Where Guns Go to Kill:

An Experiment of Illegal Gun Activity in Indianapolis, Indiana

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I. Introduction

In Indianapolis, the downtown police headquarters property room currently stores as many 18,000 confiscated guns and ammunition, most of which are stolen and recovered by law enforcement. Lt. Jeff Duhamell of the Indianapolis Metropolitan Police Department (IMPD) explains, "We literally get up to about 800 or so a month come in." He said, “If someone wants a gun in Indianapolis they can probably get one. Many of the guns are stolen from law-abiding gun owners then traded or sold on the streets.”

Previous literature proves the estimated supply of legal guns has an impact on the gun crime rate. However, the verdict is still out on whether that impact is valid and further more if the impact is positive or negative. A more valid measure of violent crime is the number of illegal guns on the streets. In Indianapolis, Indiana illegal firearms are involved in nearly 96 percent of all homicides (Sheley & Wright, 1995), and a substantial share of other violent crimes, making the available inventory of illegal firearms an important factor in predicting future events.

This paper will focus on violent crime in Indianapolis, Indiana using illegal gun activity. The purpose of this study is to shed new light on the commonly overlooked debate of the activity of illegal weapons and its influence on violence. Evidence will support the legal firearm inventory’s impact on gun crime rate is irrelevant, which is the reason for the mixed results of existing research. The evidence will analyze the number of guns entering and leaving the illegal firearm market, which ultimately strengthens or weakens the illegal gun supply. Research will show the number of firearms stolen and recovered will have a direct influence on the violent gun crime rate in Indianapolis.
Following soaring homicide and violent crime rates in Indianapolis in 2007, 2008, and 2009, public safety has been an intensely debated political issue among citizens and leaders. Elected in 2007, Indianapolis Mayor Greg Ballard made public safety the number one priority of his administration. As a result, newly installed Public Safety Director Frank Straub announced a community policing strategy stressing targeted enforcement of crimes and deterrence by enlisting the help of residents and community leaders (Anderson, 2010). Also, hundreds of thousands of tax-payer dollars were appropriated to support the policing strategy, as well as an increase in law enforcement hours. However, instead of seeing expected improvements from the new strategies and efforts, the increase in criminal incidents proves the problem has gotten worse.

A recent rash of 2010 summer shootings left multiple victims bleeding or dead. And once again, Indianapolis citizens and leaders are addressing the plaguing question, how can the city stop gun violence? Experts who study this question wish they could give an easy answer. Something as simple as pouring money into police patrols that would divert the massacres that ended the birthday barbecue that left 6 shot and 2 killed, or the highly publicized incident that injured 10 people after a 17 year old gang member opened fire in a crowd at an Indiana Black Expo event. The Indianapolis Star reported that both shootings were committed using illegal guns (Star Report, 2010). The incidents left many leaders wondering if Mayor Ballard’s previous efforts and expenses have had any impact on crime and if his efforts are addressing the right problems.

The effect of gun availability and stolen weapons on violent crime rates continues to be a topic of contentious debate among researchers and results of the studies are widespread. Two opposing views currently exist regarding this relationship. One perspective is the more guns that
exist in a geographic location increases levels of violence. An alternative viewpoint asserts that legal gun availability has a negative effect on violence rates because the ownership of guns by law-abiding citizens acts as a deterrent to crime. Based on the logic, it is plausible to conceive that increased violence invokes fear among the general public, which in turn leads them to purchase firearms for self-defensive purposes. However, this activity leads to more firearms stolen ultimately fueling the illegal market leading to more crime.

No one knows the actual number of privately owned, traded, inherited, sold, stolen, and illegal firearms in a local community at any given time. Data regarding firearms is somewhat ambiguous for many reasons, including the two most prominent – political pressure and gun-owners’ Constitutional rights. As a result of these reasons, an exact count of firearms legally owned by Americans does not exist, nor does the number of guns sold in a specific city or state in any given year. Laws vary from state to state, but Indiana law requires gun owners to show proof of residence and undergo a limited background check in order to purchase a firearm. In order to carry a concealed weapon, Indiana gun owners must obtain a Concealed Carry Permit at their local sheriff’s office.

In order to estimate gun counts for research purposes, social scientists use the numbers of permits issued each year as this data is readily available. However, the scientists have no way of determining the exact number of firearms each gun owner has in possession making this form of counting somewhat skewed. The number of permits does not necessarily lead to the number of guns available. One permit holder can own one firearm or have a collection of 200 – the permit data has no way of distinguishing these anomalies. As a result, research has been limited in determining gun availability at a local level therefore reasonable precursor to understanding and predicting spikes in violent gun crime has seen mixed results.
In this article, previous research is improved upon by removing legal gun availability assumptions all together. The focus will be on data of guns entering and exiting the underground, illegal firearm market in Indianapolis for a period of 3 years. Data will be drawn from the Indianapolis Metropolitan Police Department crime reports (UCR). This information shows the relationship between guns reported stolen and reclaimed by law enforcement, as well as violent gun crime in several important respects.

First, the Indianapolis information enables the creation of a relevant measure of illegal gun activity entering and exiting the illegal market (the number of stolen guns reported to the police and the number seized). This measure, which has not been used previously by researchers, serves as a suitable indicator of illegal gun activity for Indianapolis because survey results show 96 percent of stolen guns enter the underground market and are often employed by individuals in illegal activities (Sheley & Wright 1995; Wright & Rossi 1986). Local reports support Rossi, Sheley, and Wright's results. In 2009 on Indianapolis’ West Side, when three teens broke into Don's Guns, gun store and stole semi-automatic handguns and assault rifles; Lt. Jeff Duhamell is certain the firearms hit the streets soon after the robbery. Don’s Guns is not a unique victim of theft. In 2007, after inspecting just 9.3 percent of federal firearms licensees nationwide, ATF reported that more than 30,000 guns in the dealers’ inventories had been lost or stolen. When asked in a personal interview on this topic, Lt. Duhamell that of all guns recovered from law enforcement, typically 3 to 4 percent are reclaimed.

Second, research assumes the number of legal guns available has a positive impact on gun related crimes. This theory referred to as the “objective dangerousness hypothesis” by the NRA fails to recognize if and when firearms enter the underground market. For example, Indianapolis could see an increase in the number of permits issued and/or the number of guns
purchased. However, this does not prove the number of guns entering the illegal market is increasing. The inventory of illegal weapons may be decreasing if the number of guns confiscated by law enforcement is doubled and the number of weapons reported stolen is minimal.

II. Review of Literature

Until recently, research that attempted to answer the question of how firearms influence crime typically took one of two approaches ultimately finding conflicting views and mixed results. The first approach includes leading researchers Cook and Moore suggesting that on a national level, the total number of legal guns influences criminal activity primarily by increasing the likelihood that a victim will be harmed by raising the probability that an individual criminal will be able to obtain a firearm (Cook and Moore 1995).

A more localized branch of literature estimates the level of gun ownership in a region, state, or city; and then explores whether crime and gun ownership are significantly related (Cook 1982; Kleck and Patterson 1993). Some experiential studies report that gun availability increases violence levels (Blumstein 1995; Cook, Molliconi & Cole 1995; McDowall 1991; Sloan et al. 1990). Kleck (1979) examining the effect of gun manufacturing and imports on murder rates in the United States. Using a “simultaneous estimation procedure to account for reciprocal causation”, Kleck found that increased gun production resulted in higher rates of homicide.

In another study, McDowall (1991) examined the relationship between gun availability and homicide rates in Detroit from 1951 to 1986. He measured gun availability as a combination variable comprised of the proportion of robberies and suicides committed with a gun. His analysis indicates that gun density had a strong positive effect on Detroit’s homicide rate. Other
studies have also reached the conclusion that gun prevalence causes greater violence (Sloan et al. 1990).

There are strong theoretical expectations for the hypothesis that gun availability increases violent crime rates (Cook 1983; Newton & Zimring 1969). Some argue that a gun may encourage an individual to initiate a crime against others who would otherwise appear too powerful to challenge. Those studying this view maintain that a weapon empowers its owner to terrify and to coerce a victim into compliance (Luckenbill 1982). Surveys conducted by Wright and Rossi (1986) and Sheley and Wright (1995) show that offenders frequently use guns to control their victims. Studies are also consistent with this logic. Using survey data on 12,000 robbery victims, Cook (1980) found that 55 percent of robberies involved guns. He suggested that guns enhanced the “power of offenders by affording them the ability to victimize relatively invulnerable targets” (42).

There are other ways in which gun availability may increase violence. For example, some have argued that guns facilitate attack by persons too squeamish to come into close contact with their victims (Newton & Zimring 1969). The sight of a gun may also elicit aggression from an angered individual because of the learned association between weapons and aggressive behavior (Berkowitz 1993). Finally, guns may facilitate the element of surprise, since they enable their possessor to attack a victim from a distance greater than normally possible. Given the plausibility of each of these explanations, a rationale exists for expecting that gun availability, at least to some degree, influences violent crime in society.

The literature also produces results that prove a negative relationship between legal gun availability and violence. Specifically, researchers argue that the ownership of guns by citizens
actually acts as a deterrent to crime (Lott 1998). For example, criminals are fearful that their potential victim maybe in possession of a firearm and therefore will not attack, invade, or victimize. Kleck and Gertz (1995) estimate that 1.1 million violent crimes are committed annually with guns, approximately 2.5 million citizens employ guns each year to defend themselves from criminals. Several studies provide support for this position. In a series of studies using county-level data, Lott (1998) and his associates (Bronars & Lott 1998; Lott & Mustard 1997) found a negative association between concealed-handgun laws and crime rates. This relationship remained strong even when a substantial number of control variables were taken into account. In a survey of 1,900 incarcerated felons, Wright and Rossi (1986) found that 40 percent of the felons reported that they decided not to commit a crime because they thought that the intended victim might be armed. Additionally, three fifths of the surveyed felons acknowledged that they were more fearful of confronting an armed victim than a law enforcement officer.

Studies also report that people who defend themselves with a gun are more likely to avoid injury and prevent completion of the crime (Kleck & DeLone 1993). For example, Kleck (1997) notes that data drawn from the National Criminal Victimization Survey (NCVS) from 1979 to 1987 shows that criminals were successful in only about 14 percent of burglary attempts at occupied residences when an individual defended his or her property with a gun. This finding is interesting when one considers that burglaries have a completion rate of 33 percent overall. Additionally, Kleck refers to national data that over time countries with lower levels of gun ownership than the United States have much higher rates of burglaries of occupied residences (Kleck 1997). Kleck suspects that the fear of being shot by a gun-toting homeowner is thought to explain the non-confrontational nature of burglary in the United States.
Studies undertaken at the macro level also find evidence that violent crime influences gun ownership levels. For example, McDowall and Loftin (1983) observe that the demand for handgun permits in Detroit was related both to the violent crime rate and to police strength. In another study, which analyzed data from a California county (a state where gun data is available), Archer and Erlich-Erfer (1991) report that handgun sales increased substantially after the media reported several murders committed by two serial killers and after the arrest of each the offenders. Magaddino and Medoff (1984) found that the homicide rate increased handgun ownership levels.

A number of studies in the literature have found that gun availability increases levels of violence, whereas others have failed to find a substantial correlation. Several shortcomings in the literature may have caused these mixed and inconclusive results. One problem relates to a general failure of the researchers to recognize the plausibility that both illegal and legal gun availability may be important in predicting violence rates, but in different ways so the two must be separated. When examining the research on gun violence, it is evident that most studies have used excessively broad, invalid, measures of gun availability. For example, researchers have employed fatal gun accident rates (Seitz 1972), sales of Gun and Ammo magazines (Duggan, 2008), gun owners license or registration rates (Bordua 1986), gun import and export figures (Kleck 1979; Magaddino & Medoff 1984), and aggregative assaults, robberies, homicides, and/or suicides committed with a gun (Cook 1979; McDowali 1986,1991) as indicators of gun availability. However, a problem with these instruments is the failure to find the true inventory of available firearms and a failure to differentiate between illegal and legal gun prevalence levels (Bordua 1986; Cook 1979; Kleck & Patterson 1993).
Existing research finds a drastic variation in results because utilization of limited data of the total inventory of legal guns that is used to calculate results. This inventory level is the most crucial piece of data in order to prove a hypothesis involving gun availability. Accurate counts simply do not exist; therefore each study attempts to find statistical ways to estimate counts of the legal gun supply. The literature points to the fact of these limitations and skewed studies (Bordua 1986; Cook 1979; Kleck & Patterson 1993), and contradicting research results proves the claims. The assumption that an increase or decrease in the number of legal gun availability has an impact on gun related crime should be discounted. Without adequate counts on the total inventory of guns makes this assumption impossible to prove not to mention that the literature fails to recognize that legal guns are not used to commit crimes. There is a gap in the research where a valid study and argument can be made using existing Indianapolis Metropolitan Police Department crime data that analyzes the impact stolen and seized guns have on violent gun crime.

It is unlikely that any single study can contribute substantially to the existing literature unless it goes beyond the typical practice of assuming the number of guns available has an impact on the number of gun crimes committed. A study must first differentiate from legal and illegal guns, then find a valid means of determining a count, and find the appropriate impact on crime. This paper will add to the literature by using reported stolen guns (entering the illegal market) and guns recovered by police (exiting the illegal market) as a means of determining illegal gun activity. This means of analysis eliminates the need to know the existing number illegal guns since an impact to crime should be seen as the inventory changes. Since the study is only concerned with illegal gun crime, crimes committed with a knife or other form of weapon become irrelevant and therefore will be ignored when calculating an impact.
III. The Gun Debate

The ATF reports that almost 600,000 guns are stolen each year from private homes, according to poll data on gun-owning households (ATF, 2010). While legal gun owners have a Constitutional right to own firearms, illegal gun owners do not. Given illegal guns exist, are acquired from legal citizens and distributors, and are used to commit crimes; leads one to ask the question of what obligation legal gun owners have in order to ensure their guns do not enter the wrong hands.

Gun policy in the United States, including Indiana, is highly influenced by debates over the interpretation of the Second Amendment to the United States Constitution, which states "A well regulated Militia, being necessary to the security of a Free State, the right of the people to keep and bear arms, shall not be infringed." In 2008, the U.S. Supreme Court took a position for the first time on this issue in District of Columbia v. Heller, holding that the second amendment secures individual right to own firearms (USDJ, 2010). The Supreme Court agrees that citizens do have a right to own a fire arms. Gun ownership is a means to ensure a free state and for one’s protection in times of conflict. However, are personal freedoms of citizens impacted when criminals acquire guns illegally and use those guns to commit crimes? And if so, is the security of a “free state” violated because of these actions?

For better or worse, America has a love affair with guns and it started a long time ago. America’s four fathers gave citizens the right to bare arms over 200 years ago. But the interpretation of that second amendment right is divides the country in debate over the issue. On one side of the firing line are gun control advocates claiming the popularity of guns is dividing society and they want stricter gun control regulations. Pro-gun supporters shoot back saying guns
aren’t killing people, people kill people. And all gun restrictions will do is make it more difficult for the responsible owners to get their guns and protect themselves.

Almost 60 million Americans exercise their 2nd amendment right to own guns making America the most armed society on the planet. But around 30,000 people die from gun violence every year. And high profile shootings like the recent tragedy at Virginia Tech only widened the gun debate gap. With the stake so high, is there any room for common ground?

Before the landmark ruling, the most visible issue under debate was whether the federal government should provide a stronger role in regulating handguns and related firearms. Methods of regulation include making it harder for dangerous persons to buy a gun, improving safety of guns, regulating sales at gun shows, and more. The most visible group that is against more federal regulations is the National Rifle Association (NRA). The most visible group that is in favor of more federal regulations is Handgun Control (the Brady Center), along with its affiliate organization, the Center to Prevent Handgun Violence.

The NRA argues that the Second Amendment of the U.S. Constitution guarantees individuals the right to own and carry guns. The NRA web site suggest the organization is concerned that federal regulations will continue to increase until owning a handgun will be difficult to achieve, infringing on gun owner’s Constitutional rights. The organization also argues that if law-abiding citizens have guns, they can use them to prevent themselves from being victimized, ultimately bringing crime rates down.
The Brady Center, on the other hand, argues that the Second Amendment of the U.S. Constitution does not guarantee individuals the right to own and carry guns. Further, they argue that when more people have guns, deaths and injuries from guns increase.

**Protection of the Right to Bear Arms Under the Second Amendment**

Both sides agree that the final authority for interpreting the meaning of the Second Amendment of the Constitution (above) is the U.S. Supreme Court. On June 26, 2008, the Supreme Court made a landmark ruling upholding the right of individuals to bear arms for hunting and for self-defense. A key case before this landmark ruling, according to both sides of the argument, is United States v. Miller 307 U.S. 174 (1939). In this case, the Supreme Court was asked whether the Second Amendment protected Miller's right not to register a "sawed off" shotgun, despite a federal law requiring it. The Supreme Court examined the original records of Congress to determine why the Second Amendment was written into the Constitution. They clarified the intent of the Second Amendment with this statement:

"The Constitution, as originally adopted, granted to the Congress power -- To provide for calling forth the Militia to execute the Laws of the Union, suppress Insurrections and repel Invasions; To provide for organizing, arming, and disciplining, the Militia, and for governing such Part of them as may be employed in the Service of the United States, reserving to the States respectively, the Appointment of the Officers, and the Authority of training the Militia according to the discipline prescribed by Congress. With obvious purpose to assure the continuation and render possible the effectiveness of such forces, the declaration and guarantee of the Second Amendment were made. It must be interpreted and applied with that end in view."

The Supreme Court then ruled that Miller's shotgun was not for a militia-type purposes and therefore was not protected by the Second Amendment. The Supreme Court further
explained that at the time the Second Amendment was adopted, Congress favored using the
civilian population (adult males) as the State Militia for national defense rather than building an
army of professional soldiers. The purpose of the Second Amendment was to support the
national defense. Therefore, the only purpose for which owning and carrying a gun is protected
under the Second Amendment is as part of "a well regulated militia," acting on behalf of the
national government.

The NRA agrees that the Supreme Court ruling meant that only militia-type uses for guns
are protected under the Second Amendment. However, the NRA has an additional interpretation
of the ruling. They say that because the Supreme Court wrote about the “purpose of the weapon”,
and did not specifically mention Miller's lack of membership in the military, the NRA therefore
concludes that individuals not in the military have a right to bear arms, as long as they do so for a
military purpose.

More recently, an individual’s right to bear arms was affirmed in the trial court of *U.S. v
Emerson*, but overturned on appeal to the Fifth Circuit. Although Emerson lost the case, the
NRA regards the opinions of two of the appellate judges as support for their position that the
right to bear arms is an individual right. Regarding the Emerson case, the Brady Center states,
"This suggestion that the Second Amendment guarantees an individual right to bear arms is
contrary to the holdings of the U.S. Supreme Court and every other federal appellate court to
consider the issue."

According to Brady Center sources, Congress debated whether the Second Amendment
should include the right of individuals to carry guns for personal reasons and decided to limit the
Second Amendment to include only the right to bear arms for the military purposes and national
defense.

**Do More Guns Mean More Deaths and Injuries?**

The Brady Center argues that when the civilian population has more access to guns, more teens and children die from gun wounds. For example, during a year when over 5,000 teens and children died from gun wounds in the USA, in Great Britain, where gun ownership is very restricted, 19 teens and children died from gun wounds.

The Brady Center also argues for laws that promote gun safety, such as requiring childproof locks on gun triggers. They have praised Smith and Wesson (gun maker) for starting to make guns with safety features. The Brady Center asserts that the public good is served by enacting laws that more carefully protect children from access to guns.

The basic reason NRA is against regulation of gun ownership is the belief that each piece of federal regulation will lead to more until finally, gun ownership will be very restricted. Research findings provided by the NRA conclude that gun ownership results in protection from crime. They argue that when more people have guns, crime rates are reduced. They argue that research results provided by the Brady Center and others in favor of gun controls are false or overstated.

According to Americans for Gun Safety (December 2002), gun theft is most likely in states without laws requiring safe storage of firearms in the home and where there are large numbers of gun owners and relatively high crime rates. Based on FBI data, nearly 1.7 million guns have been reported stolen in the past ten years, and only 40 percent of those were
recovered. The missing guns, over 80 percent of which are taken from homes or cars, most likely fuel the black market for criminals.

- The American Medical Association reports that between 36% and 50% of male eleventh graders believe that they could easily get a gun if they wanted one. According to a report by the Josephson Institute of Ethics (2000 Report Card: Report #1), 60% of high school and 31% of middle school boys said they could get a gun if they wanted to (April, 2001).

Victims report to the National Victim Survey that in 53% of the thefts of guns, handguns were stolen. The FBI's stolen gun file's 2 million reports include information on:

- 1.26 million handguns (almost 60%)
- 470,000 rifles (22%)
- 356,000 shotguns (17%).

From 1985 to 1994, the FBI received an annual average of over 274,000 reports of stolen guns. Under the provisions of the National Firearms Act, all automatic weapons such as machine guns must be registered with the ATF. In 1995, over 240,000 automatic weapons were registered with the ATF. As of March 1995, the NCIC stolen gun file contained reports on about 7,700 machine guns and submachine guns.

Six states -- Alaska, Alabama, Mississippi, Arkansas, New Mexico and Georgia -- had firearm theft rates at least twice the national average, which is 16.8 stolen guns per 1,000 households, the report says."For the most part," the report says, "these states share three common traits: a large percentage of gun owners, relatively high crime rates and no laws requiring safe storage of firearms in the home."
California, Texas, Florida, Georgia and North Carolina had the highest number of gun thefts over the past 10 years. But those states drop out of the top five when population is taken into account. The report also says that the 18 states that have safe storage laws had 26.3 percent lower than average firearms thefts. Of those states, four -- Nevada, North Carolina, Texas and Florida -- ranked in the top half of states measured by thefts per 1,000 households. "The (National Rifle Association) has advocated for 131 years the significance of safe storage," says Andrew Arulanandam, a spokesman for the NRA. "This (report) is yet another example of a gun control group struggling to find political relevance," he says.

- It is 23 times more likely that a firearm will be stolen than used by a child to commit suicide or cause accidental injury or death.
- More than 80% of firearms thefts are from homes or cars.
- Federal prosecutors rarely bring charges for possession or sale of stolen guns. In 1999 and 2000, they prosecuted 708 stolen-gun cases. In those years, more than 286,000 guns were reported stolen. Under federal law, stolen-gun crimes carry up to 10 years in prison.

IV. Gun Availability and Self-Defense

A number of social scientists remain unconvinced that gun availability increases violent crime. Specifically, they argue that the ownership of guns by citizens, rather than increasing violence levels, actually acts as a deterrent to crime (Lott 1998). For example, citizens who use guns in self-defense are believed to outnumber individuals who use guns to commit criminal acts. Kleck and Gertz (1995) estimate that while 1.1 million violent crimes are committed annually with guns, approximately 2.5 million citizens employ guns each year to defend themselves from criminals.' Several empirical studies provide support for this position. In a series of studies using county-level data, Lott (1998) and his associates (Bronars & Lott 1998;
Lott & Mustard (1997) found a negative association between concealed-handgun laws and crime rates. This relationship remained robust even when a substantial number of control variables were taken into account. In a survey of 1,900 incarcerated felons, Wright and Rossi (1986) found that 40% of the felons reported that they decided not to commit a crime because they thought that the intended victim might be armed. Additionally, three-fifths of the surveyed felons acknowledged that they were more fearful of confronting an armed victim than a law enforcement officer.

Other studies also report that people who defend themselves with a gun are more likely to avoid injury and prevent completion of the crime (Kleck & DeLone 1993). For example, Kleck (1997) notes that data drawn from the NCVS from 1979 to 1987 show that criminals were successful in only about 14% of burglary attempts at occupied residences in which an individual defended his or her property with a gun. This finding is interesting when one considers that burglaries have a completion rate of 33 percent overall. Additionally, he points to cross-national data that shows that countries with lower levels of gun ownership than the United States have much higher rates of burglaries of occupied residences (Kleck 1997). The fear of being shot by a gun-wielding homeowner is thought to explain the non-confrontational nature of burglary in the United States.

Many social scientists also remain skeptical of the objective dangerousness hypothesis because a positive association between gun availability and gun violence is consistent with the view that people, including criminals (Webster, Gainer & Champion 1993; Wright & Rossi 1986), arm themselves for self-defensive purposes (Sheley & Wright 1993). Basically, advocates of this viewpoint maintain that previous analysts interpreted the causal sequence backward: violence is not the consequence of gun ownership, but rather the cause of it. This position is
supported by some survey research. For example, in a recent nationally representative telephone survey, Cook and Ludwig (1997) found that 46 percent of gun owners acquired a gun for protection against crime. Lizotte, Bordua, and White (1981) reported that people who own guns for self-defense reasons were more likely not only to view crime as a serious problem but also to fear criminal victimization. Lizotte and his associates also noted that people in areas with higher crime rates were more likely to report that they owned a gun for personal protection (see also Bjerregaard & Lizotte 1995). In a survey of serious male incarcerated juvenile offenders and a survey of male inner-city high school students, Sheley and Wright (1993) found that the main reason given by juveniles for owning or carrying a gun was self-protection. Other survey research reports similar findings (Lizotte et al. 1994; Smith & Uchida 1988).

Studies undertaken at the macro level also find evidence that violent crime influences gun ownership levels. For example, McDowall and Loftin (1983) observe that the demand for handgun permits in Detroit was related both to the violent crime rate and to police strength. In another study, which analyzed data from a California county, Archer and Erlich-Erfer (1991) report that handgun sales increased substantially after the media reported several murders committed by two serial killers and after the arrest of each of the offenders. Magaddino and Medoff (1984) found that the homicide rate increased handgun ownership levels.

In sum, then, a number of studies have found that gun availability increases levels of violence, whereas others have failed to evince a substantive effect. Several shortcomings in the literature may have engendered these discrepant findings. One problem relates to a general failure among social scientists to recognize the possibility that both illegal and legal gun availability may be important in predicting violence rates, but in different ways. When one examines the extant research on gun violence, it is evident that most studies have used
excessively broad measures of gun availability. For example, researchers have employed fatal
gun accident rates (Seitz 1972), gun owners license or registration rates (Bordua 1986), gun
import and export figures (Kleck 1979; Magaddino & Medoff 1984), and aggravated assaults,
robberies, homicides, and/or suicides committed with a gun (Cook 1979; McDowali 1986,1991)
as indicators of gun availability. However, the problem with these measures is that they fail to
differentiate between illegal and legal gun prevalence levels (Bordua 1986; Cook 1979; Kleck &
Patterson 1993).

There are two best reasons for making this distinction. First, stolen guns are frequently
employed by criminals in gun-related crimes. For example, a survey of prison inmates conducted
by Wright and Rossi (1986) found that 47% of the felons had stolen guns in their lives and 32%
of the felons who possessed handguns when sent to prison had personally obtained their most
recently acquired handgun by theft. In addition, among the handguns most recently acquired by
the felons, 46 percent were regarded by their owners as "definitely stolen" and another 24
percent as "probably stolen" (Wright & Rossi 1986:196). In a survey of confined juvenile
offenders, Sheley and Wright (1993) found that 50 percent of the respondents had stolen at least
one gun in their lives and 24 percent had stolen their most recently obtained handgun.

The findings drawn from these surveys indicate that a majority of the guns in the
possession of criminals, and presumably most of those used in gun-related crimes, have been
stolen at some time in the past, but not necessarily by their current criminal owner. Another
important consideration relates to policy implications. If a positive relationship is observed
between the theft of guns and gun violence, a logical policy initiative would be to educate gun
owners as to the most effective ways to secure their weapons. As Sheley and Wright (1993) state,
"An effective gun ownership policy, of necessity, must confront the issue of firearms theft" (10).
Such a strategy may prove more effective in reducing gun violence than tougher licensing regulations.

Popular crime guns tend to be powerful, new semiautomatic pistols, many of which are inexpensive and seen in figure 1. Crime guns also tend to change hands often, and to be bought in the state where they are used to commit crimes.

*Figure 1: Top 10 Producers of Semiautomatic Pistols in the United States, 1990-1999*

![Figure 1: Top 10 Producers of Semiautomatic Pistols in the United States, 1990-1999](source)


V. **Legal and Illegal Markets for Guns**

The market for guns in the United States is complex enough that it is helpful to think in terms of several interdependent gun markets. There are both legal and illegal retail markets in guns. The legal gun market is divided into a primary market, comprising all transfers of guns by mainstream sources such as federally licensed retailers (gun dealers and pawnbrokers), and a secondary market, consisting of transfers involving less formal sources such as private parties,
collectors, and unlicensed vendors at gun shows (Cook, Molliconi, & Cole, 1995). The split between primary market sales by licensed retailers and secondary market sales by other sources is approximately 60/40 (Cook, Molliconi, & Cole, 1995).

Lack of regulation and oversight of the primary market's licensed retailers has contributed greatly to the availability of guns for criminal use. Practices such as bulk retail transactions and surrogate or straw purchasing make it easy for gun traffickers sometimes with the cooperation of corrupt licensed gun dealers-to buy guns and then resell them on the secondary market, where sales are not subject to federal regulations such as background checks.

In the early 1990s, the United States had more gun retailers than gas stations (Sugarman & Rand, 1992). No mechanism existed, at either the federal or state level, for ensuring that licensed retailers were actually engaged in the legitimate business of selling guns or that they complied with state and local laws regarding the operation of such a business.

Bulk retail transactions, also called multiple purchases, are another important source of crime guns. In 1999, some 22% of all crime guns had first been sold in a multiple purchase (ATF, 2010). Youth frequently engage in multiple purchases (although not always from licensed retailers). Among correctional inmates under age 18, for example, one in five stated in a 1993 survey that they had gone out of state to buy guns in quantity, and 45% of these had "bought, sold, or traded a lot of guns" (italics in original) (Sheley & Wright, 1996).

Straw purchasers, persons who buy guns from licensed retailers on behalf of others, who are prohibited from doing so-are another important source of crime guns. This may be particularly true for young people: In the 1993 survey mentioned above, 32% of student-age
inmates and, perhaps even more surprisingly, 18% of inner-city high school students, had asked someone to purchase a gun for them from a retail outlet (Sheley & Wright, 1995).

Compelling evidence of the complicity of corrupt licensed retailers in these purchases comes from Chicago, where undercover police officers conducted sting operations in 1998. In a dozen cases, storefront gun retailers in Chicago suburbs-selected because of the frequency with which guns they sold were used in Chicago crimes willingly participated in straw purchases and other sales that they knew to be illegal (City of Chicago, 1998).

Despite cases like these, licensed retailers in the primary gun market make up the most regulated, and probably also the cleanest, segment of the retail gun market. Congress has created a double standard for gun sellers. Federal law requires those who are "engaged in the business" of selling guns to be licensed. But the law is deliberately ambiguous as to what "engaged in the business" means. As a result, unlicensed vendors in the secondary gun market can buy and sell dozens or hundreds of guns each year and still claim that they are pursuing a hobby.

This has divided the primary and secondary retail gun markets into two parallel systems for gun distribution, with clear implications for efforts to prevent the flow of guns into the illegal market. Licensed retailers are required to comply with federal, state, and local laws (although enforcement is problematic). They are obligated to identify prospective purchasers. They cannot transfer guns to prohibited persons, and they are required to observe waiting periods and submit purchaser information for background checks. They must keep records of all acquisitions and dispositions of guns, and report all multiple sales. The secondary market's unlicensed gun sellers, by contrast, can legally ignore the identification requirement and waiting period, cannot conduct background checks, and are not required to report multiple sales or keep records.
The problem is most visible (although probably not most extensive) at gun shows and flea markets. There are more than 4,000 gun shows in the United States each year, averaging 2,000 to 5,000 attendees each. ATF summarizes the situation: "Under current law, large numbers of firearms at these public markets are sold anonymously....there is virtually no way to trace them" (ATF, 2010). As a result, "too often the shows provide a ready supply of firearms to prohibited persons, gangs, violent criminals, and illegal firearms traffickers" (ATF, 2010). Unlicensed vendors, who make up 25% to 50% of all persons selling guns at gun shows, sometimes even advertise their exemption from the regulations that apply to licensed retailers. At one show, a vendor posted a sign stating, "No background checks required; we only need to know where you live and how old you are " (ATF, 2010).

**Figure 2: View of Gun Markets: How Guns Enter Illegal Market & Reach Criminals**

[Diagram showing flow of firearms from legal to illegal market through various channels such as straw purchase, sale to trafficker, etc.]


Thus, guns may be diverted directly from the legal to the illegal market through several channels. As shown in Figure 2, firearms can be furnished directly by a corrupt licensed retailer,
bought from a licensed retailer by a straw purchaser, or stolen with almost no questions asked in the unregulated secondary market.

**Crime Guns Are New Guns That Change Hands Rapidly**

In 1999, guns that were less than six years old made up just 17% of all guns estimated to be in civilian hands, but accounted for more than one-half of all recovered crime guns. Of all crime guns recovered in 1999, some 15 percent had been in circulation for less than a year (Cook, Molliconi, & Cole, 1995).

This "time to crime," as it is known, is shortest for the most popular crime guns. Of the top 10 crime guns recovered from persons under age 18 in 1999, 5 had a median time to crime of 4 years or less; and 2, the Bryco Arms and Lorcin Engineering 9 mm pistols, each had a median time to crime of just 1.6 years. Among the top 10 crime guns recovered from persons ages 18 to 24, Bryco Arms 9 mm pistols had a median time to crime of just 1.2 years, and Bryco Arms .380 pistols had a median time to crime of 2.0 years (Cook, Molliconi, & Cole, 1995).

In 1999, only 11% of recovered crime guns were possessed by the people who had first purchased them from a licensed gun retailer (Cook, Molliconi, & Cole, 1995). Coupled with the finding that time to crime is often very short suggesting that crime guns are frequently acquired for criminal purposes and move rapidly into the illegal market.

Once a firearm is stolen, it is much easier to obtain on the streets than one would think. In fact, it’s as simple as asking a friend. One WISH TV report was conducted by Indianapolis’ Gene Rodriguez. He interviewed 17 year-old Dominique Staten currently serving a sentence in
the Wabash Valley Correctional Facility. In a robbery, Staten killed 72 year-old Mario Gonzalez with a .357 Magnum that he bought for $50 from a friend (Rodriguez, 2009).

When asked how easy it is to get a gun in Indianapolis Staten answered, "It's very easy to get a gun. Get it from somebody or steal it." It's how Staten said he got his first, second and third handguns. Staten said the first time he held a gun he was just 15 years old. He says it was a 3-80 special and he stole it. When asked how he got it he said he stole it.

On June 30, 2008, is when Dominique's armed robbery spree escalated to Mr. Gyro's on the Indianapolis' west side. Staten recalled the situation, "The only thing I heard was somebody saying hey, I kind of turned around and glanced I seen a gun pointing at me. My mind's like is he going to shoot first or am I going to shoot?"

That gun used by Staten, like many collected by IMPD officers from Indianapolis streets, had been stolen from a home on Indy’s west side just five days before the Gonzalez murder (Rodriguez, 2009). How Staten obtained his weapon in his gun related crime is not unique. The FBI reports that nearly 96 percent of state prison inmates incarcerated on gun crimes across the country say the weapons they used were stolen or bought on the streets. Studies show that 1 percent of gun stores sell the weapons traced to 57 percent of gun crimes. According to the Bureau of Alcohol, Tobacco and Firearms, the dealer that armed the DC area sniper is among this small group of problem gun dealers that "supply the suppliers" who funnel guns to the nation's criminals. Between 1997 and 2001, guns sold by this dealer were involved in 52 crimes, including homicides, kidnappings and assaults. Still open today, it also can't account for 238 guns or say whether they were stolen, lost or sold, or if their buyers underwent felony background checks.
VI. Unemployment and Crime

Crime rates will change due to a recession. The conventional wisdom is that a decline in the economy directly leads to an increase in both property crime and violent crime. The mechanisms of this are commonly believed to be that unemployed people turn to robberies and shoplifting to survive, and domestic and random violence increases as stress at work and home increases due to financial concerns. Statistics are commonly used to "prove" the cause and effect of a crime trend. For example, a rise in shoplifting coincides with increases in unemployment, and an increase in gasoline drive-offs coincides with high gas prices. In fact, despite decades of study, the actual mechanisms which link economy crisis with changes in crime levels have not been identified to the point where accurate predictions can be made. This is because criminal behavior is a highly complex issue with many factors besides the state of the economy.

K. Merton (1957) posed the question; “At a time when society as a whole is becoming more affluent, why do crime rates continue to rise?” is this question still valid in today's society? The media portrays that America has a poverished class that is unwilling to conform to social norms and therefore fall to crime to survive.

It is very easy to condemn a particular group or class of people for the ailing of society without looking more closely into the root causes of crime. For example, if we look at burglary, those that commit crimes are more likely to come from a disadvantaged group and they are much more likely to live in poverty without the means, educational achievements or employment opportunities to escape.

Are this very same group of people frustrated with the inequalities they face and the bleakness of their situation so much that they become defiant of the social norms? It may be the case that as we become more affluent, those without the means of becoming part of the affluent have bred a sub culture that believes it's ok to simply take.

Across Indiana and the country, statistics indicate the crumbling economy is likely to spark growth in at least one arena: the crime rate. A jump in property crimes seems to occur when unemployment or poverty rates increase, according to a statewide study by Debbie Roberts, a research data programmer and analyst for the Indiana Department of Criminal Justice Services. Violent crimes also may escalate in times of recession, Roberts said, but less so than property crimes, including burglary, larceny and motor vehicle theft, according to her recent report covering a 28-year period. Roberts said preliminary data for 2010 show a decrease in property crimes from January through September versus the same period in 2009. "There's no way to prove that one thing causes another," she said, "but they do tend to follow one another."
How quickly they follow each other depends on several factors, including police department size and residents' participation in social programs, said Richard Rosenfeld, professor of criminology at the University of Missouri in St. Louis. "You'll see increases happen in some areas, but not across the board." That's true in Marion County where, according to Indiana State Police statistics, property crime rates rose the year after the 2001 recession and then fell in 2003.

On the contrary, a higher crime rate can't always be attributed only to crimes by people who have fallen on hard times, said Robert McCrie, a professor of protection management at the John Jay College of Criminal Justice in New York. "Often when times are tenuous, there might be a tendency to decrease controls," he said.

Police departments might limit patrols to save on fuel costs or overtime, or store owners might eliminate security guard jobs or skip buying surveillance cameras because they need to save money during a recession. McCrie said crime escalated in cities in the 1960s and 1970s because police were underfunded. In New York City, he said, Mayor David Dinkins appealed for greater police funding. Combined with changes in enforcement Mayor Rudy Giuliani made later, the tide changed in the city.

Rosenfeld and McCrie pointed to the Great Depression as a major anomaly in the recession-crime correlation. From 1930 to 1932, in the early years of the Great Depression and nearing the end of Prohibition, a spike in crime swept the country because of turf battles between bootleggers and disorderly conduct among their customers, McCrie said. With the end of Prohibition in 1933, however, crime rates began to drop. The Great Depression would not end until the United States entered World War II, but there was a significant drop in property crimes.
More people were spending time at home, making it more difficult for people to commit burglaries, McCrie said of that era.

McCrie and Rosenfeld also suggested social programs, introduced by President Franklin D. Roosevelt during the Depression, were successful in keeping crime rates from escalating. "The public works programs were putting young men to work," he said. "It provides a lesson for how we might address the current economic downturn."

What is known about crime and the economy is that, as a generalization, an increase in unemployment coincides with a small average increase in burglaries, homicide, robbery and theft. In some locations it coincides with a large increase but in other locations there may be a decline. The variations to the trend are due to a range of other factors, some of which may swamp economic issues in importance.

Demographics play a huge role in criminal behavior as there is a high correlation between certain crime and demographic factors such as age, sex and poverty levels. For example, a large proportion of crimes are committed by young males, so an increase in young males may lead to an increase in crime. A recession can change demographics by creating locations of poverty, and increasing the number of unemployed young males at home during the day.

Certain areas are criminal hot spots which experience high levels of crime. These reflect a range of factors including possibly the location of high-rate offenders. These offenders are typically responsible for a large proportion of certain crimes and they normally undertake their activities relatively close to their homes. A recession may change the location, number and freedom of these high rate offenders for example, by reducing police resources to target these
criminals which can result in a significant increase in the rates of certain crimes in certain areas. This rate can be modified if the economy results in more people being home during the day.

Drug and alcohol consumption has a significant direct and indirect impact on the criminal rate. The direct impact can be more assaults, and indirect impacts can include property crime to obtain money for drug purchases and increases in organized crime to supply the increased demand. Economic decline can decrease alcohol consumption at venues due to cost, increase alcohol consumption at home, and increase drug taking due to self-medication for stress, unemployment or boredom.

Law enforcement activities have become more effective and efficient over the last few decades in reducing crime rates. Examples of activities are community policing which involves police working with the community to help control crime, and intelligence led policing which deploys resources at priority targets such as high-rate or serious offenders. An economic downturn may lead to a reduction in policing budgets, or a reduction in focus on certain crimes and areas. This can result in more people undertaking criminal activities as they believe there is less likelihood of being caught or convicted, or more crimes per criminal being committed before they are caught.

VII. Data and Methods

On a nation-wide basis, there are strong theoretical expectations supporting a hypothesis on increases in illegal gun availability having a direct influence on increase in violent gun crime rates. A report by the Americans for Gun Safety Foundation says nearly 1.7 million firearms in the United States were reported to police as stolen from January 1993 through August 2002. The
number of guns stolen per year has declined, from 221,322 reported in 1993 to 138,035 in 2001 (Gun Safety Report 2002). The numbers also show that nearly 688,000 stolen firearms were recovered during the 10-year period, leaving more than 1 million missing and most likely fueling the illegal gun market. The study says the decline in gun thefts coincides with a simultaneous drop in gun crime in the United States. Is the same true on a local level for Indianapolis?

A review of the literature suggests that violent gun crime is a function of the number of legal guns available in a community. However, competing studies have found mixed results while using this logic. A potential reason for the mixed results could lie in the independent variable used was not specific enough. Given that Sheley and Wright’s research proves that 96% of gun crimes committed are done so using stolen firearms (Sheley & Wright, 1995) it is logical that a more suitable variable to be tested should be illegal guns. This percentage suggests that in certain cases gun ownership can increase while the number of stolen guns can decrease, which can lead to mixed results if only gun ownership is tested. For this study, a more suitable variable used in an attempt to prove the indicator of violent crime actually lies in the number of guns stolen and recovered.

Research will examine the theory that the illegal guns entering (stolen) and exiting (recovered) the illegal market will have a direct impact on the number of violent crimes committed with a gun. This idea is theoretically plausible, and is conducted using an independent variable not considered in previous research. However, as in previous research, some gun availability statistics must be based on assumptions given that accurate numbers do not exist. In previous studies by Cook and Kleck, assumptions were made in order to compute the availability of legal gun ownership. They based legal gun availability on the number of concealed permits issued. As proven previously, this number is not a true representation of gun ownership as the
permit only represents one’s ability to legal carry a firearm, not the number of firearms he is carrying. This study is conducted based on the assumption that the number of guns reported stolen is a true representation of all guns stolen. Since Indiana law does not require gun owners to report missing or stolen weapons there is reason to believe this number may be underreported.

The introduction of a new independent variable logically supports a theory on a plausible explanation of changes in violent gun crime. However, other theories and situations that may have an impact on local violent gun crime rates exist that must also be explored. Factors that limit people’s options for economic stability such as unemployment and inadequate education may lead Hoosiers to commit armed robbery or assault as a potential resort for financial survival. Another factor such as divorce may have an impact on crime as a result of economic issues or due to the involvement of stressful domestic situations.

A final factor, which has been studied previously and has shown mixed relationships between gun availability and violent crime, should be considered as a viable theory and option to reduce violent gun crime. Some researchers such as Kleck claim that an increase in the availability of legal guns serves as a deterrent to violent gun crime. Again, assumptions must be made in order to compute legal gun availability. Kleck and others used concealed carry permits issued as a means to estimate the number of guns in a community. Kleck’s study will be recreated using Indianapolis’ issued concealed carry weapon permits. The importance of distinguishing between illegal and legal gun availability levels cannot be overemphasized, since “it is possible that gun possession among prospective aggressors increases lethal violence, while gun possession among prospective victims reduces it, with no net effect of overall gun ownership levels on violence rates” (Kleck, 1997).
The purpose of this study is to introduce an unstudied independent variable (illegal gun activity) as a possible cause of violent gun crime. The units of analysis of this research paper will be for Indianapolis, Indiana, for years 2006 to 2009. The research will showcase recent gun violence and responses from law enforcement and community leaders, and will analyze aggregate level data obtained from the Indianapolis Metropolitan Police Department Uniform Crime Report (UCR).

The analysis is organized in terms of a primary hypothesis which introduces a new independent variable as an indicator of violent gun crime in Indianapolis followed by two alternative hypotheses where each variable is defined in the dependent, independent variables section of this paper. The primary hypothesis: H1: Increases in the inventory of illegal firearms in Indianapolis is likely to cause increases in the total number of violent crimes committed. H10: Increases in illegal firearm inventories will not increase the number of violent crimes committed in Indianapolis. An alternative hypothesis which has been previously shown to have mix results by social scientists tests the availability of legal firearms and their impact on crime. H2: Increases in the number of concealed carry permits issued in Indianapolis will have a positive impact on the violent crime rate. H20: Increases in the number of concealed carry permits issued in Indianapolis is likely to have no impact on the violent crime rate. The final hypothesis will be tested to prove social situations that may have an impact on the violent gun crime rate in Indianapolis. H3: Unemployment, divorce, and dropout rates are likely to have a positive impact on violent gun crimes in Indianapolis. H30: Unemployment, divorce, and dropout rates are likely to have no impact on violent gun crimes in Indianapolis.

In order to prove the relationship between violent crime and illegal firearms, I will define the following variables: violent gun crime, illegal firearm activity, unemployment, divorce, high
school dropout, and concealed carry permits issued. By using existing research I will show that weapons are stolen from legal gun owners and sold or traded on the streets of Indianapolis ending up in the hands of criminals. Finally, analyzing statistical data, I evaluate the influence of the activity of illegal firearms has on violent gun crime in Indianapolis or if another explanation is a better gauge of increases or decreases in violent gun crime.

The data used in this study were drawn from the Indianapolis Metropolitan Police Department crime reports (UCR) and StatsIndiana.com to find data for Indianapolis, Indiana for the years 2006 to 2009. Both the UCR and StatsIndiana data are aggregated at the county level and allows for the study to examine the relationship of violent crime across a wide range of social contexts.

The UCR information enables the creation of an imperfect, but suitable measure of illegal activity of guns entering and exiting the illegal market (the number of stolen guns reported to the police and the number seized). This measure, which has not been used previously by researchers, serves as a valid indicator of illegal gun activity for Indianapolis because survey results prove stolen guns enter the underground market and 96% of the time are employed by individuals in illegal activities (Sheley & Wright 1995; Wright & Rossi 1986). This measure makes the existing number of illegal firearms (which cannot be determined) irrelevant since the study is only concerned with changes to the existing inventory. The UCR data also provides number of permits issued in order to calculate available legal gun activity. County level census data from StatsIN.com includes Marion County’s unemployment rates, divorce rates, and dropout rates can be obtained to study the alternative hypothesis

**Dependent Variable**
The dependent variable, violent gun crime rate includes murder and non-negligent manslaughter, kidnapping/abduction, aggravated assault, robbery, and extortion/blackmail all with a firearm. Forcible rape, forcible sodomy, and sexual assault with a weapon are not included in the study given that the UCR does not distinguish if the crimes are committed using a firearm. Violent gun crime is measured as the number of reported offenses in which a gun was used divided by the county population during the given year and multiplied by 10,000. This figure will allow comparisons to be made for a multi-year analysis on the number of incidents that occur for every 10,000 people.

Due to the lack of specific data contained in the UCR, some assumptions must be made. The Indianapolis Metropolitan Police Department (IMPD) does distinguish if a violent crime is committed using a weapon. However, the statistic does not identify if the crime was committed using a stolen or illegal firearm. The same limitation is found in the literature studying the effects of legal guns. The literature offers no solution. Since such a high percentage of violent gun crimes are committed using illegal weapons, although still imperfect, a study of illegal weapons is a much more valid gauge of the relationship of violent gun crimes.

**Independent Variables**

Gun activity is measured in two distinct ways: illegal and legal gun activity. These independent variables are analyzed to determine their influence on Indianapolis’ violent crime rate. First, guns are defined as weapons that fire a shot by force of explosion (i.e. handguns, rifles, shotguns, and the like, but not BB, pellet, or air rifles). Illegal gun activity, is measured as the annual number of guns in Marion county reported as stolen to the police, minus the annual number of guns seized by law enforcement. This number is then divided by the county
population and multiplied by 10,000 in order to analyze and compare the number of incidents that occur for every 10,000 people. The measure, which is computed using aggregate statistics contained in the UCR, is the single best indicator of illegal gun activity. Kleck and Patterson’s measure of gun availability is done so by determining the value of stolen property reported to police due to gun thefts. Their theory is superior to other measures of illegal gun availability contained in the UCR, its major limitation is that the price of a weapon is not necessarily related to its effectiveness in a crime. For example, a cheap revolver will serve a criminal equally well in a crime as a high-priced antique pistol. Furthermore, not only do guns such as rifles and shotguns have a higher monetary value than handguns, but they are also less likely than handguns to be used in crimes as they are more difficult to conceal. As a consequence, it is unclear whether the percentage of the dollar value of all stolen property reported to police that was due to gun thefts would reveal a positive or negative effect of illegal gun availability on violent crime.

Although permit registration data are an incomplete measure of legal gun activity because approximately two million guns per year (nationally) are acquired in “off-the-book” transactions not involving federally licensed gun dealers (Cook & Ludwig, 1997), researchers have used this measure; therefore we can either prove or disprove their efforts for Indianapolis. Previous studies have found either a positive (McDowall, Loftin & Wiersema, 1995) or a negative (Bronars & Lott 1998, Lott & Mustard, 1997) relationship between concealed weapons permits and crime rates. Concealed weapons permits are found in the UCR are an imperfect but comparable measure of legal gun activity to violent gun crime. That figure for each given year will be divided by the Marion County population and multiplied by 100,000. A positive coefficient for the legal gun measure in the equations would be consistent with the argument that, net of other factors expected to impact violence levels, the availability of legal guns engenders
violence. On the other hand, a substantive negative coefficient would suggest that legitimate gun availability reduces violent crime.

Prior research suggests that several independent variables may influence violent crime rates (Reiss & Roth, 1993). These variables include Marion county unemployment, Indianapolis Public School (IPS) expulsions, and Marion County divorce are conceptualized as follows: IPS expulsions: The U.S. Department of Education's National Center for Education Statistics (NCES) defines school expulsion as the number of students who are expelled from school due to a disciplinary sanction. This is a good control variable as expelled students have a history of behaviors issues and with no longer attending school have motive to turn to criminal behaviors. This definition will be used for students in Marion County for the given years of the dependent variable divided by the IPS school population for that year and multiplied by 10,000.

Unemployment: The U.S. Bureau of Labor Statistics (BLS) defines unemployment as the number of people who have filed for benefits in a given area. This study will use the definition provided by the BLS for Marion County, divided by the county population for each given year as the dependent variable and multiplied by 10,000. Unemployed citizens have a need to find means to support their families and pay bills. Unfortunately, those means may result in crime which makes the unemployment rate a good control variable.

Marion County divorce statistics are obtained from the Indiana Family Institute (IFI). IFI works with the Indiana court system to compile figures of all couples filing for divorce in each county in Indiana. This information is intended for policy and for research purposes. The total divorce filings will be divided by the county’s population then multiplied by 10,000 in ordered to
find comparable incidents per year. This figure is relevant as a control variable given divorce causes relationship stress and financial worries that can lead to increase in gun crimes.

These independent variables are included in each of the estimated models to avoid basing conclusions on spurious or suppressed relationships given that they are logical reasons that may have an impact on crime. All of the variables are for the same year as for the dependent variable. The means, standard deviations, and definitions for all the variables used in the primary analysis.

VIII. Findings/Analysis/Observations

Table 1 lists Marion County’s population, crime incidents, and independent variables for each year of analysis. This information was used to compute the statistics found in Table 2, Table 3, and Table 4. In 2007, police seized 3,252 guns while 1,328 were reported stolen which resulted in a net total of 1,924 guns exiting the market. The following year (2008), saw the number of illegal guns exiting the market place increase to 2,211 and increase again in 2009 with the exit of 2,054 more guns from the market. Simultaneously violent crime dropped in 2008 from 3451 to 3429 a small difference of 22 incidents. But when factoring in the population increases of gun crime there is virtually no statistical change. However, in 2009, a significant decrease in crime and reduction in illegal gun activity is found. Violent gun crime dropped from 3,429 incidents in 2008, to 3,197 in 2009 a difference of 232 incidents. The same period also saw the removal of 2,211 in 2008. While 2010 data is not available, based on these findings I expect violent gun crime to increase given illegal gun activity is down 157.

<p>| Table 1 Total Marion County Populations and Incidents |
|      |      |      |      |</p>
<table>
<thead>
<tr>
<th>Marion County Population</th>
<th>890,879</th>
<th>883,107</th>
<th>878,190</th>
<th>873,347</th>
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<tbody>
<tr>
<td>Unemployment</td>
<td>41,351</td>
<td>25,865</td>
<td>20,881</td>
<td>22,582</td>
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<td>IPS Families in poverty</td>
<td>N/A</td>
<td>18,572</td>
<td>18,103</td>
<td>18,149</td>
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<td>IPS School Expulsions</td>
<td>90</td>
<td>118</td>
<td>83</td>
<td>210</td>
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<tr>
<td>School Enrollment 7-12</td>
<td>71,926</td>
<td>72,191</td>
<td>73780</td>
<td>74781</td>
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<tr>
<td>Stolen Guns - Reported</td>
<td>1463</td>
<td>1305</td>
<td>1328</td>
<td></td>
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<tr>
<td>Gun Seizures</td>
<td>3517</td>
<td>3516</td>
<td>3252</td>
<td></td>
</tr>
<tr>
<td>Robbery with a Gun</td>
<td>2018</td>
<td>2243</td>
<td>2145</td>
<td></td>
</tr>
<tr>
<td>Robbery with a knife</td>
<td>211</td>
<td>216</td>
<td>244</td>
<td></td>
</tr>
<tr>
<td>Strong Armed Robbery</td>
<td>1463</td>
<td>1376</td>
<td>1416</td>
<td></td>
</tr>
<tr>
<td>Assault with a Gun</td>
<td>1099</td>
<td>1097</td>
<td>1230</td>
<td></td>
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<tr>
<td>Assault with a Knife</td>
<td>837</td>
<td>819</td>
<td>902</td>
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</tr>
<tr>
<td>Assault with Hand/fist</td>
<td>1240</td>
<td>1121</td>
<td>1031</td>
<td></td>
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<tr>
<td>Criminal Homicide - Gun Shot</td>
<td>80</td>
<td>89</td>
<td>76</td>
<td></td>
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<td>Criminal Homicide - Stabbing</td>
<td>10</td>
<td>10</td>
<td>15</td>
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<tr>
<td><strong>Crime with a Knife</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Illegal Gun Activity (Stolen - Seized)</strong></td>
<td>-2054</td>
<td>-2211</td>
<td>-1924</td>
<td></td>
</tr>
<tr>
<td><strong>Violent Gun Crime</strong></td>
<td>3197</td>
<td>3429</td>
<td>3451</td>
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</table>

Table 2 outlines the total incidents of each of the controls for the effects of both measured and unmeasured differences between years that are adjusted for population over time. Table 2 presents results of violent gun crime rates on illegal gun activity and the other explanatory variables for our sample of Marion County observed for a three-year period from 2007 to 2009. The findings allow for comparison of the number of incidents that occur for every 10,000 Marion County residents. The findings prove the hypothesis H1 correct. As the number of illegal guns are entering and exiting the illegal market, there is a direct impact on the crime rate of the following year. In 2007, for every 10,000 people, 21.909 guns exited the illegal market which resulted in a reduction of .46 incidents of violent gun crime in 2008. The following year (2008), found 3.12 more illegal guns exiting the illegal market which saw a 2.94 reduction in violent gun crime in 2009.
Table 2 Incidents per 10,000 Marion County Residents

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<td>Unemployment</td>
<td>464.160</td>
<td>292.886</td>
<td>237.773</td>
<td>258.568</td>
</tr>
<tr>
<td>IPS Families in poverty</td>
<td>N/A</td>
<td>2572.620</td>
<td>2453.646</td>
<td>2426.953</td>
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<tr>
<td>IPS School Expulsions</td>
<td>12.513</td>
<td>11.497</td>
<td>11.250</td>
<td>28.082</td>
</tr>
<tr>
<td>Stolen Guns - Reported</td>
<td>16.422</td>
<td>14.777</td>
<td>15.122</td>
<td></td>
</tr>
<tr>
<td>Gun Seizures</td>
<td>39.478</td>
<td>39.814</td>
<td>37.031</td>
<td></td>
</tr>
<tr>
<td>Robbery with a Gun</td>
<td>22.652</td>
<td>25.399</td>
<td>24.425</td>
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</tr>
<tr>
<td>Robbery with a knife</td>
<td>2.368</td>
<td>2.446</td>
<td>2.778</td>
<td></td>
</tr>
<tr>
<td>Strong Armed Robbery</td>
<td>16.422</td>
<td>15.581</td>
<td>16.124</td>
<td></td>
</tr>
<tr>
<td>Assault with a Gun</td>
<td>12.336</td>
<td>12.422</td>
<td>14.006</td>
<td></td>
</tr>
<tr>
<td>Assault with a Knife</td>
<td>9.395</td>
<td>9.274</td>
<td>10.271</td>
<td></td>
</tr>
<tr>
<td>Assault with Hand/fist</td>
<td>13.919</td>
<td>12.694</td>
<td>11.740</td>
<td></td>
</tr>
<tr>
<td>Criminal Homicide - Gun Shot</td>
<td>0.898</td>
<td>1.008</td>
<td>0.865</td>
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</tr>
<tr>
<td>Criminal Homicide - Stabbing</td>
<td>0.112</td>
<td>0.113</td>
<td>0.171</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illegal Gun Activity (Stolen - Seized)</td>
<td>-23.056</td>
<td>-25.037</td>
<td>-21.909</td>
<td>-23.334</td>
</tr>
<tr>
<td>Violent Gun Crime</td>
<td>35.886</td>
<td>38.829</td>
<td>39.297</td>
<td>38.004</td>
</tr>
</tbody>
</table>

The legal gun availability measure and the control variables are largely insignificant. Unemployment, poverty, and expulsion rates all show an increase from 2007 to 2009. While those rates increased, sometimes dramatically such as unemployment doubling from 2.3% in 2007 to 4.64% in 2009, violent gun crime remained constant from 2007 to 2008 and declined in 2009. However, the IPS school expulsion rate shows some common trends with the violent gun crime rate; however, there is not sufficient data to prove they are related. The expulsion rate remained consistent for 2007 and 2008 as did the gun crime rate. However, as the expulsion rate increased by one gun crime saw a dramatic decline, which could just be an anomaly.

Table 3 Percentage of Incidents Per Population

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment</td>
<td>4.642%</td>
<td>2.929%</td>
<td>2.378%</td>
<td>2.586%</td>
</tr>
<tr>
<td>Category</td>
<td>2009</td>
<td>2008</td>
<td>2007</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Unemployment</td>
<td>0.017</td>
<td>0.006</td>
<td>-0.002</td>
<td></td>
</tr>
<tr>
<td>IPS Families in poverty</td>
<td>N/A</td>
<td>2.103%</td>
<td>2.061%</td>
<td>2.078%</td>
</tr>
<tr>
<td>IPS School Expulsions</td>
<td>0.125%</td>
<td>0.163%</td>
<td>0.112%</td>
<td>0.281%</td>
</tr>
<tr>
<td>Stolen Guns - Reported</td>
<td>0.16%</td>
<td>0.15%</td>
<td>0.15%</td>
<td></td>
</tr>
<tr>
<td>Gun Seizures</td>
<td>0.39%</td>
<td>0.40%</td>
<td>0.37%</td>
<td></td>
</tr>
<tr>
<td>Robbery with a Gun</td>
<td>0.23%</td>
<td>0.25%</td>
<td>0.24%</td>
<td></td>
</tr>
<tr>
<td>Robbery with a knife</td>
<td>0.02%</td>
<td>0.02%</td>
<td>0.03%</td>
<td></td>
</tr>
<tr>
<td>Strong Armed Robbery</td>
<td>0.16%</td>
<td>0.16%</td>
<td>0.16%</td>
<td></td>
</tr>
<tr>
<td>Assault with a Gun</td>
<td>0.12%</td>
<td>0.12%</td>
<td>0.14%</td>
<td></td>
</tr>
<tr>
<td>Assault with a Knife</td>
<td>0.09%</td>
<td>0.09%</td>
<td>0.10%</td>
<td></td>
</tr>
<tr>
<td>Assault with Hand/fist</td>
<td>0.14%</td>
<td>0.13%</td>
<td>0.12%</td>
<td></td>
</tr>
<tr>
<td>Criminal Homicide - Gun Shot</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.01%</td>
<td></td>
</tr>
<tr>
<td>Criminal Homicide - Stabbing</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td></td>
</tr>
<tr>
<td>Crime with a Knife</td>
<td>0.12%</td>
<td>0.12%</td>
<td>0.13%</td>
<td></td>
</tr>
<tr>
<td>Illegal Gun Activity (Stolen - Seized)</td>
<td>-0.23%</td>
<td>-0.25%</td>
<td>-0.22%</td>
<td></td>
</tr>
<tr>
<td>Violent Gun Crime</td>
<td>0.36%</td>
<td>0.39%</td>
<td>0.39%</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 Change in Percentage Per Year

<table>
<thead>
<tr>
<th>Category</th>
<th>2009</th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment</td>
<td>0.017</td>
<td>0.006</td>
<td>-0.002</td>
</tr>
<tr>
<td>IPS Families in poverty</td>
<td>#VALUE!</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>IPS School Expulsions</td>
<td>0.000</td>
<td>0.001</td>
<td>-0.002</td>
</tr>
<tr>
<td>Stolen Guns - Reported</td>
<td>0.016%</td>
<td>-0.003%</td>
<td>0.151%</td>
</tr>
<tr>
<td>Gun Seizures</td>
<td>-0.003%</td>
<td>0.028%</td>
<td>0.370%</td>
</tr>
<tr>
<td>Robbery with a Gun</td>
<td>-0.027%</td>
<td>0.010%</td>
<td>0.244%</td>
</tr>
<tr>
<td>Robbery with a knife</td>
<td>-0.001%</td>
<td>-0.003%</td>
<td>0.028%</td>
</tr>
<tr>
<td>Strong Armed Robbery</td>
<td>0.008%</td>
<td>-0.005%</td>
<td>0.161%</td>
</tr>
<tr>
<td>Assault with a Gun</td>
<td>-0.001%</td>
<td>-0.016%</td>
<td>0.140%</td>
</tr>
<tr>
<td>Assault with a Knife</td>
<td>0.001%</td>
<td>-0.010%</td>
<td>0.103%</td>
</tr>
<tr>
<td>Assault with Hand/fist</td>
<td>0.012%</td>
<td>0.010%</td>
<td>0.117%</td>
</tr>
<tr>
<td>Criminal Homicide - Gun Shot</td>
<td>-0.001%</td>
<td>0.001%</td>
<td>0.009%</td>
</tr>
<tr>
<td>Criminal Homicide - Stabbing</td>
<td>0.000%</td>
<td>-0.001%</td>
<td>0.002%</td>
</tr>
<tr>
<td>Crime with a Knife</td>
<td>0.00%</td>
<td>-0.01%</td>
<td>0.13%</td>
</tr>
<tr>
<td>Illegal Gun Activity (Stolen - Seized)</td>
<td>0.02%</td>
<td>-0.03%</td>
<td>-0.22%</td>
</tr>
<tr>
<td>Violent Gun Crime</td>
<td>-0.03%</td>
<td>0.00%</td>
<td>0.39%</td>
</tr>
</tbody>
</table>
Other questions found in the literature explore the possibility of whether criminals opt to use knives or other cutting instruments against their victims when illegal guns become less readily available. Research on this substitution effect has been divided. Some studies find a displacement effect, while others do not. In contrast to the previous estimated equations, results show that the stolen gun rate variable is not of substantive importance. This finding suggests that offenders are not substituting knives for guns when illegal guns become scarce.

Furthermore, Kleck (1997) has argued that stolen gun rates along with other frequently used measures of firearm availability (i.e., number of aggravated assaults, robberies, and homicides committed with guns) may be correlated positively with violence levels simply because they are all measures of criminal activity. However, my failure to evince a strong positive relationship between stolen guns and violent crimes committed with knives seems to cast some doubt on this argument.

**IX. Limitations**

This study was only conducted in one county in Indiana where crime in neighboring counties can influence results. Limitations to this study are due to its scope given that crime is not bound to geographic locations. For example, guns can be stolen in neighboring Hamilton County and be used to commit gun crimes in Marion County. A stronger approach to prevent this skew is to conduct the study on a regional basis including all of central Indiana.

The time frame of the analysis must also be considered. While this study found a direct relationship to illegal gun activity to has an impact on violent gun crime in the preceding year. It must also be considered that guns can be used more than once. A stolen gun in 2006 can also be
used to commit a crime in 2009. This study took into account the time to crime of one year. While this one year is proven common through the literature, it is certainly not standard practice for all stolen guns.

It must be taken into account that one gun does not equal one crime. This paper, and previous research does not factor that guns can be used to commit multiple crimes. Additional research should be conducted to determine the average number of crimes that are committed with a single firearm. That information can be inputted into the formula to make for more accurate results.

While it shouldn’t matter the number of illegal guns that are currently in the hands of criminals, it does matter the number of illegal guns that enter and exit the market. This study was able to account for those guns reported stolen and those seized by law enforcement. Some limitations exist as there are no requirements for legal gun owners to report missing or stolen firearms. In this case some guns can be stolen that law enforcement is not made aware of. There is also a limitation in the knowledge of illegal guns that are entering the market from fraudulent sales and from state to state trafficking.

X. Policy Suggestions

Increase and Target Law Enforcement

Increasing law enforcement is a logical policy suggestion for several reasons. Simply the perception and visualization of police officers is a deterrent to crime. But more importantly, police can play an active role in increasing illegal gun seizures and reducing gun thefts. As a seen though this study, those seizures can be successful in reduce gun crime.
This concept was proven successful in a study of Indianapolis’ Police Departments Directed Patrol Project. The following is according to the study. During the mid-1990s, Indianapolis found itself in an unusual situation. The local economy was strong and the city’s downtown was experiencing a vibrant renewal. But the city also was experiencing record-setting levels of homicide at a time when homicide was declining in many comparable cities.

Local officials took several steps to address homicide. For example, they used data to identify where and when homicides were occurring. To produce the data, the Indianapolis Police Department (IPD) created the Indianapolis Management Accountability Program, or IMAP, an adaptation of the New York City Police Department’s computer comparison statistics (CompStat) program.

IPD then applied directed patrol tactics in two areas of the city that had high concentrations of violent crime. Directed patrol involves assigning officers to a particular area to proactively investigate suspicious activities and enforce existing gun, drug, traffic, and related laws. Officers assigned to directed patrol areas are freed from having to respond to calls for service.

Directed patrol is thought to be most promising as a crime control tool when it is targeted toward high-crime locations and their hot spots. Indianapolis selected the approach because research indicated it had been successful in Kansas City. The most common approach in a directed patrol effort is traffic stops. The strategy generally includes increasing the number of police officers in a given location and the number of contacts with citizens. In theory, intense traffic enforcement should have a general deterrent effect because it increases the threat of detection and punishment of criminal activity.
To the extent that directed patrol focuses on suspicious individuals in high risk locations, it moves from a general deterrence strategy to a targeted or focused deterrence strategy. The Indianapolis study provided the opportunity to compare a general deterrence with a targeted deterrence strategy.

IPD applied directed patrol tactics in two police districts in two different ways. Put in the simplest terms, the East District followed a general deterrence strategy whereby it assigned many police officers who stopped many people, issued many citations, and made one felony arrest for every 100 traffic stops. The North District, employing a targeted deterrence strategy, assigned fewer officers who stopped fewer people and issued fewer citations but made almost three times as many arrests for every 100 stops. Officers in the North District were more likely to stop and arrest felons because they focused on specific suspicious behavior and individuals. Homicide went down in both districts, but the North District also reduced gun crime overall—and they did so using fewer resources.

Directed patrol in the North target area reduced gun crime, homicide, aggravated assault with a gun, and armed robbery. In contrast, in the East target area it had no effect on gun-related crime, except for a possible effect on homicide. Why? The North District’s targeted deterrence approach most likely sent a message of increased surveillance to those individuals most likely to commit violent gun-related crimes.

The results of the Indianapolis directed patrol program are consistent with a growing body of research that shows that when police identify a specific problem and focus their attention on it, they can reduce crime and violence. As in the Kansas City gun intervention project, directed police patrol led to sizable reductions in gun crime. Additionally, it did not shift crime to surrounding areas or harm police-community relations.
The finding that the community generally accepted the program supports the idea that crime control benefits need not generate police-citizen conflict. However, the lack of impact in Indianapolis’s East target area, which used a more general rather than a targeted deterrence model, and the potential strain that these types of police initiatives could have on police community relations suggest the need for continued research on both the benefits and the potential costs of such strategies.

Increasing the number of police officers on patrol, especially in a city’s most disenfranchised neighborhoods, may increase citizens’ feelings of safety and communication between the police and the community. But police managers also need to consider the possible adverse consequences of implementing aggressive patrol strategies. If citizens criticize the police and view the frequent stops as harassment, then any reduction in crime will be accomplished only with significant costs. Citizen support for the police may decrease, public criticism may increase, and racial tensions may intensify. These consequences, if they occur, would adversely affect any increase in police presence.

**Require the Report of Stolen and Missing Firearms**

This study and others can only be as valid as the data allows. A limitation is due to the accurate knowledge of stolen fire arms. Should Indiana mandate gun owners to report missing or stolen firearms it could allow for law enforcement to be on the lookout for missing guns, understand where illegal guns are coming from, and develop policing strategies. However, a policy such as this would come under fire from gun owners, and enforcement of the requirement would be difficult.
At least four states—Michigan, New York, Ohio, and Rhode Island—require gun owners to file a police report if their guns are lost or stolen and impose criminal penalties for failure to file within deadlines. Legislation requiring such reports is pending in several other states, including California, Illinois, and Pennsylvania. The laws, according to advocates, are designed to target straw purchasers (people who buy guns intending to sell them to people prohibited from buying or possessing guns). Opponents say they penalize legitimate gun owners right to privacy.

Of the four states with reporting requirements, Ohio alone imposes a prison term for failure to report (90 days for knowingly failing to report). The other states impose fines of up to $500. Under the Connecticut bill the penalty for failure to report ranges from a $90 infraction for a first offense to a class C felony (punishable by up to 10 years in prison) for a third offense.

Bills in three of the five states with pending legislation impose prison terms on gun owners who fail to report if their guns are lost or stolen. These are Illinois, Minnesota, and Pennsylvania. The Pennsylvania bill imposes the most stringent penalties. Under the bill, a person who intentionally fails to file a report is subject to a prison term of up to seven years for a second offense.

Massachusetts law requires a firearm owner to immediately report its theft or loss to the criminal history systems board and the licensing authority in the city or town where the owner resides. Violators are subject to the loss of their license to carry, and a fine of between $200 and $1,000 for a first offense and a fine of between $1,000 and $5,000 for a second offense.
Michigan law requires that any firearm owner report its theft or loss to the police within five days after he knows it has been lost or stolen. A violation is punishable by a civil fine of up to $500.

New York law requires gun owners to report the loss or theft within 24 hours after the owner becomes aware of it including the facts and circumstances surrounding it. A violation is punishable by fine of up to $100.

Ohio law makes it a crime for anyone to knowingly fail to immediately report to law enforcement authorities the loss or theft of any firearm or dangerous ordnance in that person's possession or control. A violation is a misdemeanor of the second degree, which is punishable by up to 90 days in prison and a fine of up to $750.

Rhode Island law requires anyone who owns a firearm to report its loss or theft to the local law enforcement agency within 24 hours of discovering it. A knowing violation is punished by a fine of $50 to $100.

Opponents of the policy fear that this reporting requirement is impossible to enforce, fringes on rights, and is an opportunity for the government to remove all of their guns. Such legislation typically requires the report to be made within a specified timeframe of discovery of the loss or theft, but how does one prove when a gun owner knew of the theft? Sometimes, the law is worded such that the report must be made within a certain period after the owner "knew or should have known" the gun was stolen. But when should the gun owner have known? Are gun owners now to be required to check their gun safes periodically?
Enforcement is also difficult due to the fact that law enforcement cannot track legal firearms. Law enforcement does not know who owns guns, how many they own, nor how many legal guns exist within their community. Without this knowledge the options of enforcing a gun owner (or suspected gun owner) to account for their weapon are limited.

**Regulating Licensed Retailers**

One way to decrease the flow of guns to the illegal market is to strengthen oversight of licensed dealers at the federal, state, and local levels. Beginning in 1993, ATF undertook a long-term effort to ensure that federally licensed gun retailers are actively engaged in the legitimate business of selling guns (General Accounting Office, 1996). Inspections increased, and interviews were required for all new applications and selected renewals. These actions were reinforced by the 1993 Federal Firearms Licensee Reform Act, which improved background checks, increased licensing fees, and required new applicants to submit a photograph and fingerprints, and by the 1994 Violent Crime Control and Law Enforcement Act, which required license holders to certify that they were in compliance with state and local laws and regulations.

The total number of federal firearms license holders (dealers, pawnbrokers, and manufacturers) fell from a peak of 287,000 in 1993 to 86,180 by October 1999, a 70 percent drop (Pierce, Briggs, & Carlson, 1997). It is still falling. Because licensed retailers have been an important source of crime guns for children, youth, and others, a selective reduction in the number of retailers may lead to a decrease in the flow of guns into the illegal market. However, anecdotal reports from gun show observers suggest that some previously licensed retailers who regularly participated at gun shows have continued to do so as unlicensed
vendors. If true, this is a disturbing and unintended effect of ATF's program, because under federal law, sales by unlicensed vendors are not subject to criminal background checks.

**Screening Prospective Buyers and Preventing High-Risk Purchases**

Federal law has long prohibited children, felons, persons under felony indictment, controlled substance users, and certain others from possessing firearms (National Criminal Background Check System, 2000). Background checks and waiting periods can help ensure that these prohibited persons do not purchase guns from licensed firearm dealers. In 1994, Congress enacted the Brady Handgun Violence Prevention Act, which requires a five-day waiting period prior to handgun purchase, and initially also requires state or local law enforcement to conduct a criminal record background check. States with preexisting (and generally more restrictive) programs, known as Brady alternative states, continues to operate as they had before.

Over the Brady Act's first five years, all states together screened a total of 12.7 million applications to purchase guns and issued 312,000 denials (Manson, Gillard, & Lauver, 1999). In 1999, when checks on prospective purchasers of rifles and shotguns were added, some 204,000 persons 2.4 percent of those who applied-were denied the purchase (Bowling, Lauver, & Gillford, 2001). Approximately 70 percent of denials are for felony convictions or indictments, 10 percent are for domestic violence misdemeanor convictions, three percent are for domestic violence restraining orders, and the remainder is for other reasons. In 1998, both the waiting period and the background check were replaced by the National Instant Criminal Background Check System (NICS), administered by the Federal Bureau of Investigation (FBI). During NICS' first year of operation, nearly 90 percent of background checks were
completed within two hours of application; 72 percent were completed within 30 seconds. Checks that are complicated by missing or incomplete data can take several days. The law, however, allows retailers to release guns to purchasers after three business days, whether or not the background checks are completed. By the end of 1999, some 3,353 prohibited persons, most of them felons, had acquired firearms in this manner; just 442 had surrendered their guns. This problem would largely be eliminated if the waiting period for firearm purchases were lengthened for ambiguous cases.

**Regulating the Secondary Gun Market**

Regulating the secondary gun market-sales between private parties-is another way to reduce the number of guns sold to minors. By 1999, 14 states regulate private sales, requiring that purchasers of guns sold by private parties obtain a permit or undergo a background check at the premises of a licensed retailer or law enforcement agency. Of these 14 states, six regulate all private sales of firearms, one regulates private sales of hand- guns and assault weapons, and seven regulate handgun sales only. In November 2000, Colorado and Oregon adopted statutes regulating private sales of firearms at gun shows but not elsewhere (Bureau of Justice Statistics, 2000). California and Maryland are the only states with statutes that specifically regulate gun shows. California requires a show organizer to obtain a Certificate of Eligibility from the Department of Justice and to provide local law enforcement with a list of all sellers at the show. Maryland requires unlicensed sellers at gun shows to obtain temporary transfer permits and comply with the same restrictions imposed on licensed retailers.

**Registering Guns and Licensing Owners**
Requiring all gun owners to register their firearms and obtain licenses for their use also could cut down on the number of guns illegally transferred to young people. Proponents of this idea argue that a gun confiscated from a young person could be traced to its registered owner, who could then be held liable for transferring it illegally. A new study suggests that licensing and registration laws may help to disrupt the illegal gun market. Researchers at The Johns Hopkins University examined ATF gun tracing data for cities in states that had both licensing and registration statutes, had one or the other, or had neither. Just 33% of crime guns recovered in cities subject to both licensing and registration laws were originally purchased from in-state gun retailers. By contrast, 72 percent of crime guns were of in-state origin when only one of these laws was in force; 84 percent of crime guns came from within the state when neither licensing nor registration statutes had been enacted (Hass, 1996).

A federal gun registry in Ottawa, Canada has been a dismal failure at tracking stolen guns over the last five years, matching only 4,438 firearms with the descriptions of more than 100,000 stolen weapons the firearms centre attempted to trace. All of the stolen guns that were located had been registered under the Firearms Act, according to RCMP records. The owners apparently acquired them without knowledge they were stolen.

The records also revealed significant weakness in the registry's ability to track firearms due to a duplication of serial numbers. Serial numbers for 250,305 firearms logged in the registry matched the serial numbers of the 101,835 guns police reported stolen since 1998. Because of the duplication of serial numbers by manufacturers, a weakness of the gun-making industry years ago, all of the stolen rifles and shotguns that were traced had to be found through manual comparisons of other identifying features, such as the manufacturer's name, model and brand.
The Alliance MP, who previously pointed out the registry's inability to uniquely identify firearms, says the records also contradict the government's earlier claim it would not be possible to register stolen firearms. "The whole argument for the registry was that one wouldn’t be able to register a stolen firearm and now they’ve got stolen firearms registered in the system," he said. David Austin, a spokesman for the firearms centre, however, said the results show stolen firearms can be tracked through the registry. Mr. Austin added firearms centre policy calls for registry officials to notify local police as soon as the records match those of a stolen firearm, something that was impossible before the government introduced the registry.

Ontario's Provincial Weapons Enforcement Unit has been more successful at tracing illegal guns. The unit in 2001 traced more than 600 guns used in crimes in Ontario and successfully located 85 percent of them. Most originated in Florida, Ohio, Georgia, Michigan, Texas and California.

**Gun Buy-Back Programs**

Gun buyback programs seek to reduce gun violence by reducing gun ownership. They typically offer money, goods, or services in exchange for firearms, and they usually offer amnesty and anonymity to those who exchange them. While police may check whether a returned gun was used in a crime, they do not use their findings to pursue the person who returned it.

Early experiments with buybacks offered cash in exchange for guns, most now offer gift certificates or specialized debit cards that can only be used for certain types of purchases. In addition, the faith community has taken an interest in helping with buybacks, and local
businesses have been stepping up with generous contributions to help the efforts. These partnerships are intended to encourage broader community support for getting illegal guns off the streets (Pratt, 2000).

With the inability to do accurate impact studies, proponents of the buy-back programs claim success with the sheer number of guns obtained. Residents in Cleveland, Ohio received a $100 BP Gas Card in a new "no questions asked" gun buyback program. Cleveland’s inaugural program saw the removal of 230 guns to be exchanged. In August of 2009, in Buffalo, NY, 711 guns that could be dangerous if they fell into the wrong hands were bought. In three years the program saw 2,312 guns removed from the streets of Buffalo. In Newark, New Jersey’s 8 AM to 8 PM single day buy-back effort, over 400 guns were obtained by midday at four buy-back locations (Friedman, 2009).

While these examples saw lots of success, other cities saw only marginal results. Indianapolis, in the city’s last buy-back effort in 2001, saw only 48 weapons returned (Indy Star, 2010). Indianapolis has not initiated the program since. Unfortunately, small numbers such as Indianapolis’ efforts and evaluations of the programs have shown that gun buyback have no observable effect on either gun crime or gun-related injury rates. Ultimately they discourage communities from participating in the programs. When asked why Indianapolis has not participated in a gun buyback program since 2001, Marion County Sheriff, Frank Anderson simply said, “They don’t work!” His meaning was they do not directly target guns that are highly likely to be used in violence, and the characteristics of the guns collected show little overlap between crime guns and buyback guns.
Oakland, CA’s gun buyback offered up to $250 for a gun "no questions asked, no ID required." An editorial in The Oakland Free Press reported the first people in line were two gun dealers from Reno with 60 cheap handguns. The editorialist states, “Fortunately the buyback did manage to get some guns off the street, too bad they were turned in by a bunch of senior citizens from an assisted living facility” (Tabarrok, 2008).

Economists suggest that the black market for guns is perfectly elastic so buybacks will never reduce the number of guns in any city. Experts say that guns surrendered tend to be those least likely to be involved in crime, such as old, malfunctioning guns with little resale value, antiques chambered for obsolete cartridges that are no longer commercially manufactured or sold, or guns that individuals inherit but have little value in possessing (Tabarrok, 2008). Other limitations of gun buyback programs include the fact that it is relatively easy to obtain gun replacements, often of better guns than were relinquished in the buyback.

Some studies conducted by economist Alex Tabarrok show the programs are ineffective at lowering crime rates and getting potentially harmful weapons off the streets. In 2000, Lawrence Sherman, a University of Pennsylvania criminology professor, conducted a study for the U.S. Department of Justice and noted there was no direct correlation between gun buyback programs and the reduction of crime (Tabarrok, 2008).

Other studies conducted by Tabarrok show that the guns typically surrendered in buybacks are not the types used in deadly crimes. Often, they are too old even to be fired. "A thug is not going to hand in a gun for less than what he paid for it," said Willie, at St. Thomas Aquinas. "It’s not worth it."
As a result of opposition, in 1999, President George Bush claimed buyback programs were "limited in their effectiveness as a strategy to combat violent and gun-related crimes.” The $15 million program, administered by the Department of Housing and Urban Development, provided as much as $500,000 to local police to buy and destroy guns in and around federally funded housing projects was ended. The Clinton administration, which initiated the federally funded program claimed more than 20,000 guns were removed from the streets during 1999-2000 (Unknown, 2001).

As far as statistics are figured, the number of guns obtained in buyback programs can be counted as records of confiscated weapons exist. However, any programs’ impact on the overall illegal market cannot be studied because the number of illegal weapons is unknown. While buyback and tip related programs remove existing guns and other “deterrent” type programs are hard to measure as they are preventative in measure. And since reliable data is insufficient makes it even more difficult to show an impact on the preventative measures. For example, a community education program may prevent young adults from joining a gang or to not get involved with crime prone individuals. Those people affected by the education program will ultimately reduce the overall illegal gun related crime rate, but with no bottom line it is difficult, if not impossible to accurately measure the impact the program has had on the illegal gun market.

Opponents of some programs tout the programs ineffectiveness as guns that are obtained are easily replaced and show no signs of reducing the overall crime rate. While programs, such as buybacks, can have an impact but show no “crime-preventative” results; there are impacts seen in other gun-related situations. Cleveland, OH; Buffalo, NY; and Newark, NJ all saw large
numbers of guns collected from their buyback programs. Crime statistics in those cities were not impacted, but all three cities saw a decline in accidental deaths and shootings from children as well as a reduction in gun related suicides. In fact, in Oakland, CA where the first two in line were gun dealers also saw a reduction in accidental gun-related deaths. So while some programs that are targeted to remove illegal weapons from the streets should be targeted to reduce unwanted, unneeded, or necessary guns from homes.

A gun buy-back program in Indianapolis may not have made a difference for three year-old Aunesti Allen who was shot by her four year-old brother, but it may have made a difference for 13 year-old Ryan Williams. Ryan Williams' life was taken in 1994 when he went to a friend's house to play. He and his friend found a gun and because of an accident, Ryan's life ended. Ryan's mother, Patty Williams who is from Muncie, IN, supports the idea of gun buybacks. She says, "My son Ryan, who was 13, went to a friend’s house to play on Mar. 28, 1994," That day, Ryan's friend was playing with a gun and accidentally shot and killed him.

XI. Conclusion

After estimating several models, with a broad array of outcome measures and independent variables, the hypothesis is correct. It was found that it is not the number of guns available in a community that impact violent gun crime, rather it is the number of stolen and recovered guns that show an influence. Although concealed weapon laws have been linked previously to reduced levels of crime in both theoretical arguments and by empirical evidence, this analysis finds no credible evidence for the view that concealed weapon permits are associated with violent crime rates. Such a finding contradicts the self-defense hypothesis, namely, that legitimate gun availability reduces violent crime. Apparently, the fear of possibly
confronting an armed victim is not an important factor in deterring a would-be offender.

Similarly, this study found little support for the position that as the number of legitimate guns in the general population increases, violent crime also rises. Rather, results show the primacy of illegal gun activity in predicting the violent gun crime rate. Illegal gun activity is the only variable that shows consistent, nontrivial effects across all models estimated. These strong effects persist even after controlling for a variety of potentially rival causal factors.

In addition to demonstrating a strong positive effect of illegal gun activity on the violent crime rate, the results lend credence to the importance of stolen guns in the manifestation of youth gun crime. This paper argued previously that because youths can only obtain handguns illegally, the number of stolen guns in an area should influence the frequency with which they commit crimes with a gun. The results support this premise. As the number of guns reported stolen increases, the rate at which youths are arrested for gun-related crimes also rises. In contrast, the effect of legitimate guns on youth gun violence is trivial and not of substantive importance. Finally, the results show no indication of a displacement effect. That is, offenders do not appear to use knives against their victims when guns became less readily available. This finding provides indirect support for the view that a gun somehow enhances the ability of an individual to commit a crime.

The findings generated from analyses are not surprising when one considers that survey research has consistently shown that both adult and juvenile offenders frequently acquire their guns from thefts (Sheley & Wright 1993; Wright & Rossi 1986). This observation shows support for the argument that it is not the total number of guns in circulation that is related to crime levels, but rather the carrying of guns in high-risk places at high-risk times by individuals with a
propensity for violence (Wilson 1994). For example, Sherman, Shaw, and Rogan (1995) recently found that while Kansas City had an estimated 100,000 handguns in circulation, the seizure of only 29 guns by police during a six-month police crackdown reduced gun-related crime by 49 percent during that same time period. This study took Sherman, Shaw, and Rogans theory one step further by factoring in stolen firearms. The results add support to their perspective by showing that rather than responding to the availability of legitimate guns, the violent crime rate was influenced by the number of guns reported stolen by citizens and seized by police. Thus, it seems that the distribution of guns in society and direction of law enforcement efforts may be the most important in predicting violent crime - much more so than estimating the overall number of guns in circulation.

The findings have important policy implications. Reducing violent crime while recognizing the right of a citizen to own a gun has always been the central challenge facing gun control advocates. Most gun control efforts have been directed at restricting legal gun owner’s ability to purchase firearms. These policy ideas may be insignificant. While it was not proven to increase crime, legal gun owners may find peace of mind from being victimized simply for owning a firearm. Their right to do so should not be denied.

A more effective strategy is to focus law enforcement efforts on reducing the theft of firearms. In our data set, approximately 43 percent of the weapons reported stolen were acquired in burglaries and another 26 percent were obtained illegally from motor vehicles. When one considers that approximately 74 percent of gun owners own two or more guns (Cook & Ludwig 1997), a policy aimed at reducing the theft of firearms seems justified.
This is not to suggest that all satisfactorily issues relating to the effect of illegal gun availability on violent crime over time and across geographical units are resolved. However, it is only one of many conceivable measures of illegal gun activity. For example, this study ignores the effect of weapons obtained from illegal gun trafficked markets. Even though some scholars argue that the trade in illegal weapons is relatively small (Cook, Molliconi & Cole 1995; Kleck 1997), and it seems unlikely that a large number of petty theft criminals are involved in illegal gun markets, one might still want to consider its effect in future research. Other measures such as gun seizures by the police and thefts should be employed on a regional level in order to account for the limitation of geographic boundaries, given that this analysis is restricted to a single county during a specific historical period.
XII. References


