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The Cost of Crime: A Study on Human Trafficking

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State University of New York
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The Cost of Crime: A Study on Human Trafficking

By

Kirsten Krug

A Thesis in

Applied Economics and Finance

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Abstract

Human trafficking is a billion dollar industry that impacts hundreds of thousands of individuals each year. Each year the United States alone spends millions of dollars on law enforcement programs designated to combat human trafficking.

This thesis examines the impact of those programs as deterrents for individuals who are willing to commit this type of violent crime, as well as why they might commit crime in the first place. In addition to providing an economic analysis of the impact of arrest and jail as deterrents on trafficking, the thesis will also look into what may cause an individual to fall victim to being trafficked as well as opportunities to reduce the risk.

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The Cost of Crime: A Study on Human Trafficking
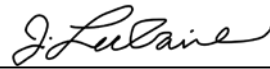A Thesis in Applied Economics

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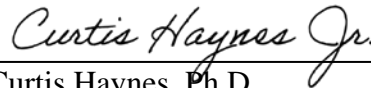Master of Arts

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Chapter 1: Introduction

"People are not merchandise and cannot be used as bait during an economic and political crisis. Poverty does not justify human trafficking." – Norotiana Ramboarivelo Jeannoda, 2015 Trafficking in Persons Report Hero

Trafficking in persons is defined by the United States Department of Justice In two ways:

> "a) Sex trafficking in which a commercial sex act is induced by force, fraud, or coercion, or in which the person induced to perform such act has not attained 18 years of age; or
>
> b) The recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery"[1]

It is one of the most profitable industries worldwide, creating annual revenue of $150 billion according to statistics from the International Labor Organization[2].

Human trafficking is a worldwide epidemic. It is an issue that can affect anyone anywhere regardless of age, sex, nationality, socioeconomic status. Although there are no defining characteristics that trafficked persons have in common there are situational differences that may put an individual at greater risk. "Traffickers around the world frequently prey on individuals who are poor, vulnerable, living in an unsafe or unstable situation, or are in search of a better life. Trafficking victims are deceived by false promises of love, a good job, or a stable life and are lured or forced into situations where they are made to work under deplorable conditions with little or no pay. In the United States, trafficking victims can be American or

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[1] "Human Trafficking Defined," United Stated Department of Justice, accessed Nov 11, 2017, https://www.justice.gov/humantrafficking

[2] "ILO Says Forced Labour Generates Annual Profits of US$ 150 Billion", Ilo.Org, last modified 2020, accessed October 16, 2020, https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_243201/lang--en/index.htm.

foreign citizens. Some of the most vulnerable populations for trafficking in the United States include American Indian/Alaska Native communities, lesbian-gay-bisexual-transgender-questioning individuals, individuals with disabilities, undocumented migrants, runaway and homeless youth, temporary guest-workers and low-income individuals."[3]

While human trafficking appears to be a crime that does not discriminate, there are groups of people who appear to be more likely victims as they happen to be more vulnerable than other groups. The 2016 Global Report on Trafficking in Persons published by the United Nations Office on Drugs and Crime found that 79% of all trafficked victims detected happened to be women and children. Interestingly enough, their research also found that over 500 different trafficking flows between 2012 and 2014, which closely follow migratory patterns and some of the people most at risk are from areas of conflict or with high levels of organized crime.

In 2017, the United States Justice Department invested more than $47 million to combat human trafficking and related programs.[4] Much of the investment was intended to support the law enforcements' efforts to investigate and prosecute cases of human trafficking. Despite such a large investment, human trafficking is still prevalent within the United States, and doesn't seem to have acted as a deterrent to the criminals at all. Given the potential return available for human traffickers, it's reasonable that the risk of arrest and jail do not act as a deterrent for someone willing to commit that type of crime and has a minimal impact on whether or not the crime of trafficking a human will be committed.

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[3] "What is Human Trafficking?" United Stated Department of Justice, accessed Nov 11, 2017, https://www.justice.gov/humantrafficking/what-is-human-trafficking

[4] "Justice Department Invests More Than $47 Million To Combat Human Trafficking and Assist Victims", Justice.Gov, last modified 2017, accessed July 16, 2020, https://www.justice.gov/opa/pr/justice-department-invests-more-47-million-combat-human-trafficking-and-assist-victims.

The never-ending desire for cheap labor and the potential to generate significant amounts of money, coupled with the unlikelihood of ever facing prosecution for these heinous crimes: what else could a criminal ever want? How about 7.8 billion people, a seemingly infinite supply of labor available to feed the everlasting demand for cheap labor. According to the World Bank, in 2015 there were 736 million people living in extreme poverty, an estimated 3.7 million of which were located within the United States[5]. In addition to poverty, there are also many countries which are in both social and economic unrest creating an environment which would drive people from their homes leaving them vulnerable and susceptible to be trapped and forced into being trafficked. Essentially the world as it is now is the perfect breeding ground for people to exploit others.

The first sections of this paper will examine the previous literature on the topic of human trafficking and crime in order to understand the topic more clearly. The following section will include our research and examination of a selection of variables that may indicate a common factor behind the prevalence of human trafficking across the globe. Lastly, a review of the data and findings will be conducted and any conclusions which can be made, based on our study will be discussed.

Chapter 2: Review of literature

2.1 Economic Theory of Crime

Human trafficking is a fascinating phenomenon. It is studied across a vast array of academic communities from various perspectives such as human rights, feminism, law,

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[5] World Bank, "Piecing Together the Poverty Puzzle", Poverty and Shared Prosperity 2018 (2018): 19, 45, accessed July 16, 2020, https://openknowledge.worldbank.org/bitstream/handle/10986/30418/9781464813306.pdf.

international relations as well as economics. It's through economic analysis that we can try to understand the relationship between victims and traffickers and attempt to identify the cause at a deeper level. One can look at the relationship as a market. As mentioned before, there is high demand for cheap labor and what appears to be an endless supply of people to exploit. The combination of those two elements allows the basic principle of a market to be developed. This market concept is communicated in the 2010 article published in *International Migration* by Elizabeth Wheaton, Edward Shauer and Thomas Galli. Maybee explained in another article that:

> An economic theory of human trafficking has risen out of the view of human trafficking as a monopolistically competitive industry in which the sellers are human traffickers, the buyers are the employers, and the products are victims of trafficking. As a market consisting of sellers, buyers, and products, human trafficking is very similar to the markets for any legal industry. Rational-choice theory is often applied to aspects of human trafficking including the choices made by traffickers, employers/buyers, and at times even the victims of trafficking. Rational choice theory assumes "that individuals use all available information (are economically 'rational') and compare costs and benefits (employ cost-benefit analysis) to obtain the highest level of wellbeing or profit". Rational choice theory thus assumes that every person involved in the market for human trafficking will make choices based upon the profit obtained.[6]

In the following sections, we will review the key assumptions in Neoclassical Theory, Rational Choice, Social Disorganization Theory, Strain Theory and Inequality as a Criminal Driver theory in-order to better understand potential causes of human trafficking and why it may occur.

According to Becker, the decision to commit a crime is done in the same space that an agent acting on their own behalf decides to do anything. It is not done by individuals who are mentally unbalanced or deranged but by utility maximizers who commit crimes. "Some persons

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[6] Allison Maybee, "Human Trafficking in Nations an Empirical Approach to Examining Causal Factors", Critique: a worldwide student journal of politics Spring 2016 (2016).

become "criminals," therefore, not because their basic motivation differs from that of other persons, but because their benefits and costs differ"[7] from the majority which can be due to social, cultural and structural reasons.

In a neoclassical framework, a person will commit a crime if the expected utility they would receive exceeds the utility they could get by using their time and resources doing something else. In an article published in the *Review of Social Economy* by Sheldon Danziger and David Wheeler, "Criminals are responsive to policies which alter the tradeoffs between the relative costs and benefits derived from engaging in criminal activity. Increasing the probability of conviction or lengthening the prison sentence would raise the expected costs, while increasing the range of legitimate alternatives or the returns from these activities would lower the relative benefits (p.114)." Danziger and Wheeler make a reasonable argument. Make the cost of crime higher so the returns diminish. However, given the tremendously low conviction rate of traffickers, (only 9,071 convictions for trafficking globally in 2016), the cost of the crime is still less than what the potential profit benefit would be.

If it is assumed that the utility maximizing factor for criminals is the potential payout from committing a crime and not the nefarious thrill of getting away with a crime or some simple malicious joy, then for criminals the potential separating factor between them and their peers, (i.e. agents of the same socioeconomic status who do not commit crimes) is a factor of income and wealth.

Theories of criminal behavior have also been built around the assumptions of rational choice theory. Rational Choice is a theory based on the ideology originally proposed by

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[7] Becker, Gary S. "Crime and Punishment: An Economic Approach". Journal of Political Economy 76, no. 2 (1968): 169-217.

philosopher Jeremy Bentham. Bentham is probably best known as the founder of Utilitarianism. The application of Rational Choice theory to crime is based on criminologist Cesare Beccaria who is best known for his essay *On Crimes and Punishments*.

Bentham's ideas were used as a foundation for many theories regarding similar points of view. In his book, he wrote:

> The profit of the crime is the force which urges man to delinquency: the pain of the punishment is the force employed to restrain him from it. If the first of these forces be the greater, the crime will be committed; if the second, the crime will not be committed.[8]

This idea was eventually adapted and modernized by economist Gary Becker in his revolutionary article *Crime and Punishment* which expresses the idea that:

> …a useful theory of criminal behavior can dispense with special theories of anomie, psychological inadequacies, or inheritance of special traits and simply extend the economist's usual analysis of choice.[9]

This idea argues, as previously mentioned, that criminals are the same as all other economic agents, rational and utility maximizing, and that utility is a positive function of income. Becker writes the expected utility from an offense as:

$$E(U) = pU(Y - f) + (1 - p)U(Y),$$

Where U is the individual's utility function, P is the likelihood of being caught and convicted; Y is the money value of the gain; p the probability of detection and conviction; and f the fine. If E(U) is positive then the individual will commit a crime, if it is negative the crime will not be

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[8] Jeremy Bentham and Laurence J Lafleur, An Introduction to The Principles of Morals and Legislation (New York: Hafner Pub. Co, 1948).

[9] Gary S. Becker, "Crime and Punishment: An Economic Approach", Journal of Political Economy 76, no. 2 (1968): 169-217.

committed. In Becker's theory, the profit and punishment equivalents of crime are separated from other income types such as wages.[10]

In addition to Becker's economic theory of crime, there are two other theories that are popular when trying to understand the relationship between inequality and crime.

Social disorganization theory argues that crime occurs when the mechanisms of social control are disrupted. There are three structural factors which can lead to the disruption of social organization. They are low economic status, ethnic heterogeneity and residential mobility.[11] A study conducted by Sampson and Groves "established that communities characterized by sparse friendship networks, unsupervised teenage peer groups, and low organizational participation had disproportionately high rates of crime and delinquency".[12]

Strain theory argues that, when faced with the relative success of those around them, less successful individuals feel frustration at their own situation. The greater the inequality, the higher this strain and the greater the incentive for low-status individuals to commit crime. It focuses explicitly on the negative relationships between the actor and those around them which later develop into the motivation to commit a crime. [13]

In *Inequality and Crime,* a study conducted by Morgan Kelly, in which he considered the relationship between crime and inequality, he concluded that property crime was well explained by the economic theory of crime. On the other hand, violent crimes, in which human trafficking is classified, were better explained by the social disorganization and strain theories. In addition,

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[10]Erling Eide, "Economics of Criminal Behavior", Encyclopedia of Law & Economics (Cheltenham: Edward Elgar Pub, 2000).

[11] Clifford R. Shaw and Henry D. McKay, "Juvenile Delinquency and Urban Areas", Harvard Law Review 56, no. 4 (1943): 681.

[12] Robert J. Sampson and W. Byron Groves, "Community Structure and Crime: Testing Social-Disorganization Theory", American Journal of Sociology 94, no. 4 (1989): 774-802.

[13] Robert Agnew, "Foundation for a General Strain Theory of Crime and Delinquency", Criminology 30, no. 1 (1992): 47-88. *", Criminology 30, no. 1 (1992): 47-88.

inequality appeared to have little to no impact on property crime but a strong impact on violent crimes. Poverty and police activity appeared to have a significant impact on property crime but little impact on violent crimes. [14]

If the results of Kelly's study were applied to human trafficking, it would be reasonable that since human trafficking is classified as a violent crime, the continued investment in prevention and detection, would have less of an impact in preventing future incidents of human trafficking than investing the same funds in communities that have high levels of inequality present.

To summarize, each theory mentioned has its own assumptions as to why individuals may decide to commit a crime. Both Neoclassical and Rational Choice theory assume that an individual operates in their own self-interest and explain that as long as a behavior is utility maximizing to an individual, it is possible that criminal behavior would occur. The other three theories, Social Disorganization, Strain and Inequality & Crime based their assumptions on social factors and are also highly influenced by poverty and inequality.

2.2 Reasons for Trafficking

The most common forms of trafficking are for sexual exploitation and forced labor. Sexual exploitation makes up approximately 43%, forced labor 40% and the remaining 17% falls into the "other reasons" category. Women seem to predominantly remain involved in sexual exploitation. In 2017 67% of female victims were involved in sex trafficking with the remaining 33% involved as either victims of forced labor or both. This was a significant decrease from 2002, where 94% of women were involved solely in sexual exploitation. In the more recent years

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[14] Morgan Kelly, "Inequality and Crime", Review of Economics and Statistics 82, no. 4 (2000): 530-539.

the proportion of women victims of forced labor has grown relative to those forced into sexual

exploitation. Men, on the other hand, remain mostly used for the purpose of forced labor

involving approximately 83% of male victims. The remaining 17% were involved in trafficking

for sexual exploitation or both. [15] Other forms of trafficking can include forced marriage, child

soldiers, the sale of children, forced begging and for the removal of organs. Out of all the

different forms of trafficking, the purpose of trafficking for sexual exploitation had been detected

as the most common, making up about 54% of the 53,700 victims detected worldwide between

2012-2014.

While women appear to make up the majority of victims, there are regional differences in

the profile of victims. For example, in parts of the world where the male population is dominant

such as Eastern Europe and Central Asia, over 50% of trafficked victims were male. Similarly,

countries that are a part of the Middle East also experienced a larger than average number of

male victims. A reason for this is that the primary form of trafficking in these regions is forced

labor.[16]

2.3 How Does Trafficking Occur

The simplest reason to explain why human trafficking is so prevalent across the globe is

one of the most basic principles of economics: the law of supply and demand. Also, there is very

little risk involved. The slave trade or human trafficking, the names might be different but

regardless of what it is called or if it takes place in the modern 21st century or hundreds of years

ago, the motive remains the same. They were used for the cold-hearted exploitation of labor of

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[15] "Counter-Trafficking Data Collaborative (CTDC)", Ctdatacollaborative.Org, last modified 2018, accessed April 10, 2018, https://www.ctdatacollaborative.org/story/exploitation-victims-trends.

[16] UNODC, Global Report on Trafficking in Persons 2016 (Vienna: United Nations Publications, 2017).

susceptible people in order for someone else to profit. The only difference is that now instead of

these victims and/or slaves, being limited to domestic or agricultural work of the past, they no

longer have that restriction and can be found working across an array of industries from

commercial sex, industrial, and agricultural to working in retail shops and restaurants.[17]

According to an article by Siddharth Kara which was published in Harvard International

Review, no matter what industry a person is being exploited in, there are essentially:

> …three common steps to the business model of most human trafficking
> networks: acquisition, movement, and exploitation, which often results in one or
> more counts of re-trafficking. Acquisition of trafficked slaves primarily occurs in
> one of five ways: deceit, sale by family, abduction, seduction or romance (such as
> with sex trafficking), or recruitment by former slaves. Poor or marginally
> subsistent individuals are the ones most vulnerable to exploitation because of their
> economic desperation. (Kara 2011,67-68)

From there, slaves are often moved from stop to stop, and, if they are unable to escape or

gain freedom, they are then resold to new exploiters, which continues the cycle. Often, if

trafficked victims are able to escape, they end up back in the same poor and vulnerable

conditions they started out in, resulting in the likelihood of being re-trafficked.

The second common step to the human trafficking business model according to Kara is

movement (Kara, 2011, p67-68). Depending on the pattern of movement for trafficked victims,

which mostly follows migratory patterns, the transportation of persons across borders is

relatively easy and inexpensive. Victims are notoriously difficult to identify. Documents can be

forged, and cross border travel is easy, with little risk of being stopped in both the United States

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[17] Siddharth Kara, "Supply and Demand: Human Trafficking in The Global Economy", Harvard International Review 33, no. 22011 (2011): 66-71.

and Europe. For those reasons alone, it is very challenging and almost impossible to prevent human trafficking during the movement stage.

The last step is exploitation (Kara, 2011, p.68), trafficked victims are subjected to the worst treatment imaginable in order to ensure compliance and servitude. Often these victims are coerced into servitude for little to no pay and depending on what industry they find themselves in, the methods used are unimaginable. For example, in the commercial sex industry, men, women and children can be beaten, drugged or raped. Those who are exploited are often convinced that their abuser is their lover, developing a relationship similar to Stockholm Syndrome, making it very difficult to ever find a way out. In labor intensive industries, such as farming or construction, victims are threatened with acts of violence and eviction from their homes all the while confined to their area of work.

2.4 Inequality

Inequality is a major factor when discussing why human trafficking occurs in the world. Societal structures are often created by people of affluence in order to maintain their social standing and power. These social structures often eliminate any possibility of upward mobility for lower classes. The effects of social inequality on an individual may lead to negative outcomes, such as violence, victimization, substance abuse, homelessness, etc. making a large portion of society vulnerable.[18]

It is said that trafficking patterns closely resemble migration patterns. Why would this be? In this respect, there are push and pull factors, including the reasons why individuals would want to flee their home country and join another.

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[18] Robert J. Sampson, "Moving to Inequality: Neighborhood Effects and Experiments Meet Social Structure", American Journal of Sociology 114, no. 1 (2008): 189-231.

The evidence available suggests that social unrest, poverty, perception of opportunity (or lack thereof), population pressure and government corruption are some of the main determinants for the trafficking of humans from a country. Let it be known that there is a likely correlation between migration push factors and human trafficking. It is reasonable to assume the traffickers would take advantage of individuals looking to leave their home country and would require assistance due to deportation laws, restrictive immigration or other factors. The main argument for the difference in trafficking and smuggling is consent. This allows for persons being smuggled to be turned into trafficking victims. "Whether an individual believes that they are being smuggled, entering another country legally, or are being transported with their own cooperation within or between countries, if that person finds out that they are in a situation from which they are not allowed to walk away, in which they are being paid nothing beyond subsistence, and in which they are being economically exploited, then human trafficking has occurred"[19]

In one empirical study published in *The International Journal of Comparative and Applied Criminal Justice*, the researcher using a multiple regression examined the strength of 76 variables he classified as potential predictors of human trafficking. Given the data that was used, the variables which he determined to have statistical significance as predictors of trafficking FROM a country explained 57% of the variation in trafficking between countries. Below is a table comparing the theoretical model of Factors Driving Trafficking from a Country to the results of the test.

[19] Kevin Bales, "What Predicts Human Trafficking?", International Journal of Comparative and Applied Criminal Justice 31, no. 2 (2007): 269-279, accessed May 10, 2018, https://www.tandfonline.com/doi/abs/10.1080/01924036.2007.9678771.

Theoretical Factors in Driving Trafficking From a Country	Statistically Significant Factors in Driving Trafficking From a Country	
Conflict & Social Unrest	Government Corruption	(β .603)
Population Pressure	Infant Mortality	(β .390)
Poverty	% of Population below 14	(β .390)
Government Corruption	Food Production	(β .223)
Lack of Opportunity	Population Pressure	(β .196)
Demographic Profile	Conflict & Social Unrest	(β .114)

Table 1 source: Bales, Kevin. "What Predicts Human Trafficking" (2007)

The column on the right lists the variables found to be significant predictors of trafficking FROM a country listed in order of their power as determined by the beta coefficient which are shown to be significant at the 0.05% level or better. Looking at the results, it's not shocking that some of the variables ranked as they did. Government corruption, conflict and food production as push factors is common knowledge to experts working in human trafficking and only added more validity to the research available. For those who aren't experts, the results still should be unsurprising, historically people have migrated or emigrated away from their home countries for the same reason. Interestingly enough, infant mortality was shown to be a significant push factor for human trafficking.[20]

The same study tested pull factors of trafficking. There were a few issues with this test. First, the permeability of travel between borders has to be taken into consideration as not all countries have free and open borders or international relationships which would support an open travel policy. Second, as mentioned before, the main characteristic between trafficking and migration/smuggling is consent. Individuals who are pulled to other areas of the globe obviously

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[20] Kevin Bales, "What Predicts Human Trafficking?", International Journal of Comparative and Applied Criminal Justice 31, no. 2 (2007): 269-279, accessed May 10, 2018, https://www.tandfonline.com/doi/abs/10.1080/01924036.2007.9678771.

have the freedom and consent to do so. However, those who are being trafficked lack that consent which would make pull factors in this situation void. The results from that test only accounted for approximately 15% of the variance between countries and can be summarized in the Table 2 listed below.

Theoretical Factors in Driving Trafficking To a Country	Statistically Significant Factors in Driving Trafficking To a Country	
Availability of Employment Economic Well-being (Destination Country)	Government Corruption	(β .354)
	Infant Mortality	(β .337)
Opportunity	% of Male Population Age 60+	(β .390)
Government Corruption	Food Production	(β .227)
Demographic Profile	Energy Consumption per Capita	(β .114)

Table 2 source: Bales, Kevin. "What Predicts Human Trafficking" (2007)

Given the variables used to conduct the study, it appears the data is skewed towards the reasons why an individual might willingly leave and move to another country. The variables do not appear to be accurate predictors for human trafficking. It is more likely the variables used are more accurate in predicting migration and immigration factors, which can be exploited by traffickers. It would be hard to differentiate between the two scenarios when the line dividing them is consent, which is significantly more difficult to measure.

Similar themes, such as income inequality, migration level, as well as women with government official positions were also discussed in related studies. In *Human Trafficking in Nations; An Empirical Approach to Examining Causal Factors* the author, Allison Maybee (2011) concluded that there were relationships between level of human trafficking, income equality, migration level, legislation against trafficking, and women in government (23).

As previously mentioned, trafficking patterns greatly mimic migratory patterns. However, according to the data analysis Maybee performed, she concluded that there was actually a negative relationship between the level of migration and trafficking in persons. She believes that a reason for this may be due to the strict immigration laws some counties enforce which could force traffickers to take non-traditional routes in order to move victims (Maybee 2011, 8).[21] If this is the case, traffickers are using non-conventional travel. As a result, then there is most likely a significant lapse in data, as tracking movement to another region would be difficult to measure as a portion of the population may be unaccounted for. Maybee agreed that the data regarding migration appeared to be skewed but indicated that strict migration policies may be one of the factors which increase the level of human trafficking. This statement is supported by literature as mentioned by Kara earlier in the paper. Vulnerable persons (like those who are looking to migrate to a country with strict migration policies) are most likely to be exploited by traffickers. Transportation is relatively inexpensive, thus allowing for minimal challenge during the movement of exploited persons. To reiterate, Kara also indicated that victims are notoriously difficult to identify given that documents can be forged, and cross border travel is easy with little risk of being stopped, which would both result in flawed counts of the level of trafficking in a country and the number of migrants (Maybee 2016, 10).

Maybee concluded from the analysis that laws against trafficking were not shown to be statistically significant, though it is mentioned that this may be due to lack of enforcement (Maybee 2016, 24). The variable "income equality" was deemed to be a significant factor for obvious reasons. Income equality is typically a push factor and a large influencer as to why

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[21] Allison Maybee, "Human Trafficking in Nations an Empirical Approach to Examining Causal Factors", **Critique: a worldwide student journal of politics** Spring 2016 (2016).

individuals may seek to move elsewhere, and, depending on the socio-economic status of those individuals, may make them more at risk of falling victim to trafficking.

Lastly, Maybee discussed females in government positions (Maybee 2016, 19-23). She indicated that there was a negative relationship. More women in positions of power decreased the level of trafficking. Her rationale is backed up by what they describe as "cultural feminist theory" which essentially separates men and women by social norms or "gender binaries". Men are perceived to be autonomous, dominant, independent and aggressive whereas women are considered relational, care givers, the weaker sex. Essentially, the main theme behind cultural feminism supports the idea that women typically possess more compassionate qualities and are "morally superior" to men. Thus, according to the feminist assertion, the reason much of the world is involved in conflict is due to male dominated governments.[22] There is a logical argument behind this statement. Male dominated governments generate a high level of inequality, which as a push factor, would make individuals trying to escape that inequality more vulnerable to human trafficking. Her rationale appears to be slightly biased, however. It leaves out the possibility that men can also be victims of trafficking which, according to the 2016 *Global Report on Human Trafficking* in the regions of Eastern Europe, Central Asia and the Middle East over 50% of the trafficked victims were male; this makes the argument on the sex of government control a little questionable. In the end, the variables used in the data analysis were only able to account for approximately 34% of the variation in the level of human trafficking.

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[22] Cynthia Wolken, "Feminist Legal Theory and Human Trafficking in the United States: Towards A New Framework", Digitalcommons@UM Carey Law, last modified 2006, accessed June 24, 2018, http://digitalcommons.law.umaryland.edu/rrgc/vol6/iss2/9.

This indicated there may be factors that have a more significant impact on the level of human trafficking.

2.5 Profitability

Human trafficking is possible today mainly because of the practically non-existent risk associated with this industry. In the United States, which imposes hefty financial penalties on traffickers, the levels of prosecution and conviction remain trivial. Human trafficking is a $150 billion dollar industry and criminals, like any other citizen, are motivated by money or financial gain. Therefore, when criminals are presented with a near risk-free opportunity to generate immense profits, they will be drawn to it, like the tide to the moon.

Previously discussed were methods on how individuals may be trapped or coerced into situations where they are victims of forced slavery. The dominant determinants were various economic factors such as population, poverty, government corruption and in general, the availability of various resources which would drive individuals with the desire to have a better life to leave and maybe utilize fewer safe methods to accomplish that. On the criminal side of trafficking though, what could influence a person to force another human into slavery? Profits. "The UN estimates that 4 million people are trafficked each year, resulting in $7 billion in profits to criminal groups." [23]

In many cases traffickers smuggle victims from their own resident country. It is less common for a trafficker to belong to country A and their victims to belong to country B. Top destination countries are typically the wealthier ones such as Belgium, Germany, Netherlands,

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[23] Vanessa von Struensee, "Globalized, Wired, Sex Trafficking in Women and Children", Murdoch University Electronic Journal of Law 7, no. 2 (2000).

and the U.S. while Albania, Belarus, Bulgaria, and China are countries with large populations impacted by poverty that trafficking victims are often from.

One hypothesis brought up in a study published in *International Migration,* a journal published by the IOM (International Organization for Migration), indicated that it was neither push nor pull factors which influenced the trafficker to operate in that industry, but the price associated with performing that type of service. For example, what are the costs involved with the trip, the chances of getting caught, and the ultimate demand for the services the trafficker offers (i.e. providing slaves for labor or sex) in whatever the pull country is? It is ultimately the decision of the trafficker to decide if trafficking will take place or not. A decision that relies on the ability to find potential victims, often voluntary migrants at the time, and whether the trafficker has the ability to perform the act of selling other humans for profit with the minimal chance of getting caught. [24]

The potential profits which could be attained in the modern 21st century and the minimal risk are essentially the key components as to why slavery of the past evolved into one of the most prolific businesses of modern times. Depending on the industry, the profit a criminal can earn selling or exploiting another human is absurd. Slaves, on average, in the 1850's cost between $9,500-$11,000 (adjusted for inflation) and could generate approximately a 15-20% return on investment where those sold as slaves today could sell for an average of $420 and can generate a significantly higher annual return, sometimes 500% or more depending on the industry. [25] Investigators in the Netherlands "were able to calculate the profit generated by two sex

[24] Alicja Jac-Kucharski, "The Determinants of Human Trafficking: A US Case Study", International Migration 50, no. 6 (2012): 150-165, accessed May 10, 2018, https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1468-2435.2012.00777.x.
[25] Siddharth Kara, "Supply and Demand: Human Trafficking in The Global Economy", Harvard International Review 33, no. 22011 (2011): 69.

traffickers from a number of victims. One trafficker earned $18,148 per month from four victims (for a total of $127,036) while the second trafficker earned $295,786 in the 14 months that three women were sexually exploited."[26] A woman who is forced into sexual labor can typically generate an estimated $100,000 annually, and while sexual exploitation only makes up around 19% of trafficking victims, they typically can generate 66% if the global profits from trafficking, which put into perspective, is roughly $99,000,000,000 a year. Below is a visual breakdown of profits by sector.

Breakdown of profits by sector

Private Households 5%

Agriculture 6%

Construction, Manufacturing, Mining and Utilities 23%

Commercial sexual exploitation 66%
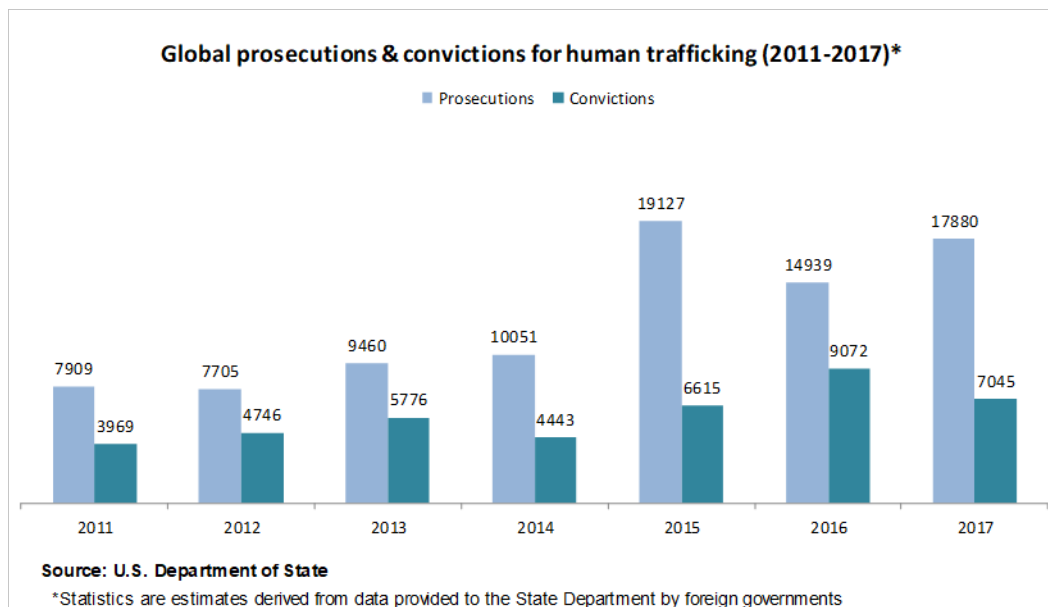
Source: International Labor Organization
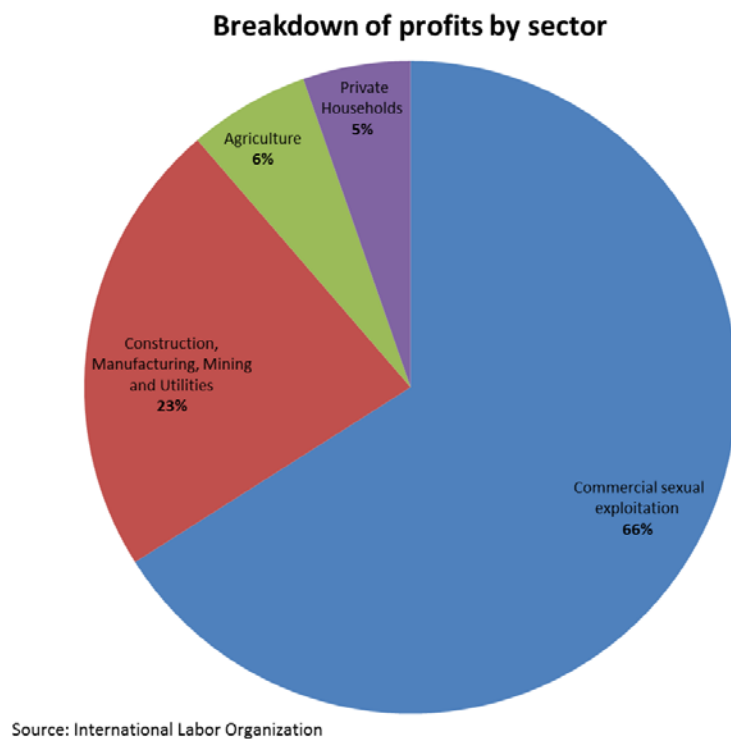
In 2014, the Urban Institute released a study which looked at the commercial sex economy in 8 U.S cities, the study showed that a "pimp" could earn an average of $32,833

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[26] Human Trafficking by The Numbers", Human Rights First, last modified 2017, accessed May 3, 2018, https://www.humanrightsfirst.org/resource/human-trafficking-numbers.

per week, however, there was no distinction between prostitution and sexual trafficking[27]. This can cause a problem because trafficking victims are then treated as criminals themselves instead of getting the help they need. The chart below represents the number of global prosecutions and convictions from 2011 to 2017. In 2017 there appears to be a 40% conviction rate, but this information may be biased as the actual number of offenders is unknown.

Global prosecutions & convictions for human trafficking (2011-2017)*
■ Prosecutions ■ Convictions

Year	Prosecutions	Convictions
2011	7909	3969
2012	7705	4746
2013	9460	5776
2014	10051	4443
2015	19127	6615
2016	14939	9072
2017	17880	7045

Source: U.S. Department of State
*Statistics are estimates derived from data provided to the State Department by foreign governments

In addition to the potential for profits, there is the potential to get caught. The penalty being the cost of the crime including loss of potential income, legal fees, restitution, and jail time Legal fees for serious felonies can cost upwards of $75,000 for both pre-trial and trial representation.[28] If convicted, the offender will be required to pay restitution which is required under the Trafficking Victims Protection Act (TVPA), which mandates restitution for victims of human

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[27] Meredith Dank et al., Estimating the Size and Structure of The Underground Commercial Sex Economy in Eight Major US Cities (The Urban Institute, 2014), accessed July 25, 2020, https://www.urban.org/research/publication/estimating-size-and-structure-underground-commercial-sex-economy-eight-major-us-cities/view/full_report.
[28] "Brooklyn New York Criminal Defense Lawyer Robert Reuland » How Much Will It Cost?", *Reulandlaw.Com*, last modified 2018, accessed December 27, 2018, http://www.reulandlaw.com/about/fee/.

trafficking. Mandatory restitution for trafficking victims is covered under 18 U.S.C. § 1593

which provides that the defendant pay the victim the full amount of the victim's losses and

"defines those losses as the sum of two distinct types of compensation—personal losses and the

economic value of the victim's services" [29]. Personal losses can include lost income, medical

expenses as well as attorney fees and future expenses caused by long term effects that may be

associated with the abuse victims faced. "For example, in resealed Case, the court awarded

restitution based on calculations of the cost of future mental health services which were prepared

for the victims by a psychologist for a restitution hearing. The psychologist calculated estimated

lifetime costs of those mental services for each of the four victims, and the court cited these

reports in awarding restitution for each victim in amounts ranging from $570,000 to $850,000."[30]

In a case referenced in the *United States Attorneys' Bulletin*, the court calculated restitution by

multiplying $400 (an average of the daily proceeds from the victims prostitution) by 914 (days

enslaved) to arrive at a total of $365,000. Similarly, in another case referenced in the article,

United States V. Webster, restitution was calculated by multiplying the number of weeks the

victim was trafficked, by the number of clients per week and multiplying that product by the

minimum amount charged per client (Nolan 2017,95-103).

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[29] TITLE 18—CRIMES AND CRIMINAL PROCEDURE, vol. 1593-, 2018.

[30] William Nolan, "Mandatory Restitution: Complying with The Trafficking Victims Protection Act", *United States Attorneys' Bulletin* 65, no. 6 (2017): 95-103.
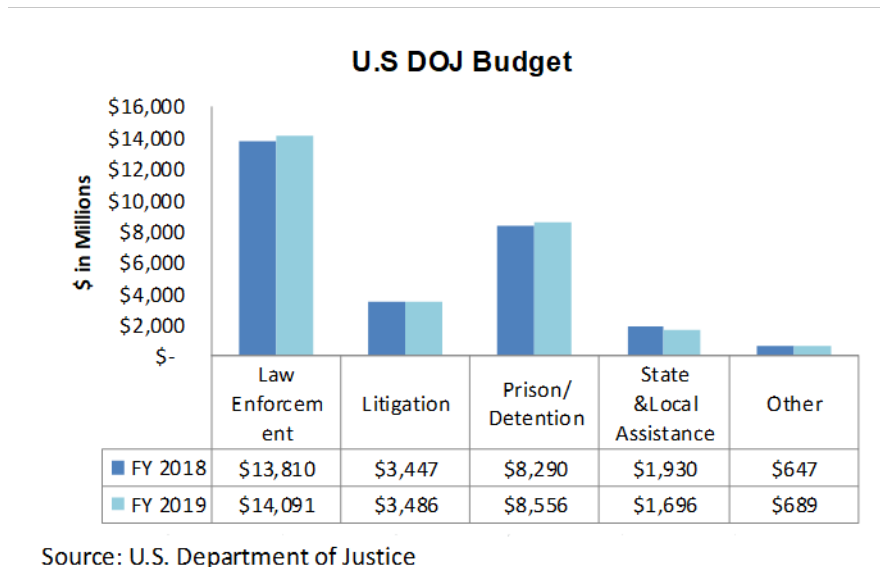
Sentencing guidelines can also vary by type of crime and various factors. For example:

> Sex trafficking by force, fraud, or coercion, and sex trafficking of a minor under age fourteen are punishable by a statutory mandatory minimum of fifteen years and a maximum of life, while sex trafficking of a minor aged fourteen to eighteen carries a statutory minimum of ten years and a maximum of life. Although the forced labor statute imposes no mandatory minimum, it carries a maximum penalty of up to twenty years or up to life if certain aggravating factors are present.[31]

2.6 Cost of Crime on Society

The cost of crime impacts more than just criminals and those who are victimized, like previously mentioned in Becker's analysis (Becker 1968, 169-217). Criminal activities constitute a serious cost to society.

The U.S Department of Justice 2019 budget request of $28.0 billion was allocated as shown below with law enforcement receiving the majority of resources in both years.

U.S DOJ Budget

	Law Enforcement	Litigation	Prison/ Detention	State &Local Assistance	Other
FY 2018	$13,810	$3,447	$8,290	$1,930	$647
FY 2019	$14,091	$3,486	$8,556	$1,696	$689

Source: U.S. Department of Justice

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[31] Vasantha Rao, "Understanding and Applying the Sentencing Guidelines for Trafficking and Related Convictions", United States Attorneys' Bulletin 65, no. 6 (2017): 105.

Also included in the budget was a total $3 billion for the Crime Victims Fund, $45MM of which was allocated for the Victims of Trafficking Program[32]. In 2017, combating human trafficking was a priority goal for the DOJ. They hoped to both increase the number of leads and complaints reviewed by the Human Trafficking Prosecution Unit, and increase the number of open investigations regarding human trafficking by 5% over the baseline target.[33] "The DOJ provided $2.8 million in FY 2017 to two law enforcement agencies and two victim service providers that make up two Enhanced Collaborative Model anti-trafficking task forces in partnership with other federal, state, local, and tribal law enforcement entities and community partners."[34] In 2011, the United States also contributed an estimated $51 million annually towards global anti–human trafficking activities as part of the Global Alliance against Traffic in Women, the European Union contributing an additional $15 million.[35]

The cost of crime also has an impact on victims. 71% of labor trafficking victims arrive in the United States after obtaining legal visas; roughly 30% are smuggled in, and typically pay an average of $6,150 in recruitment fees. They often experience wage theft and diminished economic opportunities due to the lack of a legal work history. Victims, after gaining freedom, also risk being "arrested, placed in detention centers or in deportation proceedings, most often because of immigration violations. Civil damages and criminal restitution were rarely awarded to labor trafficking survivors."[36]

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[32] U.S Department of Justice, FY 2019 Budget Request at A Glance, 2018.

[33] U.S Department of Justice, FY 2017 Budget Request at A Glance, 2016.

[34] U.S. Department of State Publication Office of the Under Secretary for Civilian Security, Democracy, and Human Rights, 2018 Trafficking in Persons Report (U.S. Department of State Publication Office of the Under Secretary for Civilian Security, Democracy, and Human Rights, 2018).

[35] Deanna Davy, "Anti–Human Trafficking Interventions", American Journal of Evaluation 37, no. 4 (2016): 486-504.

[36] Colleen Owens et al., "Understanding the Organization, Operation, And Victimization Process of Labor Trafficking in The United States", Trends in Organized Crime 18, no. 4 (2015): 348-354.

Similar costs are often incurred by victims of sex trafficking as well, especially due to the nature of the industry they are involved in. In most of the United States, the sale of commercial sex is illegal, so many of victims of the sex trafficking become entangled in the justice system and turned into criminals despite all the laws in place to protect victims. [37] There is also evidence to support that some victims are prosecuted and convicted in order to convince them to share information about their traffickers. However, once they are convicted, victims are subject to additional problems both while they are in forced servitude and when (if) they manage to leave their traffickers. Traffickers can use the threat of a conviction against their victims to scare them from talking, which may contribute to the difficulty in gaining a statement to use against a trafficker which may lead to a conviction.[38]

2.7 Effectiveness of Anti-Trafficking Measures

Anti-human trafficking intervention is clearly a focus not just in the United States, but globally. The goals of anti-trafficking policies can vary from region to region, ranging from raising awareness and providing social services to victims, to changing laws and prosecuting perpetrators. However, it seems that most of the intervention measures in place, focus on prevention activities directed at a mixed audience of policy makers and the general public, rather than on victims and perpetrators.

Given the fact that it is a significant financial investment, are the programs in place actually working? There is a lack of reliable data regarding human trafficking which makes it difficult to measure actual outcomes. Data discrepancies appear throughout reports and studies.

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[37] Alyssa M. Barnard, ""THE SECOND CHANCE THEY DESERVE": VACATING CONVICTIONS OF SEX TRAFFICKING VICTIMS", Columbia Law Review 114, no. 6 (2014): 1463-1501.

[38] Lauren Hersh, "Sex Trafficking Investigations and Prosecutions", in LAWYER'S MANUAL ON HUMAN TRAFFICKING, Jill Laurie Goodman and Dorchen A. Leidholdt., 2019.

Gaps appear which force scholars, policymakers, and others to lean on assumptions about human trafficking that may be far from accurate. If the data is not reliable, and possibly misleading, then it is reasonable to assume that the programs developed to combat human trafficking may be flawed and inaccurate as well. In 2007:

> The U.S. Government Accountability Office argued that conducting impact evaluations of anti–human trafficking projects is difficult due to several factors, including questionable estimates of the number of trafficking victims. Reliable estimates are needed for baselines by which to evaluate how effectively specific interventions are reducing human trafficking[39]

Despite spending roughly $447 million at the time to combat human trafficking, the U.S Government Accountability Office admitted: "US government-funded anti-trafficking projects often lack some important elements that allow projects to be monitored, and little is known about project impact due to difficulties in conducting evaluations."[40]

A study published in the *American Journal of Evaluation* found through a review of 49 assessments that action is required in order to increase the quality of evaluations of anti-human trafficking programs and maintain efficiency. Some of the findings included failure to evaluate cost efficiency, unrealistic program objectives, dearth of rigorous evaluations and lack of long term evaluations. Millions of dollars are poured into programs to fight human trafficking but very little has been done to monitor and evaluate the programs' effectiveness. Without sufficient evaluations, it remains unknown whether resources should be allocated towards other preventative measures to combat human trafficking.

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[39] Deanna Davy, "Anti–Human Trafficking Interventions", American Journal of Evaluation 37, no. 4 (2016): 486-504.

[40] U.S. Government Accountability Office, Human Trafficking: Monitoring and Evaluation of International Projects Are Limited, But Experts Suggest Improvement (Washington D.C., 2007).

Additional research on impact assessments regarding combating human trafficking have also identified areas of weakness that can impact monitoring and evaluation of effectiveness of programs. Some constraints faced when trying to evaluate whether a program is effective or not, include a lack of clarity in the definition of trafficking, a reluctance in measuring the results, and adequate funding to monitor and evaluate the intervention. First, since the definition of trafficking is broadly left to interpretation, lawmakers can often manipulate it to fit their own agenda such as justifying crackdowns on immigration and sex workers.[41] Benjamin Harkins, a former employee of the International Labor Organization (ILO), noted in his research regarding the subject that:

> The lengthy investigative processes required for authorities to make a determination on victim identification are sometimes in themselves an obstacle to addressing the underlying labour rights violations that have much more plainly occurred. Without a more practically defined concept, obtaining verification of whether or not interventions tasked with reducing or eliminating trafficking have been effective will continue to be problematic (Harkins 2017, 2).

He also established that the strongest disconnect between the evidence and practice in combating trafficking is the continued stress that is placed on improving the criminal justice response. He believes that there is a strong reluctance to interpret the limited results in investigating and prosecuting cases as a sign that pushes the need to develop new alternative plans.

The second constraint is the reluctance in measuring the results which rely on data beyond the direct results of the project. This unwillingness could lead from a lack of confidence in the effectiveness of a program, since an assessment of longer-term results could reveal

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[41] Marjan Wijers, "Purity, Victimhood and Agency: Fifteen Years of The UN Trafficking Protocol", Anti-Trafficking Review, no. 4 (2015): 56-79, http://www.antitraffickingreview.org.

underlying flaws in the methodology of the intervention. There also appears to be a quantitative bias in the results. Funding and donor institutions appear to have a preference towards "hard data". It has been suggested that this preference exists in research because "numbers convey a sense of precision and accuracy even if the measurements that yielded the numbers are relatively unreliable, invalid and meaningless."[42] This can pose an additional problem as results can be manipulated to show illusory progress. While the numbers support the effectiveness of the interventions, the quality of the outcomes may not.

Lastly, the third constraint is that while there is significant funding to establish and run anti-trafficking interventions, there is inadequate funding to monitor and evaluate the interventions themselves. These programs continue to be designed and funded largely by donor agenda and the anti-trafficking organizations that run them, rather than results based decision making on what does and does not work. [43]

The various studies regarding the effectiveness of anti-trafficking interventions and other programs to combat human trafficking seem to point to evidence that may support underperforming programs. If that is the case, then policy makers should reconsider whether conviction of traffickers should remain the priority in pursuing justice for trafficked persons rather than alternative solutions, such as financial compensation, which may be more in line with the needs of human victims of trafficking.

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[42] Susan Berresford, "What's the Problem with Strategic Philanthropy?", The Chronicle of Philanthropy, last modified 2010, accessed March 25, 2019, https://www.philanthropy.com/article/What-s-the-Problem-With/159847.

[43] Benjamin Harkins, "Constraints to A Robust Evidence Base for Anti-Trafficking Interventions", Anti-Trafficking Review, no. 8 (2017).

2.8 Demographics in the US

Studies show that there is no single profile for trafficking victims. They can be anyone regardless of race, color, religion, age, sex, socioeconomic status, education level etc. However, based on the data presented, there is a trend regarding the individuals who tend to be more at risk. The following statistics were collected from the Counter Trafficking Data Collaborative, which is a global data hub on human trafficking, with data contributed by organizations worldwide.

In the United States, 59.12% of identified victims are American citizens, 10.9% Mexican and 3.74% are Chinese. The majority of victims are primarily adults (70.12%) and of which the majority are women (86%). The dominant type of exploitation in the U.S. is sexual at 77.37%. Victims are typically individuals with limited economic opportunities, whose highest level of education would be high school. They have high debt and are typically desperate to obtain financial stability. Poverty, homelessness, and substance abuse are the top risk factors reported by survivors. [44]

Currently, California, Texas and Florida have the highest reported number of cases of human trafficking in the United States. This is primarily due to their large populations, high immigrant populations and status as border-entry states. Ohio, New York, Michigan, Nevada, North Carolina, New Jersey, Georgia, Illinois and Pennsylvania make up the remainder of the top 12 states with the highest caseload year after year. [45] However, based on the data, status as a border state/ point of entry or having a high immigration population does not have much significance. The majority of all victims in border states as well as the remaining 7 states are

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[44] "Counter-Trafficking Data Collaborative (CTDC)", Ctdatacollaborative.Org, last modified 2020, accessed October 30, 2020, https://www.ctdatacollaborative.org/visualisations.

[45] "2017 Human Trafficking Statistics • Human Trafficking Search", Human Trafficking Search, last modified 2019, accessed March 25, 2019, http://humantraffickingsearch.org/human-trafficking-statistics-2017/.

citizens of the U.S. It's more reasonable to believe that population in combination with socioeconomic status of the majority of the population in those states is what is putting them at a higher risk.

Chapter 3: Methodology

3.1 Empirical Analysis

To perform our analysis, we will run a multiple regression model to see whether we can identify variables that have a significant contribution to the total number of victims of human trafficking. Based on a review of the literature, we have identified 3 variables that may help explain movements in the total number of victims, which is the dependent variable. The independent variables are PTERM, POJ and UNEMP. These variables were selected based on the literature. According to the literature human trafficking is low risk for those who choose to engage in it, therefore in order to decrease the likelihood of it occurring, it is reasonable that average prison term and the probability of jail would act as deterrents if they were severe enough. This should have a positive impact on decreasing the number of trafficking victims. In regard to unemployment, the literature showed that most victims are of low socioeconomic standing or are vulnerable people; the unemployment level is important because it is expected that, if there is a lower unemployment level, the level of people vulnerable to trafficking would be lower.

The regression equation we will estimate is:

$$TTTTTTTT = PP(PPTTEEPPPP, PPPPPP, UUUUEEPP)$$

Where:

TVIC is the total number of victims identified

PTERM is the average prison term

POJ is the probability of Jail if convicted

UNEM is the U.S national unemployment rate

Due to the underground nature of human trafficking, data regarding the actual number of victims is not available and another dependent variable, TVIC number of I-914 applications for T-1 nonimmigrant status visa, was used as a proxy, as the T-1 nonimmigrant status is given specifically to foreign citizens who are already physically present in the United States due to human trafficking.[46]

The independent variables PTERM and POJ both come from the Bureau of Justice Statistics report, Federal Prosecution of Human Trafficking 2015, which had data from 2000 to 2015 available; however, no later reports were available.[47]

The remaining independent variable was sourced from the Bureau of Labor Statistics series LNS14000000 (Seas) Unemployment rate.

Regarding our regression equation, we expect the following results. We expect that both PTERM and POJ will have a negative relationship with TVIC, such that when PTERM and POJ increase, TVIC will fall. This is because both PTERM and POJ are expected to be deterrents to committing the crime of trafficking persons, therefore the higher the chance of getting caught and going to jail and the longer the time spent in prison if convicted, the less likely it would be that an individual would take that risk.

[46] "Visas For Victims Of Human Trafficking", Travel.State.Gov, last modified 2020, accessed October 30, 2020, https://travel.state.gov/content/travel/en/us-visas/other-visa-categories/visas-for-victims-of-human-trafficking.html.

[47] "Bureau of Justice Statistics (BJS) - Federal Prosecution of Human-Trafficking Cases, 2015", Bjs.Gov, last modified 2020, accessed October 30, 2020, https://www.bjs.gov/index.cfm?ty=pbdetail&iid=6286.

UNEM will have a positive effect on TVIC such that when UNEM increases, TVIC will increase as well. This is because persons who fall victim to trafficking are usually of a more vulnerable group and in this instance UNEM is being used as a measure of that vulnerability.

H_1: Preventive and deterrent actions (prison, jail) have a direct (negative)relationship with the level of trafficking

We expect H_0: P(TVIC) is positively related to UNEM

We don't expect H_1: P(TVIC) is not positively related to UNEM

We expect H_0: P(TVIC) negatively related to PTERM, POJ

We don't expect H_1: P(TVIC) is not negatively related to PTERM, POJ

3.2 Procedures

Based on the econometric model, there is one dependent variable (victims) and three

independent variables (average prison term, probability of jail, and unemployment rate). The regression analysis is executed through SAS, the multivariable regression yields the following results for:

$$P(TVIC) = \beta_0 + \beta_1 PTERM + \beta_2 POJ + \beta_3 UNEM + \varepsilon$$

Various tests will be performed on the data sets to determine the significance of the variables as well as the relationships between them. One of these tests included the Durbin-Watson test to test for autocorrelation between the variables.

3.3 Regression Analysis

The dataset used to run the multivariable regression produced the following parameter estimates for the model:

$$P(TVIC) = -2540.7 + (3.49) \text{ PTERM} + (28.0) \text{ POJ} + (-10.7) \text{ UNEM} + \varepsilon$$

The results of our estimation, which can be found in the appendix, state that:

1. A one unit (month) increase in the prison term is associated with an increase in the total number of victims by 3.49. This result is unexpected because it means that as the prison term increases, so does the number of trafficking victims. It is exactly the opposite of what we would expect.

2. A one unit (one percent) increase in the probability of jail is associated with an increase of the total number of victims by 28. This means that as the probability of jail increases so does the number of trafficking victims. It is exactly the opposite of what we would expect.

3. A one unit (one percent) increase in the unemployment rate is associated with a reduction of the total number of victims by 10.7 people. Again, this is totally inconsistent with our expectations. We expected that as unemployment increases, the number of victims would increase as well.

All the coefficients have the wrong sign. Moreover, they are not statistically significant. Given these problematic results, we ran tests for multicollinearity and serial correlation. Specifically, we may have a problem with multicollinearity, which often results when the coefficients have the wrong sign.

To test for multicollinearity, we looked at:

1. Correlation matrix for any coefficients 0.8 or greater.

2. VIF of 5 or greater.

None were found, though some were very close.

Parameter Estimates						
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Variance Inflation
Intercept	1	-2540.75679	3553.84533	-0.71	0.4883	0
PTERM	1	3.49114	2.08928	1.67	0.1206	4.41149
POJ	1	28.04516	37.27267	0.75	0.4663	2.54655
UNEM	1	-10.73922	49.45098	-0.22	0.8317	2.26979

Correlation of Estimates				
Variable	Intercept	PTERM	POJ	UNEM
Intercept	1.0000	0.7391	-0.9981	-0.3647
PTERM	0.7391	1.0000	-0.7335	-0.6941
POJ	-0.9981	-0.7335	1.0000	0.3197
UNEM	-0.3647	-0.6941	0.3197	1.0000

3.3.1 T-test

The T-test compares means between two samples and identifies whether or not they are significant. There are three coefficients estimated using t-tests. The hypothesized true coefficient is $\beta_1 = 0$. The estimated value for is $\beta_1 = 3.49114$ and the standard error of this estimate is $se(\beta_1) = 2.08928$. The degrees of freedom are 12. If we assume $\langle = 5\%$ and $t_\langle = 0.765$,

$H_0: \beta_1 = 0$ and $H_1: \beta_1 \neq 0$. $tt = \frac{(3.49114 - 0)}{2.08928} = 1.67$. Absolute value of t is larger than $t_\langle = 0.765$, therefore at the 5% level of confidence the null hypothesis is not rejected. The coefficient is not statistically significant.

The hypothesized true coefficient is $\beta_2 = 0$. The estimated value for is $\beta_2 = 28.04516$ and the standard error of this estimate is $se(\beta_2) = 37.27267$. The degrees of freedom are 12. If we assume $\langle = 5\%$ and $t_\langle = 0.765$, H_0: $\beta_2 = 0$ and H_1: β_2 ‾0. $tt = \frac{(28.04516 - 0)}{37.27267} = 0.7524$. Absolute value of t is less than $t_\langle = 0.765$, therefore at the 5% level of confidence the null hypothesis is not rejected. The coefficient is not statistically significant

The hypothesized true coefficient is $\beta_3 = 0$. The estimated value for is $\beta_3 = -10.73922$ and the standard error of this estimate is $se(\beta_3) = 49.45098$. The degrees of freedom are 12. If we assume $\langle = 5\%$ and $t_\langle = 0.765$, H_0: $\beta_3 = 0$ and H_1: β_3 ‾0. $tt = \frac{(-10.73922 - 0)}{49.45098} = -0.217$. Absolute value of t is less than $t_\langle = 0.765$, so the null hypothesis is rejected. The coefficient is statistically significant.

3.3.2 R-Square
R square provides an estimate of how well the model fits the empirical data. From the regression model, R-square shows that 60.32% of the plots fit along the line of regression, but since there is more than one variable, the adjusted R-square provides a better picture of the overall fit. The adjusted R-square implies that only 50.41% of the changes in the response variables are explained by the predictor variables.
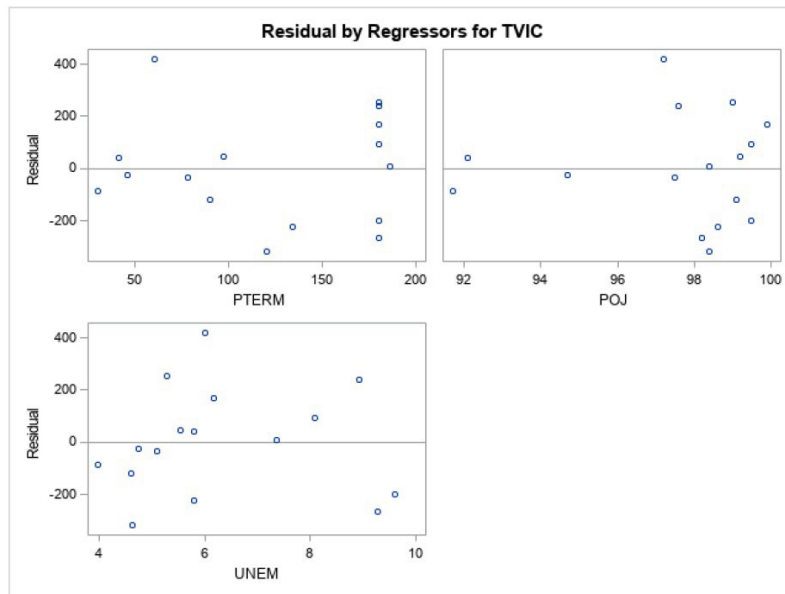
3.3.3 Durbin-Watson test
We then proceeded to look for serial correlation, which is likely in time series data. The results indicated a Durbin-Watson result of 0.984 which is less than 2, therefore we feel that serial correlation is likely.

The REG Procedure
Model: MODEL1
Dependent Variable: TVIC

Durbin-Watson D	0.984
Number of Observations	16
1st Order Autocorrelation	0.451

However, when looking at the residuals for signs of serial correlation, there is no pattern that would indicate that serial correlation would be present.

Residual by Regressors for TVIC

Based on these results there is no reason to believe that serial correlation is present even though the Durbin-Watson test indicated that there was. We then ran the regression again using general least squares so if serial correlation was present it could be corrected.

3.3.4 GLS and Yule Walker Estimates

The dataset used to re-run the multivariable regression under GLS produced the following parameter estimates for the model:

$$P(TVIC) = -3864 + (2.80)\ PTERM + (42.11)\ POJ + (-3.49)\ UNEM + \varepsilon$$

The results of our estimation, which can be found in the appendix, state that:

1. A one unit (month) increase in the prison term is associated with an increase in the total number of victims by 2.80. This result is unexpected because it means that as the prison term increases, so does the number of trafficking victims. It is exactly the opposite of what we would expect.

2. A one unit (one percent) increase in the probability of jail is associated with an increase of total number of victims by 42.11. This means that as the probability of jail increases, so does the number of trafficking victims. It is exactly the opposite of what we would expect.

3. A one unit (one percent) increase in the unemployment rate is associated with a reduction of the total number of victims by 3.49 people. Again, this is totally inconsistent with our expectations. We expected that as unemployment increases, the number of victims would increase as well.

Similar to the first regression, all the coefficients have the wrong sign. Moreover, none of them are statistically significant.

3.3.5 T-test

The T-test compares means between two samples and identifies whether or not they are significant. There are three coefficients estimated using t-tests. The hypothesized true coefficient is $\beta_1 = 0$. The estimated value for is $\beta_1 = 2.08052$ and the standard error of this estimate is $se(\beta_1) = 2.3850$. The degrees of freedom are 12. If we assume $\langle = 5\%$ and $t_\langle = 0.765$, $H_0: \beta_1 = 0$ and $H_1: \beta_1 \; \overline{}0$. $tt = \frac{(2.08052 - 0)}{2.3850} = 1.18$. The absolute value of t is larger than $t_\langle = 0.765$, therefore at the 5% level of confidence the null hypothesis is not rejected. The coefficient is not statistically significant.

The hypothesized true coefficient is $\beta_2 = 0$. The estimated value for is $\beta_2 = 42.11$ and the standard error of this estimate is se(β_2) = 34.22. The degrees of freedom are 12. If we assume $\langle$ = 5% and $t_\langle$ = 0.765, H$_0$: $\beta_2 = 0$ and H$_1$: $\beta_2 \ \overline{\ } \ 0$. $tt = \frac{(42.1192 - 0)}{34.2248} = 1.23$. The absolute value of t is greater than $t_\langle$ = 0.765, therefore at the 5% level of confidence the null hypothesis is not rejected. The coefficient is not statistically significant

The hypothesized true coefficient is $\beta_3 = 0$. The estimated value for is $\beta_3 = -3.4965$ and the standard error of this estimate is se(β_3) = 55.79. The degrees of freedom are 12. If we assume $\langle$ = 5% and $t_\langle$ = 0.765, H$_0$: $\beta_3 = 0$ and H$_1$: $\beta_3 \ \overline{\ } \ 0$. $tt = \frac{(-3.4965 - 0)}{55.3794} = -0.06$. Absolute value of t is less than $t_\langle$ = 0.765, so the null hypothesis is rejected. The coefficient is statistically significant.

3.3.6 R-Square

R square provides an estimate of how well the model fits the empirical data. From the regression model, R-square shows that 48.95% of the plots fit along the line of regression, but since there is more than one variable, the adjusted R-square provides a better picture of the overall fit. The adjusted R-square implies that only 69.80% of the changes in the response variables are explained by the predictor variables.

3.3.7 Durbin-Watson

The results provided from the Yule Walker estimates, indicated a Durbin-Watson result of 1.6799 which is less than 2, therefore we feel that serial correlation is still likely. However, Yule Walker results are not statistically significant.

Chapter 4: Conclusion

4.1 Findings

Based on the results only, it is difficult to say whether or not programs designed to detect and prevent human trafficking are working, given the fact that the results from the regression indicate that, as the probability of jail and the length of prison term increase, there is also an increase in victims. One way this could be interpreted is that these types of programs are in fact working and the more people who are caught also bring to light more victims who are trapped within the system.

According to the literature, there are many reasons why an individual may turn to committing a crime. As previously mentioned, theories such as Social Disorganization, Strain and Inequality & Crime based their assumptions on social factors and are also highly influenced by poverty and inequality while Neoclassical and Rational Choice theory assume that an individual operates in their own self-interest. Individuals who are constantly exposed to environments that promote poverty and inequality might see crime as a way to escape that environment and elevate their standard of living.

Similarly, those who are victims of trafficking are often of more vulnerable groups. The literature shows that these people are often moving away from environments that are high in poverty, inequality and have limited opportunities. In the United States, the groups of people most at risk are those who are homeless, have an addiction, have limited education and are desperate to achieve financial stability.

Socio-economic factors clearly play a major role in both groups of people, those who would choose to commit a crime and those who would become victims of crime. The programs

in place to combat human trafficking are primarily targeted at detecting and preventing human trafficking by punishing the traffickers. However, human trafficking victims are notoriously difficult to identify. In addition, studies regarding the effectiveness of anti-trafficking interventions and other programs to combat human trafficking seem to point to evidence that indicate underperforming programs.

If that is true, then policy makers should reconsider whether conviction of traffickers should remain the priority in pursuing justice for trafficked persons rather than alternative solutions, such providing support for those who need it. Investing in programs to help those who are vulnerable might be another solution to prevent trafficking.

Since there are characteristics that victims often share, limiting those traits could remove them from the vulnerable group. Providing resources for vulnerable groups to escape poverty, receive more education and overall receive more equal opportunities to change their situation may be a better option, since it could potentially remove them from being candidates for human trafficking. The less opportunities there are to take advantage of someone, in this case because there may be less vulnerable people to choose from, creates less opportunities to commit an offense of human trafficking.

Providing more resources to communities who experience higher levels of inequality will not only benefit those who are at risk of becoming victims of trafficking. There is also the chance that it could deter an individual from resorting to crime as a way of living. As indicated in both the Strain Theory and Theory of Social Disorganization, inequality and community are strong factors to consider when looking at what influences crime. Investing in resources for disadvantaged communities could help reduce inequality and help provide a sense of togetherness in an area that may lack unity.

In conclusion, human trafficking is still a major issue worldwide and remains a low risk crime for criminals. In addition, based on this analysis, law enforcement efforts might not be targeting the higher levels of the human trafficking trade. Instead they are targeting those affected by it, but not the crime organizations that make it possible for vulnerable people to become involved on both the criminal and victim sides. Until there is more evidence to support the effectiveness of current programs in place to prevent human trafficking, it may be worthwhile to look at other options by trying to prevent human trafficking before it becomes an option by investing money and resources in individuals and communities who are most at risk.

Appendix

The SAS System

The REG Procedure

Model: MODEL1

Dependent Variable: TVIC

Number of Observations Read	16
Number of Observations Used	16

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	950531	316844	6.08	0.0093
Error	12	625176	52098		
Corrected Total	15	1575708			

Root MSE	228.24991	R-Square	0.6032
Dependent Mean	555.12500	Adj R-Sq	0.5041
Coeff Var	41.11685		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Variance Inflation
Intercept	1	-2540.75679	3553.84533	-0.71	0.4883	0
PTERM	1	3.49114	2.08928	1.67	0.1206	4.41149
POJ	1	28.04516	37.27267	0.75	0.4663	2.54655
UNEM	1	-10.73922	49.45098	-0.22	0.8317	2.26979

Correlation of Estimates

Variable	Intercept	PTERM	POJ	UNEM
Intercept	1.0000	0.7391	-0.9981	-0.3647
PTERM	0.7391	1.0000	-0.7335	-0.6941
POJ	-0.9981	-0.7335	1.0000	0.3197
UNEM	-0.3647	-0.6941	0.3197	1.0000

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable:
TVIC

Durbin-Watson D	0.984
Number of Observations	16
1st Order Autocorrelation	0.451

The SAS System

The REG Procedure

Model: MODEL1

Dependent Variable: TVIC

Fit Diagnostics for TVIC

Observations	16
Parameters	4
Error DF	12
MSE	52098
R-Square	0.6032
Adj R-Square	0.5041

Residual by Regressors for TVIC
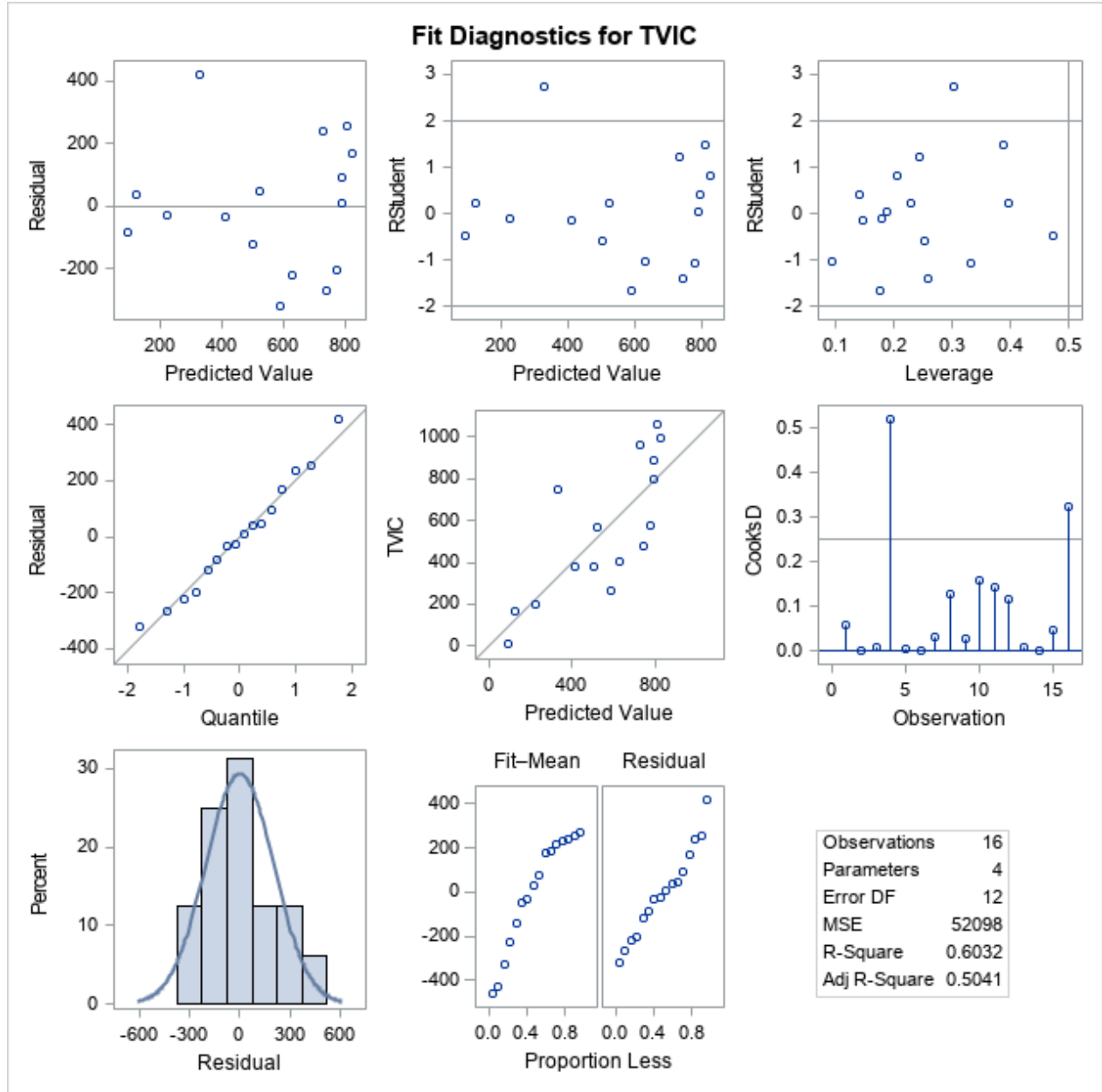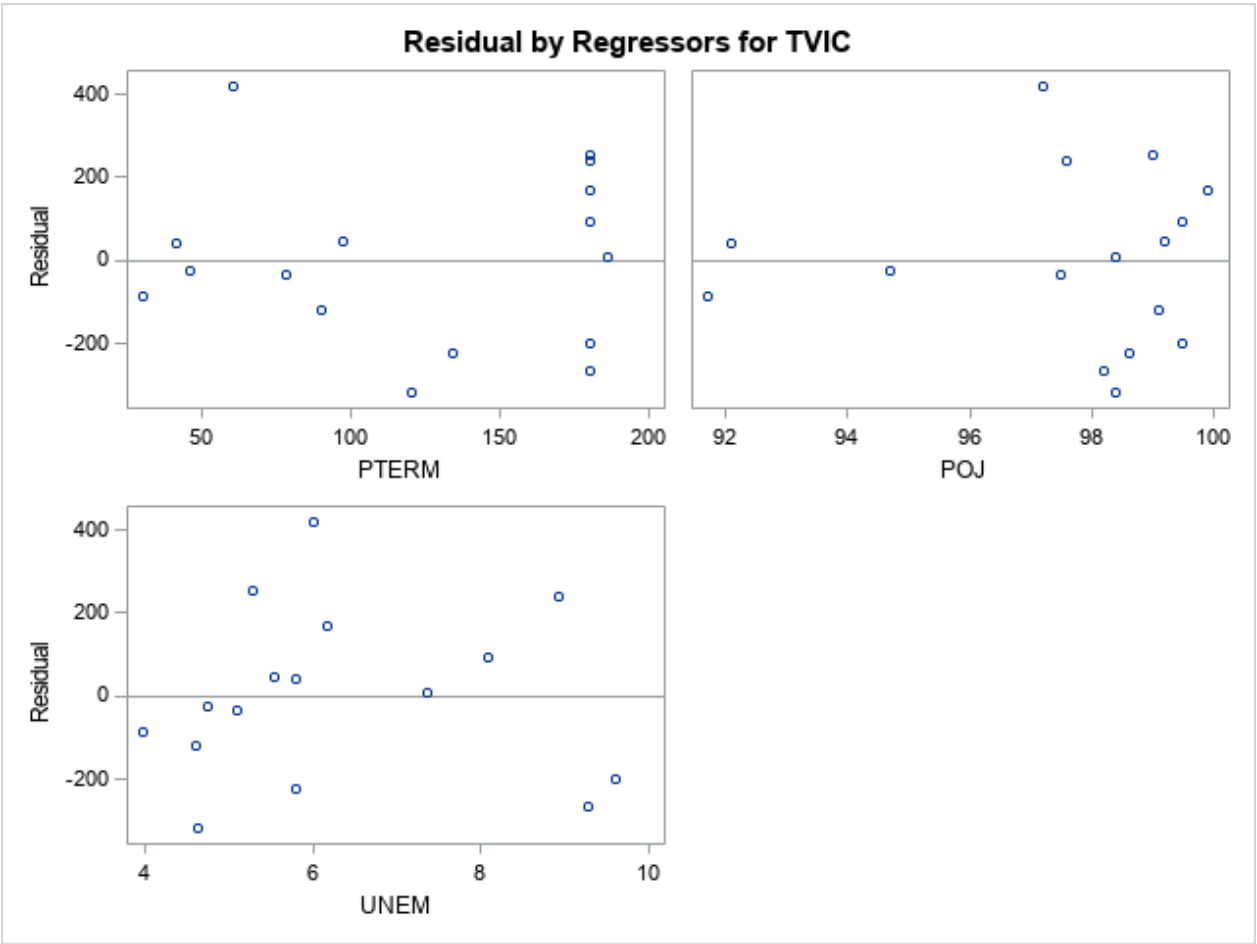
The SAS System

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	625176.26	DFE	12
MSE	52098	Root MSE	228.24991
SBC	225.667591	AIC	222.577236
MAE	158.964091	AICC	226.2136
MAPE	88.6285279	HQC	222.735488
Durbin-Watson	0.9837	Total R-Square	0.6032

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	-2541	3554	-0.71	0.4883
PTERM	1	3.4911	2.0893	1.67	0.1206
POJ	1	28.0452	37.2727	0.75	0.4663
UNEM	1	-10.7392	49.4510	-0.22	0.8317

Estimates of Autocorrelations

Lag	Covariance	Correlation	-1.0	-0.5	0.0	0.5	1.0
0	39074	1.0000					
1	17609	0.4507					
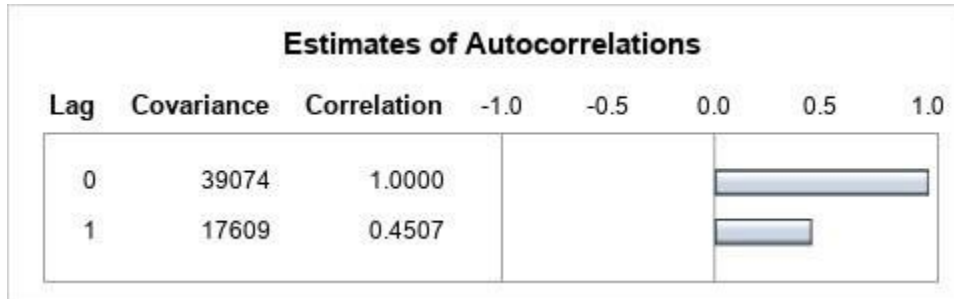
Preliminary	3113

Estimates of Autoregressive Parameters			
Lag	Coefficient	Standard Error	t Value
1	-0.450654	0.269159	-1.67

The SAS System

The AUTOREG Procedure

Yule-Walker Estimates			
SSE	475921.801	**DFE**	11
MSE	43266	**Root MSE**	208.00389
SBC	224.302711	**AIC**	220.439767
MAE	137.785637	**AICC**	226.439767
MAPE	63.2015862	**HQC**	220.637581
Durbin-Watson	1.6799	**Transformed Regression R-Square**	0.4895
		Total R-Square	0.6980

Parameter Estimates					
Variable	**DF**	**Estimate**	**Standard Error**	**t Value**	**Approx Pr > |t|**
Intercept	1	-3864	3246	-1.19	0.2589
PTERM	1	2.8052	2.3850	1.18	0.2643
POJ	1	42.1192	34.2248	1.23	0.2441
UNEM	1	-3.4965	55.3794	-0.06	0.9508

Fit Diagnostics for TVIC

Observations 16 MSE 43265.62 Model DF 4
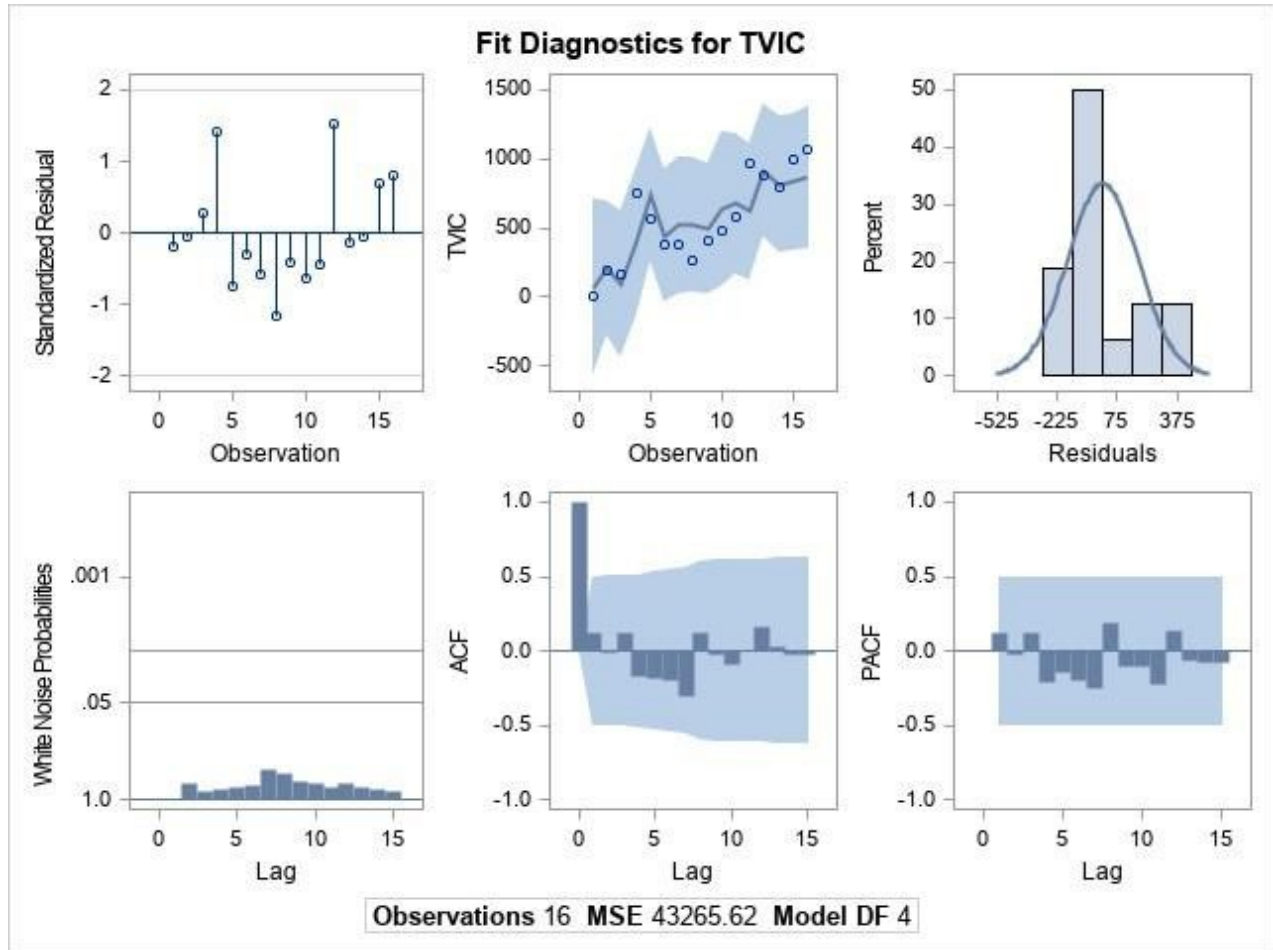
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