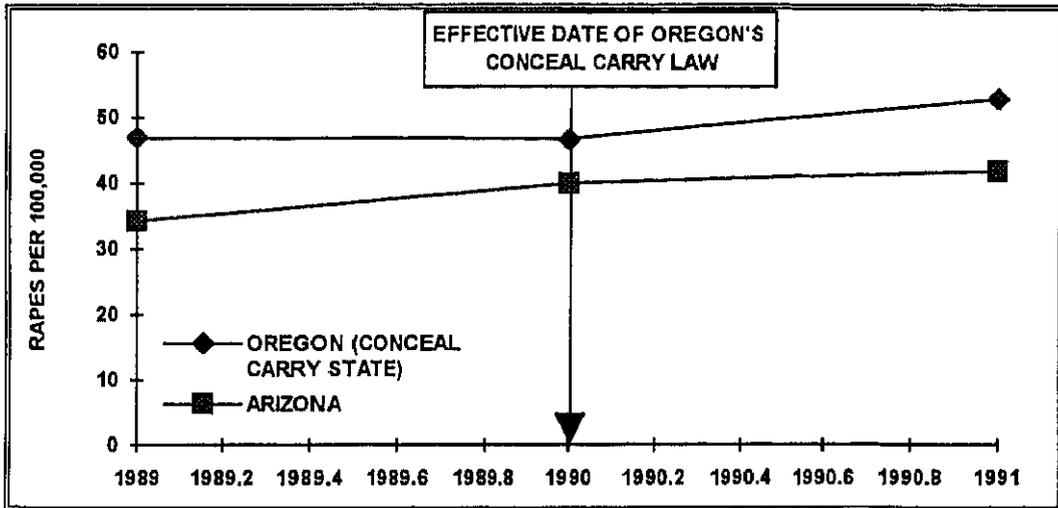


AGGRAVATED ASSAULT

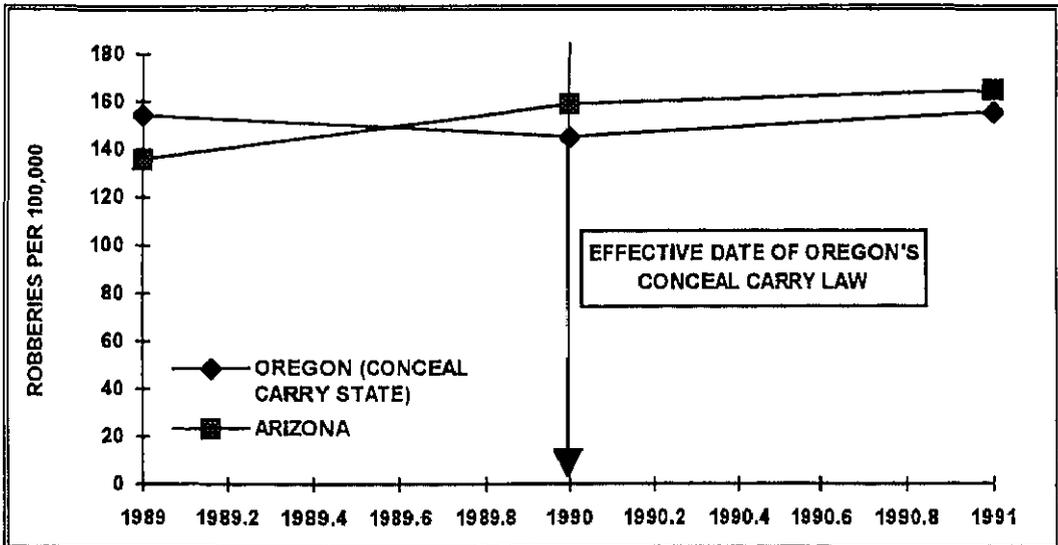


**FIGURE 5.5**  
**VIOLENT CRIME RATES**  
**OREGON / ARIZONA**  
**1989 - 1991**  
 (continued)

**RAPE**

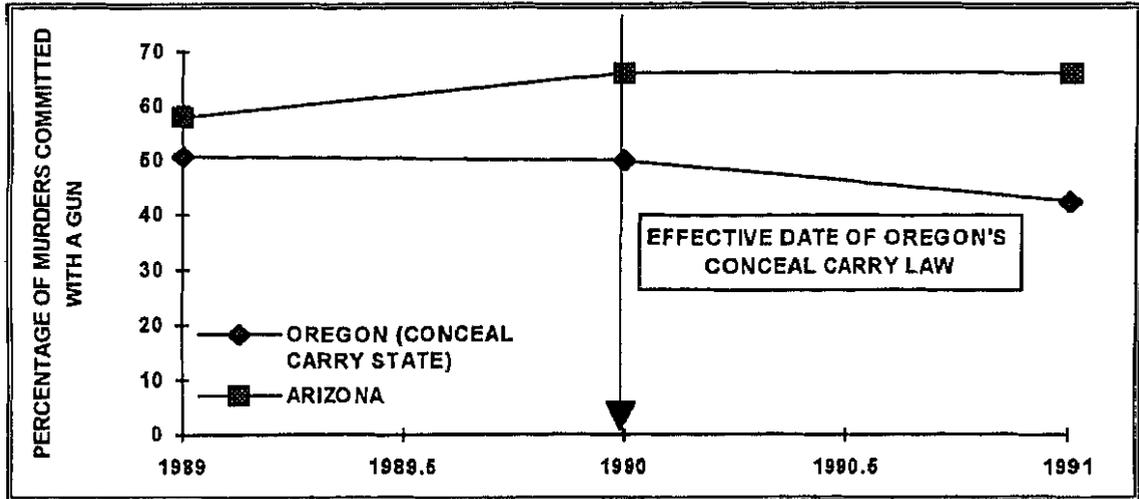


**ROBBERY**



**FIGURE 5.6**  
**PERCENTAGE OF REPORTED FIREARM USE BY CRIME TYPE**  
**OREGON / ARIZONA**  
**1983 - 1991**

**MURDER**



**AGGRAVATED ASSAULT**

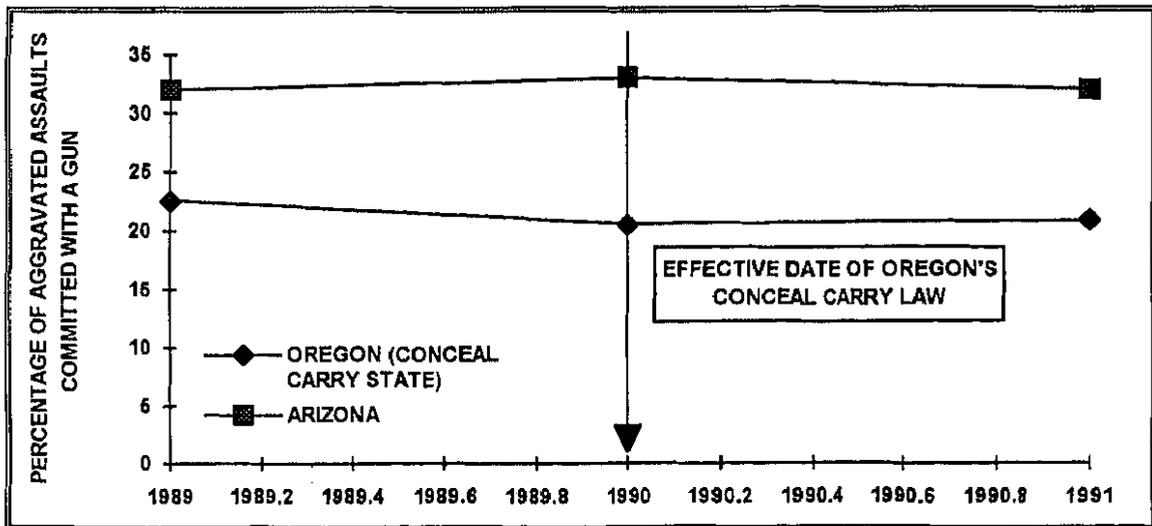
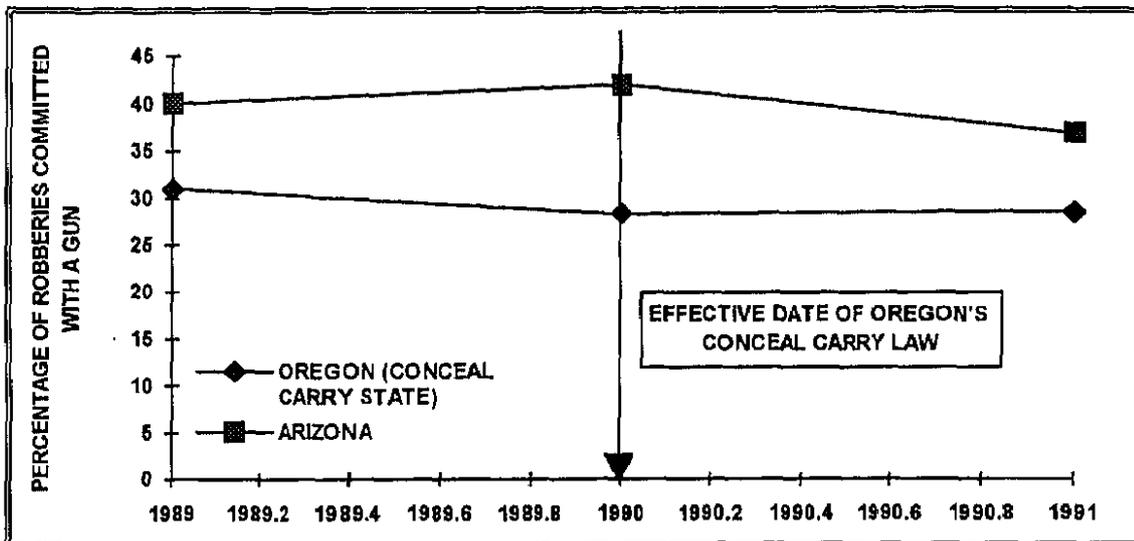


FIGURE 5.6  
PERCENTAGE OF REPORTED FIREARM USE BY CRIME TYPE  
OREGON / ARIZONA  
1983 - 1991  
(continued)

ROBBERY



## CHAPTER SIX

### Summary and Conclusion

In this chapter the findings presented in the previous chapter are summarized into a format useful for testing the following hypotheses.

**Hypothesis #1 State laws allowing a citizen to obtain a license or permit to carry a concealed firearm reduce the rate of violent crime.**

**Hypothesis #2 State laws allowing a citizen to obtain a license or permit to carry a concealed weapon reduce the percentage of violent crime involving firearms.**

#### The Incidence of Violent Crime

The basis for testing the first hypothesis is the rate of crime in the state with a conceal carry law compared to the crime rate in its associated control state after the effective year.

If after the effective date of the conceal carry law the incidence of violent crime;

- 1) decreases in the conceal carry state, and
- 2) increases in the associated control state,

then the first hypothesis is supported.

If after the effective date of the conceal carry law the incidence of violent crime;

- 1) increases in the conceal carry state and,
- 2) decreases in the associated control state,

then the hypothesis is not supported. In some cases the data finds a middle ground between these two extremes indicating weak support for the first hypothesis. Table 6.1 indicates whether or not the comparative data during the post intervention period supports, weakly supports or does not support the first hypothesis. In Table 6.1 conceal carry states are represented in italics immediately above their associated control states.

TABLE 6.1

Degree to Which Data  
Analyses Support the First Hypothesis

States	Murder	Aggravated Assault	Rape	Robbery
<i>Florida</i>	supports	weakly	does not	weakly
<i>Texas</i>		supports	support	supports
<i>Pennsylvania</i>	supports	weakly	does not	weakly
<i>Illinois</i>		supports	support	supports
<i>Oregon</i>	does not	supports	does not	does not
<i>Arizona</i>	support		support	support

Note: States with conceal carry laws are represented in *italics* with their associated control state immediately below.

In a strict sense the data does not give wholesale support to the first hypothesis that conceal carry laws reduce the rate of violent crime. However, some very important patterns emerge warranting further discussion.

In the longer evaluation periods (Florida/Texas and Pennsylvania/Illinois) murder rates in states with conceal carry laws tend to decrease. Conversely, in their matching states murder tend to increase. In the shorter evaluation period (Oregon/Arizona) the data fails to mirror this trend. UCR data is designed to evaluate crime trends over a long period of time. This data is not well suited for short evaluation periods. Based upon this it appears that conceal carry laws reduce murder rates.

In the longer evaluation periods aggravated assault rates decrease, remain constant, or increase at a slower rate in states with conceal carry laws. Conversely, in the control states aggravated assault rates increase at a faster pace. In the shorter evaluation period the aggravated assault rate comparison between states supports the hypothesis. Therefore, it appears that conceal carry laws reduce aggravated assault rates.

The evidence clearly does not support the first hypothesis with respect to rape.

In the longer evaluation periods robbery rates decrease, remain constant or increase at a slower rate in states with conceal carry laws. Conversely, in their matching states robbery rates increase at a faster pace. In the shorter evaluation period the data fails to mirror this trend.

Therefore, with respect to the aforementioned qualifications, conceal carry laws tend to reduce, or at least retard, the rate of violent crime.

### **The Reported Use of Firearms**

The basis for testing the second hypothesis is the percentage of reported firearm use in the state with a conceal carry law compared to reported firearm use in its associated control carry state after the effective year.

If, after the effective date of the conceal carry law the percent of reported firearm use in violent crime;

- 1) decreases in the conceal carry state, and
- 2) increases in the associated control state,

then the second hypothesis is supported.

If, after the effective date of the conceal carry law the percent of reported firearm use in violent crime;

- 1) increases in the conceal carry state, and
- 2) decreases in the associated control state,

then the second hypothesis is not supported. In some cases the data finds a middle ground between these two extremes indicating weak support for the second hypothesis. Table 6.2 indicates whether or not the comparative data during the post intervention period supports,

weakly supports or does not support the second hypothesis. In Table 6.2 conceal carry states are represented in italics immediately above their associated control states.

**TABLE 6.2**  
**Degree to Which Data**  
**Analyses Support the Second Hypothesis**

<b>States</b>	<b>Murder</b>	<b>Aggravated Assault</b>	<b>Rape</b>	<b>Robbery</b>
<i>Florida</i>	does not	supports	NR	does not
<i>Texas</i>	support			support
<i>Pennsylvania</i>	does not	NR	NR	NR
<i>Illinois</i>	support			
<i>Oregon</i>	supports	does not	NR	does not
<i>Arizona</i>		support		support

Note: States with conceal carry laws are represented in *italics* with their associated control state immediately below.

NR = not reported

Admittedly, the lack of available data thwarts a comprehensive evaluation of the second hypothesis. However, there is no support to the second hypothesis that conceal carry laws reduce the use of firearms in violent crimes.

## **Conclusion**

There is some evidence that conceal carry laws reduce, or at least retard, the incidence of some violent crimes. Proponents of such laws may see this research as a ray of support to their position. Politicians, under immense pressure to stem the rising tide of crime, may be tempted to propose such a strategy. But the responsible public administrator will find in this research a far more important message.

First, a firearm conceal carry law, or any singular narrowly focused law, cannot by itself

significantly affect human behavior, especially deviant behavior. It is easy to suggest that for every social ill "there ought to be a law." But this fails to account for the complicated nature of our society. America is not homogeneous. Our heritage not only tolerates, but encourages individuality. Our individual behavior is influenced by our own socialization experience. Unfortunately, there are those in our society that fail to comply with the norms of our society, regardless of whether or not their behavior is against the law. To suggest that a single law can effectively address deviant behavior is irresponsible.

Second, crime is one of the most tenacious problems facing modern America. The pressure on our government to address this problem is and should be, intense. Political leaders are quick to respond to the demands of their constituencies to "get tough on crime". But, far too often the strategies adopted to address the problem of crime arise from the political arena without the benefit of empirical research. Legislatures that fail to understand the complicated nature of deviant behavior when adopting strategies to reduce it, do so at the peril of the electorate. To assign the responsibility of law and order to the general public is an abdication of government's responsibility. After all, it is the responsibility of government to insure public order and safety. Once the armed citizen is forced to use deadly force to protect himself then we have already failed at establishing law and order.

Finally, any law designed to affect human behavior is bound to have residual effects. Unfortunately, these effects may be far from what was intended. In fact, the residual effects may be worse than the original problem. Firearm conceal carry laws are designed to provide law-abiding citizens the means to protect themselves or their property. Certainly, the licensing criteria must be sufficiently stringent to insure the eligibility of only the most

responsible citizens. One may assume therefore that an individual licensed to legally carrying a firearm to protect himself will act responsibly. But even the most responsible citizen will, from time to time, act irrationally. And during these times there is no assurance that a normally responsible citizen will act with restraint. Will, in an emotionally trying but non-threatening situation, a normally responsible law-abiding citizen act with sufficient restraint to not draw the weapon he is legally allowed to carry? Will the enactment of a conceal carry law encourage persons normally not predisposed to arm themselves to purchase and carry firearms? And if so, will this increase in weapons availability increase the potential for firearm use? Admittedly, these questions are beyond the scope of this research. In fact, they may be good questions for future research on this issue. But at the very least, these questions, and others like them, are not outside the scope of concern for the responsible public administrator.

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