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EFFECTS OF GUN POLICIES ON CRIME

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EFFECTS OF GUN POLICIES ON CRIME

December 2019

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With over 39,000 firearm-related deaths per year in the United States, few topics are more controversial than civilian gun ownership and gun policies. This research provides analyses of the effects of gun-related laws on violent crime in the United States. Gun-related policies and violent crime analyses were conducted to compare differences in the 1994–2004 Federal Assault Weapons Ban and current state assault weapon bans, unrestricted-carry, right-to-carry laws, and the violent crime rate. Data were gathered from the Federal Bureau of Investigation to identify the differences in violent crime across all states and Washington, D.C., from 1970–2017. Data were also collected from numerous other government agencies to establish a body of independent variables to conduct multiple linear regression analyses. Based on the results of multiple linear regression models, we concluded that there is a statistically significant relationship between gun laws and the violent crime rate. Our model indicates a violent crime rate decrease of 93.14 violent crimes per 100,000 inhabitants with the implementation of assault weapon bans. Also, our model shows a murder rate decrease of 1.53 and 0.55 murders per 100,000 inhabitants with the adoption of unrestricted and right-to-carry laws.

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EFFECTS OF GUN POLICIES ON CRIME

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requirements for the degree of

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EFFECTS OF GUN POLICIES ON CRIME

ABSTRACT

With over 39,000 firearm-related deaths per year in the United States, few topics are more controversial than civilian gun ownership and gun policies. This research provides analyses of the effects of gun-related laws on violent crime in the United States. Gun-related policies and violent crime analyses were conducted to compare differences in the 1994–2004 Federal Assault Weapons Ban and current state assault weapon bans, unrestricted-carry, right-to-carry laws, and the violent crime rate. Data were gathered from the Federal Bureau of Investigation to identify the differences in violent crime across all states and Washington, D.C., from 1970–2017. Data were also collected from numerous other government agencies to establish a body of independent variables to conduct multiple linear regression analyses. Based on the results of multiple linear regression models, we concluded that there is a statistically significant relationship between gun laws and the violent crime rate. Our model indicates a violent crime rate decrease of 93.14 violent crimes per 100,000 inhabitants with the implementation of assault weapon bans. Also, our model shows a murder rate decrease of 1.53 and 0.55 murders per 100,000 inhabitants with the adoption of unrestricted and right-to-carry laws.

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LIST OF ACRONYMS AND ABBREVIATIONS

AWB	Assault Weapons Ban
BATF	Bureau of Alcohol, Tobacco, Firearms and Explosives
BEA	Bureau of Economic Analysis
BJS	Bureau of Justice Statistics
BLS	Bureau of Labor Statistics
CDC	Centers for Disease Control and Prevention
DOJ	Department of Justice
FBI	Federal Bureau of Investigation
SAFE	Secure Ammunition and Firearms Enforcement
NICS	National Criminal Background Check System
NIJ	National Institute of Justice
NIAAA	National Institute on Alcohol Abuse and Alcoholism
UCR	Uniform Crime Reporting

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I.   INTRODUCTION

The latest estimates report that there are more firearms in civilian hands in the United States than inhabitants, and the rate of manufacture and importation of firearms in the United States has quadrupled since 1986 (3.7 million in 1986 versus 15.9 million in 2016; Bureau of Alcohol, Tobacco, Firearms and Explosives [BATF], 2018a). However, the violent crime rate is nearly half of what it was in the early 1990s. For instance, there were 382.9 violent crime incidents per 100,000 inhabitants in 2017 as opposed to 758.2 in 1993, and the murder rate also decreased from 9.5 murders per 100,000 inhabitants in 1993 to 5.3 in 2017 (Federal Bureau of Investigation [FBI], 2018b). These seemingly contradictory statistics have led to numerous studies trying to understand how civilian firearm ownership impacts crime.[1]

Firearms of all types have been part of civilization for hundreds of years, and their use has become a deeply-seated part of American culture. Few topics are more controversial in today's society than the civilian possession and use of personally owned firearms. In recent years, the U.S. has experienced its own Federal and state firearms legislation. That legislation includes the Washington, D.C. Firearms Control Regulations Act of 1975, California Assault Weapons Ban of 1989, New Jersey's Assault Weapons Ban of 1990, and the Federal Assault Weapons Ban of 1994 (expired in 2004).

Also, other recent state firearm regulations include the New York Secure Ammunition and Firearms Enforcement (SAFE) Act of 2013 and the 2013 Colorado ban on new magazines that can hold over 15 rounds of ammunition. All of these laws restrict firearm ownership and are some examples of gun control legislation. Many cities and local jurisdictions also have their long list of ammunition, firearm, and magazine capacity restrictions. Despite the enactment of gun control laws by many states, some states have taken a different approach, and have eased restrictions on firearms through unrestricted, and right-to-carry laws. For example, states, where no permit is required to carry a

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[1] A wide-ranging list of references regarding firearm-related studies is available at the Rand Corporation Website (RAND, n.d.a).

concealed firearm (unrestricted-carry) include Alaska, Arizona, Arkansas, Idaho, Kansas, Maine, Mississippi, Missouri, New Hampshire, North Dakota, Vermont, West Virginia, and Wyoming (NRA-ILA, 2019). These stark contrasts in gun regulations and their effects on crime will be one of the first points explored in this research. Previous studies, like Lott (2013) and Donohue, J., Aneja, A., and Weber, K. (2017), have focused primarily on the impact of right-to-carry firearm laws on crime or the impact of the Federal Assault Weapons Ban of 1994 on violent crime. This research improves upon previous research by combining the effects of both right-to-carry laws, the Federal Assault Weapons Ban of 1994 and current state Assault Weapons Bans (including Washington, D.C.) and their impact on the different types of violent crimes.

The goal of this research will be to analyze the crime trends before and after the enactment of firearm legislation and use state and time variation of policy changes as our identification strategy. We will also explain how our analysis may provide a context in the future planning, development, and adoption of such regulation. This will be possible because we will explore the relationship between the Federal Assault Weapons Ban of 1994, multiple state assault weapon bans, right-to-carry laws and violent crime at the state level. This research will examine the effect of gun laws on violent crime from 1970–2017 using multiple linear regression models. We have compiled a total of 2,448 observations to conduct this analysis. The primary dependent variable includes the overarching violent crime rate. We will also analyze murder and non-negligent manslaughter, rape, robbery, and aggravated assault as recorded by the Federal Bureau of Investigation Uniform Crime Reporting (FBI UCR). Independent variables include the Federal Assault Weapons Ban of 1994, current state Assault Weapons Bans, unrestricted-carry and right-to-carry laws. Additionally, we included six demographic groups, alcohol consumption, real per capita income, unemployment rate, poverty rate, and state population.

The primary research objective of this work is to explore the relationship between gun legislation and violent crime since the 1970s. Therefore, our primary research questions are: Do gun-related policies have an impact on violent crime? Also, as a secondary question, we explored why there are significant disagreements between proponents of gun legislation, and its effect on crime. The long history of gun regulation

and deregulation are an essential part of American society. However, the consensus on whether these changes have the desired outcomes is unclear and is as longstanding as the U.S. Constitution. There has been a significant contrast in the way different states and cities have handled firearm policies. Some have adopted stricter gun regulations, while others have taken the opposite approach, and allowed a more individualistic approach to firearm possession. The various assault weapon bans, magazine restrictions, and concealed carry laws are an excellent example of this deep separation in the interpretation of, and stance on the Second Amendment.

Our research concluded that there is a statistically significant relationship between gun laws and the violent crime. We based that conclusion on the different multiple linear regression results produced during our research. The linear regression model reflected a decrease of 93.14 incidents (per 100,000 inhabitants) in the violent crime rate when measured against the Federal and state Assault Weapon Bans. Also, unrestricted and right-to-carry laws revealed a decrease of 1.53 and 0.55 murders (per 100,000 inhabitants), respectively, in the murder rate and heterogeneous results when measured against other types of violent crime (e.g., aggravated assault, rape and robbery). However, our model did not find a firearm-related law that would produce an increase or decrease in the crime rate across all types of violent crime. Moreover, it is essential to note that we found a 50% drop in violent crime and murder rates since the 1990s and a quadrupling of combined firearms production and importation since 1986.

The organization of this work will start with background, purpose, research question, and framing of the thesis statement in Chapter I. Chapter II will provide a historical context and background of firearms and gun regulation. Chapter III will cover an extensive literature review, and Chapter IV will include data analysis, summary statistics, and methodology. Chapter V will document the results of our regression analysis model and cover how these laws have either increased or decreased violent crime. Chapter VI will showcase conclusions and propose topics for further research.

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II. HISTORY AND BACKGROUND

A. BEGINNINGS

The first recorded use of a firearm dates back to the 14th century. The Public Broadcasting Service (n.d.) website explains that firearms were first introduced to Europe by traders with the Far East, and the evolution of firearms continued through the centuries, with slow but steady progression in technological advances. According to the website, some of the first firearms were very simple but ingenious, and were fired by directly igniting the powder through a touch hole in the barrel. The next revolutionary change in the history of firearms was the invention of the matchlock which allowed the user to fire more accurately by allowing both hands to remain on the gun while firing. Next, matchlock firearms were followed by the invention of barrel rifling in the 15th century. Rifling allowed a bullet to have much-improved stability and accuracy over the previous smoothbore design.

Barrel rifling greatly improved marksmanship capabilities for recreational and tactical applications. Other significant changes in manufacturing and mass production in the 19th century allowed for the efficient production of handguns, such as the Colt revolver. Perhaps the most relevant change in firearms technology in the last two hundred years was the development of the cartridge. These developments allowed users to carry pre-loaded self-contained cartridges, and readily use them in any application for a sustained period of time. The next major step at the end of the 19th century was the invention of smokeless powder. Smokeless powder allowed firearms to remain operational for an increased period of time, with significantly less required cleaning and maintenance.

Firearms have been an integral part of military organizations and handguns, in particular, are one of the most common firearms in production today. Whether or not they should be in common use and in the possession of civilians has been a source of controversy throughout American history and, in particular, American cities. To better understand the basis for the U.S. Bill of Rights and the Second Amendment (i.e., The Right to Keep and Bear Arms), we need to go back in history, and explore the words of the persons who

designed, and established our form of government. After all 13 states ratified the Articles of Confederation in 1781, there was a significant movement to form a stronger central government. However, the Anti-Federalists (i.e., those who opposed a strong central government) had apprehensions regarding the new central government and its power over the states and individual freedoms. Thomas Jefferson expressed to James Madison in a letter written on December 20, 1787, that "a bill of rights is what the people are entitled to against every government on earth, general or particular, and what no just government should refuse, or rest on inference" (Jefferson, 1787). Also, Thomas Jefferson believed that the Bill of Rights would give the Judicial branch of government enough power to limit any possible tyranny from the executive and legislative branches (Madison, Jefferson, Swift, & Savage, 1787).

According to Ralph Ketcham, the Anti-Federalists argued that "in Federalist hopes for economic growth, and international prestige only the list of ambitious men for a splendid empire that, in the time-honored way of empires, would oppress the people with taxes, conscription and military campaigns" (Ketcham, 2003). On the other hand, an influential group of men who favored a stronger central government included Alexander Hamilton, John Jay, and James Madison. These men wrote the Federalist Papers, which promoted the ratification of the U.S. Constitution. The reason why the Federalist Papers are essential to the understanding of the U.S. Constitution is because they "are considered one of the most important sources for interpreting, and understanding the original intent of the Constitution" (Madison, 1788). Without understanding the origin behind the Federalist Papers, it is nearly impossible to understand the U.S. Constitution and the Bill of Rights properly, and how it is supposed to be a guide for the future of the United States.

Federalist Paper number 46, which is believed to have been written by James Madison under the pseudonym Publius, provides the most comprehensive context behind the idea of the Second Amendment. James Madison made it abundantly clear that the purpose of the Second Amendment was to keep the threat of a large Federal Government and its army in check by the states. The following excerpt from Federalist Paper number 46 highlights that idea:

The highest number to which, according to the best computation, a standing army can be carried in any country, does not exceed one-hundredth part of the whole number of souls; or one twenty-fifth part of the number able to bear arms. This proportion would not yield, in the United States, an army of more than twenty-five or thirty thousand men. To these would be opposed a militia amounting to near half a million of citizens with arms in their hands, officered by men chosen from among themselves, fighting for their common liberties, and united and conducted by governments possessing their affections and confidence. (Madison, 1788)

James Madison goes on to compare the rights of Americans against the rights of people throughout the rest of the world, particularly those in Europe. In this comparison, James Madison points out that Americans have the "advantage of being armed, which the Americans possess over the people of almost every other nation" and have allegiances to state or subordinate governments (Madison, 1788). He contended that Americans had a stronger bond to state governments over the Federal Government at the time. This fact is a strong indication that the founders of the U.S. Constitution desired for Americans to have access to firearms to protect their local and state governments. Despite this detail, there was controversy in regards to the manner in which the people would have access to firearms (e.g., personal carry or only home use). Also, there was debate on whether or not firearm ownership had to be in conjunction with service in a well-regulated militia. There have been several court cases throughout American history that have addressed many of these controversies.

Also, throughout American history, but particularly in the 20th century, several firearm-related laws were enacted to try to curtail violence committed with handguns, machine guns. The National Firearms Act of 1934 stemmed from the gang violence of the Roaring Twenties, and the Prohibition era. Later firearm legislation, included the Gun Control Act 1968, and the 1986 Firearms Owners' Protection Act. This legislation ensured that the possession, and transfer of machine guns, and suppressors became increasingly regulated, and more difficult for civilian use. These are some examples of how legislative actions have motivated calls for judicial intervention. Next, we will look at some of the lengthy history of judicial history regarding the personal possession of firearms.

B. THE COURTS

First, we will focus on the subject of firearms and personal carry. There have been several court cases that have ruled in favor of and in contradiction to this idea. One example that supports the right to bear arms in self-defense and concealed carry is *State v. Reid*, 1, Ala. (n.s.), 612, (1840). On the other hand, in *State v. Buzzard*, 4, Ark., 18, (1842), the Arkansas Supreme Court ruled that the state had the right to regulate the use of concealed firearms and that the primary purpose of the Second Amendment was to support the state militia, and not an individual right to bear arms. In later cases, such as *Fife v. State*, 31 Ark. 455, the Arkansas Supreme Court stated that individuals had the right to bear arms on their own premises, but the prohibition to carry concealed handguns remained in Arkansas at the time.

In *Nunn v. Georgia*, 1, Ga., 243, (1846), the Georgia Supreme Court held a similar stance in which it sustained that the state government had the right to legislate the manner in which its inhabitants could carry firearms, particularly, those secretly carried or concealed. However, the Georgia Supreme Court stated that the state did not have the right to "deprive the citizen of his natural right of self-defense, or of his constitutional right to keep and bear arms" (Nunn v. State, 1, Kelly, 243, 1846). Also, the Georgia Supreme Court stated that the "prohibition against bearing arms openly is in conflict with the U.S. Constitution, and void . . . " (Nunn v. State, 1, Kelly, 243, 1846). Controversy over the reach of the Second Amendment has not been relegated only to the states. The U.S. Supreme Court has also ruled in several cases.

The dispute over the interpretation of the Second Amendment continued throughout the 20th century, and it came to a significant crossroad just over a decade ago. *District of Columbia v. Heller* has been one of the most important U.S. Supreme Court cases in regards to the Second Amendment since the early 20th century. In 2008, the U.S. Supreme Court ruled that the Washington, D.C. ban on handguns, and the mandate to maintain all other firearms in the home to be stored either unloaded or locked was unconstitutional. The U.S. Supreme Court ruled in *District of Columbia v. Heller* with a five to four decision. Furthermore, the court's ruling stated that the Second Amendment's prefatory clause, "A well regulated Militia, being necessary to the security of a free State," did not limit the

operative clause, "the right of the people to keep and bear arms, shall not be infringed" (*District of Columbia v. Heller*, 2008). In other words, the U.S. Supreme Court ruled that the right to bear arms is "not limited to military use;" a ruling which supports and contradicts other courts' rulings (p. 16). This decision was significant because the U.S. Supreme Court thoroughly examined the meaning of the Second Amendment. However, as in many court cases before *District of Columbia v. Heller*, the decision was not unanimous, and many U.S. Supreme Court Justices did not agree with the final rulings.

Justice Stevens produced a dissenting opinion where he stated that the Second Amendment "protects only the right to possess and carry a firearm in connection with militia service" (*District of Columbia v. Heller*, 2008). He relied heavily on Justice Joseph Story's *Commentaries on the Constitution of the United States,* published in 1833. Justice Stevens underlined that Justice Story, when commenting on the Second Amendment, made no mention of the right to bear arms for either "hunting or personal self-defense" (p. 34)

Justice Stevens also points out that the Second Amendment is protected from laws enacted by the Federal Government and not the individual states. Justice Stevens emphasized this point when he referred to the U.S. Supreme Court case *United States v. Cruikshank*, 92, U.S., 542, (1876), where the court concluded that "the Second Amendment declares that it shall not be infringed; but this, as has been seen, means no more than that it shall not be infringed by Congress" (*District of Columbia v. Heller*, 2008). In other words, Justice Stevens interpreted the Second Amendment as applicable only as a protection from Federal Government encroachment, and not from state or local regulations. Justice Scalia, and the U.S. Supreme Court majority disagreed with his perspective (p. 6).

Throughout American history, the debate on whether firearms should be in private hands has been one of the most contentious arguments over the U.S. Constitution and the Bill of Rights. However, it is also clear that most courts' views on the Second Amendment have confirmed, at some level of analysis, that the Second Amendment was put in place to protect the people from internal and external threats to their security and freedom. Despite the *District of Columbia v. Heller* ruling and others since, the controversy over the production, possession, and use of handguns has remained one of the most highly contested

topics in American society due, in large part, to the staggering number of individuals who are killed (including suicides) with the use of firearms.

C.   THE NUMBERS

For example, in 2017, the Centers for Disease Control and Prevention (CDC) reported 39,773 firearm-related deaths (Centers for Disease Control and Prevention, 2018). However, there is also positive news because nonfatal firearm violence at the U.S. national level has decreased from 1,222,701 firearm-related incidents in 1993 to 414,562 in 2011 (National Institute of Justice, 2019). Also, firearm crimes as an overall composition of violent crime has remained steady over the same timeframe, between 5% and 8%.

The list of statistics and studies that describe the positive and negative effects of firearm possession is extensive. This contrast in studies and assessments makes it incredibly challenging to reach a precise conclusion on whether firearm regulations have produced their intended consequences. For example, the RAND Corporation has researched an extensive collection of firearm regulation-related studies, and it has produced mixed results. Specific policies, like universal background checks and child access prevention laws, appear to have a positive effect on gun-related incidents. However, other initiatives have produced varied results. One example of those more lenient regulations are unrestricted-carry or right-to-carry laws (RAND, 2019a). In some instances, experts have reached completely contradictory conclusions of the consequences of more and less restrictive firearms regulations (RAND, n.d.b). We will address in more detail the valuable resources available from the RAND Corporation in Chapter III. Next, we will perform an overview of fundamental firearm laws that have transformed the gun rights landscape.

Throughout the 20th century, several firearm-related laws were enacted to curtail violent crime. The National Firearms Act of 1934 stemmed from the gang violence of the 1920s to include the St. Valentine's Day Massacre of 1929. Other significant legislation included the Gun Control Act of 1968, the 1986 Firearms Owners' Protection Act, and the 1994 Federal Assault Weapons Ban (AWB). There have also been recent waves of firearm laws adopted after the 2012 Sandy Hook Elementary School mass shooting. They include the New York Secure Ammunition, and Firearms Enforcement Act of 2013, and the

Colorado magazine restrictions passed in 2013, among other pieces of legislation. On the other hand, many states have taken the opposite approach and implemented widespread use of concealed carry laws. Right-to-carry laws have grown significantly since the 1980s.

This topic will be a meaningful part of our research concerning more permissive firearm regulations and their effect on crime. In short, the total number of states that have allowed unrestricted-carry has increased to 13 and states that operate under right-to-carry laws are now 28. In other words, the vast majority of states (41) allow concealed carry of personal firearms. The overall firearms-related crime landscape would not be complete without understanding and placing into context the current status of the firearms industry.

D.   SUMMARY

The growing demand for firearms in the United States has persisted. Evidence of that fact is the domestic production and importation of firearms. Firearms production and imports have significantly increased over the past three decades. According to the 2018 Firearms Commerce in the United States Annual Statistical Update report, the total number of firearms manufactured in the United States has grown from three million in 1986 to over 11 million in 2016, as shown in Figure 1 (BATF Firearms Commerce Statistical Update, 2018). This dramatic upturn in firearms production has had a significant effect on firearm manufacturers and retailers. Also, other supporting evidence of growing consumer interest in firearms is the increase in the rise of verifications conducted by the National Instant Criminal Background Check System (NICS) from nine million in 1999 to over 23 million in 2016 (FBI, 2018).

NICS checks provide some insight into the number of firearms sold through Federal Firearms Licensed dealers in the United States. We will examine the BATF firearms manufacturing data reports in greater detail in Chapter III.
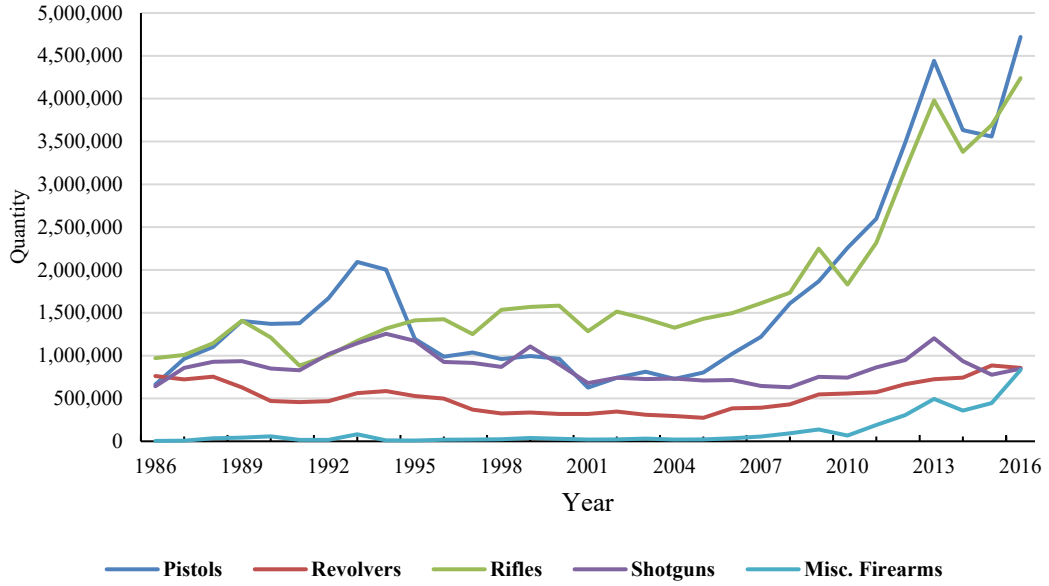
Figure 1.   Types of Firearms Manufactured in the United States,
1986–2016. Adapted from BATF (2018a).

III.   LITERATURE REVIEW

A.   OVERVIEW OF SOURCES

For this work, there are four significant sources of information reviewed. They include current and proposed firearms laws and regulations. The primary legislation that we will analyze consists of the Federal Assault Weapons Ban of 1994, New Jersey's Assault Weapons Ban of 1990, New York's Assault Weapons Ban, the 2013 Colorado ban on magazines capable of holding over 15 rounds of ammunition and other 4 states which have adopted Assault Weapons Bans.

Also, other literature reviewed includes proposed legislation, like the Assault Weapons Ban of 2019 sponsored by Senator Diane Feinstein. We will also analyze gun deregulation and expansion of unrestricted and right-to-carry carry laws.

In addition, we will include firearm-related crime data and firearm-related injuries. We gathered crime data from the Federal Bureau of Investigation's (FBI) Uniform Crime Reporting (UCR) Program, the National Institute of Justice (NIJ), the Centers for Disease Control and Prevention (CDC), the National Institute on Alcohol Abuse and Alcoholism (NIAAA), the Bureau of Justice Statistics (BJS), Bureau of Economic Analysis (BEA), books, articles, and studies. We reviewed firearms industry data from the FBI's NICS, the Bureau of Alcohol Tobacco and Firearms (BATF). Other information obtained came from multiple articles and organizations that have devoted a significant amount of resources to create and interpret informative and impartial information.

Some of the most impartial and relevant sources of information came from the RAND Corporation, the Pew Research Center, and various publications, ranging from prominent magazines to academic sources. During our research, we discovered that obtaining reliable and unbiased sources of information was a significant challenge, particularly regarding the gun rights debate. Many sources and studies have political motivations or are suspected of one type of error or another when producing statistical models. As stated previously, there are substantial numbers of opinions regarding firearm regulations that either support or condemn any action taken to strengthen or weaken gun

rights. Various legislators, firearms enthusiasts, physicians, educators, and lawyers have an opinion regarding whether the personal ownership of firearms should exist, and if so, to what extent. There is also a long list of organizations that fall on either side of the continuum. Some of those organizations include the National Rifle Association, Gun Owners of America, Every Town for Gun Safety, and Brady Campaign, among many others.

B.   GUN LAWS

The total number of gun laws in existence in the United States is numerous, but the exact number is unclear. However, there have been several hundred new gun laws introduced in recent years on both sides of the gun rights debate (Vasilongambros, 2018). These facts maintain a long-standing tradition of firearms regulation in the United States at the Federal level dating back to the 1930s. The first significant Federal regulation came with the National Firearms Act (NFA) of 1934. The NFA was a revenue collection mechanism that imposed a $200 tax (equivalent then to $3,775 in 2018 dollars) on the transfer of NFA firearms (e.g., machineguns, shotguns with barrels of less than 18 inches in length and rifles with barrels of less than 16 inches in length). That amount has remained unchanged since 1934. According to the BATF, the underlying purpose of the NFA was to "curtail, if not prohibit transactions of NFA firearms" (BATF, 2018b).

Other firearm laws include the Gun Control Act of 1968 which established stricter licensing, and regulations on the firearms industry, and which prohibited the sale of firearms and ammunition to felons and other prohibited individuals. These changes were motivated, in part, by the assassinations of President John F. Kennedy and Dr. Martin Luther King Jr. in the 1960s (BATF, 2018).

Other Federal laws covered include the Firearms Owners Protection Act of 1986, which prohibited the transfer or possession of machine guns by most individuals, and repealed some "recordkeeping requirements for the sale of ammunition" (Firearm Owners' Protection Act [FOPA], 1986). These changes reflect how divisive, and controversial the gun debate remains in American society, because parts of the law increased restrictions while simultaneously decreasing others (FOPA, 1986). After the enactment of the Firearms

Owners Protection Act of 1986, the 1994 AWB followed. The 1994 AWB's original provision included a 10-year ban on magazines being able to accept more than ten rounds of ammunition and on the manufacture, transfer and possession of certain firearms designated as assault weapons (Koper, 2004).

The 1994 AWB was not renewed and was allowed to expire in 2004. The enactment of the 1994 AWB was a significant change in firearms policy, and it will be one of the primary goals of this research, along with other state-level laws enacted throughout different states. California, Washington, D.C., Hawaii, Massachusetts, Maryland, New York, and New Jersey have established their own AWB and other states have enacted restrictions on firearm magazines as depicted in Figure 2.

Figure 2.   States with AWB or Magazine Restrictions as of 2017.
Adapted from Giffords Law Center (2018a) using www.mapchart.net.

Important pieces of legislation at the state level include the New Jersey Assault Weapons Ban of 1990. It banned the sale of some semiautomatic rifles with fixed magazines being able to accept more than 15 rounds of ammunition, and some semiautomatic shotguns (Depalma, 1990). The passage of this law was highly contested

and divided along party lines with all, save for one, Republicans voting against it and all but two Democrats voting for it (Depalma, 1990, section 3). Another significant change at the state level occurred in Colorado in 2013. Colorado enacted a requirement for background checks on all firearms transfers, with a few exceptions which includes firearms transfers between some family members and during other circumstances, such as recreational activities like hunting and target practice (Csere, 2013). Furthermore, Colorado's gun control laws of 2013 also prohibit the sale, transfer or possession of ammunition magazines and feeding devices able to hold more than 15 rounds of ammunition.

A special marking is also required if a magazine was manufactured in Colorado after July 1, 2013 (Csere, 2013). The last provision is essential because Magpul Industries is one of the largest and most prominent manufacturers of rifle magazines and accessories in the country. Magpul Industries moved its operations to Wyoming and its headquarters to Texas in 2014, in significant part due to its growing frustration over the new Colorado gun control law (Richardson, 2014).

The New York State SAFE Act of 2013 was passed shortly after the Sandy Hook Elementary School shooting in Newtown, Connecticut. The bill expanded previous restrictions on assault weapons by classifying any semi-automatic firearm with one single military-style feature in contrast to the two military-style features required by the 1994 Federal AWB (New York Secure Ammunition and Firearms Enforcement Act [New York SAFE Act], 2013). A military-style firearm feature is typically considered a second handgrip, a threaded barrel capable of accepting a barrel extender, silencer, forward handgrip or a folding stock, among several other features (New York SAFE Act, 2013).

The New York SAFE Act also reduced the number of rounds that gun owners could load in a ten-round magazine. The total number of rounds allowed decreased to seven rounds outside of gun ranges and sporting events (New York SAFE Act, 2013). However, Chief District Judge William Skretny struck down the seven-round limit. He wrote that "the seven-round limit thus carries a much stronger possibility of disproportionately affecting law-abiding citizens" (Vielkind, 2013). Also, the New York SAFE Act imposed a requirement on background checks for ammunition purchases, banned the sale of Internet

ammunition sales, and mandated registration of assault weapons (New York SAFE Act, 2013). The New York SAFE Act also required victims of firearm or ammunition theft to report the incident within 24 hours or risk a misdemeanor charge. Finally, the New York SAFE Act updated guidelines for complying with mental health reporting requirements. The New York SAFE Act requires "that mental health professionals who are currently providing treatment services to an individual make a report, if they conclude using reasonable professional judgment, that the individual is likely to engage in conduct that would result in serious harm to self or others" (New York State Psychiatric Association, 2019). The New York SAFE Act was created to address a large number of problems surrounding mass shootings and firearm-related violence.

However, other states have taken a different approach that goes to the roots of the gun control agenda by enacting unrestricted-carry and right-to-carry laws. Despite the many gun control laws enacted in some states, there has been a growing movement to allow law-abiding persons to carry concealed firearms in most states (Zezima, 2017). The primary focus of this research will be on states that have adopted unrestricted-carry firearm laws, and those states with right-to-carry laws. Except for New York, Massachusetts, Rhode Island, New Jersey, Delaware, Maryland, Hawaii, and California, all states currently have right-to-carry or unrestricted-carry laws. Washington, D.C. is currently a right-to-carry locale. However, for this research, Washington, D.C. will be treated as a restricted locale because as of 2017, the right-to-carry law had not been adopted. Most of the data available for this research was accessible only through 2017.

In 2003, Alaska became the first state to adopt an unrestricted-carry law. Thirteen other states, as listed in Figure 3, have followed suit, Kentucky, and Oklahoma passed the latest unrestricted-carry legislation (NRA-ILA, 2019). These changes have been a significant victory to firearm rights advocates. However, these laws have also generated controversy, and not every state has endorsed unrestricted-carry laws. For example, Montana's House of Representatives and Senate passed unrestricted-carry legislation, but Governor Steve Bullock vetoed it (Zezima, 2017). The justification for the veto was the requirement for "safety training before granting a concealed-carry permit," and concerns about individuals with mental health problems (Zezima, 2017).
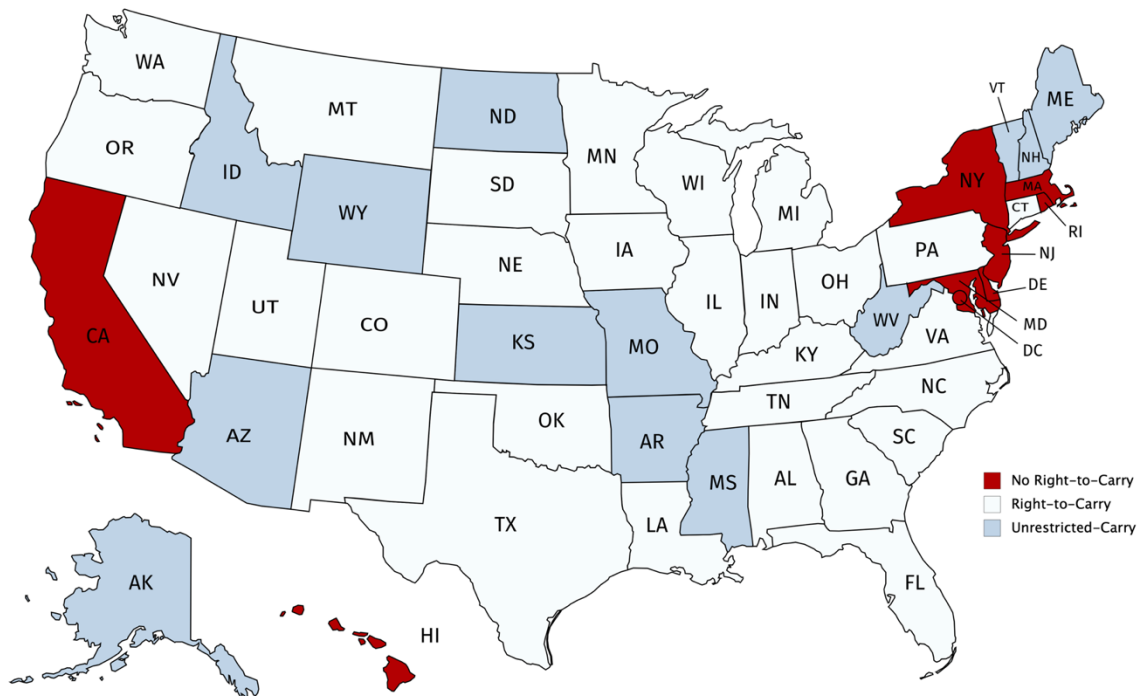
Figure 3.   Right-to-Carry Laws as of 2017. Adapted from NRA-ILA
(2019) using www.mapchart.net.

Another significant proposed piece of legislation is the Assault Weapons Ban of
2019 that expands the classification of assault weapons. The proposed bill would ban over
200 firearms, and restrict ammunition magazines capable of holding over ten rounds. It
would also ban bump-fire stocks, require grandfathered assault weapons to be stored in a
secure gun-storage location or with a safety device. The bill also imposes other restrictions.
In the Assault Weapons Ban of 2019 (S.66, 2019), Congress declared that it will also use
"grants for buyback programs for semiautomatic firearms, and large capacity ammunition
feeding devices." If adopted, the increased restrictions may have ramifications throughout
the firearms industry.

Another relevant study, sponsored by the NIJ and highly relevant to our work is the
2004 assessment of the last Federal Assault Weapons Ban of 1994, which expired a decade
later. The report concluded that the use of "gun-related crimes that involved assault

weapons declined by 17% in some of the cities surveyed" (Koper, 2004). The use of assault pistols and assault rifles had mixed results, mainly due to the seldom use of those firearms in most crimes. However, the study found that a large amount of grandfathered (pre-ban) magazines, capable of holding over ten rounds of ammunition, compensated for some of the declines in the use of assault pistols (p. 2). Koper's study also stated that assault weapons were typically not the primary weapon used in crime, and, that the effects of the Assault Weapons Ban was "small at best and perhaps too small for reliable measurement" (p. 3).

The Assault Weapons Ban of 1994 produced mixed results. Koper stated that attacks with firearms whose magazines are able to hold more than 10 rounds of ammunition, "result in more shots fired, more persons hit, and more wounds inflicted per victim than attacks with other firearms" (Koper, 2004). Koper also made the argument that many of the firearms banned under the Assault Weapons Ban did not significantly differ from other legal variants of the same firearm. He stated that the "firing mechanism, ammunition fired, and the ability to accept a detachable magazine" was the same as the banned firearms (p. 11). Furthermore, Koper stated that the effects of the Federal Assault Weapons Ban were "likely to be small at best and possibly too small for reliable measurement" (p. 3). The crucial challenge for lawmakers is addressing firearm deaths while recognizing constitutional rights. The next section of this research will cover firearm-related crime.

C.   FIREARM-RELATED CRIME

There has been significant research conducted on firearm-related crime with mixed results. It is unclear whether stronger gun regulation helps reduce crime or whether more prolific gun ownership and gun rights create more opportunities for crime. Despite the dramatic increase in firearms manufacturing and importation, the overarching crime rate in the United States has been steadily decreasing over the past three decades. Steven Levitt's research into the steep violent crime decline of the 1990s produced thought-provoking results. He determined that there were four main reasons for the decrease in violent crime. His four main ideas behind the violent crime decrease included the increase

in the police force, the increase in the prison population, the reduction of the crack cocaine problem and that the legalization of abortion. He stated that those four factors played "a critical role in the crime reduction of the 1990s" (Levitt, 2004). We will explore more closely the changes in firearm-related crime in future chapters. Also, the search for unbiased sources in regards to gun ownership and firearm-related crime can be challenging. One of the most trusted institutions that have covered this topic is the Pew Research Center.

One of their polls revealed how divisive the topic of firearm ownership is, and how the polarization is more marked along with political affiliation. According to a Pew Research Center 2017 poll, 41% of adults live in a gun-owning household, and over 67% of gun owners cited self-protection as the primary reason to own a firearm (Gramlich & Schaeffer, 2018). The poll data also shows that there appears to be a deep divide on whether gun laws should be stricter with nearly 30% of Republicans supporting stricter gun laws against 80% of Democrats. Also, 76% of Republicans believe that protecting gun rights is more critical than to control gun ownership while only 19% of Democrats think the same, according to the poll.

Despite the gun regulation divide among party affiliations, there is some common ground between supporters of both parties regarding gun regulation. For example, 86% of Democrats and 83% of Republicans believe that individuals with mental illnesses should not own a firearm (Gramlich & Schaeffer, 2018). However, the divide regarding concealed carry laws, assault-style firearms, and magazines with the ability to hold more than ten rounds of ammunition is large, regardless of party affiliation. For example, section 3 of Gramlich and Schaeffer's report states that Democrats who own a firearm are twice as likely to support concealed carry laws than Democrats who do not own a firearm. The question remains whether gun regulation has had a positive impact on our society and to what degree. Also, Gramlich and Schaeffer state in section 7 of their report that despite the overall decrease in gun-related and violent crime over the last few decades, there has been an increase in total firearms-related deaths since 2000 due to a significant increase in murders and suicides. This increase in overall firearm-related deaths is lower than in the early 1990s and lower in 2018 than in 2017.

Another controversy involves the news reports (e.g., conservative and progressive) regarding firearm-related deaths. Many news sources will depict how overall firearm deaths have increased over the years. However, they make little or no mention that two-thirds of all firearm deaths are suicides (Krogstad, 2015). Other sources will mention how the states with the most gun ownership have a much larger share of suicides and gun-related deaths. However, they fail to mention that the cities with the most gun-related crime are in some of the states with the most stringent gun regulations. Some of those cities include Chicago and Baltimore (Madhani, 2018). The lack of comprehensive information, whether it is deliberate or not, can cause a significant amount of confusion when exploring this topic. However, sources like the Pew Research Center have analyzed FBI and BJS data, and concluded that the overall crime rate has declined over the years. However, there have been short periods of violent crime spikes over the years (depicted in Figure 4). Between 1993 and 2017, FBI statistics have violent crime down 49% while BJS statistics report a 74% decrease (Gramlich, 2019). Despite this steep decline in the violent crime rate, Gramlich reports in section 1 of his article that there have been puzzling surges in violent crime over the years to include the timeframe between 2004 and 2006, and a decade later between 2014 and 2016.

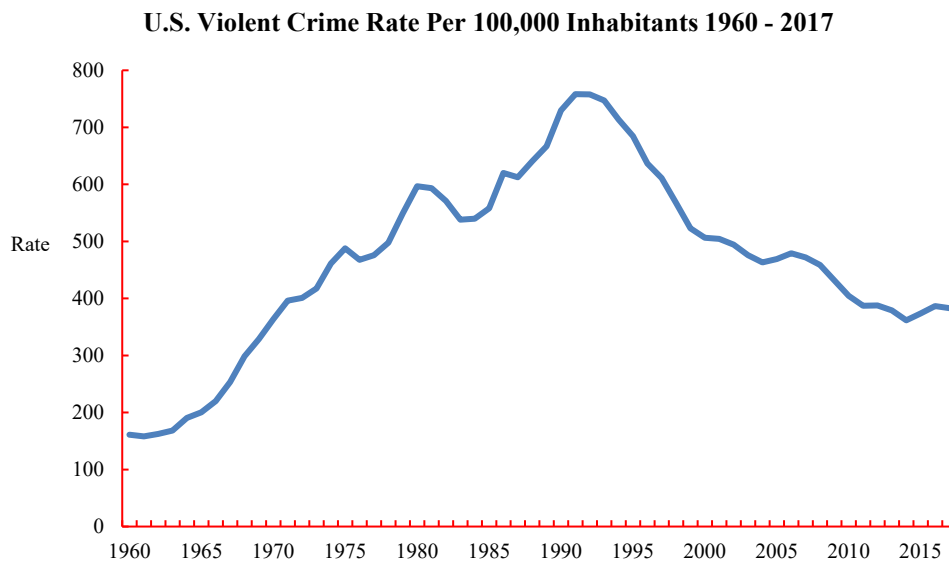**U.S. Violent Crime Rate Per 100,000 Inhabitants 1960 - 2017**

Figure 4.   Violent Crime Rate. Adapted from FBI (2018b).

Another interesting fact is that despite the significant decrease in violent crime over the last few decades, perception by the public depicts a different story. Over 60% of all Americans believe that crime has worsened over the years (Gramlich, 2019). It is unclear why the perception of increased crime rate exists, but it could be that the 24-hour news cycle has had a significant impact on public perception. For example, the rise of social media has allowed information to flow much faster, and this has had some impact on public perception. Furthermore, violent crime is not spread evenly throughout the country, and many states and cities have a significantly higher crime rate than others. Table 1 shows the disparity in crime between the top 10 states, including Washington, D.C., with the most and least reported violent crime in 2017 per the FBI UCR. Also, Gramlich reports in section 4 of his article that the murder rate in some cities like Chicago, Baltimore and St. Louis has increased in recent years. In recent years, conversely, the overall crime rate in many major cities such as Los Angeles, and New York City has declined. These differences in violent crime rates will be explored further in the following chapters.

Table 1.   States with the Highest and Lowest Violent Crime Rate
in 2017. Adapted from FBI (2018b).

2017 Highest Violent Crime Rate		2017 Lowest Violent Crime Rate	
State	**Rate per 100,000 Inhabitants**	**State**	**Rate per 100,000 Inhabitants**
1. D.C.	1004.9	1. Maine	121
2. Alaska	829	2. Vermont	165.8
3. New Mexico	783.5	3. New Hampshire	198.7
4. Tennessee	651.5	4. Virginia	208.2
5. Louisiana	557	5. Kentucky	225.8
6. Nevada	555.9	6. Idaho	226.4
7. Arkansas	554.9	7. Connecticut	228
8. Missouri	530.3	8. New Jersey	228.8
9. Alabama	524.2	9. Rhode Island	232.2
10. Arizona	508	10. Wyoming	237.5

From 2014 to 2017, St. Louis has claimed the number one spot in the nation with the highest number of murders at 66.1 per 100,000 inhabitants (Desilver & Gramlich, 2018). In contrast, other major cities have seen a steep decline in murder rates over the years. For instance, Los Angeles had gone from 1,094 murders in 1992 to 281 in 2017. New York has had a similar decline with 2,245 murders in 1990 to 292 in 2017. This was below the national average of 3.4 homicides per 100,000 inhabitants (Desilver & Gramlich, 2018).

Chicago, on the other hand, despite having a decrease in overall murders went from 939 in 1992 to 653 in 2017; it continues to struggle with a high murder rate and has drawn the attention of many headlines in recent years. Chicago's high murder rate has become the main argument for those who support a more liberal interpretation of the Second Amendment. Chicago has some of the strictest gun laws in the nation and is also one of the most violent cities in the country. The differences in the murder rate are also substantial among all the states. For example, New Hampshire's murder rate is 1 (per 100,000 inhabitants) as of 2017, while Washington, D.C. has a murder rate of 16.7 (per 100,000 inhabitants). Table 2 lists the states with the highest and lowest murder rates.

Table 2.   States with the Highest and Lowest Murder Rate in 2017. Adapted from FBI (2018b).

2017 Lowest Murder Rate		2017 Highest Murder Rate	
State	**Rate per 100,000 Inhabitants**	**State**	**Rate per 100,000 Inhabitants**
1. New Hampshire	1	1. D.C.	16.7
2. North Dakota	1.3	2. Louisiana	12.4
3. Maine	1.7	3. Missouri	9.8
4. Idaho	1.9	4. Nevada	9.1
5. Rhode Island	1.9	5. Maryland	9
6. Minnesota	2	6. Arkansas	8.6
7. Nebraska	2.2	7. Alaska	8.4
8. Vermont	2.2	8. Alabama	8.3
9. Utah	2.4	9. Mississippi	8.2
10. Massachusetts	2.5	10. Illinois	7.8

Another major point of contention is that many crimes go unreported. According to the Pew Research Center, in 2017 "only 45% of violent crimes tracked by the BJS were reported to police" (Desilver & Gramlich, 2018). Approximately only one-third of all property crime was reported to the police (Desilver & Gramlich, 2018). Furthermore, only 46% of violent crimes and 18% of property crimes reported were solved (Desilver & Gramlich, 2018). Failure to report crime is an important variable because it can have significant impact on violent crime studies.

D.   RAND CORPORATION AND FIREARMS ANALYSIS

Regardless of how overwhelming and thorough the data is, there continues to be a great divide between everyday people, different parts of the media, and even experts regarding gun regulation. For example, a 2018 Gallup poll discovered that "45% of Americans believe there is a great deal of bias in the news media with a margin of sampling error of ±1 percentage point at the 95% confidence level" (Jones, 2018). Media bias is an important fact because media coverage can have a significant impact on public opinion. Next, we will explore the RAND Corporation and its gun regulation analysis (RAND, 2019b). It is also worthwhile to mention that RAND receives over 80% of its funding from the U.S. Government (RAND, 2018b). One can see the deep divide on the topic of gun regulation by visiting the analysis conducted by RAND. RAND has covered studies that either support or rebuff the establishment of new gun control measures.

Some of the gun policies surveyed by RAND include background checks, bans on assault weapons and large-capacity magazines, child-access prevention laws, concealed-carry laws, minimum age requirements, prohibitions associated with mental illness and stand-your-ground laws. RAND provides a specific outcome to each one of these policies grouped into limited evidence, or stronger evidence found categories. These depend on the results found in those studies. The policies where RAND found stronger evidence to support a reduction in suicide include child-access prevention laws, background checks, and "prohibitions associated with mental illness" (RAND, 2018b).

Another remarkable feature available through the RAND website is the ability to simulate the outcome of certain firearm policies at both the state and Federal level. The

model produces quantitative or qualitative results. For example, items listed under the quantitative effects include hunting participation, mass shootings, and property crime. Qualitative effects include the right to bear arms, privacy rights, and gun ownership satisfaction.

The interactive comparison tool allows for a user to select either more or less restrictive policies. This tool is called Seeking Common Ground in Gun Policy Debates a Gun Policy Comparison Tool (RAND, n.d.b). The purpose of this tool is to depict the differences in opinion and expected effects of firearm laws as determined by experts. There are significant differences of opinion among experts regarding firearm policies and their effects. It is important to highlight that according to the RAND Corporation "scientific research on the effects of gun policies is sparse and often inconclusive" due to the number of variables that can affect violent crime (para. 2).

For example, one common topic in the public eye and political agenda is the ban of assault weapons and high capacity magazines. When this option or variable is selected and simulated through the RAND interactive comparison tool, it provides two results. One set of results reflects the opinions of the experts who are in support of more liberal firearm restrictions. Those experts claim that there would be a 1% increase in overall firearm homicides and a 3% decrease in defensive gun use if high capacity magazines and assault weapons were banned.

On the other hand, experts who favor more restrictive firearm laws claim that there will be a 5% decrease in firearm homicides. They also claim that there will be no change in defensive gun use. Also, the interactive comparison tool allows the user to select the implementation of other laws and discover experts' opinion on what those results would be (RAND, n.d.b). These results depict, in a different way, the difference of views and studies conducted on the effects of firearm regulations.[2]   Some of this confusion and contradiction stems from a lack of understanding of basic firearm terminology.

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[2] "RAND surveyed experts with diverse views on how gun policies might affect outcomes, such as violent crime, suicide, and participation in hunting and sport shooting. This tool allows [the user] to explore where these experts agree and disagree and what combinations of laws might offer the potential for compromise on all sides." A full list of references can be found at www.rand.org (RAND, n.d.a).

A significant concern about the language used by RAND studies is that there is a multitude of definitions of assault weapons. Does that definition describe a purely semiautomatic firearm? There is a multitude of firearms that are not considered assault weapons in current use but function indistinguishably as fast and efficiently as an AR-15-style rifle. For example, the latest reincarnation of the Assault Weapons Ban was reintroduced by Senator Feinstein in 2019. In the Assault Weapons Ban of 2019 (S.66, 2019), Congress declared that the definition of an assault weapon is a semiautomatic firearm with a detachable magazine and one feature such as a telescoping stock or pistol grip.

Conversely, the 1994 AWB required two additional features for a firearm to be considered an assault weapon. The 2019 AWB would make a firearm illegal mainly due to its ergonomic and aesthetic features rather than function. One perfect example of this is the Ruger Mini-14 rifle. One version of the rifle is mentioned explicitly in the 2019 AWB as banned while the other is exempt. Both of the Ruger Mini-14 models mentioned, the Ranch and the Tactical model, have the same operating capabilities and have a great degree of parts commonality (particularly their internal components). The rifles' aesthetics and ergonomic features are their main distinguishable difference. In other words, the Ruger Mini-14 Ranch and the Tactical model are the same firearm with some very minor differences, yet one of them is specifically mentioned in the 2019 AWB bill and the other one is not.

Another question is, what constitutes a large capacity magazine? According to many states, any magazine able to hold more than ten rounds of ammunition is considered large capacity. Some states, like Colorado, have established a 15-round limit (Giffords Law Center, 2018b). However, states like New York have tried to redefine large capacity magazines by mandating that law-abiding citizens load only seven rounds of ammunition in a 10-round magazine (New York SAFE Act, 2013).

E.   ACADEMIC DEBATE ON FIREARM REGULATIONS

The differences in definitions are critical when firearm policies are analyzed because the difference between gun regulations and the perception of infringement on the

Second Amendment is very subtle. This lack of comprehensive understanding is a significant weakness of research performed by many research and media organizations. There can be a lack of balance in many of these studies between firsthand firearm experts and theoretical experts. There is only a certain amount of perspective that can be brought to the discourse when the experience is limited in either scientific research or firsthand exposure to the subject at hand. However, despite many of the studies' limitations, there is a significant amount of research to aid in our research. One of the most prominent experts in gun control is Dr. John R. Lott. He is the author of the book *More Guns Less Crime* and other experts who oppose Lott's views. Some other renowned researchers include Ian Ayres and Dr. John J. Donohue (2002), both of whom have written one or more papers as a counter-argument to Lott's work. We will describe and analyze the highlights of their work, as well.

Lott's book *More Guns Less Crime: Understanding Crime and Gun Control Laws* was published in 1998 and has undergone two updates, in 2000 and 2010. Since its publication in 1998, there have been follow-up studies that have either supported or rejected Dr. Lott's research. For example, some of the studies that have rejected Lott's research include one of Donohue, Aneja, and Weber's latest work titled right-to-carry Laws and Violent Crime: A Comprehensive Assessment Using Panel Data and a State-Level Synthetic Control Analysis (Donohue, Aneja, & Weber, 2017). On the other hand, Moody and Marvell's 2008 article titled The Debate on Shall-Issue Laws, support Lott's research (Marvell & Moody, 2008). Dr. Lott's level of research and topics explored in his book are extensive and very detailed.

The book starts with a series of anecdotes describing Lott's belief that a large portion of defense gun use goes unreported. His book covers a multitude of anecdotes throughout the first Chapter (Lott, 2013). This idea is also shared by national studies that will be explored later in this Chapter. Dr. Lott includes several examples in the United States and throughout the world in which the potential victim stopped an aggressor without having to discharge their firearm.

Lott also highlights how many states that have enacted concealed-carry laws since the 1980s. He states that there is no evidence that concealed carry permits increase crime.

Lott provides statistics from Florida, Virginia, Kentucky, and North Carolina. He emphasizes that there have been few instances where concealed carry permits holders have committed a crime with their firearm (Lott, 2013). Lott discusses how the concern regarding the increase in concealed carry permits and risk of increased shootings is unfounded. He stated that there were no cases where a permit holder had ever shot a police officer and only one case where a concealed carry permit holder used his firearm following a traffic incident (p. 13).

Lott's work also examines empirical data related to the effects of gun control and crime. He explains how he approached the problem of extracting relevant crime-statistics results from time-series data alone. For example, if a law changes in a specific location it is difficult to analyze its effect on crime. It is difficult because there could be other crime-fighting initiatives implemented at the same time. Those changes could include crime-sentencing restrictions and law enforcement changes, among others. The way Dr. Lott mitigated this problem was through the analysis of the same law at different times and explore whether "similar crime patterns exist before and after such changes" (Lott, 2013). In other words, Dr. Lott's solution was to "combine both time-series and cross-sectional evidence and then allow separate variables, so that each year the social changes… can be distinguished from local deviations" (p. 24). Lott used the FBI's UCR data to examine the effects of specific gun policies such as concealed carry laws and their impact on crime throughout the country. He points out that there are some problems with the data. For example, each crime is given the same importance regardless of whether it is an assault or a homicide. This generalization is problematic because on the ground, obviously, not every crime is the same and the results matter to the victim and the community at large.

Lott also explores gun ownership and how it could affect society. He states that gun ownership has remained relatively stable in the country over the years, with common gun ownership being more prominent among political conservatives, moderates, and men. He also explored the concealed carry requirements throughout the country in 2007. Thirty-nine states at the time had adopted more permissive concealed-handgun laws (Lott, 2013). On the other hand, Dr. Lott mentioned that firearm regulations in some areas of the country

are more strongly regulated and that "every place around the world that has banned guns appears to have experienced an increase in murder and violent crime rates" (p. 315).

A critical finding in his work concludes that states with robust gun regulations and strict or nonexistent concealed carry requirements had a much lower violent and property crime rate than the rest of the states at the tip of the 1990s-crime wave. However, those states with the most stringent gun policies experienced an overall increase in violent crime from 1992 to 2007. At the same time, all other states experienced a decrease in violent crime during the same timeframe (Lott, 2013). Lott also covers other topics such as victims, and the political and academic debate. He states that the number of personal and professional attacks on him and his work has continued. Of special mention is the work done by Ian Ayres and John Donohue (Ayres & Donohue, 2002). Lott contends that this critique and analysis of his work point out weaknesses with specific interpretations of precise portions of his work (Lott, 2013). However, Lott accentuates that his thesis that more guns reduce overall crime remains unchallenged (Lott, 2013).

Lott mentions that many experts have labeled his work a "fraud" and a "blight on democracy" because it has been used to implement new right-to-carry laws in many states (Lott, 2013). Also, Lott provides an update to the empirical data regarding concealed carry permits and the change in crime up to 2005 in the 3rd edition of his book, *More Guns Less Crime*. Lott provides both anecdotal and empirical data to support his thesis throughout his book. He notes that many states that have adopted right-to-carry laws have not had any hearings to repeal those laws or experienced "buyer's remorse" (p. 240). Some of those states are Montana, Vermont, and Alabama. He also points out, in support of his thesis, that a large portion of legislators themselves possess concealed-handgun permits in Virginia, Tennessee and South Carolina (p. 13).

He addresses the fear of many that an increase in concealed handgun permits will increase shootings and crime, but at this point, he turns to the empirical data for answers. Lott's results establish that states that have adopted the right-to-carry laws have seen an overall added decrease in crime. He also states that those states that did not pass the same laws did not see the same decrease. Lott continues to knock down multiple claims about problems in his work the same way throughout his book in a compelling way. Overall,

Lott's work is extensive and very detailed, and it incorporates ideas outside the scope of this research.

On the other hand, Professors Ian Ayres and John Donohue contend that Lott's data does not depict a complete picture of the relationship between crime and the increase in right-to-carry laws implemented in many states, and argue that those states that have adopted less restrictive right-to-carry requirements have seen a lower decrease in crime than those that have imposed tougher restrictions.

Ayres and Donohue contended that "in most states right-to-carry laws have been associated with more crime and that the apparent stimulus to crime tends to be especially strong for those states that adopted in the last decade" (Ayres & Donohue, 2002). Ayres and Donohue provide empirical data to counter Lott's thesis of more guns, less crime. They make a compelling case by comparing violent and non-violent crime rates in concealed carry states against all others up to 1997. Ayres and Donohue divided their empirical analysis by examining different crimes, such as murder, violent crime, robbery, rape, aggravated assault, and property crime. They further divided their data into states that did and did not pass right-to-carry laws at different periods in time (p. 50).

For this research, we will focus primarily on the violent and property crime rates cited in the Ayres and Donohue research. The data they presented spanned from 1977 to 1997. Their data analysis reflects that those states that never passed right-to-carry laws had similar changes in violent crime. Their crime rate decreased as much as those states that did adopt right-to-carry laws. However, the murder rate for those states that adopted right-to-carry laws post-1989 had the most significant decline of all four groups up to 1997 (Ayres & Donohue, 2002).

Moreover, property crime and rape rates declined the most for states that never passed right-to-carry laws between 1977 and 1997 (Ayres & Donohue, 2002). In short, the overall decrease in crime in states that never passed right-to-carry laws, when compared to those states that already adopted right-to-carry laws between 1977 and 1997, go against Lott's thesis that more guns cause less crime. However, they also admit that there was no

increase in murders in the 1990s in states with right-to-carry laws adopted between 1977 and 1989 (Figure 1c).

Ayres and Donohue believe that an explanation for this pattern in murders, in those states that had adopted right-to-carry laws in the 1970s and 1980s, was caused by the crack cocaine problem that caused crime to increase in urban areas (Ayres & Donohue, 2002). Ayres and Donohue claim that this problem did not affect more rural states where crack cocaine was not as prominent of a problem during this timeframe. Another major critique of Lott's work by Ayres and Donohue include "the 36 demographic controls are so highly collinear that it is impossible for the regression to provide meaningful results for any given demographic control" (p. 24).

Additional research regarding right-to-carry laws has been conducted over the years as mentioned earlier with Marvell and Moody (2008) and Ayres and Donohue (2002). More recent studies have concluded that, despite crime being lower in right-to-carry states, the overall percentage in crime decreases has been more pronounced in states that never adopted right-to-carry laws (Donohue, Aneja, & Weber, 2017). These facts are the primary cause of friction and disagreement between supporters of concealed carry laws and those who view those laws as an unnecessary risk and as an increased threat to the community.

A recent study conducted by the National Bureau of Economic Research produced notable findings (Donohue, Aneja, & Weber, 2017). The study found that states with right-to-carry laws showed a smaller decrease in violent crime between 1977 and 2014 than states where the right-to-carry laws were never adopted (p. 30). However, the violent crime rate still decreased in those states where the right-to-carry laws were adopted. Also, the crime rate was already lower in those states that implemented right-to-carry laws. Perhaps many other variables have influenced the crime rate throughout the country. For example, someone could argue that the Violent Crime Control and Law Enforcement Act of 1994 had at least some impact on crime mainly because of the steep decrease in violent crime occurred slightly before its passage in 1994 and continued for two more decades (see Figure 4). Ayres, Donohue, and Lott are all in the search for an answer where there could be too many variables to show a correlation between right-to-carry laws and the national crime rate.

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For example, Ayres and Donohue (2002) mention the crack cocaine problem of the 1980s and 1990s. Other variables used by these experts include demographics. Lott used 36 demographic variables to try to create more accurate linear regression models. There are indicators that concealed carry laws affect crime rates. However, concealed carry laws are doubtful to be the primary cause for the decrease in crime. It is unlikely because of how seldom concealed carry permit holders use their firearms for personal protection. However, despite the adoption of more lenient carry laws by more states, the crime rate has maintained a downward trend over the last few decades. Next, our focus will shift to the available data sources of our data analysis. As previously mentioned, the different sources of information will be similar to those used by Ayres, Donohue, and Lott. The data sources will include the FBI UCR, CDC, BATF, NIJ, and BJS.

F.   GOVERNMENT INSTITUTIONS AND FIREARMS RELATED CRIME RESEARCH

The BJS released a 2016 report that corroborates previously conducted studies that describe how prison inmates obtain firearms. For example, only 1.9% of Federal prisoners "who had possessed or used a firearm during their offense" obtained the gun from a retail source. This metric drops even further because only 1.3% of those same guns were used (Alper, 2016). Additionally, of prisoners who used the firearm during their offense, only 0.8% obtained it at a gun show. Also, it is important to emphasize that commercial sales (including at gun shows) are required to undergo a background check through the FBI NICS system or state and Federal databases. Other interesting facts include that those prisoners with no military service were more likely to use a firearm than those who did serve in the military. Also, approximately a third of all prisoners had a firearm during the offense. Out of those crimes, prisoners were more likely to use a firearm during a robbery and less likely to use it during other crimes such as rape (p. 3).

It is essential to highlight that, during a homicide, 43.6% of prisoners possessed a firearm and 37.2% used it (Alper, 2016). Handguns were the most common firearm used by prisoners, with 18% of all prisoners using a handgun and less than 2% using either a rifle or shotgun (p. 5). Furthermore, male prisoners were two times more likely than female prisoners to have used a firearm during the crime (p. 6). Black prisoners were much more

likely than Hispanic or white prisoners to have possessed a firearm during the crime at 29%, 21% and 12%, respectively (p. 6). This variable is a glimpse at how other analysts have had to analyze crime data to produce meaningful results properly.

Approximately 10% of all prisoners obtained their firearm from a retail source, 25.3% obtained it from individuals, and 43.2% obtained it from the "underground market" or streets (Alper, 2016). Furthermore, out of the 10% of prisoners who purchased a firearm from a retail source, over 80% underwent a background check (Alper, 2016). However, the BJS report stated that the majority of those prisoners used their real name when they purchased their firearm. However, the report does not mention whether the prisoners were eligible to purchase a firearm at the time of the purchase or whether they accurately completed the background check documentation. There is no mention of whether they possessed a criminal record before the firearm transaction in question. These questions are significant because it is unclear whether the NICS or State background check system was maintained. Also, it is unclear whether the prisoners provided false information when filling out the Federal and State background check questionnaires.

The BJS provides some of the most critical data collection regarding crime. Its mission is "to collect, analyze, publish, and disseminate information on crime, criminal offenders, victims of crime, and the operation of justice systems at all levels of government" (Bureau of Justice Statistics, 2019). One of the last major BJS reports regarding firearm violence was published in 2013. It highlighted the dramatic decrease in firearm homicides from 1993 to 2011. Firearms homicides decreased from 18,253 in 1993 to 11,101 in 2011 (Planty & Truman, 2013). The BJS study found that, despite a significant decrease in firearm-related crimes since 1993, the total percentage of crimes that involved a firearm did not change in a substantial way. The rate of crimes involving a firearm changed from 9% in 1993 to 8% in 2011 (Planty & Truman, 2013). Firearm-related violence also played a significant role in most homicides, which accounted for 70% of all homicides and 10% of nonfatal violent crime from 1993 to 2011 (Planty & Truman, 2013). Firearm use in the majority of homicides is very high, and these percentages reflect it.

Other notable findings include that up to 90% of firearm-related crimes (homicide and nonfatal crimes) were committed with a handgun. Also, the study found that "males,

blacks, and persons ages 18 to 24 had the highest rates of firearm homicide," and a very low number of victims (less than 1%) used a firearm to defend themselves during the occurrence (Planty & Truman, 2013). Furthermore, Planty and Truman's report found that approximately 39% of nonfatal crimes go unreported (Planty & Truman, 2013). The report also found that most inmates (less than 2%) obtained their firearms from gun shows or flea markets (Planty & Truman, 2013). Over 75% of inmates obtained their firearms from family members, friends or from other illegal sources (Planty & Truman, 2013). Also, the study found that urban areas and southern states had the most significant rate of firearm-related violence. The percent of all homicides in schools remained at or slightly above 1% from 1992 to 2010. Also, there was a significant overall reduction of homicides from 1992 to 2008, from 2,719 to 1,579 (Planty & Truman, 2013).

Another crucial and relevant fact of the Planty and Truman study is that the scale in which nonfatal violent crime and property crime occurs. From 2007 to 2011, there were a total of 114.1 million incidents where victims had to use "self-protective behaviors" in response to either a violent or property crime (Planty & Truman, 2013). Self-protective behaviors range from either offering no resistance to threatening or attacking with some weapon or firearm. Of those 114.1 million incidents, 29.6 million involved a violent crime, and the vast majority of those victims chose to either offer no resistance or use "nonconfrontational tactics" (Planty & Truman, 2013). Nonconfrontational tactics included actions such as yelling, running, or arguing. Approximately 235,000 victims offered resistance with a firearm, or 0.8% of all victims (Planty & Truman, 2013). This statistic is important because one of the main ideas explored in this research will be the widespread passage of concealed carry laws nationwide. It appears, based on this study, that the use of firearms in self-defense situations is minimal in comparison to all responses given by victims. Therefore, is it reasonable to believe that an increase in concealed carry permits will have a shift in the crime rate as argued by Lott, Donohue, and Ayres? It is likely that other independent variables (e.g., socioeconomic factors, demographics, age, etc.,) have a larger effect on violent crime. Our research and data analysis will cover this question in detail in the following chapters.

Planty and Truman obtained their data from multiple sources to include the BJS. In their report, they explain how standard errors are used to produce confidence intervals by extracting the standard errors. In this case, 0.2 for nonfatal firearm violence per 1,000 individuals and "a confidence interval around the estimate was generated by multiplying the standard errors by ±1.96" (Planty & Truman, 2013). The authors used a 95% confidence interval and determined that the "rate of nonfatal firearm violence was between 1.4 and 2.2 per 1,000" (Planty & Truman, 2013). Finally, the authors go to great lengths to ensure that their research is digested with caution, as many of the statistics provided can have a substantial coefficient of variation. The authors also point out that there is a complex and large number of variables explored in their research. They caution their audience not to "draw causal inferences based on the results presented" (Planty & Truman, 2013).

The CDC is another institution which has maintains vast amounts of data about firearms deaths and can further expand our insight on the topic. The CDC maintains data on firearm-related deaths at the national and regional level. Most importantly, for this research, the CDC provides data which covers firearm-related homicides and suicides. Suicides have been a significant concern in the gun debate because they comprise approximately two-thirds of all firearm-related deaths (Kegler, 2018). Also, the CDC provides an interactive map of each state, which displays the total number of firearm-related deaths and the firearm death rate by state. However, there are some limitations to the data, as some cities' data is not present. Several comprehensive statistical studies, incorporated the total number of firearm-related deaths with the number of firearm-related murders and suicides. These studies do not allow the reader to infer the amount of violent crime associated with firearms. Another vital piece of the gun control debate includes pro-gun control groups like the Brady and the Giffords organizations.

G. LEGISLATION AND PRO-GUN CONTROL GROUPS

The Brady and Giffords organizations came about after President Reagan's shooting in 1981 and Congresswoman Giffords' shooting in 2011. The Brady Campaign ultimately led to the Brady Handgun Violence Prevention Act of 1993, which mandated the creation of the NICS system and mandated a five-day waiting period for the sale of

handguns (BATF, 2017). The NICS systems services Washington, D.C., 30 states and five territories (Figure 5). The NICS system has conducted over 230 million firearm background checks and has led to over 1.3 million denials (BATF, 2017). Despite the NICS's system widespread use, there have been several instances where criminals have been able to obtain and use firearms despite undergoing a NICS background check. One of the most recent examples was the Air Force veteran who committed the Sutherland Springs church shooting in November 2017. He had a conviction that was not flagged in the NICS system and was not in the system because his record was not updated. He was able to purchase an AR-15 rifle from an Academy Sports sporting goods store in San Antonio, Texas (Montgomery, Mele, & Fernandez, 2018). Despite its shortfalls, the NICS system continues to provide a service to many states and is a line of defense in the pro-gun control debate.
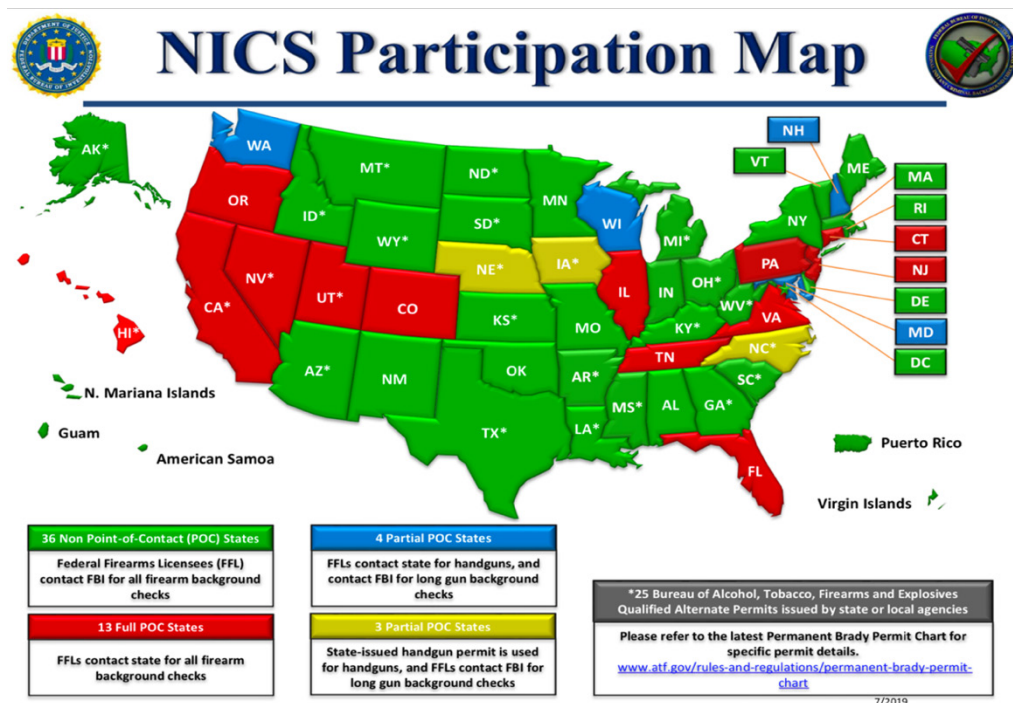

Figure 5.   States under The NICS System. Source: FBI (2019).

The NICS system is, as already stated, not a perfect system because it relies on the input provided by many law enforcement organizations throughout the country. Thirty

states use the system, and in some cases, the system is not kept up to date; this has been the case in many high-profile mass shootings in recent years. These shortfalls led to the Fix NICS Act of 2017, which imposed more considerable penalties on government agencies which fail to report criminal records and requires them to conduct a semiannual certification that those records have been submitted (Fix NICS Act of 2017).

The news surrounding the NICS system has also raised concerns among those who see additional regulation as a step closer to diluting the power of the U.S. Constitution and Bill of Rights. The fear is that these changes will ultimately lead to stricter gun regulations and erode the effectiveness of those rights. The assassination attempts of President Reagan and White House Press Secretary Brady enabled Zahariadis' multiple streams theory of problem, policy and politics to converge and ultimately lead to the execution of a political agenda surrounding gun control (Zahariadis, 2014). A similar agenda may flourish from Congresswoman Giffords' shooting in 2011.

Congresswoman Giffords' 2011 shooting was a focusing event that reignited the gun control debate. Her shooting has led the agenda for stricter gun control and it includes the latest Bipartisan Background Checks Act of 2019. In the Bipartisan Background Checks Act of 2019 (H.R. 8, 2019), Congress declared that background checks for most firearm private transfers would be required. However, the bill would allow for the transfer of firearms without a background check between family members, to include cousins, grandparents, siblings and parents. The bill would also allow for temporary loans of firearms for hunting and sporting purposes without background checks. As we mentioned earlier, most firearms obtained illegally by criminals come from the black market and family members.

This bill fails to address either one of those events. Also, the *New York Times* reported that the bill was intended to mandate background checks on Internet sales and gun shows (Edmondson, 2019). All FFL firearm sales at gun shows are required to undergo a background check. Also, Internet sales are not final, and the firearm is not shipped directly to the buyer. When an Internet firearm sale takes place from an Internet-based licensed dealer, the seller ships the firearm to a brick and mortar FFL. The receiving FFL conducts a background check, and the physical transfer of the firearm is performed (Bureau of

Alcohol, Tabacco, Firearms and Explosives, 2016). There are some exceptions in states where the buyer already possesses a concealed carry permit. However, this is not to be confused with private sales of firearms which, in many states, do not require a background check. The facts regarding gun sales allude many to include those who support either side of the argument. In many instances, this is because the legislation and regulations surrounding firearms are very complex and vary considerably by locale.

The Brady and Giffords organizations provide a forum to express concern against firearm-related violence and the energy contained in those organizations has led to significant pieces of legislation. However, the mistrust and reluctance to support all gun control proposals is justified for many reasons. One of them is the poorly drafted information communicated to a large section of the population through traditional media sources. Misinformation is an essential point because, in the topic of firearms, there are multiple layers of complexity. There is a myriad of various regulations and restrictions based on the particular state, city or jurisdiction. Mark Twain once said that "truth is stranger than fiction" and it could not be more correct than in the world of firearms and the long list of regulations that surround them (Twain, 1897).

Nevertheless, some institutions can shed some light and help us better interpret the reality of gun-related incidents and crime. Some of those institutions' studies, facts and figures will be used throughout our research. Crime-related metrics will include mostly Federal agencies, such as the BATF, FBI, NIJ, and BJS. We will use the FBI UCR database to gather, interpret and conduct statistical research. It will help us analyze the effects of firearms laws when compared to other locations that did not implement similar policies.

H.   HISTORY OF CRIME STATISTICS COLLECTION

The FBI UCR database dates back to the 1920s when organized crime and crimes were commonplace. The UCR was created to track crime statistics during the tenure of Bureau Director J. Edgar Hoover. The FBI published its first UCR report in 1930 with data from 400 cities. By 1956, the UCR report had grown to include crime data from over 5,700 agencies. The UCR report now includes data from 18,000 law enforcement agencies and covers 94% of the population (FBI, 2006). One of the most useful tools available on the

FBI UCR website includes the UCR table building tool. It allows the user to generate crime statistics reports by state, some cities and year from 1960 to 2014. The UCR database also provides data down to the individual agencies of each state (e.g., San Antonio Police Department). It is also worthwhile to note that the UCR database also provides data about specific crime categories (FBI, 2019).

The four variables available to choose from are the total number of violent crimes, property crimes, violent crime rate, and property crime rates. For our research, under the violent crime rate category, the murder and non-negligent manslaughter rates are also reported. Those metrics will be necessary when we measure the effects of gun control legislation in those locations. Also, we will examine the robbery rate. However, these numbers do not distinguish between the crime committed with firearms or other weapons. Also, the UCR data is collected after law enforcement agencies report a crime. However, the FBI UCR reports do not provide data about the final adjudication of the alleged crime. Besides the FBI UCR data, other Federal agencies can provide great insight into the different fluctuations in crime and firearm-related violence. The NIJ conducts scientific research on crime and justice issues to provide insight into practical solutions to "reduce crime and advance justice" (National Institute of Justice, 2018).

An NIJ study reported a significant increase in homicides in 2015 (Rosenfeld, Gaston, Spivak, & Irazola, 2017). The sharp increase in homicides in 2015, of 11.4%, was the largest increase since the 1960s (Rosenfeld et al., 2017). The increase was particularly troubling because the United States had experienced a steep decline in crime since the 1990s. The lengthy study finds two possible explanations for the increase based on the data available at the time. The explanations are "the heroin and synthetic opioid epidemic and widely publicized incidents of the use of force by the police against African-Americans, and ensuing protests and civil unrest in many cities" (Rosenfeld et al., 2017). The authors believe that there could be a hands-off approach (de-policing) from police agencies and increase mistrust from the African-American community (Rosenfeld et al., 2017). These explanations provide a glimpse at how complex and intricate trying to tie the crime rate to a single variable can be and how it can lead to the wrong conclusions. Firearms are only a small piece in the much giant puzzle of the shifting crime rate.

I.   SUMMARY

Throughout this Chapter we discussed how crime and its relationship with firearms policies had been an endless debate amongst academics and researchers such as Lott, Ayres, and Donohue. Despite the many variables considered by Lott, Ayres, and Donohue, their research produced different conclusions. How is that possible? Perhaps they were pursing different goals or had different questions. Possibly the question is not whether more guns cause less crime. The real question could be whether more guns in the hands of law-abiding citizens are unlikely to have a significant effect on violent crime (negative or positive). Also, likely, fewer guns do not decrease crime without keeping them out of the wrong individuals. In the coming chapters, we will discuss the data available and whether more or less stringent gun laws have led to a significant increase or decrease in violent crime.

IV. DATA AND METHODOLOGY

We used data from multiple governmental organizations to analyze the effects of gun laws on the violent crime rate. The data compiled to establish the dependent variables, to include the violent crime rate and its subcategories (e.g., murder rate, robbery, etc.), was obtained from the FBI UCR website. The data that composes the independent variables came from multiple sources to include the U.S. Census Bureau, National Institute on Alcohol Abuse and Alcoholism (NIAAA), Bureau of Economic Analysis (BEA), Bureau of Labor Statistics (BLS), Bureau of Justice Statistics (BJS), U.S. Department of Justice (DOJ) and Bureau of Justice Statistics (BJS). The data consists of information from all fifty states and Washington, D.C. The data includes 2,448 observations after we ensured that all independent and dependent variables were covered during the same timeframe (1970-2017). All dollar figures were converted to 2017 dollars using the January consumer price index.

A. DATA

Table 3 depicts the dependent and independent variables used in this study. All the dependent variables were extracted from the FBI UCR database and encompass the years of 1970–2017. Our original target was to cover the timeframe of 1960 to 2017, but a significant number of data were unavailable for the 1960s, to include New York's FBI UCR data from 1960 to 1964. Also, all dependent variables showed a great deal of difference between the minimum and maximum statistics, primarily because the timespan included data from the 1970s. For example, the violent crime rate in the 1970s was lower on average than in the 1980s and 1990s.

Also, the data reflects significant variability in violent crime rates depending on the state. For example, the states with the highest violent crime rate per 100,000 inhabitants in 2017, were Washington, D.C. (1,004.9), Alaska (829) and New Mexico (783.5). On the other hand, the three states with the lowest violent crime rate were Maine (121), Vermont (165.8) and New Hampshire (198.7). The states with the lowest violent crime rate have unrestricted-carry laws and no assault weapon bans. Also, it is important to note that Maine,

Vermont, and New Hampshire are the only three states in New England with unrestricted-carry laws. However, Alaska and New Mexico also have unrestricted-carry and right-to-carry laws, respectively, and have some of the highest violent crime rates. Conversely, the District of Columbia has one of the strictest gun laws in the nation, and it had the highest violent crime rate in 2017. Those noteworthy differences in crime rates between the states are cause for thought and careful analysis of other independent variables.

For the period covered, 1970–2017, the violent crime rate had a mean of 445.12 violent crimes per 100,000 inhabitants with a standard deviation of 289.93 and a minimum violent crime rate of 34.20 and a maximum of 2921.80 per 100,000 inhabitants. The murder rate had a mean of 6.76 murders per 100,000 inhabitants, a standard deviation of 6.33, a minimum murder rate of 0.20, and a maximum of 80.60 murders per 100,000 inhabitants. The remaining statistics that compose the violent crime rate are found in Table 3.

Unfortunately, the limitations of the data include the lack of statistics related to violent crimes committed with firearms at a state and yearly level of analysis. However, there are FBI statistics available involving murders at the level of the type of weapon used at the state and annual level from 1995–2017. However, that data is incomplete and is missing multiple entries throughout that same timeframe (1995-2017) to produce meaningful results.

Table 3.   Dependent and Independent Variables Summary
Statistics (1970–2017).

Variable	Obs	Mean	Std. Dev.	Min	Max
Population	2,448	5,145,220	5,770,468	302,173	39,500,000
Assault Weapons Ban	2,448	0.26	0.44	0	1
Unrestricted-Carry	2,448	0.04	0.18	0	1
Right-to-Carry	2,448	0.42	0.49	0	1
Violent Crime Rate	2,448	445.12	289.93	34.20	2921.80
Murder Rate	2,448	6.76	6.33	0.20	80.60
Robbery Rate	2,448	138.35	150.06	6.40	1635.10
Aggravated Assault Rate	2,448	266.38	158.13	21.00	1557.60
Rape Rate	2,448	32.30	14.05	3.60	102.20
Poverty Rate	2,448	13.66	4.19	2.90	27.20
Unemployment Rate	2,448	6.12	2.07	2.30	17.80
Real Income	2,448	$37,890.83	$ 9,492.55	$17,576.92	$79,792.00
Alcohol Consumption Gallons Per Capita	2,448	2.54	0.71	1.19	7.31
Urban Population Percentage	2,448	0.71	0.15	0.32	1.00
Black Males 10 - 29	2,448	0.0190	0.0195	0.0005	0.1298
Black Males 30 - 49	2,448	0.0131	0.0141	0.0002	0.0892
Other Race Males 10 - 29	2,448	0.0096	0.0150	0.0002	0.1113
Other Race Males 30 - 49	2,448	0.0073	0.0125	0.0002	0.1013
White Males 10 - 29	2,448	0.1283	0.0294	0.0340	0.1963
White Males 30 - 49	2,448	0.1129	0.0211	0.0304	0.1664

Includes all 50 states and Washington, D.C. Adapted from U.S. Census Bureau (2019), Giffords Law
Center (2018a), NRA-ILA (2019), FBI (2018b), and NIAAA (2016).

The majority of the data available for our independent variables was available from 1970 to 2017 without any gaps except for the urban population percentage, alcohol consumption per capita, unemployment rate, and poverty rate. The urban population percentage independent variable was available in 10-year increments from the U.S. Census Bureau, and we interpolated the yearly percentage between each decade. We analyzed the alcohol consumption per capita, unemployment rate, and poverty rate data through trend analysis. In addition, we extrapolated any missing data using the nearest 10-year data

available. For example, we extrapolated the alcohol consumption per capita for 2017 through trend analysis of the previous ten years (2007 to 2016).

As with the majority of the dependent variables, we observed a significant difference in the various statistics in the independent variables from state to state. For example, the poverty rate has some significant differences with a mean of 13.66 and a standard deviation of 4.19. The poverty rate minimum of 2.9 belongs to Connecticut in 1989, and the maximum of 27.2 belongs to Mississippi in 1988. Differences like this can be seen in the Min and Max columns of Table 3. We also included real per capita personal income, unemployment rate, and poverty rate.

Other independent variables included demographics from the U.S. Census Bureau similarly categorized by age and race as other related studies (e.g., Lott, Ayres, and Donohue). We used a total of six demographic groups of males in age groups of 10 – 29 and 30 – 49 years of age. The six demographic groups resemble the number of groups included in Donohue's et al. (2017) demographic independent variables (Donohue et al., 2017).

Another variable was the total number of per capita gallons of alcohol consumed, and it included wine, spirits, and beer consumption with a mean of 2.54 gallons, a standard deviation of 0.71. The minimum of 1.19 belonged to Utah in 1994 and the maximum to Nevada in the 1970s. In 2016, the most recent data obtained from the NIAAA, the three states with the lowest alcohol consumption were Utah, West Virginia, and Arkansas. The states, including Washington, D.C., with the highest alcohol consumption, were New Hampshire, Washington, D.C., and Delaware. There was a decrease in alcohol consumption in the late 1980s and early 1990s as depicted in the appendix (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2016). It is important to mention that the 1990s experienced one of the most significant declines in the violent crime rate in recent decades and the exact causes for this decrease continue to attract the attention of many experts (Levitt, 2004). However, this does not infer that there is a direct relationship between alcohol consumption and violent crime.

Finally, we looked at the urban population as published by the U.S. Census Bureau from 1970 to 2010. The data had 2,448 observations with a mean of 68.44, a standard deviation of 16.0, a minimum of 32.2 and a maximum of 100. The three states with the highest urban population percentage are Washington, D.C. (100), California (0.95) and New Jersey (0.947). The three states with the lowest urban population percentage are Maine (0.387), Vermont (0.389) and West Virginia (0.487). It is worth noting that Maine and Vermont were the two states with the lowest violent crime rate in 2017, while Washington, D.C. had the highest violent crime rate. However, it is unclear whether urban population percentage has a direct impact on the violent crime rate.

B.   METHODOLOGY

We use variation in gun control policy across states and time as our main means of identification. Our formal regression model appears below:

$$C_{it} = \alpha + \beta_1(AWB)_{it} + \beta_2(RTC)_{it} + \beta_3(UC)_{it} + X'_{it}\lambda + State_i + Time_t + \varepsilon_{it} \quad (1)$$

Where C_{it} is the crime rate in state i in year t.[3] AWB_{it} is a dummy variable equal to 1 if state i had an assault weapons ban in place in year t and 0 otherwise. RTC_{it} is a dummy variable equal to 1 if state i had a right-to-carry law in place in year t and 0 otherwise. UC_{it} is a dummy variable equal to 1 if state i had an unrestricted-carry law in place in year t and 0 otherwise. X is a vector of control variables which include poverty rate, unemployment rate, real income, ethanol consumption as gallons per capita, urban population percentage, black males ages 10 to 29, black males ages 30–49, other race males 10–29, other race males 30–49, white males 10–29, and white males 30–49. $Time_t$ measures time effects from yearly dummy variables. $State_i$ measures individual effects from state dummy variables included in the regression. ε_{it} is a white noise error term.

C.   SUMMARY

We analyzed the different variables that different variables used in our model. We used the ordinary least squares linear regression method using Stata. Also, we used dummy

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[3] We use a number of different outcome variables for the crime rate. These include violent crime rate, murder rate, robbery rate, aggravated assault rape, and rape rate.

variables to represent the differences in states and years (not shown). We used binary dummy variables to describe the Federal Assault Weapons Ban, state right-to-carry laws and state unrestricted-carry laws. The results of the regression analysis between the different variables are in future chapters.

V.   RESULTS

This Chapter covers the results of each ordinary least squares model. The variables introduced into these models were not the only variables that we recognized as relevant or essential. However, due to data availability limitations, we had to narrow down the quantity and scope of our independent variables, including the timeframe covered (1970–2017).

A.   VIOLENT CRIME RATE REGRESSION ANALYSIS

We explored the violent crime rate from 1970 to 2017 from all 50 States and D.C. as our first dependent variable. We provided time and state controls through dummy variables and executed the ordinary least squares linear regression through Stata. We processed each model with and without time controls (columns 1–4 in Tables 4 and 5). Also, we excluded all variables other than gun laws from the model. Table 4 shows the regression results from model (1). Finally, we executed the model with all independent variables, as shown in Table 4 (column 4).

Table 4.   Violent Crime Rate and Gun Policies — Multiple Linear Regression Results

	(1)	(2)	(3)	(4)
Assault Weapons Ban	124.97	-16.85	-119.95	-93.14
	(16.74)***	(10.43)	(21.98)***	(20.84)***
Unrestricted-Carry	-96.32	63.83	71.62	12.18
	(24.88)***	(20.23)***	(16.47)***	(14.94)
Right-to-Carry	-117.46	-112.24	22.26	5.74
	(11.44)***	(8.73)***	(8.37)***	(7.29)
State & Time Fixed Effects	No	No	Yes	Yes
Other Controls	No	Yes	No	Yes
Number of Observations	2,448	2,448	2,448	2,448
R^2	.0794	.6641	.8763	.9048

Estimations use data from all fifty states as well as Washington, D.C. Robust standard errors are computed with clustering at the state level. Numbers in parenthesis are robust standard errors.
***indicates statistical significance at the 1% level, ** at the 5% level, and * at the 10% level.

Concerning the Federal and State assault weapons bans, the results of our model indicate some statistically significant results at the 1% level. At the 1% level, the multiple linear regression equation resulted in a positive coefficient for column (1), indicating that the Federal and states AWB actually increased the violent crime rate in our model by 124.97 violent crimes per 100,000 inhabitants. However, with the inclusion of fixed effects in column (3), the results in our model indicated that the Federal and states AWB reduced violent crime rate in our model by 119.95 violent crimes per 100,000 inhabitants. The inclusion of other controls in column (4) also reflected a reduction in the violent crime rate in our model of 93.14 violent crimes per 100,000 inhabitants for the Federal and states AWB. Also, we observed a positive coefficient (i.e., reduction in the violent crime rate) for unrestricted-carry and right-to-carry when we applied state, time-fixed effect, and all other controls. The coefficient of multiple determination (R^2) or the proportion of the variation in the dependent variables (e.g., violent crime rate) that can be predicted by the independent variables is .0794, 0.6641, 0.8763 and 0.9048 for columns (1), (2), (3) and (4), respectively.

B.   MURDER RATE REGRESSION ANALYSIS

We also analyzed the impact of gun policies on the murder rate from 1970 to 2017. Table 5 lists the results of the multiple linear regression performed against the murder rate in all states and Washington, D.C. Column (1) produced statistically significant results but had an R^2 result of 0.0692. This leaves over 93% of the variance unexplained. Column (2) produced statistically significant results at the 1% level for right-to-carry and unrestricted-carry laws with an R^2 result of 0.6898. This indicates that less than 31% of the variance is unexplained.

Columns (3) and (4) reflect a negative coefficient (i.e., reduction in the murder rate), statistically significant at the 10% level. The computations provide an R^2 result of 0.793 and 0.8254 for columns (3) and (4). Furthermore, the results also produced negative coefficients (i.e., reduction in the murder rate) for both unrestricted-carry and right-to-carry laws. Once all time, state and other controls were factored into our model, unrestricted-carry and right-to-carry laws reflected statistically significant negative coefficients at the

1% level (see Table 5 Column [4]). These results indicate that right-to-carry laws reduced the murder rate by .55 murders per 100,000 inhabitants and unrestricted-carry laws reduced the murder rate by 1.53 murders per 100,000 inhabitants. Furthermore, right-to-carry laws reflected a negative coefficient, or a reduction in the murder rate, through all four columns while maintaining a statistical significance at the 1% level. It is important to note that no other gun policy yielded such consistent, statistically significant outcomes throughout all four columns or models. Next, we explored the relationship between firearm regulations and other crimes, including robberies, aggravated assaults, and legacy rape.

Table 5. Murder Rate and Gun Policies — Multiple Linear Regression Results

	(1)	(2)	(3)	(4)
Assault Weapons Ban	1.17	-0.15	-1.50	-1.38
	(0.43)***	(0.16)	(0.77)*	(0.72)*
Unrestricted-Carry	-1.54	0.96	-0.31	-1.53
	(0.26)***	(0.33)***	(0.35)	(0.40)***
Right-to-Carry	-3.11	-1.45	-0.65	-0.55
	(0.26)***	(0.17)***	(0.24)***	(0.18)***
State & Time Fixed Effects	No	No	Yes	Yes
Other Controls	No	Yes	No	Yes
Number of Observations	2,448	2,448	2,448	2,448
R^2	.0692	.6898	.7930	.8254

Estimations use data from all fifty states as well as Washington, D.C. Robust standard errors are computed with clustering at the state level. Numbers in parenthesis are robust standard errors. ***indicates statistical significance at the 1% level, ** at the 5% level, and * at the 10% level.

C.   OTHER VIOLENT CRIMES MULTIPLE LINEAR REGRESSION ANALYSIS

We performed a multiple regression analysis between other violent crimes (robbery, aggravated assault, and rape) and gun policies displayed in Table 6 (assault weapons ban, unrestricted-carry and right-to-carry). We used applicable data from all fifty

states and Washington, D.C, with a total of 2,448 observations. Also, we performed each regression analysis with all state and time fixed effects and other controls.

The assault weapons ban laws reflected a negative coefficient (i.e., reduction in crime) throughout all three computations, with statistical significance at the 1% level. These results indicate that the AWB may have reduced robberies by 35.79, aggravated assaults by 47.79, and rapes by 7.00 per 100,000 inhabitants. Unrestricted-carry laws revealed positive coefficients for both, robbery and legacy rape, with a statistical significance at the 1% level and a statistically insignificant negative coefficient for aggravated assault. These results indicate that unrestricted-carry laws may have increased robberies by 11.30 and rapes by 3.80 per 100,000 inhabitants. Right-to-carry laws reflected a positive coefficient for robbery, and a negative coefficient for aggravated assaults. These results indicate that right-to-carry laws may have increased robberies by 15.81 and may have reduced aggravated assaults by 10.58 per 100,000 inhabitants. Both of these results were statistically significant at the 1% level. Right-to-carry laws and rape did not produce statistically significant results. The R^2 result was 0.9116 for robbery, 0.8505 for aggravated assault and 0.7922 for rape.

Table 6.   Other Violent Crimes and Gun Policies — Multiple
Linear Regression Results

	Robbery	Aggravated Assault	Rape
Assault Weapons Ban	-35.79	-47.79	-7.00
	(12.90)***	(10.99)***	(0.84)***
Unrestricted-Carry	11.30	-3.41	3.80
	(5.47)**	(11.39)	(1.50)**
Right-to-Carry	15.81	-10.58	0.73
	(3.24)***	(4.90)**	(0.51)
State & Time Fixed Effects	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes
Number of Observations	2,448	2,448	2,448
R^2	.9116	.8505	.7922

Estimations use data from all fifty states as well as Washington, D.C. Robust standard errors are computed with clustering at the state level. Numbers in parenthesis are robust standard errors.
***indicates statistical significance at the 1% level, ** at the 5% level, and * at the 10% level.

D.   SUMMARY

Regression analysis of all violent crimes produced varied results with a strong emphasis on a negative coefficient in violent crime and the assault weapons ban. However, it is unclear whether the assault weapons ban itself or other variables influenced the negative coefficient results, particularly in the 1990s and early 2000s. Some of the unexplored variables that could shed some light into the significant decrease in crime in the 1990s are the effect of changing police tactics, incarceration, and cultural changes. We also observed negative coefficient results in the right-to-carry and unrestricted-carry laws and the murder rate. It is also unclear whether other unaccounted variables would have an impact on these results as many of the R^2 outcomes were below 0.85. Next, we will address our research questions based on our research and multiple linear regression results.

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VI. CONCLUSIONS AND RECOMMENDATIONS

A. RESEARCH QUESTION #1, GUN-RELATED LAWS AND CRIME IMPACT

Our primary research question was to examine and answer whether gun-related policies have had an impact on violent crime. Based on our research and regression analysis, we can confidently conclude that firearm policies do have an effect on violent crime. Our multiple linear regression model produced several statistically significant results at the 1% level. For example, according to our model, AWB laws produced a reduction in violent crime, and unrestricted and right-to-carry laws produced a decrease in the murder rate. However, unrestricted and right-to-carry laws also produced mixed results for other specific types of violent crime (e.g., robberies, rape, and aggravated assaults) as listed in Table 6. Also, we discovered that other variables, such as alcohol consumption and demographics, can have a strong relationship with violent crime rates. And in some instances, other independent variables had significantly higher or lower coefficients than gun-related policies. For example, demographics produced much larger coefficients than gun-related laws at the 1% level.

This analysis supports the available literature in regards to the right-to-carry and unrestricted-carry laws from multiple professionals who have performed this research, to include findings by the RAND Corporation (RAND, 2018a). In short, our results were mixed and varied significantly depending on the type of crime analyzed, the gun law applied to it, and the timeframe measured. Additional work is required to compare our results to similar studies performed at a different level of analysis. Some of those changes could include city and country comparisons.

B. RESEARCH QUESTION #2, DIFFERENCES OF OPINION ON GUN LAWS

There are sharp differences of opinion on how to address violent crime and how it relates to firearm use. Our research produced varied results that could explain how complex and unintuitive some of the relationships between firearm laws and specific violent crimes can be. For example, our research produced statistically significant negative coefficients

between the AWB and many types of violent crime (i.e., our model indicated that the AWB reduced violent crime). However, our model also indicated a decrease in murders and right-to-carry, and unrestricted-carry laws. Also, our model showed an increase in other types of violent crime and right-to-carry and unrestricted-carry laws. Therefore, these heterogeneous results are a reflection of the varied opinions in regards to firearm laws and their relationship with violent crime.

Furthermore, it is not clear why there are such dramatic differences in violent crime between many states that have adopted more or less restrictive firearm laws. The significant differences in violent crime between the states produce many questions that require a more detailed level of analysis (e.g., county-level data analysis). Policymakers need a greater understanding of these differences to develop more sophisticated and meaningful firearm-related policies.

C.   LIMITATIONS

Covering every aspect and variable that affects gun-related crime is exceptionally challenging and is exacerbated by the significant differences in jurisdictions and their crime rates. Those differences are, in some cases, directly unrelated to firearm regulations. For example, some of those factors include income level, unemployment, demographics, and other variables. Also, there have been other external factors that have influenced crime in the United States. Those factors include legislative actions and crime-fighting policies that altered the way different jurisdictions approach and prosecute criminal activity. Furthermore, societal standards and political agendas have influenced criminal deterrence policies. Some of those policies included the habitual offender laws of the 1990s, and the drug war of the 1980s, and 1990s.

Numerous laws have tightened the grip on crime, and, conversely, there have been other initiatives that have eased the Federal Government's stance on crime. Some of these initiatives include the First Step Act of 2018, which, according to Nicholas Fandos from The New York Times, expanded "early-release programs, and modifies sentencing laws, including mandatory minimum sentences for nonviolent drug offenders, to more equitably punish drug offenders" (Fandos, 2018). These changes in the criminal justice system,

politics, and society are likely to affect crime but are not directly related to firearm policies. The opportunity to explore all of these variables is essential but is outside the scope of this project in part due to the lack of data availability during the required timeframe of 1970–2017. Also, increasing the resolution of the data from the state to the county-level of analysis could yield distinctive results.

D.   CONCLUSION

Our research produced results that depict a significant relationship between firearm legislation and violent crime, some negative and some positive depending on the type of violent crime and specific gun-related policy. We recommend caution in interpreting our results, since other variables outside the scope of this research may influence our coefficient results. Our ordinary least squares multiple regression model reflected negative coefficient results (i.e., reduction in violent crime) in regards to AWB laws. However, we were unable to replicate the same results when we performed a multiple regression analysis that included only states (and Washington, D.C.) with AWB laws currently in place. In other words, when we ran a linear regression analysis that included only those states with AWB laws in place (i.e., before and after AWB law enactment) from 1970–2017 we did not observe the same results as in the linear regression model that included all 50 states and Washington, D.C. Further analysis is necessary to obtain additional results in regards to the relationship between AWB laws and violent crime.

Right-to-carry and unrestricted-carry laws reflected some significant results with mixed negative and positive coefficients (i.e., increased or reduced crime rates) depending on the type of violent crime. Our findings mirror some of the paradoxes found by other research on this topic (e.g., Lott and Donohue's work).

E.   OTHER AREAS FOR FUTURE RESEARCH

Additional research is required to establish additional common ground on the future of firearm policies. A national database that necessitates all states to report firearm-related crimes would be beneficial for future analysis and to develop future firearm policies. For example, as discussed in Chapter V, we found some gaps while gathering data from the FBI UCR database in regards to firearm related murders for several states.

Future studies at the county-level are of critical importance. Those studies could provide more clarity on the differences between independent variables and their relationship to violent crime. Also, we would like to recommend additional studies to validate any other firearms policies and examine the qualitative outcomes of existing and proposed firearms laws. For example, privacy and constitutional rights are critical when developing firearms policy. Other opportunities for research include the probable link between illicit drug use and violent crime. Further research regarding socioeconomic factors like the Gini index, single parenthood and the violent crime rate are also important (Daly, Wilson, & Vasdev, 2001).

Finally, it is undeniable that the firearms industry has thrived over the past three decades. According to the 2018 BATF firearm commerce report, firearm production and imports have increased more than four times since 1986 (BATF, 2018a). Also, the violent crime rate has experienced a significant decline in that same timeframe. This paradox has created a significant opportunity to explore the relationship between firearms manufacturing, its economic impact, and how outside factors, like social media, may be energizing this growth.

APPENDIX: NATIONAL ALCOHOL CONSUMPTION, 1960–2012
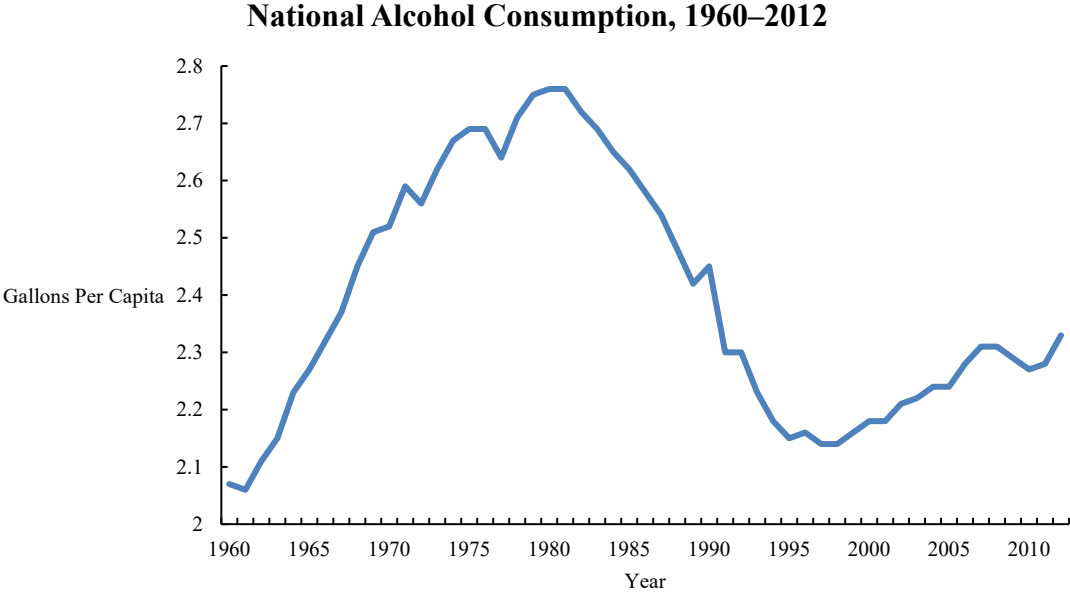
National Alcohol Consumption, 1960–2012

Figure 6.   National Alcohol Consumption Gallons Per Capita, 1960–
2012. Adapted from NIAAA (2016).

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LIST OF REFERENCES

Alper, M. (2016). *Source and use of firearms involved in crimes: Survey of prison inmates, 2016* (BJS Report No. NCJ 251776). Retrieved from Bureau of Justice Statistics website: https://www.bjs.gov/content/pub/pdf/suficspi16.pdf

Assault Weapons Ban of 2019, S.66, 116th Cong. (2019-2020). Retrieved from https://www.congress.gov/bill/116th-congress/senate-bill/66/text

Ayres, I., & Donohue, I., John J. (2002). *Shooting down the more guns, less crime hypothesis* [Working Paper No. 9336]. Retrieved from the National Bureau of Economic Research website: https://www.nber.org/papers/w9336.pdf

Bureau of Alcohol, Tobacco, Firearms and Explosives. (2018a). Firearms commerce statistical update, 2018. Retrieved January 10, 2019, from Bureau of Alcohol, Tabacco, Firearms and Explosives website: https://www.atf.gov/resource-center/docs/undefined/firearmscommercestatisticalupdate20185087-24-18pdf

Bureau of Alcohol, Tobacco, Firearms and Explosives. (2018b, April 26). National Firearms Act, 2018. Retrieved January 13, 2019, from https://www.atf.gov/rules-and-regulations/national-firearms-act

Bureau of Alcohol, Tobacco, Firearms and Explosives. (2016, January 6). *Do I need a license to buy and sell firearms?* (BATF Publication 5310.2). Washington, DC.

Bureau of Alcohol, Tobacco, Firearms and Explosives. (2017, April 28). Brady law. Retrieved March 31, 2019, from https://www.atf.gov/rules-and-regulations/brady-law

Bureau of Justice Statistics. (2019, April 7). Mission statement. Retrieved April 7, 2019, from https://www.bjs.gov/index.cfm?ty=abu

Centers for Disease Control and Prevention. (2018, November 26). *National center for health statistics.* Retrieved January 9, 2019, from https://www.cdc.gov/nchs/fastats/injury.htm

Csere, M. (2013, April 3). Summary of Colorado's new gun control laws. Retrieved March 1, 2019, from https://www.cga.ct.gov/2013/rpt/2013-R-0198.htm

Daly, M., Wilson, M., & Vasdev, S. (2001). Income inequality and homicide rates in Canada and the United States. *Canadian Journal of Criminology*, 43(2), 219–236.

Depalma, A. (1990, May 18). New Jersey votes the strictest law in the nation on assault weapons. *The New York Times*. Retrieved from https://www.nytimes.com/1990/05/18/nyregion/new-jersey-votes-the-strictest-law-in-the-nation-on-assault-weapons.html

Desilver, D., & Gramlich, J. (2018, November 13). Despite recent violence, Chicago is far from the U.S. 'murder capital.' Retrieved from http://www.pewresearch.org/fact-tank/2018/11/13/despite-recent-violence-chicago-far-from-u-s-murder-capital/

District of Columbia v. Heller., 128 S. Ct. 2783 (2008).

Donohue, J., Aneja, A., & Weber, K. (2017). Right-to-Carry laws and violent crime: A comprehensive assessment using panel data and a state-level synthetic control analysis (No. w23510). https://doi.org/10.3386/w23510

Edmondson, C. (2019, February 28). House passes first major gun control law in decades. *The New York Times*. Retrieved from https://www.nytimes.com/2019/02/27/us/politics/gun-control-bill.html

Fandos, N. (2018, December 8). Senate passes bipartisan criminal justice bill. *The New York Times*. Retrieved from https://www.nytimes.com/2018/12/18/us/politics/senate-criminal-justice-bill.html

Federal Bureau of Investigation. (2019, April 3). *Uniform crime reporting data tool*. Retrieved April 3, 2019, from https://www.ucrdatatool.gov/index.cfm

Federal Bureau of Investigation. (2018a). *NICS firearm checks*. Retrieved from Federal Bureau of Investigation website: https://www.fbi.gov/file-repository/nics_firearm_checks_-_month_year.pdf/view

Federal Bureau of Investigation. (2006, June 7). *A byte out of history*. Retrieved April 3, 2019, from https://www.fbi.gov/news/stories/2006/june/ucr_history060706

Federal Bureau of Investigation. (2018b). *Crime in the U.S.* Retrieved July 12, 2019, from Federal Bureau of Investigation Uniform Crime Reporting Reports website: https://ucr.fbi.gov/crime-in-the-u.s

Firearm Owners' Protection Act of 1986, 18 U.S.C § Pub L. No. 99–308 (1986). Retrieved from https://www.congress.gov/bill/99th-congress/senate-bill/49

Giffords Law Center. (2018a). Assault weapons: State by state. Retrieved August 7, 2019, from Giffords Law Center to Prevent Gun Violence website: https://lawcenter.giffords.org/gun-laws/state-law/50-state-summaries/assault-weapons-state-by-state/

Giffords Law Center. (2018b, October 15). Large capacity magazines in Colorado. Retrieved January 13, 2019, from Giffords Law Center to Prevent Gun Violence website: https://lawcenter.giffords.org/large-capacity-ammunition-magazines-in-colorado/

Gramlich, J. & Schaeffer, K. (2018, December 27). 7 facts about guns in the United
    States. *Pew Research Center.* Retrieved from http://www.pewresearch.org/fact-
    tank/2018/12/27/facts-about-guns-in-united-states/

Gramlich, J. (2019, January 3). 5 facts about crime in the U.S. *Pew Research Center.*
    Retrieved from http://www.pewresearch.org/fact-tank/2019/01/03/5-facts-about-
    crime-in-the-u-s/

Fix NICS Act of 2017, Pub. L. No. 115–141 (2018). Retrieved from
    https://www.congress.gov/115/bills/hr1625/BILLS-115hr1625enr.pdf

Jefferson, T. (1787, December 20). Letter from Thomas Jefferson to James Madison,
    December 20, 1787. Retrieved August 21, 2019, from Library of Congress,
    Washington, D.C. website: https://www.loc.gov/item/mtjbib003193/

Jones, J. (2018, January 17). Americans see more news bias; most can't name neutral
    source. Retrieved March 17, 2019, from Gallup website: https://news.gallup.com/
    poll/225755/americans-news-bias-name-neutral-source.aspx

Kegler, S. R. (2018). *Firearm homicides and suicides in major metropolitan areas—*
    United States, 2012–2013 and 2015–2016. (MMWR Report No. 44). Retrieved
    from Centers for Disease Control and Prevention: https://doi.org/10.15585/
    mmwr.mm6744a3

Koper, C. (2004). *An updated assessment of the federal assault weapons ban: Impacts on*
    gun markets and gun violence, 1994–2003. Retrieved from
    http://dev.journalistsresource.org/wp-content/uploads/2012/12/
    UPennAssaultBan.pdf

Ketcham, R. (1991). *The anti-federalist papers and The Constitutional Convention*
    debates. New York, NY: Penguin.

Krogstad, J. (2015, October 21). Gun homicides steady after decline in '90s; suicide rate
    edges up. Retrieved March 14, 2019, from Pew Research Center website:
    http://www.pewresearch.org/fact-tank/2015/10/21/gun-homicides-steady-after-
    decline-in-90s-suicide-rate-edges-up/

Levitt, S. (2004). Understanding why crime fell in the 1990s: Four factors that explain
    the decline and six that do not. *Journal of Economic Perspectives, Volume 18 (1).*
    Retrieved from https://pubs.aeaweb.org/doi/pdfplus/10.1257/
    089533004773563485

Lott, J. R. (2013). *More guns, less crime: Understanding crime and gun control laws,*
    third edition. Chicago, IL: The University of Chicago Press.

Madhani, A. (2018, February 19). Baltimore is the nation's most dangerous big city. *USA Today*. Retrieved https://www.usatoday.com/story/news/2018/02/19/homicides-toll-big-u-s-cities-2017/302763002/

Madison, J. (1788, January 29). *The Federalist Papers*. Retrieved April 10, 2019, from https://www.congress.gov/resources/display/content/The+Federalist+Papers#TheFederalistPapers-46

Madison, J., Jefferson, T., Swift, J., & Savage, E. (1787, 1834). Demand for a bill of rights—Creating the United States | exhibitions—Library of Congress. Retrieved August 21, 2019, from https://www.loc.gov/exhibits/creating-the-united-states/demand-for-a-bill-of-rights.html

Marvell, T., & Moody, C. (2008, September 3). The debate on shall-issue laws. *Econ Journal Watch, Volume 5*(3). Retrieved from https://econjwatch.org/articles/the-debate-on-shall-issue-laws

Montgomery, D., Mele, C., & Fernandez, M. (2018, January 20). Gunman kills at least 26 in attack on rural Texas church. *The New York Times*. Retrieved from https://www.nytimes.com/2017/11/05/us/church-shooting-texas.html

National Institute of Justice. (2019, February 26). Gun violence in America. Retrieved January 9, 2019, from National Institute of Justice website: https://www.nij.gov:443/topics/crime/gun-violence/pages/welcome.aspx

National Institute on Alcohol Abuse and Alcoholism. (2016, March 1). Apparent per capita alcohol consumption: National, state, and regional trends, 1977–2014. Retrieved August 7, 2019, from https://pubs.niaaa.nih.gov/publications/surveillance104/CONS14.htm

New York Secure Ammunition and Firearms Enforcement Act. (2013, January 15). NYSAFE Act. Retrieved January 13, 2019, from https://safeact.ny.gov/gun-owners

New York State Psychiatric Association. (2019, February 28). The SAFE Act: Guidelines for complying with the new mental health reporting requirement. Retrieved February 28, 2019, from https://www.nyspsych.org/index.php?option=com_content&view=article&id=73

National Rifle Association-Institute for Legislative Action. (2019, March 1). NRA-ILA gun laws. Retrieved January 13, 2019, from https://www.nraila.org/gun-laws/

Nunn v. State, 1 Kelly 243. (1846). Retrieved August 21, 2019, from https://www.constitution.org/2ll/bardwell/nunn_v_state.txt

Public Broadcasting Service. (n.d.). Gun timeline. Retrieved from http://www.pbs.org/
opb/historydetectives/technique/gun-timeline/

Planty, M., & Truman, J. (2013). *Firearm violence, 1993–2011*. (NCJ 241730). Retrieved
from Bureau of Justice Statistics website: https://www.bjs.gov/content/pub/pdf/
fv9311.pdf.

RAND. (2018a, February 3). Concealed-carry laws. Retrieved January 26, 2019, from
https://www.rand.org/research/gun-policy/analysis/concealed-carry/violent-
crime.html

RAND. (2018b, April 9). How we are funded: Major clients and grantors of RAND
research. Retrieved March 17, 2019, from https://www.rand.org/about/
clients_grantors.html

RAND. (n.d.a). References for gun policy in America.
Retrieved September 19, 2019, from https://www.rand.org/research/gun-policy/
analysis/references.html

RAND. (n.d.b). Gun policy outcome explorer: An expert opinion comparison tool.
Retrieved January 10, 2019, from https://www.rand.org/research/gun-policy/
outcomes-map.html

RAND. (2019a, January 26). How gun policies affect violent crime. Retrieved January
26, 2019, from https://www.rand.org/research/gun-policy/analysis/violent-
crime.html

RAND. (2019b, March 18). Informing the gun policy debate. Retrieved January 10, 2019,
from https://www.rand.org/research/gun-policy.html

Richardson, V. (2014, January 2). Frustrated Colorado gun firm Magpul relocating to
Texas, Wyoming. *The Washington Times*. Retrieved April 18, 2019, from The
Washington Times website: https://www.washingtontimes.com/news/2014/jan/
2/colorado-gun-firm-magpul-relocating-to-texas/

Rosenfeld, R., Gaston, S., Spivak, H., & Irazola, S. (2017). *Assessing and responding to
the recent homicide rise in the United States*. (NCJ 251067). Retrieved from
National Criminal Justice Reference Service website: https://www.ncjrs.gov/
pdffiles1/nij/251067.pdf

Bipartisan Background Checks Act of 2019, H.R. 8, 116th Cong. (2019). Retrieved from
https://www.congress.gov/bill/116th-congress/house-bill/8

Twain, M. (1897). *Following the equator: A journey around the world*. Hartford, CT:
American Publishing Company.

Vasilongambros, M. (2018, March 2). Hundreds of new state bun laws: Most expand access. *The Pew Charitable Trusts*. Retrieved January 26, 2019, from https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/03/02/hundreds-of-new-state-gun-laws-most-expand-access

Vielkind, J. (2013, December 31). Judge strikes down bullet limit, upholds law. *Politico*. Retrieved from https://www.politico.com/states/new-york/albany/story/2013/12/judge-strikes-down-bullet-limit-upholds-law-010234

Zahariadis, N. (2014). *Ambiguity and multiple streams*. In P. A. Sabatier and C. M. Weible (Eds.), *Theories of the policy process: Theoretical approaches to policy process research* (pp. 23–50). Philadelphia, PA: Westview Press.

Zezima, K. (2017, February 24). More states are allowing people to carry concealed handguns without a permit. *The Washington Post*. Retrieved from https://www.washingtonpost.com/news/post-nation/wp/2017/02/24/more-states-are-allowing-people-to-carry-concealed-handguns-without-a-permit/

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