

Human Trafficking in Nations:
An Empirical Approach to Examining Causal Factors
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Abstract

As one of the fastest growing illegal activities today, human trafficking has caught the attention of the general public and scholars alike. It is often assumed that slavery ended long ago, but the modern form of slavery that is human trafficking is on the rise. Several laws have been established to try to combat human trafficking including the U.N.'s Palermo Protocol in 2000 and the United States' Victims of Trafficking and Violence Protection Act of 2000. Human trafficking, however, has continued to be an issue worldwide. This study aims to address the research question: *what causal factors are related to level of trafficking in nations?* Binary logistic regression is utilized for analysis. The research findings of this study propose that women in government official positions, level of migration, and income inequality are related to level of trafficking. Based on these findings, governments should consider increasing the number of women in government official position, reducing income inequality, and restructuring immigration policies when attempting to reduce levels of human trafficking.

I. Introduction

In the current age of globalization, technology, and advancement, human trafficking, a social issue plaguing humanity since ancient times, has resurfaced and is growing at an incredible rate. Human trafficking is often referred to as “modern day slavery” and potentially millions of victims are affected each year (Schauer & Wheaton, 2006, p. 146; Wolken, 2006, p. 407). CQ Global Researcher estimates that about 21 million men, women, and children are suffering due to human trafficking today (2012, p. 473). This illegal trade in humans is growing substantially, and some scholars even suggest that human trafficking may surpass drug trafficking as the leading international crime within several years (Shauer & Wheaton, 2006, p. 147). With human trafficking on the rise, an increasing number of studies and reports that pertain to the topic are appearing, especially since the establishment of the U.N. Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime, more commonly known as the Palermo Protocol.

The main objective of this research study is to determine the causal factors of human trafficking within countries. It is important to note that within scholarly discourse and the general public, there are often disagreements about the meaning of “human trafficking” or “trafficking in persons.” For that reason, a definition of human trafficking should be established. For purposes of this research, the U.N.’s definition of human trafficking within the Palermo Accord will be used. That definition is as follows:

“Trafficking in persons” shall mean the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a

position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs. (UNODC, 2004)

To understand the scope of human trafficking and factors that relate to the level of human trafficking, many topics pertaining to the issue have been investigated within the scholarly community, resulting in the development of numerous theories dealing with human trafficking. Kelly (2002) illustrates several topics that have been examined when she states:

Understanding trafficking requires locating it in various perspectives. It has variously been identified as a:

- moral issue;
- criminal issue;
- migration issue;
- human rights issue;
- public order issue;
- labour issue;
- gender issue.

Each of these angles of vision contributes an element to understanding the issue holistically. (p. 15)

As Kelly mentioned, each of the previously mentioned issues adds a great deal to understanding human trafficking, but it is important to note that data collection is difficult due to the

“underground” or “black market” nature of human trafficking (Jac-Kucharski, 2012, p. 156; Jakobsson & Kotsadam, 2013, p. 17; Presenti & Rao, 2012, p. 232). As previously stated, several theories and considerations pertaining to human trafficking have developed including theories and considerations based on human trafficking as a economic issue, as a gender issue, and as a legal issue.

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 (Galli, Shauer, & Wheaton, 2010, p. 117). 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 (Galli, Shauer, & Wheaton, 2010, p. 117). 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,” (Galli, Shauer, & Wheaton, 2010, p. 117). Rational-choice theory thus assumes that every person involved in the market for human trafficking will make choices based upon the profit obtained.

There have also been theories pertaining to the issue of gender within human trafficking. According to the UNODC, about 49 percent of trafficking victims are women, 21 percent are girls, 18 percent are men, and 12 percent are boys. Based upon these findings, victims of trafficking are largely female. Feminist theory has therefore taken hold, often suggesting that there is a connection between trafficking and gender/gender inequality (Danailove-Trainor & Laczko, 2010, p. 63; Kelly, 2002, p. 17).

The subsequent sections will begin with a presentation and examination of previous literature on the topic human trafficking, including further discussion of the theories previously mentioned. Following that, the design of the research and selection of variables will be explained. Then, an analysis of the data and findings of the study will be discussed. Finally, conclusions will be made based upon findings of the study and implications for future research will be discussed.

II. Literature Review

Human trafficking has been studied in the scholarly community through a variety of issues including feminism, migration, human rights, economics, and law. Several scholars trace the roots of the term “human trafficking” back to the early 1900s when it was only recognized as forcing of white women and children into sex work (Raigrodski, 2015, p. 82, 87-88; Shamir, 2012, p. 85; Sullivan, 2003, p. 68). This form of trafficking was referred to as “the white slave trade.” Several laws came out of the discussion of “white slavery” including the 1904 White Slavery Convention and the 1910 White Slavery Convention.

Some scholars have suggested based on feminist theories and estimations of gender of trafficking victims that human trafficking is predominately a gendered issue, usually in which females are more vulnerable to being trafficked (Danailova-Trainor & Laczko, 2010, p. 63; Kelly, 2002, p. 14; Wolken, 2006, p. 426). The sex trafficking element of human trafficking is given a lot of attention within literature including discussion as to whether or not legalizing prostitution will have a relationship with level of sex trafficking (James & Marinova, 2012; Jakobsson & Kotsadam, 2013; Schauer & Wheaton, 2006;). One case study by Jakobsson and Kotsadam (2013) on Sweden and Norway found that levels of trafficking seem to have reduced after the countries established harsher prostitution laws (p. 17). Creating stricter prostitution laws

is, however, criticized by scholars that view sex work feminist approaches which support the decriminalization or legalization of prostitution as more fitting for providing civil and occupational rights to women working in prostitution (Sullivan, 2003).

Wolken (2006) suggests that the focus on human trafficking only in the vein of sex trafficking and feminism can stigmatize men who are trafficked and make other forms of trafficking, especially trafficking of men for agricultural work, seem less harmful or not as pressing. Different forms of feminism including subordination feminism and cultural feminism, according to Wolken (2006), marginalize the “other,” meaning those that are not female and are not trafficked for prostitution (p. 421). She explains, “Cultural feminism has contributed to the current climate surrounding trafficking whereby: If you see sexual slavery, you call the police; if you see domestic slavery, you call the ‘wife’ and take her word as to what is occurring; if you see agricultural slavery, you call the Department of Labor and have the men deported,” (Wolken, 2006, p. 436).

Besides examining feminism, other literature has examined the relationship between migration and trafficking. The elimination of border checks in the European Union, corruption, and increasingly restrictive migration processes have all been discussed as possible factors contributing increases in human trafficking (Hughes, 2014, p. 3; Richards, 2004, p. 148, 151; Wolken, 2006, p. 429). The literature indicates that restrictive, intimidating immigration and deportation laws have led to migrant workers seeking alternative migration that may lead to higher risk of exploitation or trafficking (Richards, 2004, p. 151; Wolken, 2006, p. 429).

Literature on migration and human trafficking also explores the differences between smuggling and trafficking, stating that smuggling contains elements of consent, while trafficking does not (Jac-Kucharski, 2012, p. 151; Richards, 2004, p. 153). It is noted by some scholars that

smuggling can transform into trafficking at any point through exploitation, manipulation and lack of consent (Richards, p. 154; Schauer & Wheaton, 2006, p. 149).

Scholars have also addressed human trafficking as an economic market in which traffickers act as the middlemen in connecting vulnerable victims to buyers/employers (Galli, Schauer, & Wheaton, 2010; Schauer & Wheaton, 2006, p. 161). Galli, Schauer, and Wheaton (2006) suggest that each individual within the human trafficking market is rational and will choose the situation that has the highest level of profit. Rational-choice theory is applied to the victims of trafficking through push-pull factors that may drive them to non-traditional routes of becoming employed or to migrate based upon their rational evaluation of what will offer the lowest cost/greatest profit (Galli, Schauer, & Wheaton, 2010, p. 121; Jac-Kucharski, 2012, p. 152; Raigrodski, 2015, p. 80). Some suggested push factors include poverty, inequality, lack of opportunity, unemployment, economic transition, and economic marginalization of women (Galli, Schauer, & Wheaton, 2010, p. 120-121; Jakobsson & Kotsadam, 2013, p. 17; Long, 2004, p. 5; Raigrodski, 2015, p. 100; Richards, 2004, p. 151;). Pull factors include labor demand, increased political freedom, and better economic opportunities (Galli, Schauer, & Wheaton, 2010, p. 121; Jac-Kucharski, 2012, p. 121).

The choices made by traffickers have been studied as well. Most literature asserts that traffickers are looking to maximize profits, acting as businessmen within a market (Galli, Schauer, & Wheaton, 2010, p. 117; Jakobsson & Kotsadam, 2013, p. 7; Schauer & Wheaton, 2006, p. 164). An empirical study by Jac-Kucharski concludes that, “it is the reduction of operational costs for the trafficker that increases the number of individuals who are trafficked,” (2012, p. 150). These findings fit into the idea that traffickers are looking to maximize profits and minimize costs.

Laws surrounding human trafficking have been a topic of debate among scholars. Raigrodski notes that some are critical of the Palermo Protocol because it does not place “hard” obligations on the states that have ratified it (2015, p. 91). Raigrodski (2015) also mentions that the Palermo Protocol emphasizes human rights, but that this discourse does not address the root of trafficking, including social and economic conditions (p. 95). It is suggested that more laws must be developed based on the Palermo Accord and the U.S. Victims of Trafficking and Violence Protection Act (TVPA) of 2000 (Schauer & Wheaton, 2006, p. 166). Further evaluation and study of the effectiveness of laws surrounding human trafficking has been recommended within the literature (Kelly, 2002, p. 43).

An interesting study was done dealing with the relationship between the country and location of sex work performed by trafficked women and the degree to which a given right is likely to be violated (Bettio & Nandi, 2007). The study found that the location and country of sex work was significant, concluding that trafficked women working in secluded places are at a higher risk for having a given right violated.

Growth of digital communication technologies and the utilization of them in both trafficking and combating trafficking is a more recent topic within the literature. The growth of the Internet, according to scholars, has provided another outlet for recruitment of victims and advertising, especially for sex work (Hughes, 2014; Long, 2004, p. 14). Hughes (2006) also suggests that mobile and wireless devices have allowed traffickers to conduct “business” on the go, allowing them to be more mobile.

III. Methodology

The main intention of this study is to determine the causal factors of human trafficking within countries. One hundred and eighty-five countries are included in this study to help in

making the findings more valid and able to be applied to a large pool of countries. The independent variables selected for this study are income inequality, level of migration, laws against trafficking, and women in government official positions. The reason for the selection of these variables will be discussed below.

Due to lack of data for more recent years for some of the measurements, all of the variables are looked at for 2012. The independent variables of income inequality, level of migration, laws against trafficking, and women in government official positions are also endogenously lagged and looked at for the years 2010 and 2011. The independent variable lag allows for consideration of the immediate and longer-term relationships between the independent variables and level of human trafficking. To complete the analysis for this research study, binary logistic regression analysis is used incorporating the Statistic Package for Social Sciences (SPSS).

Since actual data on the number of victims of human trafficking is not available due to the underground nature of human trafficking, another way to measure the dependent variable, level of human trafficking, had to be used. Because of this, the independent variable was measured using tier placement of countries within the U.S. State Department's Trafficking in Persons (TIP) Report (2013). The countries are placed into tiers based upon their enactment of laws pertaining to trafficking, criminal penalties, implementation of human trafficking laws, proactive victim identification, assistance for victims including access to services and legal counsel, and measures to prevent trafficking (2013, p. 42-43). The countries evaluated in the TIP Report are placed into one of four tiers, either tier 1, tier 2, tier 2 watch list, or tier 3. The meanings of the four tiers are as follows:

Tier 1

Countries whose governments fully comply with the TVPA's minimum standards for the elimination of trafficking.

Tier 2

Countries whose governments do not fully comply with the TVPA's minimum standards but are making significant efforts to bring themselves into compliance with those standards.

Tier 2 Watch List

Countries where governments do not fully comply with the TVPA's minimum standards, but are making significant efforts to bring themselves into compliance with those standards, and

- a) the *absolute number* of victims of severe forms of trafficking is very significant or is significantly increasing;
- b) there is a failure to provide evidence of *increasing efforts* to combat severe forms of trafficking in persons from the previous year, including increased investigations, prosecution, and convictions of trafficking crimes, increased assistance to victims, and decreasing evidence of complicity in severe forms of trafficking by government officials; or
- c) the determination that a country is making significant efforts to bring itself into compliance with minimum standards was based on commitments by the country to take *additional steps over the next year*.

Tier 3

Countries whose governments do not fully comply with the TVPA's minimum standards and are not making significant efforts to do so. (U.S. Department of State, 2013).

Due to the similarities between some of the tiers and to allow for utilization of binary logistic regression, tier 1 and tier 2 countries were combined to form a score of 0, representing low levels of trafficking, and tier 2 watch list and tier 3 countries were combined and scored 1, representing high levels of trafficking.

Before moving on to the independent variables, it is important to note that originally the measure used for the dependent variable, level of trafficking, was data from the UNODC (2006). This data set rated the level a country is regarded as a country of origin of trafficking. After running the binary logistic regression using this data set, all variables were found to be highly insignificant. This led to a questioning of the manner in which the dependent variable was measured. Upon further reading, it was found that the original measure for the dependent variable, the number of studies done about each country based on it being a country of origin, was flawed (UNODC, 2006). Rather than basing the ratings on a factor like number of cases per country or laws followed in each country, the ratings were based only on the number of articles published about each country pertaining to human trafficking. It was determined that a different variable should be used. This measure, however, is still used within some research studies (Bettio & Nandi, 2010; Jakobsson & Kotsadam, 2013; Presenti & Rao, 2012), which may show a flaw within some research being conducted pertaining to human trafficking.

The independent variable of income inequality is measured using GINI index estimates from the World Bank. The GINI index is a measurement of the distribution of income and how

much it deviates from a normal distribution (World Bank, 2015). The GINI index is on a scale of 0 to 100, 0 representing perfect equality and 100 representing perfect inequality. Due to the lack of available data for some countries during some years, the GINI index does reduce the number of overall cases that are used within each model. A hypothesis for this variable is established based on rational-choice theory and push-pull factors that may drive people to non-traditional employment routes, possibly including trafficking. One of the major push factors discussed within literature is inequality (Jakobsson & Kotsadam, 2013, p. 17; Richards, 2004, p. 151). According to rational-choice theory, if inequality is a push factor, then rationally if inequality is higher in an area, a person may choose to pursue non-traditional employment. Therefore, the following hypothesis and its corresponding null hypothesis is investigated:

H₁: There is a direct (positive) relationship between income inequality and level of trafficking.

H₀: There is no relationship between income inequality and level of trafficking.

The independent variable of level of migration is measured by the percentage of the population that emigrates from a country. Taking the number of people that emigrated from a country to OECD countries and dividing it by total population of that country determine this measurement. The dataset for number of people that emigrated from a country to OECD countries is accessed through the OECD site, <https://stats.oecd.org/Index.aspx?DataSetCode=MIG>, while the dataset of total population is from the World Bank site, <http://data.worldbank.org/indicator/SP.POP.TOTL>. There is some literature about migration and human trafficking, but most do not seek to establish a relationship between level of migration and level of human trafficking. For further investigation of this relationship, the following hypothesis and its corresponding null hypothesis is investigated:

H₂: There is a direct (positive) relationship between level of migration and level of trafficking.

H₀: There is no relationship between level of migration and level of trafficking.

The independent variable of laws against trafficking is measured based on ratification of the Palermo Protocol. This variable is measured nominally, so if a country has ratified the Palermo Protocol, they receive a score of 0, and if a country has not ratified the Palermo Protocol, they receive a score of 1. The literature surrounding laws and human trafficking recommends further investigation into the effectiveness of legal reform including the Palermo Protocol (Kelly, 2002, p. 43). Based on that and the liberal theoretical idea that international law is usually effective, the following hypothesis is researched:

H₃: There is a direct relationship between laws against trafficking and level of trafficking.

H₀: There is no relationship between laws against trafficking and level of trafficking.

Lastly, the independent variable of women in government official positions is measured by the proportion of seats held by women in national parliaments. This measure is obtained through the World Bank site, <http://data.worldbank.org/indicator/SI.POV.GINI>. Cultural feminist theory suggests that females are distinct from males in that females are generally morally superior to males, and that females usually possess caring qualities (Wolken, p. 424-426). This reinforces the feminist idea that much of the conflict in the world is due to male dominated governments. Based on cultural feminist theory and feminist theory in general, the following hypothesis is examined:

H₄: There is an indirect relationship between women in government official positions and level of trafficking.

H_0 : There is no relationship between women in government official positions and level of trafficking.

After running the descriptives of all of the variables, it was found that independent variable of level of migration for 2010, 2011, and 2012 were highly skewed. In turn, those three measures were logarithmically transformed to better fit the binary logistic regression analysis.

IV. Analysis and Findings

The initial binary logistic regression model was run using the 2012 measure for level of trafficking and the 2010 measure for all of the independent variables. The overall percentage under block 0 indicated that without taking into account the independent variables, 82.7% of the time, a person could predict the level of trafficking. The score and sig. for each independent variable are predictive statistics and they predicted for this model that none of the variables would be significant. Incorporation of the independent variables into the model did improve the predicting level of trafficking. The chi-square for the model was 6.899 and the significance was 0.141, showing that the model was insignificant. The Nagelkerke R square was 0.146, meaning that 14.6% of variation in the dependent variable was explained by the model. The Wald score and significance for each independent variable indicated that none of the variables in this model are statistically significant. The wald score for laws against trafficking was 0.007 and its significance was 0.934, showing that it was highly insignificant. Due to this, it was thrown out in order to make a better model. After running the subsequent model, the Wald score and significance for women in government official positions indicated that the variable was also highly insignificant, so it was thrown out.

Table 1: Block 0 Prediction Before Incorporation of Independent Variables for 2010 Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	62	0	100.0
	1	13	0	.0
Overall Percentage				82.7

Table 2: Block 1 Prediction With Incorporation of Independent Variables for 2010 Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	61	1	98.4
	1	12	1	7.7
Overall Percentage				82.7

Table 3: Block 0 Prediction Before Incorporation of Independent Variables for 2010 Final Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	62	0	100.0
	1	13	0	.0
Overall Percentage				82.7

Table 4: Block 1 Prediction With Incorporation of Independent Variables for 2010 Final Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	61	1	98.4
	1	12	1	7.7
Overall Percentage				82.7

Table 5: Predicted Score and Predicted Significance of Independent Variables Before Incorporation of Variables in the Equation. 2010

		Score	Sig.
Variables Model 1	Women10	0.221	0.638
	Laws	0.209	0.647
	GINI10	5.594	0.018
	Mig10	2.930	0.087
Variables Final Model 1	GINI10	5.594	0.018
	Mig10	2.930	0.087

<i>Table 6: Chi-Square and Significance of Models for 2010</i>			
Model 1 Nagelkerke R Square: 0.146			
Final Model 1 Nagelkerke R Square: 0.141			
	Chi-square	df	Sig.
Model 1	6.899	4	0.141
Final Model 1	6.669	2	0.036

<i>Table 7: Wald Score and Significance of Individual Variables for 2010 Models</i>				
		B	Wald	Sig.
Variables Model 1	Women10	-0.015	0.223	0.637
	Laws	0.073	0.007	0.934
	GINI10	0.070	3.357	0.067
	Mig10	-0.265	1.632	0.201
Variables Final Model 1	GINI10	0.072	3.889	0.049
	Mig10	-0.247	1.462	0.227

The final model was run for the 2012 measure for level of trafficking, the 2010 measure for income inequality, and the 2010 measure for level of migration. The overall percentage both before and after incorporating the independent variables did not change. The score and significance for income inequality did not change, nor did the score and significance for level of migration. The chi-square of 6.669 and significance of 0.036 showed that the model was significant. Although the model was now significant, the Nagelkerke R-square decreased to 0.141. So now only 14.1% of the variation in the dependent variable could be explained by the model. Although the two variables that were thrown out were not statistically significant, they did contribute to explaining some of the variation in the dependent variable and should possibly be considered in future research. In this final model, the Wald score for the measurement of income inequality was 3.889 and the significance was 0.049, indicating that GINI for 2010 is significant.

A second binary logistic analysis was run based on the 2012 measure for level of trafficking and the 2011 measure for all of the independent variables. The overall percentage

before incorporation of the independent variables into the equation was 86.4. After incorporation of the independent variables, the overall percentage improved to 87.9, showing that the model improved predictability. The score for level of migration was 4.122 while significance was 0.042, indicating that the analysis predicted that level of migration would be statistically significant in the model. The chi-square of 4.538 and significance of 0.338 for the model show that the model is not statistically significant. The Nagelkerke R-square shows that only 12.1% of the variation in the dependent variable can be explained by the model. According to the Wald score and significance of the independent variables, none of them in this model are significant. The measurement for income inequality was thrown out due to its Wald score of 0.017 and significance of 0.897.

Table 8: Block 0 Prediction Before Incorporation of Independent Variables for 2011 Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	57	0	100.0
	1	9	0	.0
Overall Percentage				86.4

Table 9: Block 1 Prediction With Incorporation of Independent Variables for 2011 Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	57	0	100.0
	1	8	1	11.1
Overall Percentage				87.9

Table 10: Block 0 Prediction Before Incorporation of Independent Variables for 2011 Final Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	112	0	100.0
	1	61	0	.0
Overall Percentage				64.7

Table 11: Block 1 Prediction With Incorporation of Independent Variables for 2011 Final Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	105	7	93.8
	1	52	9	14.8
Overall Percentage				65.9

		Score	Sig.
Variables Model 2	Women11	0.672	0.412
	Laws	0.232	0.630
	GINI11	0.227	0.634
	Mig11	4.122	0.042
Variables Final Model 2	Women11	4.158	0.041
	Laws	2.623	0.105
	Mig11	3.881	0.049

	Chi-Square	df	Sig.
Model 2	4.538	4	0.338
Final Model 2	9.644	3	0.022

		B	Wald	Sig.
Variables Model 2	Women11	-0.028	0.532	0.466
	Laws	-0.410	0.186	0.667
	GINI11	0.005	0.017	0.897
	Mig11	-0.414	3.736	0.053
Variables Final Model 2	Women11	-0.027	3.113	0.078
	Laws	-0.429	1.589	0.207
	Mig11	-0.197	3.605	0.058

The final model was run for 2012 measure for trafficking, 2011 measure for women in government official positions, 2011 law, and 2011 level of migration. The overall percentage for this model greatly decreased to 64.7 before incorporation of the independent variables and 65.9 after incorporation, but this may be due to an increased number of cases after throwing out GINI. The score and significance for both women in government positions and level of migration indicate that the analysis predicted that both of the variables would be statistically significant in the model. The chi-square improved to 9.644 and the significance improved to 0.022 showing

that the model was significant. The Nagelkerke R-square, however, declined to 0.075. So in this model, only 7.5% of the variation in the dependent variable could be explained by the model. Although the Wald score and significance improved for all of the independent variables, still none of them were significant in this model.

A third binary logistic regression analysis was run for a model based on the 2012 measure for level of trafficking and the 2012 measure for all of the independent variables. The overall percentage for this model before incorporation of the independent variables was 82.1. After incorporating the variables into the equation, the overall percentage improved to 83.6. The score and significance before incorporation of the variables into the equation indicated for most variables that they would not be significant in the model. For the measure for women in government positions, however, the score was 10.581 and the significance was 0.001, showing a prediction that women in government positions would most likely be significant in the model. The chi-square for this model was extremely high at 15.132 and the significance was 0.004, meaning that the model was highly significant. The Naglekerke R-square was also high, indicating that 33.2% of the variation in the independent variable could be explained by the model. According to the Wald score and significance, laws, GINI, and level of migration were not significant, however, the Wald score for women in government positions was 7.932 and the significance was 0.005, showing that women in government positions was highly significant. The GINI Wald was 0.003 and its significance was only 0.957, so although this model is highly significant, the GINI was thrown out due to its Wald score and low significance.

Table 15: Block 0 Prediction Before Incorporation of Independent Variables for 2012 Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	55	0	100.0
	1	12	0	.0
Overall Percentage				82.1

Table 16: Block 1 Prediction With Incorporation of Independent Variables for 2012 Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	53	2	96.4
	1	9	3	25.0
Overall Percentage				83.6

Table 17: Block 0 Prediction Before Incorporation of Independent Variables for 2012 Final Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	111	0	100.0
	1	63	0	.0
Overall Percentage				63.8

Table 18: Block 1 Prediction With Incorporation of Independent Variables for 2012 Final Model

Observed		Predicted		
		Trafficking		Percentage Correct
		0	1	
Trafficking	0	99	12	89.2
	1	52	11	17.5
Overall Percentage				63.2

Table 7: Predicted Score and Significance of Independent Variables Before Incorporation of Variables in the Equation. 2012

		Score	Sig.
Variables Model 3	Women12	10.581	0.001
	Laws	0.293	0.588
	GINI12	2.049	0.152
	Mig12	1.154	0.283
Variables Final Model 3	Women12	5.494	0.019
	Laws	2.388	0.122
	Mig12	4.389	0.036

<i>Table 8: Chi-Square and Significance of Models for 2012</i>			
Model 3 Nagelkerke R Square: 0.332			
Final Model 3 Nagelkerke R Square: 0.085			
	Chi-Square	df	Sig.
Model 3	15.132	4	0.004
Final Model 3	11.197	3	0.011

<i>Table 9: Wald Score and Significance of Individual Variables for 2012 Models</i>				
		B	Wald	Sig.
Variables Model 3	Women12	-0.158	7.932	0.005
	Laws	-0.277	0.096	0.756
	GINI12	-0.002	0.003	0.957
	Mig12	-0.382	2.101	0.147
Variables Final Model 3	Women12	-0.032	4.193	0.041
	Laws	-0.383	1.250	0.264
	Mig12	-0.214	4.165	0.041

The final model was based on 2012 measure for level of trafficking, 2012 measure of women in government positions, 2012 measure of law, and 2012 level of migration. The overall percentage both before and after incorporation of the variables into the equation declined. The score and significance for women in government positions worsened, but the score and significance for level of migration improved to 4.389 and 0.036, meaning that the analysis predicted that level of migration would now also be significant in the model. The chi-squared and significance also worsened to 11.197 and 0.011, but they still indicate that the model is highly significant. Perhaps the greatest decline was in the Nagelkerke R-square. In this model, it is 0.085, indicating that the model only explains 8.5% of the variation in the dependent variable. The Wald score of women in government positions increased to 4.193 and its significance in this model was 0.041. The significance of women in government positions in this model, therefore, has declined, but it is still significant. The Wald score for level of migration is now 4.165 and the significance is 0.041, indicating that the level of migration is significant in this model. According to the correlation table that was created before the analyses, there was a significant correlation

between women in government positions in 2012 and GINI in 2012, so it may be that because of this correlation, throwing out the GINI resulted in the significance of women in government positions worsening.

Although none of the variables were significant for every year investigated, income inequality was significant in 2010, women in government official positions was significant in 2012, and level of migration was also significant in 2012. Women in government official positions in 2012 appeared to have the greatest significance, followed by level of migration in 2012, then closely by income inequality in 2010. Thus, there is evidence that an immediate indirect relationship exists between women in government official positions and level of human trafficking. The relationship is indirect (negative) due to the negative B/slope of the variable in table 9. An immediate indirect (negative) relationship also exists between level of migration and level of human trafficking, which actually disagrees with the hypothesis stated earlier in which level of migration and level of human trafficking have a direct (positive) relationship. A lagged direct (positive) relationship exists between income inequality and level of human trafficking.

V. Conclusions

This research study concludes that evidence exists that a relationship exists between women in government official positions and level of human trafficking, level of migration and level of human trafficking, and income inequality and level of human trafficking. The feminist/cultural feminist theory that inequality and social problems are due to male-dominated governments is supported by the high significance of women in government official positions in 2012. It seems that gender in government official positions plays a major role in the level of human trafficking within countries. Rational-choice theory and the push-pull factors that go along with it are also supported through these findings, due to the direct relationship between

income inequality and level of human trafficking. Since income inequality is regarded as a push factor, this finding supports the idea that income inequality may push more people into human trafficking.

As mentioned in the data analysis, finding the indirect relationship between level of migration and level of human trafficking does not support the original hypothesis. One possible explanation for this is based in literature that states that stricter migration restrictions may reduce migration but increase trafficking due to migrants trying non-traditional routes of migration (Richards, 2004, p. 151; Wolken, 2006, p. 429). Further research into this idea would be pertinent in developing a better understanding of the relationship between migration and human trafficking.

Due to the lack of significance in the laws against trafficking variable, it may be appropriate to suggest that the laws pertaining to trafficking in their current form are not workable and need to be revised. This insignificance in the variable, however, may not be an issue with the laws themselves, but rather with enforcement. Further research will need to be done to find if enforcement of laws has any sort of relationship with levels of human trafficking.

Although several of the variables and models showed significance and illustrated relationships with the level of human trafficking, the Nagelkerke R-squares were overall fairly low, with the highest being 0.332. This means that at the highest, the variables investigated only explain 33.2% of the variation in level of human trafficking. This leads to the conclusion that there are other factors that contribute to human trafficking and may be able to explain more of the variation in it. Further research will need to be conducted to determine these factors.

According to the literature and the analysis some of these factors may include enforcement, level of education, and level of corruption. Even with the relatively low level of explanation of

variation through these variables, the study ultimately shows an immediate indirect relationship between both women in government official positions and level of human trafficking, and level of migration and level of human trafficking, and a lagged direct relationship between income inequality and level of human trafficking.

References

- Bettio, F. & Nandi, T.K. (2007) Evidence on women trafficked for sexual exploitation: A rights based analysis. *Department of Economics, University of Siena*. Retrieved from http://www.fep.up.pt/conferencias/eaepe2007/Papers%20and%20abstracts_CD/Bettio%20Nandi.pdf
- Brunovskis, A., & Tyldum, G. (2005). Describing the unobserved: Methodological challenges in empirical studies on human trafficking. *International Migration*, 43(1/2), 17-34. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=17204974&site=ehost-live>
- Danailova-Trainor, G., & Laczko, F. (2010). Trafficking in persons and development: Towards greater policy coherence. *International Migration*, 48(4), 38-83. Retrieved from <http://web.a.ebscohost.com/ehost/detail/detail?vid=21&sid=f3166dd0-e525-49d1-8c54-1f5df205e8c2%40sessionmgr4005&hid=4204&bdata=JnNpdGU9ZWVhc3QtbGl2ZQ%3d%3d#AN=52300909&db=a9h>
- Galli, T.V., Schauer, E.J., & Wheaton, E.M. (2010). Economics of Human Trafficking. *International Migration*, 48(4), 114-141. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=52300913&site=ehost-live>
- Hughes, D. M. (2014). Trafficking in Human Beings in the European Union: Gender, Sexual Exploitation, and Digital Communication Technologies. *SAGE Open*, 4(4). Retrieved from <http://sgo.sagepub.com/content/4/4/2158244014553585.full>

- Inter-Parliamentary Union (IPU). (2015). Proportion of seats held by women in national parliaments (%). *The World Bank*. Retrieved from <http://data.worldbank.org/indicator/SG.GEN.PARL.ZS?page=1>
- Jac-Kucharski, A. (2012). The Determinants of Human Trafficking: A U.S. Case Study. *International Migration*, 50(6), 150-165. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=82729862&site=ehost-live>
- Jakobsson, N., & Kotsadam, A. (2013). The Law and Economics of International Sex Slavery: Prostitution Laws and Trafficking for Sexual Exploitation. *University of Gothenburg School of Business, Economics and Law*. Retrieved from <https://gupea.ub.gu.se/handle/2077/22825>
- Kelly, L. (2002). Journeys of Jeopardy: A Commentary on Current Research on Trafficking of Women and Children for Sexual Exploitation Within Europe. *Research and Publications Division International Organization for Migration*. Retrieved from http://childtrafficking.org/pdf/user/journeys_of_jeopardy.pdf
- Kiener, R. (2012). Human Trafficking and Slavery: Are Governments Doing Enough to Eradicate the Illicit Trade? *CQ Global Researcher*, 6(20), 473-496. Retrieved from <http://library.cqpress.com/cqresearcher/document.php?id=cqrglobal2012101600&type=hitlist&num=0>
- Long, L.D. (2004). Anthropological Perspectives on the Trafficking of Women for Sexual Exploitation. *International Migration*, 42(1), 5-31. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=12338270&site=ehost-live>

- James, P., & Marinova, N.K. (2012). The Tragedy of Human Trafficking: Competing Theories and European Evidence. *Foreign Policy Analysis*, 8(3), 231-253. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=77496762&site=ehost-live>
- OECD. (2015). International Migration Database. *OECD.Stat*. Retrieved from <https://stats.oecd.org/Index.aspx?DataSetCode=MIG>
- Presenti, C., & Rao, S. (2012). Understanding Human Trafficking Origin: A Cross-Country Empirical Analysis. *Feminist Economics*, 18(2), 231-263. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=78530801&site=ehost-live>
- Raigrodski, D. (2015). Migration Gone Wrong: Trafficking in Persons Through the Lens of Gender, Labor, and Globalization. *Indiana International & Comparative Law Review*, 25(1), 79-114. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=102812222&site=ehost-live>
- Richards, K. (2004). The Trafficking of Migrant Workers: What are the Links Between Labour Trafficking and Corruption? *International Migration*, 42(5), 147-168. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=15275327&site=ehost-live>
- Schauer, E.J., & Wheaton, E.M. (2006). Sex Trafficking Into the United States: A Literature Review. *Criminal Justice Review*, 31(2), 146-169. Retrieved from <http://cjr.sagepub.com/content/31/2/146>

Shamir, H. (2012). A Labor Paradigm for Human Trafficking. *UCLA Law Review*, 60(1), 76-136. Retrieved from [http://search.ebscohost.com/login.aspx?direct](http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=83851149&site=ehost-live)

[=true&db=a9h&AN=83851149&site=ehost-live](http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=83851149&site=ehost-live)

Sullivan, B. (2003). Trafficking in Women: Feminism and New International Law. *International Feminist Journal of Politics*, 5(1), 67-91. Retrieved from

[http://myweb.dal.ca/mgoodyea/files/traffick/Trafficking%20in%20women%20B%20Sullivan%20Int%20Fem%20J%20Pol%202003%20%205\(1\)%2067-91.pdf](http://myweb.dal.ca/mgoodyea/files/traffick/Trafficking%20in%20women%20B%20Sullivan%20Int%20Fem%20J%20Pol%202003%20%205(1)%2067-91.pdf)

Tyldum, G. (2010). Limitations in Research on Human Trafficking. *International Migration*, 48(5), 1-13. Retrieved from [http://search.ebscohost.com/login.aspx?direct=true&db=](http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=53568928&site=ehost-live)

[a9h&AN=53568928&site=ehost-live](http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=53568928&site=ehost-live)

United Nations Office on Drugs and Crime (UNODC). (2008). *Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime*. Retrieved from

<https://www.unodc.org/unodc/en/treaties/CTOC/countrylist-traffickingprotocol.html>

United Nations Office on Drugs and Crime (UNODC). (2014). Global Report on Trafficking in Persons. *UNODC*. Retrieved from https://www.unodc.org/documents/data-and-analysis/glotip/GLOTIP_2014_full_report.pdf

U.S. Department of State. (2013). Trafficking in Persons Report 2013. *U.S. Department of State*. Retrieved from <http://www.state.gov/j/tip/rls/tiprpt/2013/210548.htm>

U.S. Department of State. (2000). Victims of Trafficking and Violence Protection Act of 2000. *U.S. Department of State*. Retrieved from <http://www.state.gov/j/tip/laws/61124.htm>

- Wolken, C.L. (2006). Feminist Legal Theory and Human Trafficking in the United States: Towards a New Framework. *University of Maryland Law Journal of Race, Religion, Gender & Class*, 6(2), 407-437. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=28531900&site=ehost-live>
- World Bank, Development Research Group. (2015). GINI Index (World Bank Estimate). *The World Bank*. Retrieved from <http://data.worldbank.org/indicator/SI.POV.GINI>
- World Bank. (2015). Population, total. *The World Bank*. Retrieved from <http://data.worldbank.org/indicator/SP.POP.TOTL>