

No. 16
SUMMER 2013

MERCATUS GRADUATE POLICY ESSAY

THE IMPACT OF LEGALIZING PROSTITUTION: ON VIOLENT
CRIME

by Devin Bowen



The opinions expressed in this Graduate Policy Essay are the author's and do not represent official positions of the Mercatus Center or George Mason University.

**The Impact of Legalizing Prostitution
On Violent Crime**

Devin Bowen

Mercatus Center at George Mason University

May 2013

ABSTRACT

The purpose of this essay is to examine the impact of illegal goods markets on violent crime. I focus on the market for prostitution. Currently, according to the Global Commission on HIV and the Law, there are 116 countries and territories that have punitive laws against sex work, 80 countries and territories that have some degree of protection in law for sex work, and 13 countries which do not give information on the subject. Recently there has been much debate over the subject in relation to its impact on crime, health, and the economy. This paper considers one aspect of decriminalizing prostitution: the main focus is on the impact of legalizing prostitution on violent crime. I approach this idea by comparing OECD countries with varying levels of legalization of prostitution against one another. Based on my empirical analysis, I can draw conclusions on the impact of illegal goods markets in high-income versus low-income countries, providing an insight into the development of policies in this arena.

AUTHOR BIO



Devin Bowen was a member of the Duquesne University economics club and has attended two IHS Exploring Liberty summer seminars. Her research experience includes authoring a policy analysis for the Commonwealth Foundation of Pennsylvania, and writing a senior thesis on the London Congestion Charging Scheme. Devin presented her senior thesis at the Eastern Economics Association Student Conference in February 2011.

During her time at the Mercatus Center, Devin worked on a variety of topics, ranging from tax policy to international financial policy. In fall 2012, her coauthored piece with Dr. Antony Davies, *Tax Gimmicks*, was published. Between her first and second year she was awarded the Thomas Jefferson Fellowship with Americans for Tax Reform and was the sole author of the annual Cost of Government Day Report. After graduating from George Mason in 2012, Devin has moved on to work for a leading free-market data-technology company as a political analyst.

COMMITTEE MEMBERS

Matthew Mitchell, senior research fellow, Mercatus Center at George Mason University

Antony Davies, associate professor of economics, Duquesne University

Virgil Storr, director of Graduate Student Programs and senior research fellow, Mercatus Center at George Mason University

Mercatus MA Fellows may select the Mercatus Graduate Policy Essay option in fulfillment of their requirement to conduct a significant research project. Mercatus Graduate Policy Essays offer a novel application of a well-defined economic theoretical framework to an underexplored topic in policy. Essays offer an in-depth literature review of the theoretical frame being employed, present original findings and/or analysis and conclude with policy recommendations.

The views expressed here are not necessarily the views of the Mercatus Center or Mercatus Center Graduate Student Programs.

Table of Contents

| | |
|-------------------------------------------------------------------------------|-----------|
| I. Introduction | 4 |
| II. Theory of Crime and Illegal Markets | 6 |
| <i>A. Major Contributors to Criminal Activity</i> | |
| <i>B. Illegal Goods Markets and Violent Crime</i> | |
| <i>C. Black Markets in History—The Prohibition Era</i> | |
| III. Theories for Why Violent Crime Is Associated with Illegal Markets | 14 |
| IV. Case Study: Prostitution | 19 |
| <i>A. The History of Prostitution</i> | |
| <i>B. Arguments For and Against Legalizing Prostitution</i> | |
| <i>C. Costs of Enforcing Laws Against Prostitution</i> | |
| <i>D. Methodology and Analysis</i> | |
| V. What Comes Next? | 38 |
| VI. Conclusion | 39 |
| APPENDIX: Linear-Regression Results | 40 |
| REFERENCES | 41 |

I. Introduction

This paper looks at the relationship between illegal/black markets and violent crime; in particular, I emphasize the relationship between prostitution and violent criminal activity. In order to fully examine the nature of the relationship between this specific black market and violent crime it is necessary to first explore the nature of crime in general. It is imperative to understand why crime occurs more frequently in some situations rather than others. Furthermore, the literature suggests there is an inherent relationship between illegal goods markets and the frequency of violent crime, but I aim to clarify the ambiguities associated with this. I answer two questions: First, when activities that generate mutual benefits are made illegal, does criminal activity increase? Second, what is the differential impact of decriminalizing markets in high-versus low-income nations?

After looking generally at the nature of crime and the relationship between illegal goods markets and criminal activity, I focus on the relationship between the legalization or criminalization of prostitution and violent crime. Prostitution, noted as one of the “oldest professions” in history, has been regulated in a variety of ways around the world since its origin thousands of years ago. Currently, according to the Global Commission on HIV and Law, there are 116 countries and territories that have punitive laws against sex work, 80 countries and territories that have some degree of legal protection for sex work, and 13 countries that do not give information on the subject (Global Commission 2012). Recently, nations have begun instituting regulations criminalizing or decriminalizing prostitution. In 2000, the Netherlands legalized prostitution, with Germany in 2002 and New Zealand in 2003 following suit. These countries decriminalized brothels and legalized prostitution in order to extend legal protections to the workers and to protect workers from discrimination and crime (Weitzer 2008). In particular,

New Zealand implemented the Prostitution Reform Act (PRA) of 2003 with the key aim of the reform being to improve the welfare, health, and safety of sex workers (Mossman 2010).

Previous literature, based on theory, suggests that upon legalizing some of the profession—either prostitution or brothels—crime will fall (Weitzer 2000; Weitzer 2008; Shuster 1992). There was an overall sense of well-being felt by sex-workers in New Zealand after the passage of the PRA, suggesting there is validity in this literature (Mossman 2010). Examining this relationship may allow me to make specific policy prescriptions and apply them more generally toward illicit markets.

Sections II and III examine the theory of crime and illegal markets and the theories for why violent crime is associated with illegal markets, respectively. Then section IV examines the case study on prostitution. I break the case study down into the following: subsection A discusses the history of the profession. Subsection B considers the ways in which legalizing prostitution may make an improvement in society; specifically, it focuses on the potential for legalized prostitution to decrease the incidence of violent crime. This section also examines cases against legalizing prostitution. In subsection C, I consider the costs of enforcing prostitution laws. Following this discussion, in subsection D, I provide an empirical analysis and interpretation of results, in which I look at the relationship between violent crime and prostitution. Furthermore, I consider the implications of my results for the enforcement of prostitution laws in the United States. Finally, section V discusses next steps and section VI concludes.

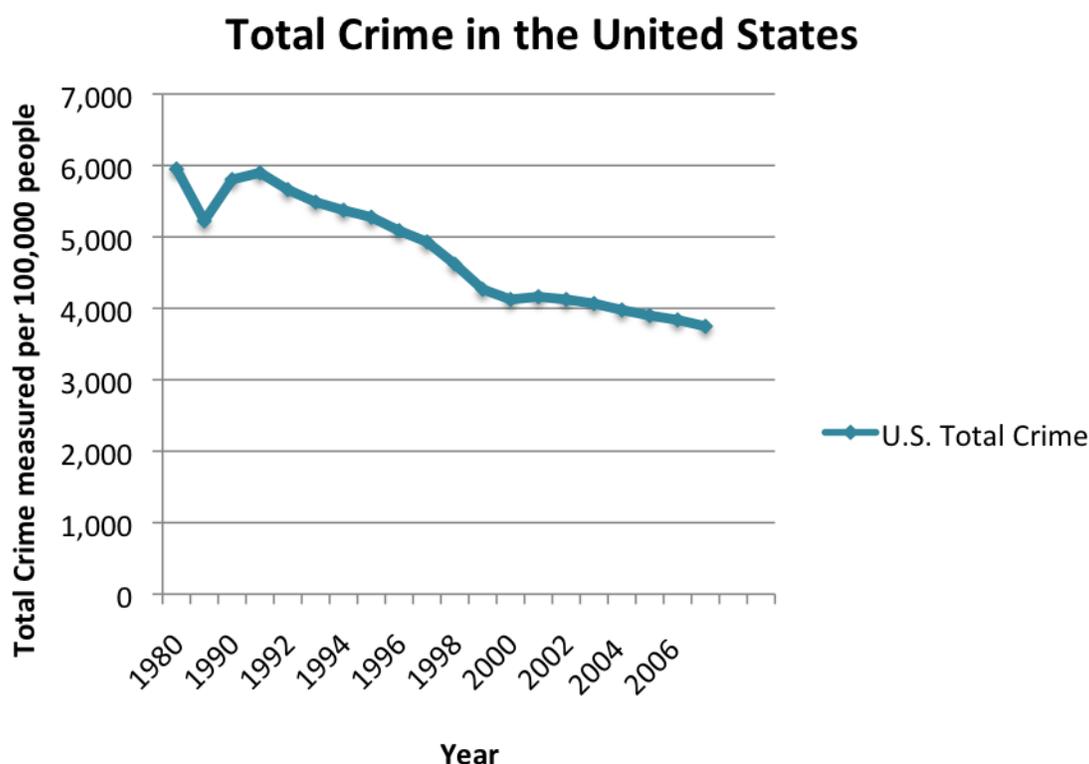
II. Theory of Crime and Illegal Markets

A. *Major Contributors to Criminal Activity*

Becker (1995) uses an economic approach to crime and finds that people compare costs and benefits of committing the crime and then decide on their action. Where no monetary benefits are apparent there may be the benefit of a “psychic” or “sick” thrill gained from committing a violent crime.

To begin to understand what contributes to criminal activity and how to consider effective policy prescriptions, it is necessary to point out key factors associated with violent activity. Most obvious is that in the majority of societies the poor and less educated are more likely to commit violent crime; whereas, the wealthier and more educated peoples are more likely to commit white-collar crimes. Further, Becker (1995) explains that deviants place little concern on the ramifications of committing crime while committing it; instead, the impact of future punishment is discounted. Finally, it is found that people who commit crime are more likely to drink more heavily, smoke more heavily, and participate in other forms of addictive and socially unpopular behavior.

Today there is a large emphasis on the idea of “War on Crime”—the idea of fighting growing crime throughout the world. However, between 1991 and 2001 crime overall has fallen. Looking at the overall trend between 1980 and 2009 in the United States, it is evident that the trend experienced between 1991 and 2001 has continued into the last decade.

Figure 1: Trend in Total Crime in the United States¹

While leading experts, such as Bennet et al. (1996) and Fox and Pierce (1994), had been predicting an explosion in violent crime, homicide rates plummeted more than 40 percent over the course of the 1990s—reaching their lowest level in over 35 years. Plunges like this occurred across all types of violent crime with little or no warning. Levitt (2004) considers the reasons why crime rates declined in the United States, and he suggests four factors contributing to the sudden drop: increases in the number of policing authorities, a rise in the prison population, a decline in the crack epidemic, and the legalization of abortion. Levitt then discusses six factors that are often cited as crime reducers but actually have no effect on the drop in crime: economic strength, changing demographics, innovative policing strategies, gun control laws, laws allowing

¹ The year 2001 does not include the terrorist attacks that occurred on September 11, 2001. Data Source: The Census Bureau: Law Enforcement, Courts and Prisons: Crimes and Crime Rates. <http://www.census.gov>.

people to carry concealed weapons), and increased use of capital punishment. Understanding which factors contribute to a rise or fall in crime will be important later in this piece as I discuss the success of enforcement and appropriate policy prescriptions for illicit markets.

Wilson (2011), in an opinion piece for the *Wall Street Journal*, offers another view of the baffling decline in crime. While Becker (1974) offers a link between economic strength and criminal activity, the last 10 years contradict his findings. Becker's findings would predict a rise in violence throughout the United States as the economy fell in 2007, yet just the opposite happened: crime rates continue to decline. Wilson surveys possible explanations and cites Levitt (2004), but gives another perspective. Wilson posits that improvements in technology have lowered criminal activity in a variety of ways. First, tech companies have vastly improved home security systems as well as security for small businesses, deterring burglaries and assaults. In addition to citizens becoming better protectors, he comments on the innovation and precision of police hot-spotting.² Using hot-spotting to highlight areas where more criminal activity occurs has allowed police officers to become more efficient in their ability to protect society (Wilson 2011). While I cannot offer up sound proof as to why criminal activity and violence have continued to decline steadily, there are a variety of perspectives pointing to a healthier and safer society.

B. Illegal Goods Markets and Violent Crime

Drawing on Levitt (2004), I question why violent crime seems to thrive in the presence of illicit markets. This section explores the relationship between violent criminal activity and illegal markets.

² Hot-spotting is a thermo-mapping of high-intensity crime activity in specific geographies.

Naylor (2009) breaks down the illegal market economy into 12 distinct sectors and examines the type of crime and likelihood of crime that occurs.³ Crime can occur at four stages: production, marketing, income distribution, and wealth redistribution.

The twelve major illegal/black markets are:

- Narcotics
- Sex
- Gambling
- Alcohol, Tobacco, Fuel
- Art and Antiques
- Wildlife
- Arms
- Migrants
- Intellectual Property
- Organ Trafficking
- Toxic Waste
- Luxury Product Smuggling

Of the 12 sectors, only two economies, narcotics and sex, are considered to have the possible (though unlikely) occurrence of violence across all four stages. While violence could occur at any of the identified stages, it is also possible that violence does not occur within an illegal markets. According to Naylor (2009), there is no inherent logic associated with these four stages that suggests violence is an inevitable characteristic of illegal markets.

However, the general consensus is that illegal/illicit market activity is closely associated with organized violence throughout the world. Andreas and Wallman (2009) note that violence is commonly viewed as one of the defining features of illicit markets, and is what differentiates them from legal markets. One explanation for the prevalence of violent crime in illegal economies is that there is no recourse to the law in order to enforce contracts, protect victims,

³ Naylor describes three types of crime: predatory, commercial, and market-based. Predatory crime consists of involuntary transfer by force or stealth of existing wealth and/or property at the expense of an individual and their private capacity. Commercial crime is defined as actions having the appearance of voluntary exchange but in reality involving fraud or a breach of trust. Finally, market-based crime is criminal activity that stems from illegally producing goods or services to earn income.

and punish the criminals by an outside agency or other participants. Overall, illegal goods markets are characterized by elevated violence because “their participants are debarred from legal redress and because those who make their living illegally tend to derive from social strata in which violent self-help is relatively common” (Andreas and Wallman 2009, 226).⁴

While research shows that there exists a positive relationship between illegal market activity and violent crime, it is necessary to further examine this conclusion to ensure there are no ambiguities. Naylor (2009, 232) points out that violence may be either the “result of something in the act of ‘illegal’ enrichment or a response to the efforts to suppress it.” If the latter is the case, then stringent laws and heavy enforcement on illegal markets may be a driving factor of violent criminal activity. For example, when crime occurs within the illegal market, victims are unable to report the crime without risk of punishment for participating in that market. Bringing lawsuits or charges against the offender becomes impossible, allowing offenders to get away with violence. Beyond the risk of evading the law, there is little that threatens or constrains offenders from being criminalized by their victims.

Following from this, Naylor (2009) argues that the structure and context of the regulatory environment may influence violent crime. He states that the regulatory environment “can transform a racket that is relatively free of violence into one with an increasing amount of it, even though the essence of the illegal business remains the same” (Naylor 2009, 233).

Recognizing that some illegal markets are more prone to violent crime also leads to recognizing the possibility that some cultures are also more prone to violent crime within the illicit markets. The culture and institutions of certain countries may further explain why some

⁴ It should be noted that there is a general understanding that outlawing or restricting activities, deeming them as “criminal,” is motivated by the belief that other members of society are harmed (Becker 1974). Therefore, illegal activities such as gambling, drug trade, prostitution, and underground gun markets are perceived to pose negative externalities to society.

countries experience more violence within their underground economies than other countries. For example, Colombia and Bolivia are both extremely enmeshed in the trade of coca/cocaine—it is even arguable that Bolivia trades more heavily, on a per capita basis, than Columbia. However, Columbia is a much more violent country than Bolivia, suggesting that something in the institutional foundation of Columbia promotes more violence.

Another example of varying levels of violence in illicit markets is the Bosnian markets for cigarette trading and sex trafficking. In the Bosnian post-conflict society, many of the illicit market actors preferred an environment similar to that of their legal counterparts—peaceful. After the war, the expansion of the illicit markets mentioned above took place; contrary to expectations though, an increase in violence did not accompany the expansion (Andreas and Wallman 2009).

C. Black Markets in History—The Prohibition Era

For centuries, black markets have sprung up in economies, and with them criminal activity has flourished. One of the most prominent examples of illegalizing goods is the Prohibition era in the United States, from 1920 to 1933. The coupling of the Eighteenth Amendment and the Volstead Act made it illegal to sell, manufacture, or transport alcohol—the prohibition on alcohol was heavily supported by rural Protestants and members of the Anti-Saloon League. The implementation of the prohibition laws was viewed as a victory for public morals and the fight for health and safety in the country. Supporters of the movement held that alcohol was a major contributor to negative community values and unwanted outcomes, including unemployment, poverty, business failure, slums, insanity, and crime and violence—especially against women

and children (Levine and Reinerman 1991). The United States federal government enforced the laws in the hope of reducing crime and alcohol consumption throughout the nation.

Despite the intent of the federal government to reduce crime in the United States, the illegalization of alcohol had the opposite effect. Crime rates skyrocketed, and crime rings flourished (Cussen and Block 2000). The crime rings participated in risky criminal activity related to the sale, manufacturing, and transporting of the illegal alcohol. Even more dangerous, Prohibition turned cities into “battlegrounds” between opposing bootlegging gangs, which contributed to the rise of the American Mafia. In the first year of Prohibition, crime throughout the nation increased by more than 24 percent. This included crimes directly related to the ban on alcohol, such as making and selling alcohol, and tangential activities like burglary and assault that resulted from people smuggling liquor to speakeasies. Further, murder rates throughout the country increased by over 14 percent (Towne 1923). Not coincidentally, after the repeal of the Prohibition laws, in 1933, crime rates related to the illicit market fell. The example of Prohibition and its relationship with violent criminal activity is a sure reflection of Naylor’s (2009) conclusion that the regulatory environment of illegal markets has an impact on the frequency and type of violence that occurs.

Interestingly, Prohibition probably did little to reduce the overall consumption of alcohol. Rather, there was a shift in the form and quality of the alcohol and a change in the distribution of the income that resulted. Popping up in place of bars and saloons were speakeasies, rumrunners smuggling liquor in and out of cities, and bathtub gin. The new institutions and practices were often run by families or organized bootlegging gangs. While bars shifted to speakeasies, beer consumption shifted to alcohol consumption, with drinks that had lower alcohol percentages being replaced by harder substances like moonshine. It was far easier and much more lucrative

for suppliers to shift to hard liquor. The major effect of Prohibition was thus to reduce beer drinking instead of reducing total alcohol consumption. The consumption of hard liquor skyrocketed along with the “fashionableness of the martini and other mixed drinks” (Levine and Reinerman 1991, 48).

The criminalization of markets such as prostitution, gambling, and drugs has led to their prevalence in the underground economy. Today, the regulatory environment surrounding alcohol is much more relaxed. Nearly all laws pertaining to alcohol are obeyed, with the exception of minimum-age drinking laws. Further, consumers generally do not perceive alcohol regulation to be overly restrictive (Levine and Reinerman 1991). Considering the result of the Prohibition era in the United States, I look at other similar cases throughout the world to see if there is a general trend of increasing violence when goods are made illegal. Exploring this idea helps to provide answers to the first question of this policy essay: When activities which generate mutual benefits are made illegal, does criminal activity increase?

III. Theories for Why Violent Crime Is Associated with Illegal Markets

Cussen and Block (2000) argue that the legalization of drugs would reduce the spread of disease, reduce crime rates, and improve the quality of life for both individuals and the community as a whole. Their research offers four main reasons why the legalization of drugs will reduce criminal activity:

- Violence related to the high price of drugs will disappear as the supply of narcotics increases with its legality. Supply will increase as more people enter the market on both the supply and demand side.
- Substance-related disputes will decline, including drug wars between opposing gangs.
- The drug business creates great profits for criminal cartels. An open market will allow revenues to be distributed by free-market forces and would have less of a chance of supporting terrorist organizations, crime rings, and cartel activity and profit.
- With transport, sale, and possession legalized, formerly illegal activities will now become society-approved business transactions. This will result in the reduction of the need for law enforcement to monitor these markets, thus freeing up police resources to tackle violent crime.

Another theory, linked to the institutional framework of cultures previously discussed, considers the level of corruption that is evident in some countries versus others. Often, legal authorities become major participants in the illegal markets—rather than protecting society from violence. Phongpaichit (1999, 6–7) observes that, with respect to illegal economies in Thailand,

In recent press reports, policemen have appeared as importers and traders of amphetamines; share-holders in gambling enterprises; kingpins in

human trafficking; and agents and entrepreneurs in the sex services trade.

Of course, there are many good and honest policemen. Indeed, several helped with the information for this study. But overall the police must be counted as one of the major forces in the illegal economy.

Another example that supports Phongpaichit's theory that law enforcers often become major participants in illegal economies, allowing violence to go unpunished, is the widely recognized whistle-blowing case of human trafficking in Bosnia with UN peace-keepers.⁵ The scandal was uncovered and showed evidence that protectors are often heavily involved in illegal markets. The officers received bribes rather than cracking down on violent activities, and they were even active participants in human trafficking and violation of prostitution laws in Bosnia (Barnet and Hughes 2001; Elliot and Elkins 2007).⁶

In the following paragraphs, I discuss why laws banning prostitution may be associated with increased or decreased society-wide crime. Previously, I have explained that policing prostitution may crowd out resources that might be used to police violent crime. Thus, upon the legalization of prostitution, police forces may be able to invest those resources into violent-crime prevention.

Prostitution is a difficult "crime" to police and prosecute. Essentially, there is no "victim" in prostitution, so long as women enter freely into the profession. In the case of a violent crime, in

⁵ Kathryn Bolkovac was the UN peace-keeper who uncovered the scandal that took place in Bosnia with trafficked women and policing authorities in the late '90s. She was assigned a mission in Bosnia to crack down on human trafficking and violations against the prostitution laws in place. Bolkovac interviewed over 85 young women who were part of the trafficking and prostitution markets and uncovered that UN officers were participating in the business side of these transactions as well as coercing these women into having sex. After advising various UN officials about the peacekeepers and officers participating in the criminal activity, Bolkovac was transferred to Sarajevo and then fired. After being fired she called media attention to the UN.

⁶ Since this incident, other UN scandals have been brought to light on several occasions. During the first 10 months of 2006, 319 officers or peacekeepers of the UN were investigated for misconduct. Sixty-three percent of the allegations dealt with sexual misconduct and exploitation; while one-third of the allegations dealt with officers participating in prostitution.

which there is always a victim, someone (the victim him/herself or the victim's relatives) has an incentive to seek police assistance. If the prostitution market were legal, violations of a rights would be resolved through the judicial system (Cussen and Block 2000). But since the market is often illegal, neither prostitutes nor their customers have an interest in alerting police to their activities, and so police have a difficult time catching and preventing the act. As a result, the law is likely to go unenforced. Therefore, as people are flouting one law, through participating in the buying and selling of sex, they may be more likely to flout other laws against criminal activity, including violence. For instance, if prostitution is criminalized, prostitutes may be afraid to go to the police for fear that they will be arrested, so they may become likely targets for theft or assault. They may also resort to protecting their own property, and this, too, may lead to violent confrontations. Legalizing prostitution offers victims and potential victims of violence the chance to come forward and seek protection.

The idea that legalizing prostitution can reduce criminal acts of violence is supported by the experience of New Zealand. As previously noted, New Zealand decriminalized prostitution in 2003 with the Prostitution Reform Act (PRA). In order to ensure that workers are actually protected by authorities such as police against coercion, violence, and exploitation, specific provisions have been included in PRA making these sorts of actions legal offenses. Mossman (2010) interviewed informants from five different regions in New Zealand: Auckland, Hawkes Bay, Wellington, Nelson, and Christchurch, totaling 86 interviewees. The main goals of the interviews were to understand the changes that occurred in the market for sex work as well as the perceptions of brothel owners and sex workers before and after the implementation of PRA. Generally, the interviewees expressed a viewpoint that violence has been lessened to a degree.

For example, one interviewee commented that “the girls can stop a police car now and make a legitimate claim” (Mossman 2010, 128).

While at first, sex workers were afraid to stop police, worrying about the officers’ perceptions of the women as “whores,” over 70 percent of the interviewees reported that sex workers were now much more likely to seek help from authorities. Overall, the relationship with authority figures had improved; the perception prostitutes and brothel owners had about police shifted from seeing them as “prosecutors” to “protectors.”

While I have briefly considered reasons why legalizing the practice may contribute to a reduction in acts of violent crime, it may be the case that legalizing the profession may lead to more violent crime. One reason is that prostitution may lead to a general decay in social norms. Recognizing that buying and selling sex has become an acceptable social norm may lead people into believing that other denigrating acts are socially acceptable. Generally, the idea of “buying women” could possibly lead to the idea that disrespecting women, assaulting women, and raping women is equally acceptable.

The experience of Massachusetts during the mid-1970s highlights how this viewpoint can motivate citizens to refrain from legalizing certain activities. Two towns, Adams and Hull, considered legalizing gambling to increase revenue and bring in tourism; before doing so, they interviewed the residents. Residents of the towns felt that there would be a general decay of the value of their community. More importantly they felt that children would perceive gambling as morally acceptable. The possibility of legalized gambling frightened many residents, for they felt that gambling would be the gateway into other socially unacceptable behavior such as drugs, violence, and prostitution (Pizam and Pokela 1985).

Whether legalizing certain activities do lead to a deterioration of social norms is unclear, it is a concern by citizens that is worth noting. In order to really understand the relationship that exists between prostitution and violent crime it is necessary to further explore this issue empirically.

IV. Case Study: Prostitution

I previously noted that prostitution is one of the oldest professions in history—further, the profession has been regulated since the very earliest records of it. The regulatory environment surrounding the market makes for an interesting analysis and once again reflects Naylor’s (2009) conjecture that the regulatory environment of illicit markets may spur criminal activity. Specifically, this case study examines the relationship between crime and legalized prostitution.

A. The History of Prostitution⁷

Prostitution is often said to be the oldest profession in history. Episodes throughout history illustrate that even in the oldest records of the practice there is evidence that the profession was believed to be an inevitable component of the economy, but not one that could go without some form of regulation. The first records of the profession date back to 2400 BC, in which time there was an association between sex work and temple service in Sumer. It was noted as a form of worship and a sacrifice to the gods of fertility. In the Chinese empire, under statesman-philosopher Kuang Chung in 600 BC, brothels were legalized as a means of increasing the state’s income; however, regulations allowed prostitution to occur only in designated areas of the state. In 180 BC, the Romans began to regulate the profession, making prostitutes apply, have an issued license, ascertain a price from a Roman official, and enter their name on an official’s roll; however, these regulations were limited only to low-class prostitutes. While Romans, like the Chinese, viewed the profession as immoral, many believed it imparted a necessary order to society and provided a healthy source of income.

Since ancient times, while the level of regulation for prostitution varied, it was often believed that prostitution was “immoral but necessary” (Shuster 1992). When a pandemic hit Europe

⁷ Information on the historical timeline comes from ProCon.org, and Shuster (1992).

during the 1400s, governments and citizens alike began to form negative beliefs toward prostitution and attempted to suppress it.

Over the last two centuries, there have been sweeping regulations to reform the profession, attempting to ensure that women work in environments less prone to violent acts and the contraction of venereal diseases. For instance, in 1864, the United Kingdom passed the Contagious Disease Act, mandating the arrest of all prostitutes and the examination of the women for venereal diseases before releasing them back into society. If they tested positive, prostitutes needed to be cured before they began working the streets or went back home to work in their brothels.

Finally, consider the history of prostitution in the United States. Before World War I, prostitution itself was not considered an offense to statutory laws throughout America. However, it was generally regulated as a sort of vagrancy. Usually, prostitutes were punished as sexual deviants under laws against adultery or “night-walking.” For example, night-walking was an offense in Massachusetts under a law in the 17th and 18th centuries. In 1875, individual states began to enforce a set of regulations that later outlawed the profession in all but one state. In 1875, the federal government prohibited the immigration of prostitutes from other countries. Later, in 1910, Congress passed the Mann Act, also known as the White-Slave Traffic Act, prohibiting white slavery and the interstate transport of women for “immoral purposes.” The primary intent of the legislation was to address the problems of prostitution, trafficking, and the said “immorality.” Then in 1913, in *Hoke vs. United States*, the Supreme Court ruled that prostitution was strictly left to the province of the states; however, Congress was still permitted the power to regulate interstate travel for purposes of prostitution or other immoral purposes. Between 1913 and 1971, states regulated prostitution and enforced laws protecting it. In 1971,

after various laws had been enacted against the act of prostitution, the state of Nevada changed course and began to permit it, as a regulated activity. Today, prostitution is illegal in 49 of the 50 states. Only in 11 rural counties in Nevada are brothels and prostitution legal.

B. Arguments For and Against Legalizing Prostitution

In this section, I consider why the legalization of some forms of sex work might improve society. I briefly look at the arguments for and against criminalizing prostitution, and the impact of legalizing the practice in other countries of the world. Additionally, I review the enforcement costs associated with enforcing the laws and punishing violators of these laws in the United States.

B1. Arguments for Criminalizing the Profession

Shuster (1992) describes three basic arguments often made as to why prostitution ought to be criminalized in the United States. The arguments are as follows: prostitution contributes to the moral degeneration of society; prostitution promotes venereal disease, including Acquired Immune Deficiency Syndrome (AIDS); and prostitution victimizes and denigrates women (Shuster 1992). I briefly review each of these arguments for criminalizing prostitution; however, the moral and health arguments have no serious bearing on the primary goal of this paper, which is to identify the relationship between legalized prostitution and violent crime. Therefore, I only acknowledge both sides of the moral and health arguments. I more fully explore both sides of the final argument, which has direct bearing on the relationship between prostitution and violent crime.

B2. Morality and Health

Prostitution, as Brents and Hausback (2005, 273) say, can be seen as “flaunt[ing] socially corrosive behavior publicly,” and thus undermining social morality. In other words, the argument concludes that the costs of prostitution are not internalized. Instead, they spill over onto the broader community, corrupting innocent bystanders.

Other arguments challenge this claim and note that it is not necessarily true that prostitution disrupts social and moral values (Shuster 1992). While street prostitution may present risks of degrading social places and opening children up to the idea that selling one’s body for sex is an acceptable norm, the profession is often easily hidden from the public. Legal brothels—such as those in Nevada and, notably, the Netherlands—take prostitution off the streets and ensure it is practiced in an environment that does not let ideas of moral destruction seep through to the public. These environments ensure that children are not witnesses to “seedy” behavior and do not learn to view prostitution as a “morally acceptable” career. Furthermore, for those desiring satisfaction from a prostitute, their anonymity is not at risk, and social order in society remains intact.

The second argument Shuster (1992) calls attention to is that prostitution promotes venereal diseases, including AIDS. This argument is consistent with research from the Coalition Against Trafficking in Women International (CATW), which suggests that the legalization or decriminalization of prostitution does not promote women’s health. The CATW notes that policies requiring condom use are rarely enforced in brothels or other controlled establishments, and that legalization makes the spread of disease more likely.⁸

While there are arguments in favor of this claim, there are also arguments against it. Previous literature finds that, according to the available data, countries in which prostitution is tolerated or

⁸ For more information, see <http://www.catwinternational.org/WhoWeAre>.

legalized have considerably lower rates of AIDS than countries where prostitution is illegal (Shuster 1992). Of course, reverse causality is a possibility. (It's quite plausible that a high prevalence of AIDS could cause a country to make prostitution illegal.) Other studies show that where prostitution is legal, the government has the ability to regulate and license prostitutes, requiring mandatory health checkups and STD screenings (Brents and Hausback 2005). Other studies have shown that in Nevada, female prostitutes have taken their health very seriously and ensure that precautions are taken. Brents and Hausback (2005, 286) note that one prostitute told an interviewer, "I always use a condom, no exceptions no exceptions at all, ever. I don't care how much money you offer me, my life is worth more than that. That's it." Comments like this express a deep understanding of the implications of unprotected sex. Previous literature notes that the perceived risk of infections and diseases has made the brothels in Nevada a safe and clean place for prostitutes to practice the profession (Brents and Hausback 2005).

B3. Crime

The third and final argument I consider in favor of criminalization is the argument that prostitution victimizes and denigrates women. Shuster (1992) describes this in terms of crime against prostitutes. Previous literature highlights that street prostitutes are at a high risk of violence from their customers and pimps (Shuster 1992). In a study looking at street prostitutes in San Francisco, of the 200 surveyed, roughly two-thirds reported having been assaulted by a customer, and over 70 percent reported being raped by a customer (Silbert and Pines 1982). However, one drawback in this study is that the interviewees were not drawn from a random sample. Weitzer (2000) notes that the results may have been skewed by oversampling prostitutes who are more frequently victims of crime.

While some studies find that prostitution is associated with increases in violent crimes such as assault, rape, and homicide, other studies emphasize that nations that have chosen to legalize some level of prostitution often did so with the intent of reducing violent crime (Weitzer 2008). Examples of legalized brothels in Nevada and beyond the United States suggest that legalized brothels and prostitution give prostitutes and brothel owners the ability to ask police for protection against violence (Brents and Hausback 2005). In the case of illegal prostitution, prostitutes are unable to seek police help if they feel threatened or have been endangered; however, in legal brothels, if customers become rowdy, there is often a panic button and, if necessary, the owners can call the police to handle the customer. The ability to go directly to the police provides an extra safety measure, reducing assaults and rapes (Brents and Hausback 2005). Weitzer (2008) and Shuster (1992) provide arguments suggesting that *illegal* prostitution is associated with more violent crime, but that *legal* prostitution would be associated with less violent crime. Specifically, Shuster (1992, 15) contends that it is believed that

...prostitution must be proscribed because it feeds drug trafficking, drug use, burglary, organized crime, “pimping,” assault and battery, theft, exploitation of children and trafficking of women...in reality, many of these crimes would be eliminated by legalizing prostitution.

More recently, Cundiff (2004) has looked at the relationship between the frequency of rape and the availability of prostitution, hypothesizing that rape is caused, at least in some part, by the lack of other available sexual outlets. To test this hypothesis, he uses econometric techniques looking at the relationship between rape and an estimate of the income of a low-end prostitute in OECD countries. Cundiff examines low-end prostitutes, as those are prostitutes who are more

likely to encounter occurrences of rape. The cheaper the price of a low-income prostitute, the more easily available a prostitute is; therefore, in countries where prostitution sells for \$30, he theorizes that there are more prostitutes available. Looking at the United States, Cundiff reports that the average low-end prostitute charges \$200 (if states legalized the practice, rates would go down by simple supply and demand). Cundiff's results align with his hypothesis. He finds that the rape rate is lower in those nations where prostitution is more readily available. He estimates that if the United States were to legalize prostitution, there would be a reduction in the number of rape victims by 25,000 per year.

Recognizing the potential relationship between prostitution and violent crime against prostitutes as depicted by Shuster, Weitzer, and Cundiff, I examine whether prostitution is associated with violent crime beyond the market for sex work. My empirical analysis sets out to see if there is a relationship between crime and legalized prostitution.

C. Costs of Enforcing Laws Against Prostitution

In addition to the concern of alleviating violent crime, I also recognize further policy impacts from legalizing prostitution. I ask what the policy implications would be if the profession was legalized in America. The control of prostitution in America involves a substantial level of financial commitment from the criminal-justice system. At the same time, enforcement has certainly not ended the sex trade, the victimization of prostitutes, or moral reservations. Annually, approximately 90,000 arrests are made in the United States for violation of prostitution laws.⁹ Furthermore, a study by Pearl (1987) found that the 16 largest cities in the United States spent a total of \$120 million in 1985 to enforce prostitution laws. More recently, Murphy (2010) noted that cities throughout the United States spend between \$7.5 and \$16

⁹ The statistics come from the Bureau of Justice.

million each per year, on average, on enforcing prostitution laws and addressing the outcomes associated with illegal street prostitution.

Further, while cities incur the costs of enforcing prostitution laws, some officers take the issue lightly. Looking at Chicago in particular, Levitt and Venkatesh (2007) estimate that a prostitute will service, on average, 450 “Johns” before she is arrested, and they calculate that only 10 percent of all arrests lead to a sentence. Additionally, they argue that there is little incentive in the Chicago area to enforce the laws. There is, however, a large incentive for police officers to not enforce the law: prostitutes offering sex. Over three percent of all of the services studied were “freebies” for police officers, leading to the suggestion that there is a higher likelihood that a prostitute will have sex with a police officer rather than be arrested by a police officer.¹⁰ Phongpaichit (1999) makes the important point—directly related to the relationship between prostitutes and police officers in Chicago—that while many societies brand certain activities as criminal, there is a wide acceptance that if suppressing the activity effectively fails, there is a high profit rate for the participants—including the authorities.

This brief examination of the background of police enforcement and prostitution and the earlier discussion of the flaws of law enforcement and illegal markets draw me to another point. If there is a negative relationship between prostitution and violence, or an ambiguous relationship, then future research can examine the impact of overspending in the 50 states on penalizing the profession. Using my analysis of the relationship between crime and prostitution allows me to consider effective policy prescriptions and potential solutions to the questions I have presented.

¹⁰ Levitt, Steven D. and Sudhir Alladi Venkatesh (2007). *Empirical Analysis of Street Level Prostitution*. Working paper, SuperFreakonomics.

D. Methodology and Analysis

This section describes the methodology I used to analyze the relationship between the legalization of prostitution and criminal activity in countries around the world. In order to test the relationship between legalized prostitution and violent crime, I use two separate regression models.

DI. Data

In the analysis, I look at the 34 member countries of the OECD between 1990 and 2010. I use OECD countries because these countries share some similar characteristics in their cultures and economies. Further, the OECD countries consist of some of the wealthiest, most developed nations as well as some middle-income and less-developed nations. Using these countries will offer an interesting comparison between the implications of legalizing prostitution in rich and poor nations. The following table lists the OECD members and a brief statement of their current laws on prostitution and brothels.

Table 1: OECD Countries and their Laws on Prostitution and Brothels¹¹

| Country | Is Prostitution Legal? | Are Brothels Legal? |
|----------------|------------------------------------------------------------------------------------|----------------------------|
| Australia | Yes — since 2000 | Yes |
| Austria | Yes — legal since 1975 — variety of regulations in place to monitor the profession | No |
| Belgium | Yes | Yes |
| Canada | Yes — with regulations | No |
| Chile | Yes | No |
| Czech Republic | Yes | No |
| Denmark | Yes — legalized in 1999 | No |
| Estonia | Yes | No |
| Finland | Yes | No |
| France | Yes | No |
| Germany | Yes — legalized through the 2002 Prostitution Act | Yes |
| Greece | Yes | Yes |
| Hungary | Yes | No |
| Iceland | Yes — as of 2007; however, some regulations apply | No |
| Ireland | Yes | No |

¹¹ Data for determining the legality of prostitution and brothels comes from ProCon.org: <http://prostitution.procon.org/view.resource.php?resourceID=000772>.

| Country | Is Prostitution Legal? | Are Brothels Legal? |
|----------------|------------------------------------------------------|----------------------------|
| Italy | Yes | No |
| Israel | Yes | No |
| Japan | Yes — but non-coital sex is illegal | No |
| Korea | No | No |
| Luxembourg | Yes | No |
| Mexico | Yes | No |
| Netherlands | Yes — legal since 2000 | Yes |
| New Zealand | Yes — legal since 2003 | Yes |
| Norway | Yes | No |
| Poland | Yes | No |
| Portugal | Yes | No |
| Slovakia | Yes | No |
| Slovenia | No | No |
| Spain | Yes | No |
| Sweden | Yes — selling sex has been decriminalized since 1999 | No |
| Switzerland | Yes | Yes |
| Turkey | Yes | Yes |
| United Kingdom | Yes — however, “persistent” solicitation is illegal | No |
| United States | No — with the exception of Nevada | No |

To look at the relationship between prostitution and violent crime, I have chosen to look at whether or not prostitution, defined as selling one's body for sexual acts, and brothels are legal (or were legalized) in the 34 OECD countries between 1990 and 2010. I have constructed indicators for brothels and prostitution that report whether the transactions are legal or not in each of the 34 countries examined. To control for other potential influences, I also include variables for GDP (real gross domestic product per capita), unemployment, economic freedom, and educational attainment. The data for my analysis comes from the World Bank database, ProCon.org, the Heritage Foundation, and the CIA Factbook. To examine the relationship between these variables, I measure legalization of brothels and prostitution against reported acts of violent crime. I define violent crime as any reported act of rape, assault, or intentional homicide (measured per 100,000 people). This measurement is consistent with previous literature by Shuster (1992). To keep the measurements consistent, I have used data from the World Bank database for my crime statistics. The variables are defined as follows:

Table 2: Definition of Model Variables

| Variable | Definition and Measure |
|----------------------|--------------------------------------------------------------------------------------------------------------|
| <i>VIOLENT CRIME</i> | Crime — reported acts of rape, assault, and intentional homicide, measured per 100,000 people in the country |
| <i>GDP</i> | Gross Domestic Product — measured in real per capita terms |
| <i>EFI</i> | Economic Freedom Index |
| <i>UNEMP</i> | Unemployment Rate |
| <i>EDUC</i> | Educational Attainment — the level of educational attainment measured as average years of school |
| <i>PROS</i> | Prostitution- dummy: 1=legal 0=illegal |
| <i>BROTH</i> | Brothel- dummy: 1=legal 0=illegal |
| <i>HIV</i> | The prevalence of HIV in a given country, measured as the percent of population ages 15–49 |

The summary statistics for the variables within my empirical analysis are reported in table 3.

Table 3: Summary Statistics of Variables

| Variable | Observation | Mean | Std. Dev. | Min | Max |
|-----------------|--------------------|-------------|------------------|------------|------------|
| PROS | 714 | 0.7619048 | 0.426163 | 0 | 1 |
| BROTH | 714 | 0.1316527 | 0.3383498 | 0 | 1 |
| GDP | 698 | 24097.92 | 11586.1 | 4902 | 85310 |
| EFI | 533 | 69.17561 | 7.182283 | 50.4 | 82.6 |
| UNEMP | 669 | 7.314499 | 3.641845 | 0.5 | 21.3 |
| EDUC | 714 | 10.1129 | 3.845018 | 4.5 | 102 |
| CRIME | 647 | 94095.31 | 271605.8 | 0 | 2533358 |
| HIV | 680 | 0.1925 | 0.1541366 | 0.1 | 1.2 |

D2. Analysis and Results

I created two models to examine this relationship. The first model is a linear regression, regressing crime on the legalization of prostitution and brothels. The model includes variables controlling for GDP, economic freedom, unemployment, and educational attainment. Because there may be an unidentifiable relationship between crime and legal prostitution and brothels in the model, I include an instrumental variable. The potential unidentifiable relationship between crime and legal prostitution stems from the possibility that a latent, unmeasured, factor might cause both crime and decriminalization. For example, some country may have a more libertine society—a society lacking common moral restraints. In this scenario, people may be more prone to deviant behavior, such as violent crime, while also being more accepting of prostitution as a profession. The instrumental variable chosen is the prevalence of HIV in a given country (measured as a percent of the population ages 15–49), which is correlated with prostitution, but should not be directly related to crime.¹² The use of the instrumental variable allows me to accurately measure the relationship with consistent, unbiased results.¹³ The model described is as follows:

$$\begin{aligned}
 \text{Crime}_{it} = & \beta_0 + \beta_1 \text{GDP}_{it} + \beta_2 \text{EFI}_{it} + \beta_3 \text{UNEMP}_{it} + \beta_4 \text{EDUC}_{it} + D_1 \text{PROS}_{it} + \\
 & D_2 \text{BROTH}_{it} + \text{year}_t + \text{country}_i + \varepsilon_{it}
 \end{aligned}$$

Equation 1

¹² I do not correlate HIV to brothels because there is a general understanding that brothels provide precautionary measures and require safe-sex practices that should reduce the chance of contracting HIV.

¹³ The first model uses a cross-sectional time series regression model with two-way fixed effects, the statistical results of this model can be found in the appendix.

The results of this model show no statistical evidence supporting the contention that countries in which prostitution and/or brothels are legal experience lower levels of violent crime.¹⁴ However, a point I will come back to is that the results also show *no* statistical evidence that there is a positive relationship between violent crime and prostitution. In other words, the results do not infer that countries with legal prostitution and/or brothels experience more reported acts of violent crime.

The second model employed in my analysis is a nonlinear-regression model. This model measures prostitution and prostitution multiplied by gross domestic product (per capita) against crime. The multiplied variable, known as an interaction term, allows for the consideration that legalized prostitution might have a different effect on crime in high- and low-income countries. I use this approach because it may be the case that wealthier countries are affected by decriminalization differently than less wealthy countries. It may be the case that in wealthier countries stronger institutions exist; an example could be that law enforcement and the country's citizens take punishment more seriously. These theories are consistent with the findings of Becker (1974) that suggest wealthier people tend to commit crime less frequently than poorer people. The model for this analysis is as follows:

$$Crime_{it} = \beta_0 + \beta_1 pros_{it} + \beta_2 pros_{it} * gdp_{it} + \beta_3 gdp_{it} + year_t + country_i + \varepsilon_{it}$$

Equation 2

¹⁴ In other words, there is not a statistically significant negative relationship between legal prostitution and/or brothels and violent crime.

The results are as follows:

Table 4: Interaction Regression Results

| Violent Crime | Coefficient | Std. Error | t-score | p-value |
|----------------------|--------------------|-------------------|----------------|----------------|
| YEAR | 2958.59 | 2418.48 | 1.22 | 0.22 |
| PROS | -128323.00 | 50917.59 | -2.52 | 0.01** |
| PROS*GDP | 7.47 | 1.75 | 4.26 | 0.00*** |
| GDP | -8.56 | 2.33 | -3.67 | 0.00*** |
| Constant | -5654750.00 | 4795124.00 | -1.18 | 0.24 |
| R² | 0.12 | | | |

These findings indicate that legalizing prostitution would not have a negative impact on violent crime. To accurately interpret the results from my interaction model, it is necessary to perform a calculation that includes the impact of prostitution *plus* the impact of prostitution multiplied by GDP. Using a single standard deviation above the mean GDP for wealthy nations and a single standard deviation below the mean GDP, I can examine the different relationships between prostitution and violence in high- and low-income nations. Specifically, my results indicate that in rich nations, where average income is \$35,684, legalized prostitution is associated with an increase in reported crime rates by 138,237 per 100,000 people. However, in poor countries, defined as having a mean income of \$12,512, legalized prostitution is associated with 34,860 fewer acts of reported crime per 100,000 persons.¹⁵ These results, in the nonlinear model, lead to an interesting finding. Poor countries are better off legalizing prostitution in order to reduce crime, consistent with findings in Cundiff's (2004) research that where prostitution is more available, the frequency of rape is expected to decrease.

¹⁵ The result of the nonlinear-regression model has a statistical significance for prostitution at the alpha level of 5 percent.

D3. Implication of Results

In a simple linear regression, the estimated relationship between legalized prostitution and/or brothels and reported acts of violence was negative; however, the relationship was not statistically significant. In a second model, which accounts for the possibility that legalization might have different effects in high- and low-income countries, I find that legalization leads to less violent crime in low-income countries and more violent crime in high-income countries. The second model is consistent with Cundiff's (2004) finding of a negative relationship between reported acts of violent crime and legalized prostitution for low-income countries. However, the same model suggests that reported crime would increase if prostitution were legalized in high-income nations.

In order to understand why this might happen I go back to the original exploration of why crime tends to flourish where illegal markets exist. Take for example the relationship between illegal prostitution markets and law enforcement, in areas such as Thailand and Bosnia, where the officers become major participants in the prostitution arena. If these markets were legal, my statistical analysis suggests that criminal activity and violence would likely decline in these low-income countries. As a result, police would continue to enforce other criminal activity and would be able to participate in buying sex, while still ensuring that women are protected. A potential reason police were easily paid off in cases where prostitution was illegal was so that they could participate; however, to do so they let violence and crime continue in this arena.

Decriminalizing prostitution in low-income nations can substitute prostitution for crime and violence. There are a variety of reasons this may be the case. First, legalizing

prostitution will enable women to seek employment that is not criminalized and increase income for themselves and potentially their families. This could have the effect of alleviating stress in the home life that may have normally resulted in domestic abuse and violence. Another reason to consider is that the act of rape would decline as men now have the option and opportunity to engage in sexual activity as desired via a prostitute. Again, in line with Becker (1974), legalizing a market, such as prostitution, through which the anger could be lessened because there is an outlet for antisocial behavior, gives the opportunity to decrease violence. Finally, it is possible that in low-income countries, the criminalization of prostitution draws scarce police resources away from other activities such as interdicting and investigating violent crime.

While I have discussed why prostitution is a substitute for violence in low-income countries, I have not addressed why it is a complement to violence in high-income countries. One of the first possibilities is the presence of a strong institutional framework. Even though there are examples here and there of police officers flouting the laws against prostitution and participating, there is a general view that police officers are the protectors of society and they uphold their duties. From a different perspective, in wealthy nations, prostitution may be viewed as “seedy” behavior, and where seedy behavior exists, crime thrives. Nations with strong moral foundations may be less accepting of these sorts of immoral activity, pushing prostitutes into the dark where other criminal activity such as assault, homicide, and drug use linger.

The finding for rich countries leads me to believe that further analysis of wealthy nations and prostitution is necessary because, in a linear model, no relationship appears to exist. Further, it will be interesting to apply the same analysis to the United States, to

examine if some states, more than others, could expect a decline in violence should they legalize the profession.

Looking at only the relationship between prostitution and crime, prostitution does not pose an apparent safety threat to society, in general in the linear model and for low-income countries in the non-linear model. As a result, this paper suggests that policies criminalizing prostitution should be scrutinized. In the presence of legalized prostitution and brothels, prostitutes will be able to ensure that their civil rights are intact and that they are treated professionally and respectfully. Additionally, prostitutes and brothel owners will have the ability to ensure that health is a key priority and that if a prostitute encounters a violent or threatening customer the authorities are immediately contacted. Overall, decriminalizing prostitution internationally, and potentially at the state level, should be revisited by legislative authorities.

V. What Comes Next?

After this examination of criminal activity and violence in illegal markets and the in-depth study of the relationship between legalizing prostitution and violent acts of crime, I explore the appropriate steps to enforcing laws criminalizing prostitution and what the proper regulatory environment might be.

Taking this one step further, future exploration of this topic could include accurately examining the impact of spending resources on enforcing the laws against prostitution. While this idea has been briefly mentioned in the research, giving a more accurate picture of the spending would provide clarity to legislative bodies during the process of reexamining the prospect of decriminalizing prostitution.

While my research only touches on one aspect of illegal markets—violent criminal activity—there are a wide variety of aspects of prostitution to consider. Other issues that need to be considered are the impact of prostitution on health and safety as well as the sociological and psychological impacts of the profession. I leave these topics to future exploration.

VI. Conclusion

This paper has attempted to understand the implications of legalizing black markets, particularly the case of prostitution, with respect to their impact on violent crime. In order to fully evaluate illegal markets and their relationship to crime I provided a foundation of theories as to why crime exists and why crime tends to flourish in the presence of black markets. To form a more narrow focus, I carefully examined, and provided a case-study analysis on, the relationship between legalizing prostitution and violent crime. Generally, I found that the legalization of prostitution had no significant impact on violent acts of crime; however, when I broke this down into a model examining rich and poor countries separately, interesting results surfaced. I find that while legalized prostitution is associated with less crime in poor countries, it is associated with more crime in rich countries. These results suggest that in some nations legal prostitution has a positive impact in society.

APPENDIX: Linear-Regression Results

| Violent Crime | Coefficient | Std. Error | z-score | p-value |
|----------------------|--------------------|-------------------|----------------|----------------|
| YEAR | 14521.58 | 15915.72 | .91 | 0.36 |
| PROS | -1071451 | 2256465.00 | -.47 | 0.64 |
| BROTH | 1138142 | 2148778.00 | .53 | 0.60 |
| GDP | -9.82 | 7.43 | -1.32 | 0.19 |
| EFI | 5796.70 | 21718.40 | .27 | 0.79 |
| UNEMP | 645.19 | 15014.73 | .04 | 0.97 |
| EDUC | 727.06 | 2470.59 | .29 | 0.77 |
| Constant | -2.85e07 | 3.18e07 | -.90 | 0.37 |
| R² | 0.035 | | | |

REFERENCES

- Andreas, Peter, and J. Wallman. 2009. "Illicit Markets and Violence: What Is the Relationship?" *Crime, Law and Social Change* 52: 225–229.
- Barnet, Anthony, and Solomon Hughes. 2001. "British Firm Accused in UN 'Sex Scandal': International Police in Bosnia Face Prostitution Claims." *Guardian*, July 29. <http://www.guardian.co.uk/world/2001/jul/29/unitednations>.
- Becker, Gary S. 1974. "Crime and Punishment: An Economic Approach." In *Within Essays in the Economics of Crime and Punishment* (with William M. Landes). University of Chicago and National Bureau of Economic Research.
- Becker, Gary S. 1995. "The Economics of Crime." *Cross Sections* (Fall). The Federal Reserve Bank of Richmond.
- Bennett, William, John Dilulio and John Walters. 1996. *Body Count*. New York: Simon and Schuster.
- Brents, Barbara G., and Kathryn Hausback. 2005. "Violence and Legalized Brothel Prostitution in Nevada—Examining Safety, Risk, and Prostitution Policy." *Journal of Interpersonal Violence* 20: 270–295.
- Cussen, Meaghan, and Walter Block. 2000. "Legalize Drugs Now: An Analysis of the Benefits of Legalized Drugs." *American Journal of Economics and Sociology* 59 (3): 525–536.
- Cundiff, Kirby R. 2004. "Prostitution and Sex Crimes." Independent Institute Working Paper No. 50.

- Elliot, Francis, and Ruth Elkins. 2007. "UN Shame over Sex Scandal." *Independent*, January 2007. <http://www.independent.co.uk/news/world/politics/un-shame-over-sex-scandal-431121.html>.
- Fox, J. A. and G. Pierce. 1994. "American Killers Are Getting Younger." *USA Today*.
- Global Commission on HIV and the Law. 2012. *HIV and the Law: Risks, Rights, and Health*. The United Nations.
- Levine, Harry G., and Craig Reinerman. 1991. "From Prohibition to Regulation: Lessons from Alcohol Policy for Drug Policy." *Milbank Quarterly* 69 (3).
- Levitt, Steven D. 2004. "Understanding Why Crime Fell in the 1990s: Four Factors That Explain the Decline and Six That Do Not." *Journal of Economic Perspectives* 18 (1): 163–190.
- Levitt, Steven D., and Sudhir Alladi Venkatesh. (2007). "Empirical Analysis of Street Level Prostitution." Working paper, University of Chicago.
- Mossman, Elaine. 2010. "Brothel Operators' and Support Agencies' Experiences of Decriminalisation." In *Taking the Crime out of Sex Work: New Zealand Sex Workers' Fight for Decriminalisation*. Edited by Gillian Abel, Lisa Fitzgerald, Catherine Healy, and Aline Taylor. Bristol, UK: Policy Press.
- Murphy, Lyn. 2010. "Understanding the Social and Economic Contexts Surrounding Women Engaged in Street-Level Prostitution." *Issues in Mental Health Nursing* 31: 775–784.
- Naylor, R. Thomas. 2009. "Violence and Illegal Economic Activity: A Deconstruction." *Crime, Law and Social Change* 52: 231–242.

- Pearl, J. 1987. "The Highest Paying Customer: America's Cities and the Costs of Prostitution." *Hastings Law Journal* 38: 769–800.
- Phongpaichit, Pasuk. 1999. Thailand's Illegal Economy and Public Policy. Centre of Southeast Asian Studies, Kyoto University, pp. 6-7.
- Pizam, Abraham, and Julianne Pokela. 1985. "The Perceived Impacts of Casino Gambling on a Community." *Annals of Tourism Research* 12: 147–165.
- Silbert, M. and A. Pines. 1982. "Victimization of Street Prostitute." *Victimology* 7: 122–133.
- Shuster, Kenneth. 1992. "On the 'Oldest Profession': A Proposal in Favor of Legalized but Regulated Prostitution." *5 U. Fla. J.L. & Pub. Pol'y* 1.
- Towne, Charles Hansen. 1923. *The Rise and Fall of Prohibition*. New York: The MacMillan Company.
- Weitzer, Ronald. 2000. "Prostitution Control in America: Rethinking Public Policy." *Crime, Law and Social Change* 32: 83–102.
- Weitzer, Ronald. 2008. "Legalizing Prostitution: Morality Politics in Western Australia." *British Journal of Criminology* 49, 88–105.
- Wilson, James Q. 2011. "Why Crime Keeps Falling." *Wall Street Journal*, May 28, 2011.