



GÖTEBORGS
UNIVERSITET

DEPARTMENT OF POLITICAL SCIENCE

INSTITUTIONAL QUALITY AND HUMAN TRAFFICKING IN THE WAKE OF NATURAL DISASTERS

A Cross-Sectional Analysis of the impacts of Natural Disasters
on the level of Human Trafficking

Jenny Tu

Master's Thesis:	30 higher education credits
Programme:	Master's Programme in International Administration and Global Governance
Date:	August 16 th 2018
Supervisors:	Kohei Suzuki
Words:	18 097

Abstract

The form of modern-day slavery of human trafficking has been increasingly seen as a serious risk associated with environmental problems. The number of trafficked women and children were seen as a reporting trend in the context of natural disasters, and is estimated to increase as disasters will be more severe and frequent in the near future. A number of studies have emphasized the correlation between natural disasters and human trafficking and have revealed inconsistent results. In view of this ambiguity, certain state factors have been considered to be vital in understanding human trafficking where insights from these studies reveal that institutional quality may play a key role in the natural disaster-human trafficking nexus. However, the concept of Quality of Government (QoG) has been overlooked regarding this issue, which is generally referred to “trustworthy, reliable, impartial, uncorrupted, and competent government institutions”. Thus, based on the developed theoretical framework, this thesis proposes that countries with low QoG have higher levels of human trafficking outflows in the aftermath of natural disasters. Given that no perfect indicator captures the broad concept of QoG, this thesis considers four different aspects of QoG in order to capture different dimensions of institutional quality in relation to the disaster-trafficking nexus. Furthermore, due to the lack of good quality data of human trafficking, this thesis focuses on trafficking cases that capture trafficking flows, rather than actual numbers of trafficked victims. By conducting a cross-sectional analysis, I test whether QoG moderates the relationship between natural disasters and human trafficking outflows across the world during the period 1996-2000. The results provide support for the theory that natural disasters are positively associated with human trafficking outflows. However, the results did not reveal any moderating effect of QoG on the relationship between natural disasters and human trafficking. This further implies that natural disasters and institutional quality have significant impact on human trafficking outflows independently. My findings remain robust across robustness checks.

Table of Contents

1. Introduction.....	4
2. Literature Review	7
2.1 Clarification of Concepts.....	7
2.2 Natural Disaster and Human Trafficking Nexus.....	11
2.3 Existing Theories	15
<i>Migration and Trafficking</i>	15
<i>Gender aspect of Trafficking</i>	16
<i>Conflict and Trafficking</i>	17
3. Theoretical Contribution	18
3.1 Institutional quality and trafficking.....	18
3.2 The Events of Haiyan Typhoon and Chilean Earthquake.....	20
3.3 Research Aim and Contribution.....	23
4. Research Design.....	24
4.1 Data.....	24
4.2 Operationalization of Main Variables.....	27
4.2.1 Dependent variable.....	27
4.2.2 Independent variables.....	29
4.2.3 Control Variables	31
4.3 Method	34
5. Diagnostics	36
6. Analysis and Results	37
6.1 Multiple Regressions (OLS) Output for Core Effect.....	37
6.2 Multiple Regressions (OLS) Output for QoG and Moderator Effects.....	39
7. Discussion of Findings and Limitations.....	43
8. Conclusion and Implications for Future research	46
Appendix 1a: Table of Countries of Origin	54
Appendix 1b: Table of Non-Origin Countries.....	55
Appendix 2: Summary Statistics of Dependent and Independent Variables.....	56
Appendix 3: Collinearity Statistics for Main OLS Model	56
Appendix 4: Correlations Between the Independent and Explanatory Variables:	57
Appendix 5: Diagnostics	58
Appendix 6: Multiple Regressions (OLS) Interaction Effects	60
Appendix 7: Robustness Check: Ordered Regression (ologit).....	62

1. Introduction

The withdrawal from the Paris Climate Accord¹ sparked an intense discussion on the efforts to tackle one of the world's biggest security threats: global climate change (UNFCCC, 2017). Climate change induces long-term shifts in weather conditions, potentially increases the frequency and severity of extreme weather events. It is a major contribution to displacement and migration, forcing people to move due to threatened livelihoods, food supplies, and destroyed homes (Gerrard, 2016:3). More importantly, it is well documented that displacement contributes to a considerable increase in human trafficking. In the wake of natural disasters caused by extreme weather events, people are particularly exposed to exploitation as disasters disrupt state systems and create protection gaps (Bowersox, 2017:197). The absence or collapse of a state system after an emergency potentially creates protection vacuums, making it easier for traffickers to exploit vulnerable victims (Singh, 2012). While some states are more capable in providing security and public goods for the affected population, others may lack resources to protect its people. In this latter context, people are more vulnerable and also more likely to fall into the hands of traffickers. Nevertheless, given the fact that disaster-related displacement is seen to be on its rise and threatens to worsen in the forthcoming years due to climate change, it is of vital importance to address the impacts they bring about, and in this case human trafficking.

Despite trafficking cases have been reported by numerous media in post-disasters situations, the academic research regarding the link is still lacking behind and has until now reached little consensus. Some scholars suggest a strong positive relationship where human trafficking, particularly women and children, flourishes in the aftermath of natural disasters (Carletti, 2017; Dutta, 2017; Finn, 2016; Boria, 2016; Norlha, 2015; Singh, 2012; Gupta & Agrawal, 2010). On the contrary, while not denying the existence of such a risk, it is argued by other scholars that the link between these two phenomena is more a myth than a reality (Gozdziak & Walter, 2014; Montgomery, 2011). In view of this ambiguity, some scholars propose various state factors that are considered to be crucial in understanding human trafficking, such as law enforcement (Akee et al. 2014; Cho et al. 2014; Frank & Simmons, 2013), and control of corruption (Jonsson, 2018; Cho et al. 2014; Studnicka, 2010; Shelley, 2010; Van Dijk & Mierlo, 2010). However, while institutional quality of a country has been regarded as crucial in the trafficking literature, it has not yet emphasized the concept of Quality of Government (QoG). Thus, this thesis will reconcile the opposing views in the debate by bringing in the overlooked factor of QoG.

¹ President Donald Trump made a statement June 1st 2017 to withdraw the United States from the Paris Climate Accord, an agreement for

Insights from the Nepalese earthquake in 2015 suggest that weakened governance and broken social protection mechanisms increased the vulnerabilities of disaster-affected people to exploitation. The undermined state system with no secured protection or assistance from the government during and after the disaster put the already vulnerable population at even greater risk for trafficking (Brülisauer, 2015:18). In addition, the weak performance of the Nepalese government after the disaster prompted frustration and anger among people as they were forced to face situations of greater vulnerability and accept riskier livelihood conditions (Southard, 2017:18). Hence, the Nepalese case provides good reasons to presume that QoG impacts the link between disaster and human trafficking. In short, this thesis seeks to look at this yet untested relationship between natural disaster and human trafficking, with the level of QoG influencing the link. The following research question will thus be addressed: *“Does the quality of government mitigate the level of outflow of human trafficking in the aftermath of a natural disaster?”*

To the best of my knowledge, the relationship between natural disaster and human trafficking, and QoG as a potential moderator influencing this connection, remains untested. To build on this strand of disaster-trafficking literature and to answer the research question, I develop a theoretical framework based on existing literature and insights from the concept of QoG. In this thesis, the concept of QoG focuses primarily on the government’s capacity or ability to provide safety and deliver public goods in an efficient way and without corruption. In other words, I argue that countries with a lack of QoG would have an increased supply for traffickers in the aftermath of disasters. As the government is incapable of protecting its citizens in such situation, individuals whose livelihoods is threatened may find themselves in a position where they are forced to migrate, and may thus attempt more risky, less legitimate forms of migration. Subsequently, they may be more at risk of coming into contact with trafficking recruiters. And contrary, I expect countries with higher QoG are associated with less trafficking outflow after disasters due to its ability to protect and fulfill its duty to assure citizens’ security and in turn reduce the risks of unsafe migration that could potentially result in trafficking.

To assess whether Quality of Government influences the relationship, I consider four different indicators and use them as proxies for QoG: *Indicator of Quality of Government*, *Government Effectiveness*, *Rule of Law*, and *Political Corruption*. These indicators measure overlapping aspects of Quality of Government, generally defined in the literature as “trustworthy, reliable, impartial, uncorrupted, and competent government institutions” (Teorell et al. 2017:4). As most quantitative research has emphasized various aspects of QoG separately on the issue of human

trafficking, this thesis contributes to the existing literature by including different measurements of the overlooked factor of QoG. This is because there is no single, perfect indicator to capture quality of government in a given country, and no data sources measuring the concept similarly. Therefore, by employing four different indicators to proxy for QoG, it provides the opportunity to capture different dimensions of state capacity in relation to natural disaster-human trafficking nexus.

By conducting a cross-sectional analysis with the method of Ordinary Least-Squares (OLS), my findings provide support for the main relationship between natural disasters and human trafficking outflows. This indicates that a country that is more exposed to natural disasters experience higher levels of trafficking outflows. However, it does not reveal that QoG has any moderating effects on the relationship. Natural disaster seems thus to have an effect on human trafficking outflows without being conditional on institutional quality. The results remain the same across robustness checks, which imply that the findings cannot lend support to my second hypothesis regarding any moderating effect. Given the necessary limitations of the study and the dataset, the findings must be interpreted with caution. Moreover, while the quantitative approach in this thesis has given strength to the identification of general patterns of correlation and generalizability, it does not capture contextual details. However, due to the dominated field of qualitative research on this nexus, a quantitative approach may provide an improved verification of the gravity of the issue. Furthermore, since the indicators of QoG were found to be of no statistically significant, this thesis provides suggestions for the improvement of future research regarding human trafficking prevention efforts in disaster reliefs as well as more refined measurement of human trafficking for quantitative studies.

The thesis is organized as follows: the following chapter discusses the existing literature on natural disasters and human trafficking, ending with the dominating theories in the trafficking literature. Subsequently, the theoretical contribution is presented to address the research question and the two developed hypotheses. This will be based on two cases that are presented in this section as well. The next chapter elaborates the research design and the selection of the data and variables before presenting the results of the statistical regression analysis. The following section provides a discussion of the main findings and some limitations of the research. In the last chapter, this thesis concludes the main findings and provides some avenues for future research to this field.

2. Literature Review

This chapter provides a review of the existing literature on natural disaster and human trafficking. It is divided into three parts where the first part (2.1) provides a clarification of the main concepts that have been used in the literature and in this thesis. The succeeding part (2.2) entails a brief background on climate change and displacement, following by an introduction into the research field. Subsequently, the dominating factors in the literature are introduced (2.3), which will later be controlled for in the empirical analysis to ensure a correlation between natural disaster and trafficking.

2.1 Clarification of Concepts

Natural Disasters

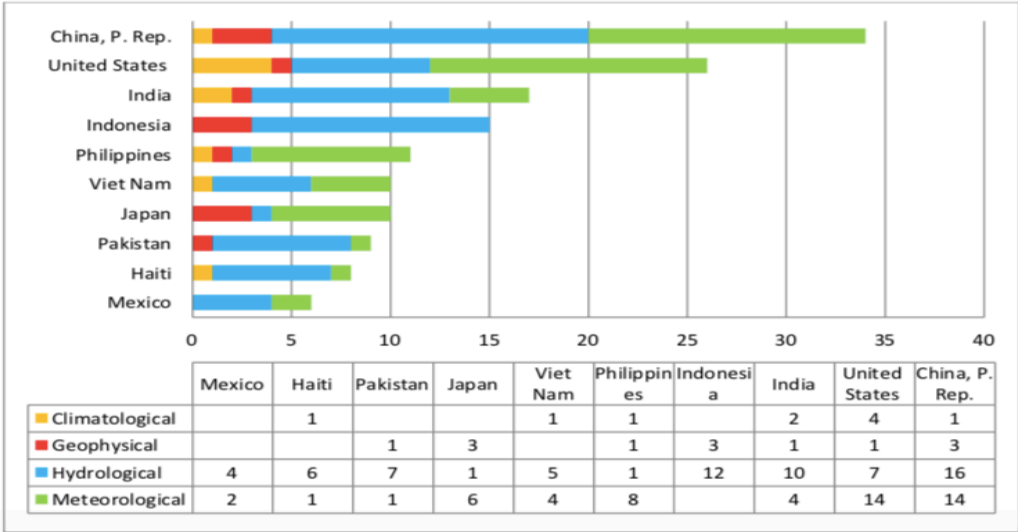
In this thesis, the term ‘natural disaster’ will be used when describing catastrophic events that have their origin in natural hazard. Natural hazard is explained as extreme and severe weather and climate events that have damaging potentials but do not necessarily result in natural disasters. Such phenomena include droughts, extreme temperature, floods, cyclones, wild fires, earthquakes, and volcanic outbursts among others. In severe cases of natural hazards, it has the potential to cause loss of life or injury, social and economic disruption, property damage, or environmental degradation (WMO, 2018). Natural disaster also occurs in the combination of hazards and vulnerability of people. In accordance with the EM-DAT database: “a disaster is a situation or event which overwhelms local capacity, necessitating a request to the national or international level for external assistance” (CRED, 2004:16). Nevertheless, in order to explore post-disaster context, this thesis focuses on the rate of incidences of all types of climate-related disasters² and the consequence of trafficking they bring about in the aftermath. The reason for not differentiating disaster types or groups is because vulnerabilities “are not shaped by the type of disasters, but rather the context in which the people live in” (O’Brien et al. 2006:70).

The countries shown in Figure 1 were the most often hit by natural disasters in 2016 with China, the United States, India, Indonesia and the Philippines ranked top five. Together they account for 30.1 percent of all disaster incidences in that year, and they continue to appear prominently in the list of countries exposing the highest number of disaster occurrences (Guha-Sapir et al. 2016:19). Among the top ten countries, there are some variations in terms of geographical location, country size, and income level among others. Considering the level of income, two are

² This includes: geophysical, meteorological, hydrological, climatological, biological and extraterrestrial disasters e.g. earthquake, storm, drought, wildfire and volcanic activity (EM-DAT: The International Disaster Database, Centre for Research on the Epidemiology of Disasters-CRED, 2018).

considered as high-income countries (the US and Japan), two are upper-middle (China and Mexico), five are lower middle (Indonesia, Pakistan, India, the Philippines and Vietnam), and one with low income level (Haiti) (Guha-Sapir et al. 2016:20). Despite variations among them, they are all susceptible to natural disasters. The chaos and breakdown of government systems in post-disaster situations are factors that no country in the world is immune to. Increase in numbers of homelessness, higher unemployment rates, and declining income levels are some of the unfavorable outcomes that occur in the aftermath of disasters (Singh, 2012). In such context, it may consequently attract traffickers to target the vulnerable victims. Furthermore, since the occurrence of natural disasters is not correlated with the institutional quality or economic conditions of a given country, it can be argued that it excludes any endogeneity concerns in this thesis.

Figure 1 – Top 10 Countries by Number of Reported events in 2016 (Guha-Sapir. 2016)



Human Trafficking

Due to various definition of human trafficking where each country has its own legal interpretation, it is rather challenging when studying the phenomena (McCarthy, 2014; Ali, 2010; Guinn, 2008). This thesis follows the definition by the United Nations (2000) in the *Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children*, which is referred as the Palermo Protocol. Article 3, paragraph (a) defines the crime as “the recruitment, transportation, transfer, harboring or receipt of persons, by means of the threat of 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 of 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, forced labor or services, slavery or practices similar to slavery, servitude or the removal of organs” (UNODC, 2004:42)

Since the concept of human trafficking has often been conflated or referred interchangeably with ‘human smuggling’ or other forms of migration (Bowersox, 2017; Batsyukova, 2012), it is necessary to pinpoint the aspect of exploitation. As exploitation refers to both labor and sexual exploitations, trafficking victims usually also have their wages confiscated by the traffickers and are forced to live in indentured servitude (Shelley, 2010:110). This thesis incorporates all forms of human trafficking, and focuses on origin countries of human trafficking outflows. Given the fact that determining factors dictating whether a country is a source, transit, or destination has been investigated with difficulties (Boria, 2016:6), this thesis follows the country classification data from the UNODC Database on Human Trafficking Trends. Country of transit refers to a region in which people are transferred through before they become exploited in the final destination country. The origin/source of trafficking refers as the point of “recruitment of victims or potential victims, whether it be by deception, or physical coercion” (2006:58). Additionally, this definition provides the opportunity to study the pushing conditions that lure or force victims out of their countries, which is particularly appropriate for the context of natural disaster. The countries classified as origin/source is illustrated in the Appendix 1a.

Quality of Government (QoG)

The relatively new concept of QoG has gained much interest and use in research, addressing crucial elements of ‘good governance’ or ‘state capacity’ in political economy issues. It is argued that the dysfunction of state institutions plays a crucial role in many of today’s serious economic and social problems (Rothstein & Teorell, 2008:166). It is also widely recognized that elements of QoG, such as rule of law, administrative competence, and control of corruption have a positive impact on economic growth, social development and human welfare. Both quantitative and qualitative studies have confirmed the positive impact on most standard measures of the well being of humans (e.g. life expectancy, child poverty, and infant mortality) (Rothstein & Tanneberg, 2015:4). However, an adequate definition of QoG has proved to be difficult to find, resulting in no consensus on what the concept actually means (ibid, 2008:167). Thus, the lack of conceptual clarification has been criticized for not being well established in the literature (Fukuyama, 2011:469).

The existing literature refers QoG as the impartial acts of government that constitutes of “trustworthy, reliable, impartial, uncorrupted, and competent government institutions” (Rothstein & Teorell, 2008). The concept includes variables that are associated with quality of bureaucracy, impartiality, rule of law, corruption and transparency (Teorell et al. 2017). In this thesis, I rely on the definition on what Hanna Bäck and Axel Hadenius (2008) have termed ‘state capacity’ or ‘administrative capacity’. It refers to the ability of a country to perform its activities in an efficient way and without corruption. This definition serves the best purpose of this study since the interest is to account for variations in a country’s institutional quality in relation to natural disasters and human trafficking outflows, and how countries further take advantage and manage its resources. Nonetheless, the concept of ‘Quality of Government’ is borrowed from Bo Rothstein and Jan Teorell (2008). While their definition of ‘capacity’ has been more widely used to illustrate the level or size of resources, or the capacity to increase taxes (Charron & Lapuente, 2009:1), this study is more concerned with issues that are related to countries’ capability or the quality in their performances. Throughout the thesis, the concept of QoG could be interchangeable by the standard definitions of state capacity or administrative capacity.

Furthermore, as the concept of QoG is often proxied for indicators regarding the “quality” (rather than “quantity”) of the policies delivered by governments, these indicators tend to be highly correlated regardless of the methodology employed or type of data used to collect them. These include for instance the prevalence of rule of law, protection of property rights, or corruption in the public sector. Thus, as Tabellini notes, “it makes sense to talk about the quality of government as a general feature of countries” (2008:263). Based on this, this thesis looks at four different indicators of QoG - *ICRG Indicator of Quality of Government*, *government effectiveness*, *rule of law*, and *political corruption* - as potential moderators given that they are measuring overlapping aspects of Quality of Government. While these characteristics are highly correlated with one another, they are also comparatively different in their nature as they are used to measure different theoretically aspects of QoG. Thus, for the explanatory nature of the thesis, different aspects of QoG are to be tested in the relationship between natural disaster and human trafficking. Henceforth, I assume that a high level of QoG follows a higher level of institutional capacity, which in turn may have better capacities to provide human security and provision of public goods for citizens in the aftermath of disasters.

2.2 Natural Disaster and Human Trafficking Nexus

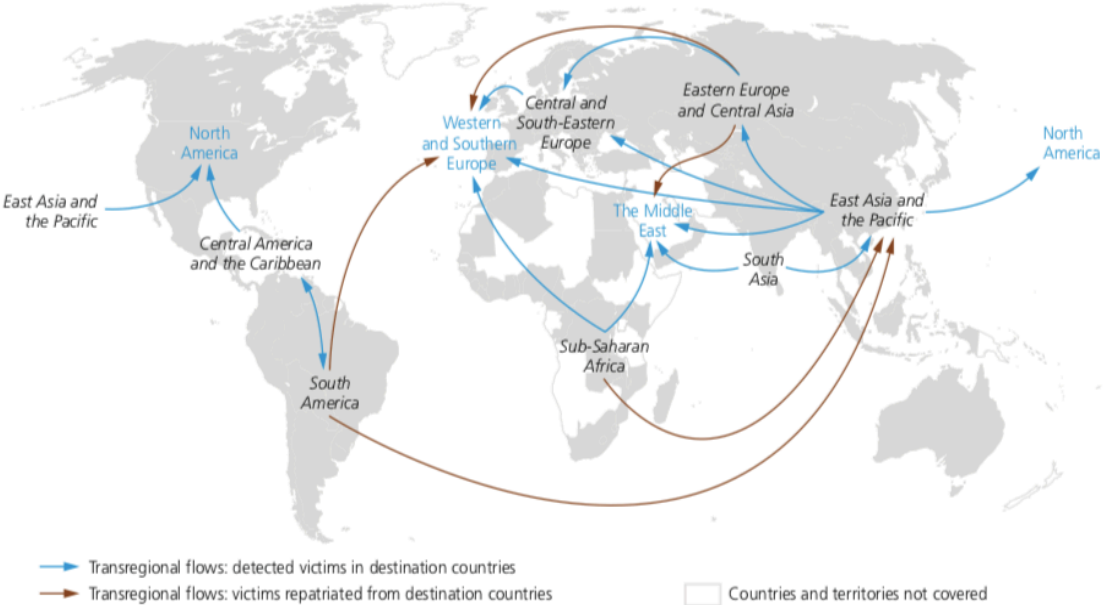
According to the UNHCR, there were approximately 58 million displaced people in mid-2015 as a result of conflict, natural disasters and other factors, which comprises the largest number since the Second World War (2015:3). As climate change in itself does not directly displace individuals, the effects of it increases the risks of extreme weather events like natural disasters, which in turn affect the people. Nevertheless, many current debates about climate trends and environmentally induced migration have sparked global attention. The number of migrants fleeing from growing poverty caused by environmental degradation has been on a tragic rise. As the international conventions are not recognizing them as refugees and no agreed upon guidelines by governments to follow, the people are fleeing without any legal protection (Curtis, 2017).

The report by Norwegian Refugee Council (NRC) found that more than 19.2 million people fled from natural disasters in 113 countries, only in the year of 2015. It is recorded that “disasters displace three to ten times more people than conflict and war worldwide”, with a total number of 203.4 million disaster-related displacement over the past eight years. A vast majority of people displaced due to disasters is caused by weather-related hazards such as earthquakes, storms and floods. It is estimated that “every second, one person is displaced by disasters” (NRC, 2016). Given that climate change continues and is expected to result in more severe and frequent hazards, the impacts are detrimental, such as exacerbated poverty, and have the potential to increase the risks for conflict and instability (IOM, 2016:3). In such case, displacement is expected to occur, and the option to return for people who are displaced will most likely be difficult or non-existent (Ferris, 2008). When the livelihoods for these people are no longer sustainable, they are more likely to seek for better opportunities elsewhere and are forced to migrate. Thus, being the shadow of migration, human trafficking is the unwanted consequence of migration.

Human trafficking remains cited as the world’s fastest-growing form of international crime (UNHCR, 2010) with no indication of a decrease³. Rather on the contrary, the number of trafficking victims is estimated to increase (RFE/RL, 2012). The crime encompasses various forms of exploitation including for forced labor, for service as child soldiers, for sexual purposes, for organs, or for petty crime or begging (UNODC, 2014:64). Despite most countries have criminalized this illegal activity, no country is exempt from human trafficking, being either

³ Dr. Maria Grazia Giammarinaro there who is the OSCE Special Representative and Co-ordinator for combating trafficking in human beings gave a speech regarding the issue of human trafficking (RFE/RL, 2012).

classified as source/origin, transit, or destination country. While most countries tend to be either predominantly origin or destination of trafficking victims, many are both origin and destination countries (UNODC, 2016:40). The main destinations of trans-regional flows and their origins of countries in 2012-2014 is illustrated in Map 1.



Map 1: Main destinations of trans-regional flows and origins of countries, 2012-2014 Source: UNODC, “Global Report on Trafficking in Persons, 2016”, (2016:44).

Nevertheless, this form of modern-day slavery has increasingly been seen as a serious risk associated with environmental problems. It was however not until the incident of the 2004 Indian Ocean tsunami this correlation was acknowledged by scholars and politicians. Prior to the disaster, scholars had only scratched the surface of this issue (Miller, 2017). The report by USAID even states: “little, if any research had been conducted examining the role disasters play in increasing human trafficking” (2006:v). Yet, trafficking of women and children were seen as a reporting trend and similar trafficking stories continued in the context of other natural disaster rises (IOM, 2016:6). The UN Environment Programme estimates that trafficking may increase by 20-30 percent during disasters, and INTERPOL has warned that the number may rise in relation to disasters or conflicts (Nellemann et al. 2011:7). In accordance, experts believe these numbers will only increase since risks of disasters will be more severe and frequent in the near future (Intergovernmental Panel on Climate Change, 2017). Regardless of increased acknowledgment of the conditions of natural disaster contributes to the outflow of trafficking, there is little to no human trafficking intervention in disaster relief efforts, particularly the protection of children (Singh, 2012). This is mainly because natural disaster is rarely considered as a potential

contribution between humanitarian crises and trafficking in persons (UNOCHA, 2017). Thus, human trafficking as a consequence remains largely neglected and overlooked in the aftermath of such crises (Nellemann, 2011:37). The crime remains a hidden aftermath of natural disasters.

The quantitative research on this issue has been limited, which is mainly due to the lack of reliable data (Bowersox, 2017:196). Yet, insights from the qualitative literature on this correlation have contributed extensively to our understanding by indicating some potential mechanisms through which disasters indirectly impact trafficking flows (Dutta, 2017; Boria, 2016; Jaspardo & Taylor, 2008), and is often exacerbated in the aftermath of a disaster (Carletti, 2017; Finn, 2016; Boria, 2016; Norlha, 2015; Gupta & Agrawal, 2010). These scholars have largely conducted case studies on individual countries on specific times of occurrence like the 2010 earthquake in Haiti and 2015 in Nepal, and the 2013 typhoon in the Philippines (Carletti, 2017; Dutta, 2017; Finn, 2016; Sjuve, 2015, Norlha, 2015; Brülisauer, 2015). They argue that like any shocks or crises, natural disasters increase and intensify the vulnerability by physically displacing people and create substantive negative socio-economic impacts and instability in communities. This in turn creates disorder in which traffickers and criminals can easily operate and exploit affected people (Jaspardo & Taylor, 2008:242). With a crumbling infrastructure, anti-trafficking workers on the ground in Nepal described how traffickers entered disaster zones purposefully in the aftermath of the earthquake in 2015 to impersonate relief workers and lure vulnerable people into slavery (Singh, 2012).

On the contrary, another group of scholars claim that the fact that human trafficking flourishes in the aftermath of a disaster is more a myth than a reality (Gozdziak & Walter, 2014; Montgomery, 2011). The phenomenon is simply referred as a trend by the authors, one that is according to them often exaggerated by the Western media (2014:59). By outlining the inconsistencies with regard to the issue of trafficking, Gozdzia and Walter claim that the aftermath of the Japanese earthquake and tsunami in 2012, which was the country's largest recorded earthquake in its history, did not result in any speculations about increased trafficking in contrast to other following disasters (2014:58). Nevertheless, the case may be different in a country with high institutional quality. For instance, the post-disaster context in the Philippines resulted in an increase of reported human trafficking cases in the typhoon-affected areas where the widespread instability and severity of infrastructures contributed to chances of people falling victims to trafficking. The existing bureaucratic weaknesses along with corruption in the disaster

relief operations were some of the reasons for people's increased vulnerabilities to exploitations (IOM, 2016:3).

In contrast, similar to Japan, the Chilean earthquake in 2010 did not result in any speculations of increased trafficking cases. Its effective institutions in adopting and designing upgraded building codes and the quick restorations of major roads, and rescue and relief efforts played a vital part in the post-disaster situations for the people (Relief Web, 2017). Therefore, with the cases of the Philippines and Chile in mind, it provides good reasons to assume that a country with high QoG may be more capable and willing to provide safety and resources to people that in turn reduces the risks of being exploited by traffickers. No protection vacuum seemed to be created in the aftermath of the Chilean emergency, which according to a report by the UN Special Rapporteur⁴, often results in collapse or absence of a state system (Singh, 2012). Hence, state capacity seems to play a vital role in the disaster-trafficking context. The following chapter provides a more explicit discussion on these two cases in relation to the theoretical contribution of this thesis.

Nevertheless, the inconsistent results obtained by the two strands of literature on the link can be explained by the lack of empirical data on trafficking, which is one of the main issues when attempting to investigate the trends. Due to multiple factors such as global definitional issues and clandestine nature of trafficking in persons, it is important to note that an accurate estimate of the magnitude of people trafficked is unknown and most likely too impossible to decipher (Weitzer, 2015:231). The group of trafficked victims and groups related to trafficking are often a hidden population where neither the size nor boundaries are known (Jonsson, 2018:6). As Annemarie Samuels⁵ argues, despite that illegal adoption took place in certain cases, it is difficult to prove large-scale child trafficking in the wake of the disasters since there is hardly any evidence (2015:231). These rumors became “forcefully affective” in the aftermath of the tsunami and “kept lingering under the surface” (ibid: 238). The lack of good quality of data on trafficking in persons has been challenging since very little is known about the traffickers or groups involved in the illegal business (Di Nicola, 2007). The next chapter reviews the dominating factors used by trafficking scholars when explaining the complex issue of trafficking.

⁴ A report by the UN Special Rapporteur, Najat Maalla M'jid on the Sale of Children, Child Prostitution and Child Pornography (Singh, 2012).

⁵ An ethnographic researcher who conducted interviews in Bandah Aceh located in Indonesia between 2007-2014. It was one of the hardest-hit areas by the 2004 tsunami (Samuels, 2015)

2.3 Existing Theories

Migration and Trafficking

The existing literature has attempted to identify the main determinants of human trafficking to explain and understand the clandestine of this illegal activity. A large strand of the trafficking literature suggests for instance that trafficking and migration are closely interconnected. It is due to the most oft-cited explanations, which are based on the assumption that trafficking victims are usually migrants who start off in the same way as regular migration. This literature draws on the influences of the migration literature when evaluating characteristics and factors of trafficking outflow in countries of origin, and claims that trafficking flow can be explained by the same determinants as migration (Cho, 2015a; Hernandez & Rudolph, 2015; Rao & Presenti, 2012; Cho, 2012; Mahmoud & Tresbesch, 2010). The results of Rao and Presenti even imply that trafficking is unlikely to be solved if the drivers of migration are not addressed (2012:233). Further, this literature has confirmed the received wisdom on trafficking, which is that victim of trafficking often come from lower-income, less developed countries who travel to wealthier, more developed ones (Kangaspunta, 2003; Cho, 2015a; Rao & Presenti, 2012; Akee et al. 2010). In other words, richer countries tend to be the destination, while poorer countries are more likely to be countries of origin.

According to this group of scholars, gender inequality, high unemployment rates, and low gross domestic product (GDP) per capita are the fundamental conditions in explaining people's decision to take risky migration methods while others do not. The economic factor, peculiarly poverty and income level, explains to a great degree on which groups of people decide to take the risks of insecure migration, and are thus more likely to fall victim to trafficking (Cho, 2015a; Cho et al. 2014; Jakobsson & Kotsadam, 2013; Akee et al. 2010). Mahmoud and Trebesch indicate for instance that people tend to take the risk to migrate when there is large income inequality between countries with closed borders (2010:177). In line with them, when emphasizing the macro-level relationship between migration and trafficking in Germany, Seo-Young Cho found that as income level increased in the origin country, the positive effect of migration on human trafficking decreases (2012:4). She argues that most victims of trafficking are migrants who hope for an improved quality of life but tend to end up being exploited on the way to the destination by deception, fraud, coercion, or other similar means (2012:2). Similarly, Hernandez and Rudolph argue that trafficking operations are more likely to occur between countries that are geographically closer, probably due to lower transportation and logistical costs. Traffickers tend

to target victims in lower-income countries as “the size of the vulnerable population is larger, and exploit them in higher income countries” (2015:134).

Gender aspect of Trafficking

The assumption regarding the vulnerability factors in the trafficking literature remains controversial where some conventional factors do not seem to have an impact on the outflow or even reversed impact than expected (Jonsson, 2018:3). While Cho (2015a) found GDP per capita to be a negative effect on outflow, the results from Rao and Presenti (2012), in the migration literature, indicate a curvilinear relationship. Additionally, while it is commonly agreed that gender inequality is positively related with trafficking outflow (*see* Rao & Presenti, 2012:240; Cho, 2012; Hernandez & Rudolph, 2011). Cho found a negative impact where high level of gender inequality may even reduce the level of outflow (2015a: 11). She argues that one possible interpretation of the decreased outflow is the high fertility rates associated with women’s perceived conservative roles in societies, which has constraining impacts such as their mobility and their aspiration to migrate (2015a: 8). Similarly, Jayati Ghosh notes that in gender-unequal societies, women are more unlikely to travel or leave the country alone due to strong social controls on women’s movement along with legal bans or constraints on their out-migration. Thus, despite rigorously restricting women’s freedom and autonomy, it has a restraining impact on lowering the possibility for women to migrate, and in turn being trafficked (2009:20).

Nevertheless, the gender aspect of migration and trafficking literature is a complex issue in which recent feminist scholars have pointed to. However, there are some points in which the trafficking literature agrees upon. This literature widely points out that women and children (girls) are the most vulnerable ones among all social groups and are thus most at risk of trafficking (Cho, 2015a; Shelley, 2010:17; Kangaspunkta, 2003). As Kangaspunkta argues, “trafficking in persons is a gender-specific phenomenon, reflecting the special vulnerabilities of women and girls in poor, post-conflict or badly governed countries” (2003:100). Gender discrimination is therefore argued to be a pushing factor where women’s vulnerable position in society is most likely to push them to attempt riskier forms of migration, which may result in human trafficking (Cho, 2015a: 4).

As Louise Shelley argues, the greatest likelihood for trafficking to prevail is where women and girls are denied access to education, economic rights, property rights, and participation in the political process. In line with the migration literature, she means while some people may be able to employ legitimate and secured forms of migration, others may need to seek illegitimate modes.

It is often this latter group that is especially vulnerable to traffickers since they often find themselves marginalized politically, economically, and socially, and thus seek opportunities elsewhere. Because of women and girls' low social status and lack of investment in girls, they belong to this marginalized group (2010:17). Nevertheless, with regard to vulnerability, Zack Bowersox concurs and stresses that "vulnerability is a relative measure of an individual's or a group's coping capacity", which is generated by political, economic and social processes (2018:198). Since vulnerability is shaped by existing discriminatory socio-economic conditions, Mondira Dutta stresses that disasters affect everyone differently depending upon their vulnerabilities. She further argues that "capacities to reduce vulnerabilities and risks arise out of a complex mix of factors, which include poverty, social class, age group, ethnicity and gender relations" whereas women are the most vulnerable group (2017:59).

Conflict and Trafficking

One part of the trafficking literature has extensively cited conflict, political unrest and civil violence as push factors of migration and human trafficking (Galos, 2017; Lozano-Gracia et al. 2010; Akee et al. 2010; Shelley, 2010; Ghosh, 2009; Plümper & Neumayer, 2006). This strand of literature argues that although migration can be voluntarily in search for better opportunities, it is often the case of forced migration where people are forced to leave their residences due to humanitarian crises. Forced migration refers to the movement of internally displaced people (IDP) and refugees with no prior motivation or desire to move (Ghosh, 2009:15). A report by Galos et al found for instance that migrants who travel from a country with high-level of conflict are more vulnerable to exploitation and human trafficking in contrast to a country with low-level of conflict (2017:27). Similarly, Akee et al argues that ethnic fragmentation, conflict and IDP can explain the trafficking outflow from countries of origin. This is because ethnic conflict intensifies internal displacement of people as well as their access to social and economic safety nets. Nevertheless, displacement is argued to result in breakdowns of informal/formal insurance mechanisms and social structures in addition to a disruption of financial services, education, employment and healthcare. This certainly makes the refugee and IDPs a vulnerable group, particularly women and children who are the ones who suffer the most in terms of hunger, food security, and unequal distribution of material goods. Consequently, they are most at risk of abuse, exploitation and trafficking (Akee et al. 2010:3).

In accordance to this, Devyani Mani points to the case of Sierra Leone where large-scale exploitation of women occurred in IDP refugee camps as provision was allocated to women in

exchange for exploiting and abusing favors, including forced transactional sex (2005:11). These displacement camps have been argued to be sources of sex trafficking (Finn, 2016:90). Nonetheless, as Drury and Olson argue that political unrest exacerbates social and income inequalities (1998:153), Plümper and Neumayer found that women are more apt to suffer the negative externalities of an armed conflict than men. This is not due to biological reasons but rather variations in socio-economic status and socially constructed gender differences in the communities. They continue by stressing that men, often in many cultures, receive preferential access to resources, leaving the already discriminated groups even more exposed and vulnerable (2006:15). A result of such unequal access to assistance and discrimination in provision, women are more likely to be encouraged to attempt unsecured migration methods (Akee et al. 2010:3). Furthermore, like the impacts of conflict on trafficking, natural disasters have similar effects such as increased displacement by destroying livelihoods and exacerbate vulnerabilities. This further creates an at-risk population of trafficking. Nevertheless, the abovementioned factors of migration, gender inequality and conflicts will be controlled for in my models further below.

3. Theoretical Contribution

This chapter introduces the importance of institutional quality in relation to natural disaster and human trafficking. The first part (3.1) entails how different state factors are connected to the outflows of human trafficking. Following by two cases on how the quality of government matters in the trafficking outflows in the aftermath of natural disasters (3.2). Lastly, the theoretical contribution of this thesis is discussed (3.3), in which the moderating effect of QoG is connected with the main relationship.

3.1 Institutional quality and trafficking

The discussed body of the trafficking literature above has provided important contribution to the understanding of the clandestine nature of this criminal activity. However, while various migration-driving factors have been emphasized in relation to trafficking outflows, such as income level, gender inequality, and conflict, another group of scholars highlight certain state factors associated with the issue of trafficking. A small strand of literature emphasizes for instance the association of weak law enforcement (Akee et al. 2014; Cho et al. 2014; Frank & Simmons, 2013), while another group emphasizes corruption as an important explanation for an increase in trafficking outflow (Jonsson, 2018; Cho, 2015a; Cho et al. 2014; Studnicka, 2010; Van Dijk & Mierlo, 2010; Shelley, 2010). Referring back to the conflict literature, Plümper and

Neumayer argue that the absence of rule of law in conflict zones devastates the vulnerable the most (2006:735). The lack of law and order is apparent in post-conflict situations, which further creates an environment where traffickers can easily operate and exploit the already vulnerable people such as IDPs, war refugees, women and children (World Bank, 2009:12). Moreover, Nancy Lozano-Grazia et al argue for instance that forced migration can be explained to a great extent by violent conflicts in relation to dissatisfaction with provision of basic needs and absence of institutions (2010:176). Thus, in such context, it provides reasons to assume that people are pushed into a situation where they are even more at risk of trafficking.

Nevertheless, increased trafficking outflows are not necessarily affected or attributable to violent conflicts. The result showed by Cho indicates for instance that “weak institutions and poor governance” are harmful to the well being of people, and are therefore key factors for pushing people to take insecure migration options (2015a: 8). In relation to human rights scholars, they argue that a government that is incapable to control its agents, violation of human rights is most likely to increase (Englehart, 2009). Contrary, a government with higher capacity to maintain and enforce laws, respects human rights better (Powell & Staton, 2009). By employing a dataset of trafficking corridor between countries, Frank and Simmons emphasized trafficking routes in relation to trafficking law enforcement within countries. The evidence points at when law enforcement is strengthened, “the less likely a country is to be connected in a trafficking corridor with another country”, and this holds true for both origin and destination countries. However, the results also point to an interesting finding that suggests strengthened law enforcement may contribute to an intensified trafficking since strengthening trafficking law enforcement in a country causes diverting trafficking flows to neighboring countries that lack such implementation capacity (2013:15).

In terms of corruption, the findings of Cho et al indicate that control of corruption and rule of law have a direct negative effect in origin countries of trafficking (2014:17), which implies that better governance decreases the outflows of trafficking. Similarly, by emphasizing the complex relationship between corruption in law enforcement and sex trafficking, Sofia Jonsson found a positive relationship where police corruption is associated with higher outflows of trafficking (2018:2). She argues that corruption within the police force enables traffickers to operate as both parties engage in mutual beneficial relationship, by giving and receiving bribes. Thus, police corruption increases the trafficking profitability in countries of origin by protecting traffickers from prosecution, reducing the recruitment costs, and creating mistrust among victims (ibid, 4).

The low trust toward authorities makes the victims more reluctant to collaborate or contact the authorities (ibid, 2). Nevertheless, when the government is unable to fulfill its role and duty to assure citizens' security to certain extent, they will most likely feel unprotected or that their human security is threatened. This further creates plausible reasons to assume that it increases the citizens' risks associated with the act of migration, which in turn can result in increased trafficking. The next section provides real world examples of how institutional quality matters in relation to natural disasters and human trafficking.

3.2 The Events of Haiyan Typhoon and Chilean Earthquake

The case of the Haiyan typhoon, locally known as Yolanda, in the Philippines that struck in 2013 is an explicit example of the importance of state capacity in the aftermath of disasters. The typhoon was the deadliest disaster in the Philippines' history and was the most powerful ever recorded (Carletti, 2017:8). After the disaster, the former President Aquino was accused of "showing a lack of urgency in the reconstruction", which received criticism from citizens. One year after the disaster, the Philippine Commission on Audit (COA) released a report on the Audit of Typhoon Yolanda Relief Operations for investigation. They found inefficient use of the funds and donations, and questioned the slow disbursement that was intended for the typhoon survivors. The \$1 million in donations from the National Disaster Risk Reduction Management Council (NDRRMC), and the \$15 million for quick response fund that was available in the Office of Civil Defence (OCD), were not used for the basic subsistence needs of the victims (2014:35).

Despite neglecting the plight of typhoon victims, the Economic Planning Secretary Arsenio M. Balisacan acknowledged that numerous policy and implementation issues hampered the reconstruction efforts. He argues that the delay of resource mobilization and misuse of fund disbursement were largely due to several national policies, laws and practices, which was a major obstacle to project implementation. These contradictory policies involved procurement and land acquisition for instance (NEDA, 2015). Nevertheless, these bureaucratic weaknesses resulted in people who were displaced continued to live in temporary tents cities or shelters with insufficient basic services and livelihood opportunities. This further increased the opportunity for corrupt actors. Since the Filipino government was the main responsible for relief operations, public officials were given the opportunity to exploit people's desperation for their own private interests. The report by IBON found that favoritism and political patronage influenced the relief distribution where one mayor was even accused for distributing goods solely to the affiliates of

his own party. Moreover, the accusation of corruption was also dropped due to weaknesses in law enforcement (2015:59).

Nevertheless, due to the widespread instability and severity of infrastructure, the typhoon inflated the chances for people falling victims to trafficking. The report by IOM found an increased prosecution and reporting of human trafficking in the Haiyan-affected areas (2016:3). Many people were struggling and became desperate in the face of lack of shelter, lost of livelihoods, and high costs of basic services and goods. These factors make it easy for exploiters to manipulate their victims through false promises e.g. job opportunities, to fulfill their needs for survival. In disaster areas, they found 50 victims of trafficking, where most of them being minors (IBON, 2015:11). The case of the Haiyan typhoon shows that the misuse of relief goods along with corruption and weak bureaucracy have resulted in unequal distribution of goods to the victims. As a result, the vulnerable people who were desperately looking for shelter, work, education among other things, were particularly exposed to trafficking.

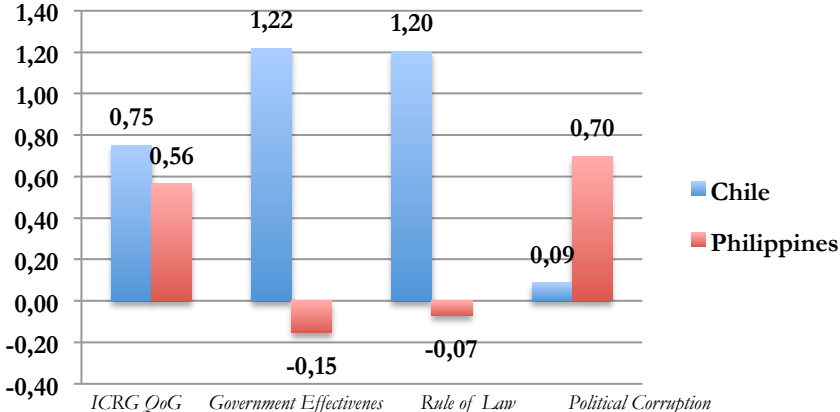
On the other hand, the Chilean Earthquake that hit the coast of Chile in 2010 was the second strongest in the country's history and the sixth strongest in the world with the magnitude of 8.8. Despite its significant magnitude of the disaster, which also triggered a tsunami and several dreadful aftershocks, the country suffered relatively little property damages and causality rates. Being one of the most earthquake-prone countries in the world, Chile has made progress in the investment of early warning systems, resilient infrastructure and disaster preparations among others that have prevented casualties. Following the disaster, Chile's early warnings combined with its compliance with building codes have been very effective in rescuing people. Three years after the earthquake, Chile managed to repaired or rebuild approximately 87 percent of the destroyed or damaged properties. This is an illustration of the country's resilience as a nation. Its effective institutions in adopting and designing upgraded building codes, along with the low levels of corruption, can largely explain why the building codes were enforced in Chile, which played a significant role in responding to the disaster (Relief Web, 2017).

Despite receiving criticism for delayed warning of the tsunami, the Chilean government did receive high marks in terms of its quick restoration of major roads and rescue and relief efforts. Within ten days of the disaster, 90 percent of the homes in disaster-affected areas had regular water and power, 500,000 survivors were receiving water trucked, and relief was distributed by navy ships, military helicopter, and tractor trailers to speed up the delivery of food to hungry

victims (Beittel & Margesson, 2010:5). Vicente Sandoval⁶ notes that the importance of the building codes was that “they were actually implemented by the authorities. It is a matrix of circumstances and processes that allow the system of building codes to support itself and work” (ReliefWeb, 2015). More importantly, while this thesis does not assume that Chile is exempt from the crime of trafficking, I suggest that the Chilean case provides reasons to assume that good governance with high institutional quality are more willing and capable in providing resources and safety for its people after disasters. This further reduces the risks of people falling victims of trafficking.

The two cases of the Haiyan typhoon and the Chilean earthquake have shown that good governance, control of corruption and institutional quality matter in pre-disaster and post-disaster context. The Filipino disaster has demonstrated that the absence of a functioning state system to provide protection or basic subsistence needs to the people increased their vulnerabilities significantly. With limited access or provision of safety and resources, along with levels of corruption in disaster relief efforts, it is thus expected that people seek opportunities and safety elsewhere to restore their lives. This also makes them easy targets for traffickers. However, a government with higher level of QoG is expected to be more willing and capable in adopting and implementing policies that secure public goods provision and security for its people. This was the case of Chilean earthquake where the good governance with efficient institutions, particularly the public sector, and low levels of corruption, reduced peoples’ vulnerabilities in the aftermath. Figure 2 illustrates the Philippines and Chile’s achieved scores in the four QoG indicators between the years of 1996-2000. As shown, Chile received higher scores in all four governance indicators, and with regard to the political corruption, higher values correspond to more corruption.

Figure 2: QoG Indicators



⁶ A Chilean and specialized in disaster causations who is a PhD candidate in the Development Planning at University College London, ReliefWeb (2015), Retrieved: <https://reliefweb.int/report/chile/what-chile-did-right> Accessed: 070818

With regard to the quality of government, Douglas North argues that “countries with better institutions and less distortionary policies invest more in physical and human capital and apply their existing factor endowment more efficiently” (1990). In accordance, Paul Raschky argues that this could be applied to the setting of natural disaster in which he argues that the provision of public goods should cover both in pre-disaster and post-disaster context. It should also include early-warning systems, evacuation programs, investments in education programs and infrastructure projects programs among others in order to mitigate the disaster vulnerability of a country. Additionally, a government with better institutions should be willing and able to provide relief aid and reconstruction projects following a disaster (2008:630-633), which was the case of the Chilean government. However, on the other hand, a government with lower level of QoG will most likely not adopt these policies, which can be related to the Philippines case. Instead, there will be inadequate distribution of public goods and no preventive measures constructed, which further increases human trafficking flows that is expected to rise in close proximity to disasters.

To sum up, based on the theory it is plausible to believe that a country with low QoG is associated with more human trafficking outflows in the aftermath of natural disasters in contrast to a country with high QoG. Consequently, these are the constructed hypotheses this study aims to test:

***Hypothesis 1:** Increase of natural disasters is associated with increase of human trafficking outflows.*

***Hypothesis 2:** Quality of Government moderates the effect between natural disasters and outflow of human trafficking.*

3.3 Research Aim and Contribution

To the best of my knowledge, the relationship between natural disaster and human trafficking with the quality of government potentially moderating the link has not yet been quantitatively tested. Thus, the aim of this thesis is to explore whether the effect of natural disasters on human trafficking outflows is conditional on countries’ level of Quality of Government. By highlighting the concept of QoG in moderating the negative impacts of natural disasters on human trafficking outflows, this thesis contributes and stimulates the debate on the role of QoG in the disaster-trafficking nexus. While trafficking scholars have proxied for Quality of Government when emphasizing the outcomes of different state characteristics, they have overlooked this concept. It is however frequently used as proxy for various indicators such as law enforcement, public goods

provision, and control of corruption, which tend to be highly correlated. As stated earlier, it thus “makes sense to talk about the quality of government as a general feature of countries” (Tabellini, 2008:263).

However, while the indicators are highly correlated as outputs generated by the government, they are also different in their characteristics e.g. control of corruption and law enforcement despite both being aspects of a state’s capacity or administrative capacity. Since there is no single, perfect indicator to capture the quality of government, this thesis contributes to the literature by considering four different aspects of QoG: *ICRG Quality of Government*, *Government Effectiveness*, *Rule of Law*, and *Political Corruption*. This provides opportunities to capture each dimensions of state capacity in relation to the natural disaster-human trafficking nexus. The operationalization of these indicators is more explicitly explained in the following section.

4. Research Design

In the first section, the data used to conduct the analysis will be briefly introduced (4.1), followed by an explanation of the operationalization of the main variables (4.2). Subsequently, the method used to conduct the analysis will be discussed (4.3).

4.1 Data

Human Trafficking Data

Despite improvements in recent years in constructing empirical data on human trafficking, there is still lack of good quality data (Jonsson, 2018:6). This is one of the biggest issues when attempting to investigate trafficking trends in the aftermath of a disaster. However, consistent with other studies (Jonsson, 2018; Masakure, 2017; Cho, 2015; Cho et al. 2013), I will employ the country classification data from the UNODC’s report on *Trafficking in Persons: Global Patterns* (2006) that covers cross-country information on the trafficking cases rather than actual numbers of trafficked victims. It measures patterns of trafficking that are based on identified cases. This is an advantage when utilizing this data given that it captures trafficking flows and not the trafficked numbers, which also decreases the risks of “guesstimations” (Jonsson, 2018:6). Moreover, being the currently only available source with comparable trafficking data across countries (Cho et al. 2013:69), the utilization of this data is the most suitable for the purpose of my study.

Since the data follows the human trafficking definition suggested by the UN Anti-Trafficking Protocol (2000), the information collected reflects the internationally accepted scope most precisely. The Index of Incidence of Reporting of Origin Countries in the UNODC report is utilized and was constructed based on the Global Programme against Trafficking in Human Beings (GPAT) Database. This database collects information from secondary sources, which comprises of 113 different individual source institutions that are reporting incidences of human trafficking in 161 countries over the period of 1996-2003. A total of 4950 trafficking cases are reported in the dataset. Based on the reported cases, the GPAT database determines the score on the incidence of trafficking in origin, transit, and destination countries respectively. Among the 113 major information source institutions the international organizations represents 32 percent; government institutions 27 percent; research institutes 18 percent; NGOs 18 percent, and the media represents 5 percent (UNODC, 2006:112).

Nevertheless, as Cho et al argue, the main limitation when utilizing this dataset is that “reporting will arguably depend on the quality of institutions, judicial and police effectiveness, in particular, but also on how aware the international community is about trafficking problems in a particular country” (2013:70). Additionally, geographical bias and bias in the choice of reporting institutions as well as differences in the legal definition of human trafficking across countries are some of the other limitations of this dataset. It is argued that the distribution of source institutions causes reporting biases for the reason that Western Europe represents 29 percent of the sources and North America 18 percent. It is thus suggested that it is likely it results in an underestimation of the trafficking cases in countries outside Western Europe and North America (Cho et al. 2013:70). Regarding this, I try to reduce the issue by controlling for regional effects in the estimation later. Nevertheless, rather than reporting the total number of cases of human trafficking from or to a country, UNODC limits the biases by ranking the countries based on the number of times the source institutions have reported information about one specific country (Jonsson, 2018:7). In other words, regardless of the number of victims, the UNODC registers every trafficking event only once. Despite the limitations, one may argue that a fair share of the information was collected by research institutes (18 percent) NGOs (18 percent) and the media (5 percent). This helps to mitigate the issue of relying solely on national government sources (Cho et al. 2013:70). Additionally, an expert panel emphasized the results of the data collection to verify the findings, in which they found to give a good description of the problem (UNODC, 2006:5). Thus, despite its limitations, this data is the highly suitable for this study.

Natural Disaster Data

To capture the number of natural disasters across the globe, I rely on the use of the Emergency Events Database (EM-DAT) by the Centre for Research on the Epidemiology of Disaster (CRED). It is compiled from various sources, including the United Nations agencies, research institutes, nongovernmental organizations, press agencies, and insurance companies (Guha-Sapir, Below & Hoyois, 2016). The database covers essential core data on the occurrence and effect of over 22,000 mass disasters from 1900 to present day. Any disasters are reported in the database for a given year in the country, which allows for year-to-year change at a country level basis. Moreover, it provides a count of disasters that meets one or more of the following criteria: 10 or more fatalities, 100 or more individuals affected, the declaration of a state of emergency, and/or a call for international assistance (EM-DAT, 2017).

One of the main advantages for utilizing EM-DAT is that, amongst all disaster databases, it provides one of the most transparent and comprehensive explanations of the methodology employed (CRED, 2015). Thus, by relying on this data, it serves the purpose of this study when emphasizing the impacts natural disaster has on the trafficking outflow. The data also provides information about the number of people being killed or affected, or economic damages among others. However, since the study aims to find evidence of whether the frequency of natural disasters impact the patterns of trafficking outflow, I will not put any focus on the other consequences that disasters may bring about. Additionally, while being the most comprehensive database available globally, there are some issues of under-reporting information of events in certain regions, including Africa (UNISDR & CRED, 2015:25).

Quality of Government (QoG) Data

Given that there is no single, perfect indicator to capture the quality of government in a given country, and no data sources measuring the concept in similar way, I employ four different measurements to proxy for QoG. The selection of the data is based on the theoretical framework, the availability for the particular time frame I am interested in, which spans from 1996 to 2000, and the country coverage. The first standard measure of QoG is obtained from the International Country Risk Guide (ICRG), developed by the PRS Group. It is based on annual expert assessment with the available period of 1981 to 2015 and covers up to 140 cases, which is an advantage when utilizing this data (Teorell et al. 2018:371). The data is frequently used in academic journals in economics and political science, and is considered the most comprehensive

of all available indicators in terms of time frame and country coverage (Charron & Lapuente, 2010:6).

The second and third standard measures of QoG are obtained from the Worldwide Governance Indicator (WGI) dataset and are developed by the World Bank Group. The dataset measures six dimensions of governance: *Voice and Accountability*, *Political Stability and Absence of Violence/Terrorism*, *Government Effectiveness*, *Regulatory Quality*, *Rule of Law*, and *Control of Corruption*. These aggregated indicators are based on a large number of individual variables that reflect on perceptions of governance from thousands of survey respondents, public, private and non-governmental organization-sector experts around the world. However, as the individual variables are obtained from a wide range of diverse sources, each source has different definition of the concepts, which is one of the drawbacks in this data. Nevertheless, given the wide scope of countries it covers, over 200 countries and territories since 1996 and updates annually, it is an advantage when employing the dataset, as it is not too narrow in what it captures. Moreover, it allows meaningful comparative cross-country and over-time studies (Kaufmann et al. 2010), which is suitable for my thesis.

The last standard measure of QoG is from the Varieties of Democracy Dataset, developed by the Varieties of Democracy (V-Dem) Project. The database covers 177 countries across the world from 1900 to 2016, and is frequently used by scholars, and international organizations including the World Bank, Transparency International, the European Commission, and UNDP, numerous NGOs among others around the world. It has become one of the leading sources of information with its comprehensive data on democracy issues. Moreover, it contains more than 350 disaggregated democracy indicators and allows comparable time-series cross-sectional studies. Additionally, its reliable measures are based on the assessments of numerous independent experts and can thus capture various aspects of democratic issues (Coppedge et al. 2017).

4.2 Operationalization of Main Variables

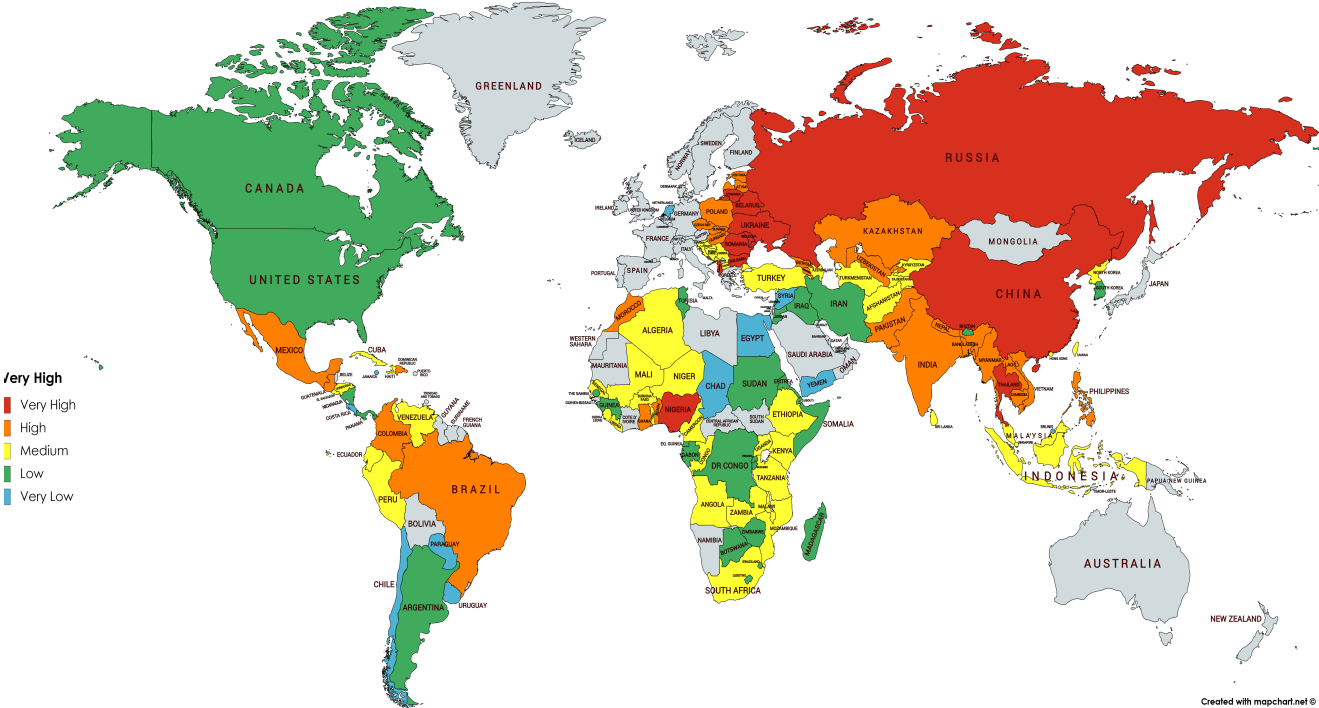
4.2.1 Dependent variable

In order to account for the fact that my outcome variable is only available between the years from 1996 to 2003, I further averaged the values of all my explanatory variables into a five-year period (1996-2000). As the interest is to see variations across countries in their human trafficking outflows in the aftermath of natural disasters, there is a need to emphasize a longer time period. This is mainly because trafficking in persons does not necessarily take place hours after a disaster

strikes or that exploiters take advantage of people during an acute emergency situation. Rather, it is often the long-term after effects of natural disasters that trafficking occurs, mostly after a couple of months or years afterwards, which then creates conditions for human exploitations to thrive.

Nevertheless, to measure the trafficking cases, countries are ranked on a six-point scale, which is based on the number of times an institution has reported that specific country as a source/origin country. Hence, being a categorical and ordinal variable, countries are therefore coded as “very low” (1) if it has been reported by only one source institution as country of trafficking origin; “low” (2) if it has been reported by 2-3 sources; “medium” if reported by 5-10 sources; “high” (4) if reported by 11-23 sources, and “very high” (5) if reported by 24-49 sources (UNODC, 2006:117). As Jonsson notes, scholars have used the data differently in terms of coding countries as “0” where some code it as “information not available” or “not reported”. Others code it as “non-origin countries” and sometimes as “missing values” (2018:7). By following Jonsson, this thesis codes the countries “0” as being non-origin country of trafficking, which will also be included in the empirical analysis. A table of origin and non-origin countries can be found in Appendices 1a and 1b.

Map 2: Human Trafficking in Countries of Origin, 1996-2003



Among the countries of origin, there is sufficient variation in the level of QoG and therefore supplies good data to assess my hypothesis. The geographical distribution of the trafficking countries that are included in the empirical analysis is visualized in Map 2. As shown, trafficking outflows are not relatively uniform but have rather notable cross-country differences. The colors of red and orange indicate “very high” and “high”, and are considered to have the highest trafficking outflows. While the colors of yellow, blue and green illustrate the “medium”, “low” and “very low” countries, the grey zones replicate the non-origin countries. Nevertheless, this map illustrates scientifically relevant divergence to explore in terms of quality of institutions and human trafficking outflows.

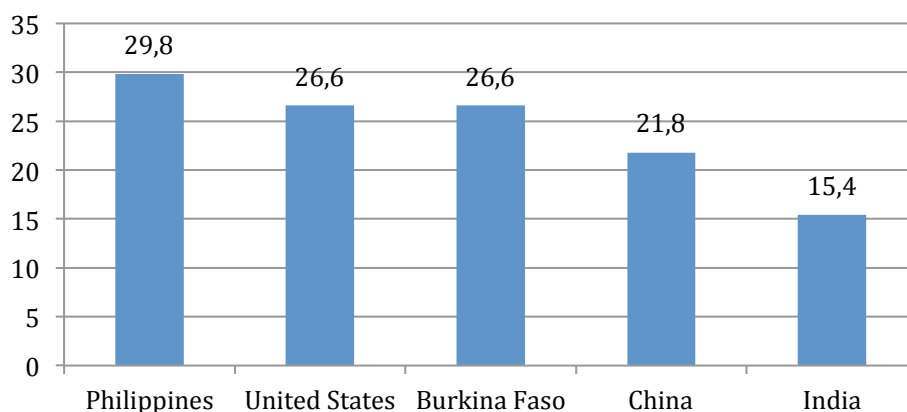
4.2.2 Independent variables

Natural Disasters

As previously stated, I have averaged all the explanatory variables into a five-year period. The main independent variable, natural disaster, is thus a combined score of the total number of disasters divided by these five years. The measure operationalized here captures all groups and types within the disaster groups, which include droughts, earthquakes among other climate-related catastrophes. The reason for not differentiating the subgroups or focusing on particular types of disaster is because my focus of analysis is to look at all climate-induced disasters in order to see if countries’ proneness to such catastrophes result in higher levels of trafficking outflows, with QoG as a potential moderating effect. Moreover, the occurrence of natural disasters is considered to a certain extent exogenous⁷ in this thesis given that the occurrence does not depend on the condition of a society or country (Bourdeau-Brien & Kryzanowski, 2018:23). In my dataset, the top 5 countries that experienced the highest number of disasters within the five years are shown in Figure 3. The total number of disasters is displayed in the Y-axis in the figure. In sum, the operationalization of this main variable is a calculation of the mean frequency rate for all countries within the time frame of 1996 and 2000.

⁷ Since many disaster studies have relied on damaging measures, it can cause issues of endogeneity when emphasizing a country’s economic growth in relation to disaster damage records (Felbermayr & Gröschl, 2014). Therefore, by including the count of number of disasters rather than emphasizing disaster losses for instance, it has less of an endogeneity issue in relation to QoG in this paper.

Top 5 Countries with Highest Number of Natural Disasters (1996-2000)



Moderator Variable: Quality of Government (QoG)

Choosing a measure that captures the effect of quality of government in the wake of natural disaster and trafficking outflows entailed challenges. This is largely because no indicator captures perfectly what I intend to test, which is a state's capacity or administrative capacity. To account for that, I use four indicators to proxy for the level of QoG. This also serves as a robustness check. Firstly, as the existing theories on trafficking suggest that the certain state characteristics can greatly impact the choice of individuals to whether migrate or not, I chose the 'International Country Risk Guide (ICRG) quality of government indicator'. This is because it captures overall bureaucracy quality, law and order, and corruption, which are equally weighted and combined into an index, and are closely interrelated to the issue of trafficking. The index has a mean value of 0-1 in which higher values corresponds to higher quality of government. Moreover, it has been extensively used for cross-sectional analyses as it covers the period of 1981 to 2015 with up to 140 cases (Teorell et al. 2018:371).

The second indicator to proxy for QoG is 'government effectiveness', which is an aggregated index from the Worldwide Governance Indicator (WGI) (Kaufmann et al. 2010), and is composed of multiple individual indicators that assign each country a government effectiveness score. These scores reflect opinions of a diverse group of stakeholders, including private, public, and non-governmental organization-sector experts. Furthermore, it captures "perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies". Nevertheless, the countries are scored between -2.5 and 2.5 where higher scores indicate better outcomes (Kaufmann et al. 2010:4). Since the

indicator encompasses outcomes of government actions, for instance delivery of public services and government's commitment to policies, it is relevant for my study. This aspect provides the opportunity for me to emphasize a government's capacity to distribute public services, protection, and its credibility to policies' implementation, to decrease peoples' vulnerability, such as reliable infrastructure (Sjöstedt & Povitkina, 2017:89).

The next proxy refers to 'rule of law', which is also from the Worldwide Governance Indicator and is thus perception-based. It captures "perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence". This indicator ranges from -2.5 to 2.5 where higher scores correlates to better outcomes (Kaufmann et al. 2010). As shown in the Philippines case, weak law enforcement and corruption had detrimental outcomes in the aftermath of disasters, which increased people's vulnerabilities. Trafficking scholars have also argued that rule of law is one of the important drivers of trafficking and is associated with outflows (*see* Cho, 2015a). Thus, the expectation is that a stronger rule of law mitigates the trafficking outflows in post-disaster settings.

The last proxy is the indicator of 'political corruption index' drawn from the Varieties of Democracy (V-Dem) Project. It is an aggregated index that captures corruption in terms of how pervasive political corruption is in general terms. As it distinguishes between different types of corruption within executive, political, and public sector, legislative and judicial corruption, the indicator serves as an advantage since it may capture the complexity of corruption and provide a more fine-grained evaluation. Furthermore, it measures "both 'petty' and 'grand'; both bribery and theft, both corruption aimed at influencing law making and corruption affecting implementation" (V-Dem, 2018:66). Political corruption has extensively been referred as one of the main determinants for countries' human trafficking outflows and vulnerabilities to natural disasters, which is the reason for choosing this indicator. The index runs from less corrupt to more corrupt, which is different from my other used variables. It is thus coded as 0 being less corrupt and 1 corresponds to more political corruption.

4.2.3 Control Variables

Women political empowerment index

Many scholars have argued that higher levels of gender inequality are positively related with trafficking outflows (*see* Rao & Presenti, 2012; Kangasputna, 2003), and that gender

discrimination is a pushing factor of human trafficking (Cho, 2015a). As Kangaspunta found, trafficking of women and girls often occurs in badly governed countries (2003:100), it is thus important to include this indicator as a proxy to gender inequality to determine a country's level of trafficking outflows. The variable is an aggregated index measured by Varieties of Democracy (V-Dem) Project, which captures women's civil society participation, civil liberties, and political participation worldwide. Taking the average of the incorporated three equally weighted empowerment dimensions, the index runs from 0 to 1 in which higher indicates higher empowerment of women. Furthermore, it focuses on the extent to which "women can participate in formal decision-making, but also how well women in the population of a country at a given time can be said to have opportunities to move freely and express their views" (V-Dem, 2017). Thus, by including this indicator as a proxy to gender inequality, I expect a negative relationship where women who are more empowered in a country experience less trafficking outflows after natural disasters.

Unemployment

In relation to the migration literature, I use the unemployment indicator by World Bank in which captures the total percentage of unemployment. It refers to the total share of labor force that is without work but available for and seeking employment (World Bank, 2009). This variable is included in the analysis due to the general claim that increased unemployment rate has the possibility to increase the need for economic migration. As Cho et al argue (2015), employment opportunities affects human trafficking outflows and explains the prevalence of human trafficking. Moreover, people who are more vulnerable are more inclined to become easier target for traffickers (Rao & Presenti, 2012; Cho, 2012). Thus, it can be expected that countries with higher unemployment rate are associated with higher levels of trafficking outflows.

Population Density (people per square km of land area)

Several authors have pointed out that populous countries are expected to encounter more trafficking victims and traffickers (Cho et al. 2013; Jacobsson & Kotsadam, 2013), and suggest that these countries would be more likely to be countries of origin for both trafficking and migration (Rao & Presenti, 2012:247). Moreover, it is generally argued that countries with more densely populated areas tend to experience more natural disasters. Therefore, by controlling for this important indicator, I take these issues into considerations. Population density captures midyear population that is divided by land area in square kilometers, and is provided by the

World Development Indicators. Since the indicator was positively skewed to the right, I log-transformed the variable to improve the model fit and distribution of the residuals.

Geography Region

In order to account for regional effect, the geographical region by Center of Systemic Peace was included. The existing literature has shown that geographic location is an important factor in determining the likelihood of human trafficking outflow (*see* Cho, 2012:14; Hernandez & Rudeolph, 2015). This factor has also been argued to account for countries' proneness to certain weather events (Sjöstedt & Povitkina, 2017:90). Therefore, by accounting for regional effect, it also mitigates biases in the data of my dependent variable⁸. Nevertheless, this categorical indicator is coded for geographical region classification and covers the five regions: Africa, America, Asia, Pacific, and Europe. When including it in the regression, a region dummy was created.

Real GDP per Capita (2005)

This indicator captures the estimated real GDP per capita that is constant US dollars (Gleditsch, 2002). In accordance with the trafficking literature, it is expected that countries with lower GDP per capita experience a larger reported incidence of trafficking outflows. Nevertheless, victims of trafficking are often from less developed and lower-income countries that seek job opportunities to wealthier and more developed ones (Kangaspunta, 2003; Cho, 2015a; Rao & Presenti, 2012). Furthermore, by including this indicator in the empirical analysis, it captures a country's economic ability to invest into necessary infrastructures, which further potentially can decrease people's vulnerability (Sjöstedt & Povitkina, 2017:90). Thus, a negative relationship is expected where countries with higher GDP per capita experience less reported trafficking cases in the aftermath of disasters.

Index of Globalization

A country's level of globalization is controlled for and by using the variable developed by the KOF Index of Globalization; it captures the three dimensions of economic, social and political globalization⁹ (Dreher, 2006:1093). Scholars have stressed this important factor in the trafficking

⁸ As mentioned earlier, it has been argued that the distribution of the source institutions in the dataset causes reporting biases for the reason that Western Europe represents 29 percent of the sources and North America 18 percent. Consequently, it is suggested that the results may be an underestimation of the trafficking cases in countries outside Western Europe and North America (Cho et al. 2013:70).

⁹ The economic globalization, which is characterized as long distance flows of goods, measures both a country's level of trade and restrictions on capital and trade, such as tariff rates. Social globalization is characterized by spread of ideas, images, information, and people, and represents flows of information, people and "cultural proximity". Cultural proximity refers to the Western pop culture and its present in a country. Lastly, political globalization is characterized by the diffusion of government and policies, and measures peacekeeping missions, number of embassies, and international organizations the country is a party to (Dreher, 2006:1093).

literature given that the level of globalization may facilitate migration and human mobility across borders as well as the openness of a country (Cho, 2013). In accordance, Shelley notes that globalization has been a major beneficiary for transnational criminals to operate (2010:2). Globalization, in particular information exposure such as TV, and trade in newspapers and Internet users, has been found to have a positive link with trafficking outflows in origin countries. The authors argue that the positive link implies that people are motivated to migrate by the exposure of information, which in turn increases the risks of potential victims of trafficking. In the destination countries however, information flow reduces human trafficking as it increases public awareness towards the illegal crime (Cho et al. 2015:7). Nevertheless, to capture the overall levels of globalization, the index combines all measures for a given country-year, and ranges between 0 and 100 in which higher values corresponds to higher degree of globalization (Dreher, 2006).

Political Stability and Absence of Violence/Terrorism

This perception-based indicator from the Worldwide Governance Indicator measures the probability of political instability and/or politically motivated violence, including terrorism. The indicator ranges from -2.5 to 2.5 whereas higher values correspond to stronger governance performance (Kaufmann et al. 2010). In accordance with the literature (Akee et al. 2010; Shelley, 2010; Plümper & Neumayer, 2006), the expectation is that the less politically stable a state is, the more likely human trafficking outflows are to take place in that country. The literature argues that displacement of people caused by civil unrest, political instability and armed conflict, increases vulnerability to exploitation and false promises of improved livelihoods. Therefore, since natural disaster tends to cause similar outcomes as conflicts in terms of threatening livelihoods and collapse of state system, it is expected that people are pushed from a country where such factors are present. Nevertheless, these expectations are derived from the existing theories and reflect how people's vulnerability to trafficking can increase. In the following section, the methodology used to test the constructed hypotheses is presented.

4.3 Method

While most of the studies on the link between natural disasters and human trafficking have been qualitatively examined, there are a few with exceptions (Bowersox, 2017; Boria, 2016; Meija, n.d). The qualitative literature has mainly conducted case studies on individual countries on specific times of disaster occurrences (Carletti, 2017; Dutta, 2017; Finn, 2016; Sjuve, 2015, Norlha, 2015; Brülisauer, 2015). This literature has certainly contributed to improved support and evidences

towards the nexus of disasters and trafficking. However, the quantitative research on human trafficking has been limited, which is largely due to the lack of good quality and reliable data as measuring a ‘hidden’ population where neither the size nor boundaries are known, is rather challenging (Jonsson, 2018:6).

In this thesis, the relationship between natural disasters, QoG, and human trafficking is being analyzed quantitatively by employing the method of Ordinary Least-Squares (OLS) with multivariate regression. Due to its straightforwardness for quantitative analyses, OLS is employed here despite the fact that my dependent variable is ordered and categorical where “0” refers to non-origin country for trafficking, and “5” equals very high country of origin. Moreover, by following Sofia Jonsson’s reasoning, the rule of thumb is that a dependent variable with six or more categories can be run with OLS where cases with even four categories are also enough (Stolle et al. 2008). I thus decided to employ the chosen method of OLS. Furthermore, I will conduct a cross-sectional analysis by calculating the mean value of all indicators for the period of 1996 to 2000. This further provided a total sample size of 113 observations, which provides sufficient support to generalize from this sample to the population from which the sample was derived (Field, 2013:870). In Appendix 2 the descriptive statistics are reported.

The following model specification explains the main effect without and with explanatory variables, where Y_i represents the degree of human trafficking in origin country and e_i is the error term:

$$1) Y_i = \beta_0 + \beta_1 ND_i + e_i$$

$$2) Y_i = \beta_0 + \beta_1 ND_i + \beta_2 Wom_i + \beta_3 Unem_i + \beta_4 Pop_i + \beta_5 Geo_i + \beta_6 GDP_i + \beta_7 InGlob_i + \beta_8 Postab_i + e_i$$

In order to determine whether QoG moderates the main effect between *natural disaster (ND)* and *human trafficking*, I will include an interaction term between *ND* and *QoG (ND*QoG)*. The following model specification explains the effect of the moderator without and with explanatory variables:

$$3) Y_i = \beta_0 + \beta_1 ND_i + \beta_2 QoG_i + \beta_3 ND_i * QoG_i + e_i$$

$$4) Y_i = \beta_0 + \beta_1 ND_i + \beta_2 QoG_i + \beta_3 ND_i * QoG_i + \beta_4 Wom_i + \beta_5 Unem_i + \beta_6 Pop_i + \beta_7 Geo_i + \beta_8 GDP_i + \beta_9 InGlob_i + \beta_{10} Postab_i + e_i$$

5. Diagnostics

In order to test whether the OLS assumptions are met, some assumptions are necessary to report. With regard to multicollinearity, the high correlation between *GDP per capita (log)* and *Index of Globalization*, with Pearson's r coefficient of .810 is slightly above the acceptable threshold of .8 (Field, 2013) (Appendix 4). When checked for further multicollinearity, *Index of Globalization's* variance inflation factor (VIF) was also slightly above the accepted threshold of 5 (5.403). Therefore, it was dropped in the final model (M10). However, the correlations between the other explanatory variables are within the acceptable range and revealed no alarming values of VIF or tolerance (Appendix 3). Furthermore, the residuals in the final model (M10) are normally distributed where the mean is below 0 and the standard deviation being less than 1 (.955). With regard to the normal probability plot (P-Plot), there were some deviations from the ideal line but can still be regarded as within the range that is acceptable. These are reported in Appendix 5.

Furthermore, when testing for outliers, there were no extreme outliers that could be identified (Appendix 5). However, in order to assure this, I calculated the threshold for outliers¹⁰. The result remained similar after having removed them, which indicate that there were of no concerns for my thesis. Thus, no outliers were removed from my empirical analysis. To further test for homoscedasticity, the residuals were plotted against the predicted values (Appendix 5). However, the scatterplot displayed a rather strange spread of residuals, which is due to that the dependent variable is an ordinal and categorical indicator. Therefore, to account for this and to further check for robustness, I employed Ordered Logistic Regression (ologit) later in my model to assure that the results did not depend solely on the use of OLS.

¹⁰ I calculated the formula of $(k+1)/n$ to obtain the threshold for outliers, where k indicates the number of predictors and n the number of participants/sample size in my model (Field, 2013)

6. Analysis and Results

The outputs for the multiple regressions (OLS) of the main effect and the moderator effects are illustrated in Table 1 and 3, where my two hypotheses are tested separately. The coefficients here reveal if the variables are of statistically significant and if they affect the outcome variable positively or negatively, which in this case refers to the outflows of human trafficking. Thus, while positive values imply that human trafficking flows are increasing, the negative ones imply a decrease in trafficking flows. Here, a stepwise regression of the explanatory variables displays the effects of each indicator on the outcome variable of human trafficking (M2-M10).

6.1 Multiple Regressions (OLS) Output for Core Effect

Table 1: Multiple Regression (OLS) Output for Core Effect

DV: Human Trafficking Outflow	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
Natural Disaster	.076** (.031)	.069** (.029)	.070** (.029)	.078** (.031)	.072** (.031)	.062** (.029)	.083*** (.032)	.053* (.029)	.052** (.028)	.066** (.030)
GDP per capita (logged)		-.476*** (.113)						-.361** (.143)		-.508*** (.167)
Index of Globalization			-.037*** (.008)						-.038*** (.012)	
Women Political Empowerment Index				-1.102 (.839)				2.281** (1.026)	2.749*** (1.033)	1.524 (1.142)
Population Density (logged)					.185 (.114)			.247** (.104)	.284*** (.103)	.136 (.114)
Political Stability And Absence of Violence/terrorism						-.691*** (.160)		-.682*** (.234)	-.538** (.241)	-.650*** (.232)
Unemployment							.031 (.028)	.025 (.026)	.021 (.026)	.023 (.026)
Region 0/1	No	No	No	No	No	No	No	No	No	Yes
Adjusted R2	.042	.166	.186	.049	.056	.172	.044	.252	.278	.279
N	113	113	113	113	113	113	113	113	113	113

Standard errors in parentheses: * $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$

The M1 presented in Table 1 shows the bivariate regression where the effects of the main independent variable of *natural disasters* on the outcome variable *outflows of human trafficking* are presented. As shown, it lends support to the expectation of my first hypothesis, allowing us to infer that countries that are more exposed to natural disasters experience an increase of human trafficking outflows. In all the models (M1-M10), the main relationship presents a positive and significant effect, even having controlled for other explanatory variables and accounting for

regional specific effects (M8-M10). Due to the high variance inflation factor (VIF) of *Index of Globalization* it was later dropped in the final regression model (M10) (see Appendix 4)¹¹.

The results of the explanatory variables are largely in line with the theoretical expectations. The negative and statistical significance at the .01-level of *GDP per capita (logged)* in M2 provides support for the theoretical argument that wealthier nation states are less associated with human trafficking outflows (Kangaspunta, 2003; Cho, 2015a; Rao & Presenti, 2012; Akee et al. 2010). This could however imply that people in wealthier countries are not vulnerable or are supplies of trafficking victims but rather belong to the demand side of this illegal activity. Nevertheless, poorer countries tend therefore be associated with higher levels of trafficking outflows. In M3, I included the indicator of *index of globalization*, which revealed a negative and significant link. The result is consistent with the existing theory by implying that higher degree of globalization generates a lower level of human trafficking. As Cho et al (2015a) found in their work, while the information flows reduce trafficking in destination countries, it has the opposing effect on people on countries of origin. They argue that these people are more encouraged to move elsewhere when being exposed to information. Nevertheless, the result implies that a more globalized country e.g. social globalization in terms of information exposure, people are more aware of the dangers and risks of trafficking, which leads to that they experience lower levels of trafficking.

The results found in M4-M9 show an interesting link between *women political empowerment* and *human trafficking outflows*. Not only does the direction of the indicator change, but the relationship also becomes significant at both .01-level and .05-level after controlling for other explanatory variables (M8-M9). The significance drops after accounting for regional effects but remains the same direction (M10). While M4 implies that the more empowered women are in a country, it further reduces the levels of human trafficking outflows. Contrary, the results of M8-M10 show the opposite result indicating that a country with more politically empowered women is associated with higher levels of trafficking outflows. Since the existing theories of gender aspect and trafficking have been found to be inconsistent, my finding suggests that women's empowerment and freedom, including their movement across borders, may have contradicting outcomes. Their freedom of movement for instance, may instead increase their insecurity and consequently become more exposed and vulnerable to trafficking. This is in line with Jayari Ghosh who argues that while gender-unequal societies are restricting women's freedom and autonomy, it has a restraining impact on reducing the their risks of being trafficked (2009:20).

¹¹ I checked for multicollinearity in my models but they revealed no serious issues where all of them were within the acceptable range of 5 in their VIF values as well as the tolerance statistics being above .1 (Field, 2013).

With regard to the *population density (logged)*, it showed that it is associated with higher human trafficking outflows. This result holds in line with the existing theories, suggesting that a country that is more populous is associated with higher levels of trafficking outflows. Despite the M5 does not display the relationship being significant, it yields support for the theoretical argument with the expected direction. On the other hand, the M8-M9 indicates a positive and significant relationship, but loses its significance when accounting for regional effects (M10). Subsequently, the *political stability and absence of violence/terrorism* displays a negative link indicating that the more politically stable a country is, the less it experiences trafficking outflows. The results show a significant link through the models (M7-M10), which is in line with the theory.

Lastly, the indicator of *unemployment* in M7 shows a positive but insignificant relationship, even when controlling for other explanatory indicators and accounting for regional effects (M8-M10). While the results corroborate the theory with the correct direction that countries with higher rates of unemployment are more likely to become source countries of human trafficking, the results remain insignificant. This contradicts to the general argument of unemployment (Rao & Presenti, 2012; Cho, 2012) by indicating that unemployment rates do not seem to affect the level of trafficking outflows. In the final model M10, the main relationship displays a statistically significance with a p-value of .05, indicating that natural disasters are associated with higher trafficking outflows. With regard to the adjusted R², it increases substantially when including other indicators as well as accounting for region effects. While the bivariate model (M1) showed the value of .042, the adjusted R² increased to the value of .279 in M10. This further implies that once the explanatory variables and regional effects are included, the model explains the variance of trafficking outflows by 27.9 percent. Thus, the predictive power of *natural disasters* is seen to increase when other indicators and region effects are included.

6.2 Multiple Regressions (OLS) Output for QoG and Moderator Effects

The Table 2 displays the results for the effects of QoG indicators in relation to the level of human trafficking outflows. As was expected, when including the indicators in M2-M5 separately, all the models for the main relationship display a positive and significance relationship with p-value of .01 between *natural disasters* and *human trafficking outflows*. The direction of *political corruption index* (M5) shows however a positive sign, which is due to that the variable is coded as higher values indicating higher levels of corruption. Nonetheless, the results presented here suggest that a state's capacity or administrative capacity is associated with a reducing effect on the outflows of human trafficking, which corresponds to the theory.

Table 2: Multiple Regressions (OLS) QoG Indicators

DV: Human Trafficking Outflow	M1	M2	M3	M4	M5
Natural Disaster	.076** (.031)	.074*** (.028)	.074*** (.028)	.073*** (.027)	.073*** (.027)
ICRG Indicator of Quality of Government Index		-3.878*** (.689)			
Government Effectiveness			-.798*** (.142)		
Rule of Law				-.818*** (.135)	
Political Corruption Index					2.793*** (.472)
Region 0/1	No	No	No	No	No
Adjusted R2	.042	.248	.247	.273	.265
N	113	113	113	113	113

Standard errors in parentheses: * $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$

This table illustrates a change in the adjusted R^2 when testing the four measurements of QoG separately in relation to *natural disasters*. The bivariate regression in M1 shows a predictive power of 4.2 percent, while in M2-M5 the explanatory power reaches over 20 percent. This further indicates that by including the QoG indicators, the predicted power arises substantially compared with the bivariate regression in M1. Among the QoG indicators, *rule of law* and *natural disasters* (M4) together explain 27.3 percent of the variance in the trafficking outflows, which is the highest value compared to the other indicators of QoG (M2-M3 and M5). The results in M4 indicate that a country with perceived stronger law enforcement¹² is associated with lower levels of *human trafficking outflows*. It corresponds to the existing theories where a strengthened law enforcement is correlated with less trafficking outflows (Cho, 2015a, World Bank, 2009; Plümper & Neumayer, 2006). Nevertheless, when people perceive its government being incapable of maintaining law and order to control its agents, it certainly encourages criminals to operate more easily, particularly in a chaotic environment to lure vulnerable victims. The presence of weak or ineffective law enforcement possibly results in an increase of human rights violation, as well as failure in the implementation of anti-trafficking policies as well, consequently increasing outflows. In sum, the models displayed in Table 2 correspond to the expectation that countries with higher state capacity or administrative capacity are associated with lower levels of trafficking outflows.

Based on the theoretical framework, I further expect that QoG will have a moderating impact on the relationship where the effect of natural disasters on the level of human trafficking outflows is conditional on the level of quality of government. Hence, in order to test for my second hypothesis, four interaction variables were created for the regression analysis, which are a

¹² As previously mentioned, this indicator measures the perceptions of the effectiveness and predictability of the judiciary, incidence of crimes, and the enforceability of contracts (Teorell et al. 2017).

combination of *natural disasters* and the QoG indicators (“*natural disasters* × *Quality of Government*”). As previously mentioned, this is to test for each dimensions of state capacity, which also serves as a robustness check for this thesis. The results are shown in Table 3. In the Appendix 6, each QoG indicator is presented in the tables separately with explanatory variables and regional effects included.

Table 3: Multiple Regressions (OLS) Output for Interaction Effects

IV: Human Trafficking Outflow	M1	M2	M3	M4	M5	M6	M7	M8	M9
Natural Disaster (<i>centered</i>)	.076** (.031)	.077*** (.028)	.077*** (.028)	.074*** (.027)	.078*** (.028)	.071** (.029)	.072** (.029)	.068** (.028)	.071** (.029)
ICRG Indicator of QoG (<i>centered</i>)		-3.385*** (.689)				-4.159*** (1.307)			
Natural disaster x ICRG (<i>centered</i>)		-.163 (.154)				-.020 (.152)			
Government Effectiveness (<i>centered</i>)			-.797*** (.142)				-1.236*** (.324)		
Natural disaster x Government Effectiveness (<i>centered</i>)			-.022 (.031)				-.004 (.030)		
Rule of Law (<i>centered</i>)				-.815*** (.135)				-1.386*** (.313)	
Natural disaster x Rule of Law (<i>centered</i>)				-.024 (.030)				-.004 (.029)	
Political Corruption Index (<i>centered</i>)					2.785*** (.472)				3.264*** (.839)
Natural disaster x Political Corruption Index (<i>centered</i>)					.121 (.109)				.011 (.108)
GDP per capita (<i>logged</i>)						-.211 (.187)	.014 (.211)	.004 (.193)	-.143 (.184)
Women Political Empowerment Index						1.991** (1.118)	3.036*** (1.154)	3.246*** (1.130)	2.796** (1.146)
Population Density (<i>logged</i>)						.194* (.112)	.256** (.113)	.226** (.108)	.192* (.109)
Political Stability And Absence of Violence/terrorism						-.262 (.255)	-.199 (.249)	.032 (.265)	-.291 (.239)
Unemployment						.015 (.255)	.015 (.025)	.013 (.024)	.027 (.025)
Region 0/1	No	No	No	No	No	Yes	Yes	Yes	Yes
Adjusted R2	.042	.249	.244	.271	.267	.332	.358	.384	.361
N	113	113	113	113	113	113	113	113	113

Standard errors in parentheses: * $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$

Before running the regression, I transformed the predictors of natural disasters and the four QoG indicators using grand mean centering. A transformation was created around the fixed

point of the grand mean¹³ of each indicator, which further makes the interpretation of the analysis easier. In this case, having subtracted the mean from the indicators, I then computed four interaction terms based on the four centered QoG indicators and natural disasters. As shown in the table, the results of the main relationship between *natural disasters (centered)* and *human trafficking outflows* remain positive and significant through all models, even when including the explanatory variables and regional effects, as well as interaction terms (M2-M9). Among the other variables, only *women political empowerment* and *population density* receive a significant relationship with *human trafficking outflows* (M6-M9). Furthermore, the predicted power through the models (M2-M9) rises substantially compared to the bivariate regression (M1). The adjusted R² reaches its highest value of .384 in M8 where *rule of law (centered)* is included along with other variables. Hence, the predictors included in that model can explain the variance in human trafficking outflows by 38.4 percent.

Nevertheless, the results in this table illustrate the four included interaction effects in relation to the relationship between *natural disasters* and *human trafficking outflows*. As shown, the interaction terms reveal negative and no statistically significant relationship in any of the models. They remain insignificant when including the explanatory variables and accounting for regional effects (M6-M9). Additionally, the results show that *natural disaster* has a p-value of .01 in M2-M5 indicating a significant correlation across the models, as well as a p-value of .05 in M6-M9. It loses its significance however when it is combined with the QoG indicators. This further implies that an interaction effect between *natural disasters* and the four indicators of QoG does not exist in my analysis, as it fell short of statistical significance. As a result, the second hypothesis must therefore be rejected, which will be further discussed in the next chapter.

Furthermore, in order to assure that the findings did not depend on the use of OLS, I test for robustness by running the regression again with the method of Ordered Logistic Regression (ologit). Given that my outcome variable is ordered and categorical in its nature, employing ologit may generate different results¹⁴. However, as illustrated in Appendix 7 (Table 7a-d), the logistic

¹³The centered predictors will not have any effect on the parameter of the interaction, but it changes the values of the parameters of natural disaster and the other QoG indicators. Moreover, without centering the indicators, the interpretation would imply that the coefficients represent the effects of the predictors when the other predictor is zero instead of their mean value. The calculation for grand mean centering is achieved by taking the variable and subtracts it from its mean value (Field, 2013:399).

¹⁴ This would originally be the most appropriate way to conduct the empirical analysis, but given the more straightforward nature for quantitative analysis, the OLS regression was chosen. Moreover, as Jonsson argued, the rule of thumb with OLS is that a dependent variable with six or more categories can be run with this methodology.

regression shows similar results with the expected direction and significance of the main effects, and the interaction effects remain insignificant. For this reason, this demonstrates the robustness of the results. In short, my findings do not lend sufficient support to my second hypothesis, which thus indicate that the quality of government does not have any moderating impact on the relationship between natural disasters and human trafficking outflows.

7. Discussion of Findings and Limitations

The outputs of my regression models for my main effect (Table 1) provides support for the theory that natural disaster is associated with higher levels of human trafficking outflows. When controlling for other explanatory variables and accounting for regional effects, the findings remain robust. However, due to some limitations of the study and the dataset, which will further be discussed, the findings must be interpreted with caution. With this in mind, I conclude that my first hypothesis “*increase of natural disasters is associated with an increase of human trafficking outflows*” receives modest support from my result. Among the explanatory variables, *GDP per capita (logged)*, *Women Political Empowerment*, *Population density (logged)*, and *political stability and the absence of violence/terrorism* were associated with the level of human trafficking outflows, and are considered to be important determinants in the trafficking literature. However, only *unemployment* seemed not to have any effect on trafficking outflows, which contradicts to the theoretical argument. In the final model when accounting for regional effects, only *political stability and the absence of violence/terrorism* and *GDP per capita (logged)* remained significantly correlated with trafficking.

Before including the interaction terms, the Table 2 illustrated the effects of the four QoG indicators in relation to human trafficking and natural disasters. The results showed that state capacity certainly has a reducing effect on trafficking outflows. A country with higher state capacity is certainly more likely to fulfill its duty in providing a secure, safe and stable environment for its people, in order to reduce the risks associated with migration. However, on the other hand, a government with low state capacity in terms of ineffective law enforcement and corruption potentially increases such risks where people are made more vulnerable. As Shelley argues (2010), people who are most likely to become trafficked are the ones who find themselves socially, politically, and economically marginalized, and thus seek opportunities elsewhere. Furthermore, in accordance with previous literature (Cho, 2015a; Cho et al. 2013, Mahmoud & Trebesch, 2010), a country with low QoG is also associated with more trafficking outflows as it enable traffickers to operate their exploitative human trade. Nonetheless, the role of institutional

quality can there be assumed to be an important factor in preventing the risks of falling victim of trafficking.

When revealing the interaction effects for my second model specification (Table 3), the results of my main relation of *natural disasters* and *human trafficking outflows* remain significance through all the models (M2-M9). The results remain statistically significance at .05-level despite including interaction terms, other explanatory variables and accounting for regional effects. Among the explanatory variables in M6-M9, only *women political empowerment* and *population density* become significantly related with trafficking. However, as shown, *natural disasters* and the QoG indicators remained independently significant in relation to *human trafficking outflows*. When combined into an interaction term, there was no interaction effect present in any of the models. Despite employing the ordered logistic regression as a robustness check to see whether the finding was dependent on OLS, the results remain the same. Consequently, my second hypothesis has to be rejected regarding my expectation of QoG as a potential moderator for the relationship between natural disasters and human trafficking was expected.

As shown in the table, the four QoG indicators are independently and significantly correlated with human trafficking outflows. This further suggests that without the presence of disasters, a country's level of institutional quality has an impact on the level of trafficking. However, given the theoretical arguments of this thesis, the result of the non-existing interaction effect of QoG in relation to natural disasters and human trafficking is rather unexpected. A moderating impact was hypothesized given that a government's responsible to effectively assist and protect its people as well as restore law and order in the aftermath of natural disasters, are vital in preventing the risks of trafficking. The poor performance of an incapable or unwilling government to provide for instance basic rights and necessities for people's livelihoods, e.g. shelter, food and adequate health services, further potentially generate increased physical vulnerability among those affected by disasters. As a result, protection vacuums are created in which enables traffickers to further exploit the disaster-affected people, which were seen in the case of the Philippines.

Natural disaster seems therefore to have an effect on human trafficking outflows without being conditional on institutional quality. The failure to find any significant relationship for the interaction terms may be due to insufficient evidence in my dataset for me to conclude that there is an effect. Nevertheless, as David Singh (2012) argues, this finding suggests that no country in the world is exempt from the breakdown of state systems and chaotic environment caused by

natural disasters. The unfavorable consequences such as increased vulnerability, destroyed livelihoods, and changes in income may thus be comparable across countries, where the increased vulnerability further attracts traffickers to exploit the exposed survivors. Hence, based on this finding, it is thus of vital importance to acknowledge and address this nexus in disaster relief efforts to combat this illegal activity of human trafficking.

For the methodological approach of this thesis, there are several limitations that need to be mentioned. Firstly, my dataset is limited to the period of 1996-2000, which is largely due to the availability of the data for my dependent variable that spans from 1996-2003. Since the data used cross-sectional aggregated information from this period, studies on panel analysis or accounting for time effects were therefore not possible. Additionally, since natural disasters can have either long-term or short-term effects, it would be of interest to emphasize a longer time period in order to capture the variations of human trafficking outflows. This could improve the study as emphasizing long-term effects of disasters may capture people's ability to recover and cope in contrast to sudden-effects, which further may impact the outflows of human trafficking. However, on the other hand, due to lack of accurate baseline estimate and its inherently hidden nature, it poses real challenges to measure human trafficking flows over time, in particular changes in the size of the activity.

Another limitation for this research is the measurement of human trafficking outflows. Despite an improvement in the data collection regarding human trafficking, there is still lack of good empirical data. The data employed is obtained from the country classification UNODC's report (2006), which covers trafficking cases rather than actual numbers of trafficked victims. This implies that the data is weighted by the frequency a country is reported as a source/origin country of trafficking, which can be affected by numerous factors such as institutional quality in a given country. For instance, a country's level of corruption may affect the reporting of trafficking activities, where a country with low levels of corruption may report more trafficking activity, while more corrupt countries are more reluctant to report cases of trafficking. Nevertheless, this bias was mitigated to an extent since UNODC used different sources from government officials to independent NGOs and media. Additionally, although this source was the only available for country comparison studies of trafficking cases, the results of my thesis should be interpreted with caution.

Moreover, while quantitative research with large-N analyses has given strengths to generalizability and identification of general patterns of correlation, it does not capture contextual details and thus lacks nuance and specificity. This refers particularly to within-country variations where the indicators used in this thesis e.g. the QoG indicators; do not capture variations in communities' coping capacities in relation to natural disasters for instance.

8. Conclusion and Implications for Future Research

This thesis has attempted to analyze the issue of the impacts of natural disasters on the level of human trafficking outflows. The research field on this nexus has mainly been dominated by qualitative studies, which are largely based on case studies on specific time and disaster occurrences. This strand of literature has however contributed greatly to the understanding of the relationship between natural disasters and human trafficking. They have provided with important mechanisms through which disasters indirectly impact trafficking flows (Dutta, 2017; Boria, 2016; Jasparro & Taylor, 2008) where trafficking is often exacerbated in the aftermath of disasters (Carletti, 2017; Finn, 2016; Boria, 2016; Norlha, 2015; Gupta & Agrawal, 2010). Nevertheless, another group of authors claims that the increase of trafficking in the aftermath of disasters is more a myth than a reality (Gozdziak & Walter, 2014; Montgomery, 2011). These inconsistent results from the two strands of literature can be due to the lack of empirical data on human trafficking, which has been one of the main limitations when attempting to investigate this issue. However, this is also the reason for the lack of quantitative studies regarding this relationship.

However, while another group of scholars have highlighted the importance of state characteristics in the trafficking literature for instance law enforcement (Akee et al. 2014; Cho et al. 2014; Frank & Simmons, 2013), and corruption (Jonsson, 2018; Cho, 2015a; Cho et al. 2014; Studnicka, 2010; Van Dijk & Mierlo, 2010; Shelley, 2010), they have overlooked the concept of QoG. Thus, this thesis contributes to the debate on this nexus by addressing the role of Quality of Government in the wake of natural disasters. The concept of QoG refers to “trustworthy, reliable, impartial, uncorrupted, and competent government institutions” (Teorell et al. 2017). In this thesis, I used the concept interchangeably with ‘state capacity’ and ‘administrative capacity’, and focus on the quality of government’s performance in relation to the nexus. By developing a theoretical framework based on existing literature of human trafficking, and insights from QoG by providing two real world cases, this thesis attempted to answer the research question on whether QoG mitigates the relationship between natural disasters and human trafficking.

Therefore, based on the theory, I proposed that human trafficking flourishes in the wake of natural disasters when there is lack of QoG¹⁵. Additionally, the theory expects that higher levels of QoG are associated with a lower level of trafficking outflows in the aftermath of disasters by reducing people's vulnerabilities to trafficking.

Due to the complexity of measuring state's capacity or administrative capacity, I considered four different key aspects of quality of government in order to capture different dimensions of QoG: *ICRG Quality of Government, Government Effectiveness, Rule of Law, and Political Corruption Index*. While Tabellini (2008) has argued that it makes sense to discuss quality of government as a general feature, and the high correlation with one another, the indicators are comparatively different in their nature. To test the constructed hypotheses, this thesis employed the quantitative method of Ordinary Least-Squares (OLS) when conducting cross-sectional analysis across the world. Since my dependent variable was limited to a time period of 1996-2003, I averaged all my other variables in this dataset for a five-years period, which runs from 1996-2000.

My findings of my multiple regressions (OLS) in Table 1 revealed that countries that are more exposed to natural disasters experience an increase in human trafficking outflows, which further gave support for my first hypothesis. With regard to the included explanatory variables, it corroborates largely with the developed theory. Moreover, when including the QoG indicators in Table 2 separately in the main relationship, it showed that a country's level of state capacity plays a key role in relation to human trafficking outflows, given the significant relationship at .01-level through all models. However, when including the interaction terms of QoG in Table 3 as well as with the explanatory variables and region effects, it showed no moderating effect on the relationship between natural disasters and human trafficking. This further implied that the effect on natural disasters on trafficking outflows was not conditional on the level of QoG in a given country. As a result, I had to reject my second hypothesis.

Nevertheless, the results of this thesis have shown that there is an existing relationship between natural disasters and human trafficking. Despite no moderating effect was to be found in my results, it indicates that both natural disasters and state's capacity are independently and significantly correlated with trafficking outflows. With regard to current issues of global warming and climate change, the results of this thesis contribute to important policy recommendation in relation to the disaster-trafficking nexus. Most importantly, human trafficking outflows are

¹⁵ This thesis has used the concepts of QoG interchangeably by the standard definition of state capacity or administrative capacity.

estimated to increase along the risks of climate-induced disasters. With experts estimating that the accelerated rate of climate change will contribute to more severe and frequent climate-related disasters in the near future (Intergovernmental Panel on Climate Change, 2017), this nexus contributes to major challenges. Climate-induced disasters have resulted to unprecedented impacts on people's livelihoods and contributed to massive displacement around the world. With increased vulnerability, human trafficking is often the hidden consequence that needs to address in disaster relief efforts. Therefore, as natural disaster is rarely considered as a contribution to trafficking in persons (UNOCHA, 2017) thesis stresses the importance to acknowledge that trafficking in human beings can be unintended but direct outcome of disaster-induced displacement and migration.

Additionally, this thesis could assist policy-making, activists and practitioners in the field of disasters-trafficking nexus. For policy recommendation, it is crucial to focus on improving the socioeconomic conditions for the survivors in the aftermath of disasters, as it possibly reduce their vulnerabilities and motivation to migrate. Policy makers should address and focus on a more efficiently resource allocation as well as include counter-human trafficking interventions in disaster-relief efforts, which may reduce the risks for disaster survivors becoming exploited by traffickers. Furthermore, education and information programs regarding the risks of trafficking should be assured and prioritized, in particular disaster prone areas.

With regard to the impacts of institutional quality on human trafficking outflows, this thesis cannot generalize the effects of the results given that the research design of this study did not account for within-country variations. For instance, the QoG indicators used in this thesis cannot address differences within countries such as federal or unitary systems, which may have different impacts in disaster response. Such study is particularly important when assessing variations within countries in relation to vulnerability to natural disasters and human trafficking. This could however be a suggestion to improve this study or emphasized for future research. Moreover, future research could also focus on assessments of disaster relief efforts following a disaster. This would be necessary as it would provide non-governmental organization and aid workers with improved information regarding how to better combat increases in trafficking of human beings in the aftermath of disasters.

References:

- Akee, Randall, Arnab K. Basu, Arjun Bedi and Nancy H. Chau (2014), "Transnational Trafficking, Law Enforcement, and Victim Protection: A Middleman Trafficker's Perspective", *Journal of Law and Economic*, Vol. 57, The University of Chicago, Retrieved from: <https://www.journals.uchicago.edu/doi/pdfplus/10.1086/675404> Accessed: 010518
- Akee, Randall, Arnab K. Basu, Nancy H. Chau, and Melanie Khamis (2010), "Ethnic Fragmentation, Conflict, Displaced Persons and Human Trafficking: An Empirical Analysis", Discussion Paper, No. 5142
- Batsyukova, Svitlana (2012), "Human Trafficking and Human Smuggling: Similar Nature, Different Concepts", *Studies of Changing Societies: Comparative and Interdisciplinary Focus*, Vol. 1, No. 1
- Beittel, June S, and Rhoda Margesson (2010), "Chile Earthquake: US and International Response, Congressional Research Service, Retrieved from: https://digital.library.unt.edu/ark:/67531/metadc503333/m1/1/high_res_d/R41112_2010Mar11.pdf Accessed: 290718
- Boria, Maria Gabriella (2016), "Human Trafficking and Natural Disasters: An Empirical Analysis", Boston College University Libraries
- Bourdeau-Brien, Michael and Lawrence Kryzanowski (2018), "Natural Disasters and Risk Aversion: Evidence from the Municipal Bond Market", Retrieved from: http://www.fmaconferences.org/Norway/Papers/201711_DisastersAndRiskAversion_withSupplementaryAppendix.pdf, Accessed 150818
- Bowersox, Zack (2017), "Natural Disasters and Human Trafficking: Do Disasters affect State Anti-Trafficking Performance?", *International Migration, IOM*, Vol. 56, No. 1
- Brülisauer, Manuela (2015), "Human Trafficking in Post-Earthquake Nepal: Impacts of the Disaster on Methods for Victim Recruitment", Retrieved from: https://www.ethz.ch/content/dam/ethz/specialinterest/gess/nadeldam/documents/mas/masessays/MAS%20Cycle%202014%20%202016/Essay_Manuela%20Bruelisauer.pdf Accessed. 030418
- Bäck, Hanna, and Axel Hadenius (2008), "A Democracy and State Capacity: Exploring a J-Shaped Relationship", *Governance*, Vol. 21, No. 1, pp. 1-24
- Carletti, Maria Christina (2017), "Human Trafficking, Natural Disaster and Situation of Crisis: An Analysis, with a focus on the Countries of Haiti and the Philippines", Birkbeck University, University of London
- Charron, Nicholas and Victor Lapuente (2010), "Which Dictators Produce Quality of Government?", *QoG Working paper series: 2010:11*, The Quality of Government Institute, Department of Political Science
- Cho, Seo-Young, Axel Dreher, and Eric Neumayer (2012), "Determinants of Anti-Trafficking Policies: Evidence from a New Index", *The Scandinavian Journal of Economics*, Vol. 116, No. 2, 429-454. Retrieved from: <http://onlinelibrary.wiley.com/doi/10.1111/sjoe.12055/abstract> Accessed: 190218
- Cho, Seo-Young, Axel Dreher, and Eric Neumayer (2013), "Does Legalized Prostitution Increase Human trafficking?", *World Development*, Vol. 41, pp. 67-82, Retrieved from: https://ac.els-cdn.com/S0305750X12001453/1-s2.0-S0305750X12001453-main.pdf?_tid=efb06a53-0d8d-4f4c-bde4-43658326472f&acdnat=1525859353_2240d74a7d515e56d30c2e9e852f88ce Accessed: 090518
- Cho, Seo-Young (2015a), "Modeling for Determinants of Human Trafficking: An Empirical Analysis", *Social Inclusion*, 2-21
- Cho, Seo-Young (2015b), "Evaluating Policies Against Human Trafficking Worldwide: An Overview and Review of the 3P Index", *Journal of Human Trafficking*, Vol. 1, No. 1, pp. 86-99).
- Cho, Seo-Young (2012), "Human Trafficking, A Shadow of Migration – Evidence from Germany", Discussion Papers, Berlin: German Institute for Economic Research, DIW Berlin. Retrieved from: http://www.diw.de/documents/publikationen/73/diw_01.c.408970.de/dp1246.pdf Accessed: 020518

Coppedge, Michael, John Gerring, Staffan I. Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Michael Bernhard, M. Steven Fish, Adam Glynn, Allen Hicken, Carl Henrik Knutsen, Joshua Krusell, Anna Lührmann, Kyle L. Marquardt, Kelly McMann, Valeriya Mechkova, Moa Olin, Pamela Paxton, Daniel Pemstein, Josefine Pernes, Constanza Sanhueza Petrarca, Johannes von Römer, Laura Saxer, Brigitte Seim, Rachel Sigman, Jeffrey Staton, Natalia Stepanova, and Steven Wilson, (2017) “V-Dem [Country-Year/Country-Date] Dataset v7.1” Varieties of Democracy (V-Dem) Project.

Curtis, Kimberly (2017), “Climate Refugees”, Explained”, United Nations News & Commentary Global News – Forum (UN Dispatch), Retrieved from: <https://www.undispatch.com/climate-refugees-explained/>, Accessed: 070718

Dreher, Axel (2006), “Does Globalization affect Growth? Evidence from a New Index of Globalization”, *Applied Economics*, 38:10, pp. 1091-1110.

Drury, A. Cooper and Richard Stuart Olson (1998), “Disasters and Political Unrest: an Empirical Investigation”, *Journal of Contingencies and Crisis Management*, Vol. 6, No. 3, pp. 153-161, Retrieved from: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/1468-5973.00084> Accessed: 020518

Dutta, Mondira (2017), “Natural Disaster and Vulnerability to Trafficking of Women and Girls in India”, School of International Studies, Jawaharlal Nehru University New Delhi, India

Ferris, Elizabeth (2008), “Displacement, Natural Disasters, and Human Rights”, Brookings Institute, Retrieved from: <https://www.brookings.edu/on-the-record/displacement-natural-disasters-and-human-rights/> Accessed: 080518

Finn, Joshua (2016), “Human Trafficking and Natural Disasters: Exploiting Misery”, *International Affairs Review*, The Elliott School of International Affairs at George Washington University. Retrieved from: <http://www.ia-rgwu.org/content/human-trafficking-and-natural-disasters-exploiting-misery> Accessed: 130218

Frank, Richard W (2013), “Human Trafficking Indicators, 2000 – 2011: A new dataset”, University of Sydney, Retrieved from: <http://ssrn.com/abstract=2314157>, Accessed: 190218

Frank, Richard. W and Beth Simmons (2013), “National Law Enforcement in a Globalized World: The Case of Human Trafficking”, APSA Annual Meeting Paper, American Political Science Association 2013 Annual Meeting

Fukuyama, Francis (2011), “The Origins of Political Order: From Prehuman Times to the French Revolution”, New York: Farrar, Straus and Giroux

Gerrard, Michael B (2016), “Climate Change and Human Trafficking After the Paris Climate Agreement”, Sabin Center for Climate Change Law, Columbia Law School

Guinn, David E (2006), “Defining the Problem of Trafficking: The Interplay of U.S. Law, Donor and NGO Engagement and the Local Context in Latin America”, State University of New York (SUNY), Center for International Development

Ghosh, Jayati (2009), “Migration and Gender Empowerment: Recent Trends and Emerging Issues”, Human Development Report Research Paper 2009/04, United Nations Development Programme (UNDP).

Gozdziak, Elzbieta M, and Alissa Walter (2014), “Misconceptions about Human trafficking in a time of Crisis”, *Forced Migration Review*, Retrieved from: <http://www.fmreview.org/sites/fmr/files/FMRdownloads/en/crisis/gozdzia-walter.pdf> Accessed: 190218

Guha-Sapir, D, Below, R, and Hoyois P (2016), EM-DAT: The CRED/OFDA International Disaster Database”, Retrieved: www.emdat.be, Accessed: 020218

Guha-Sapir, D, D. Hargitt and P. Hoyois (2004), “Thirty Years of Natural Disasters 1974-2003: The Numbers”, CRED/UCL, Retrieved from: https://www.unisdr.org/files/1078_publication2004emdat.pdf Accessed: 060818

Gupta, Jhumka and Alpha Agrawal (2010), “Chronic aftershocks of an Earthquake on the Well-being of Children in Haiti: Violence, Psychosocial Health and Slavery”, *Canadian Medical Association Journal (CMAJ)*, Vol. 182, No. 18, 1997-1999

Hernandez, Diego, and Alexandra Rudolph (2015), “Modern Day Slavery: What Drives human trafficking in Europe?”, *European Journal of Political Economy*, Vol. 38, pp. 118-139

IBON Foundation (2015), “Disaster Upon Disaster: Lessons Beyond Yolanda”, Retrieved from: https://www.medico.de/fileadmin/user_upload/media/en/Disaster_Upon_Disaster_Final.pdf, Accessed: 280718

Intergovernmental Panel on Climate Change (2017), “Working Group II: Impacts, Adaption and Vulnerability”, Report Assessment, Retrieved: <http://www.ipcc.ch/ipccreports/tar/wg2/index.php?idp=354> Accessed: 190218

International Organization for Migration (2016), “The Climate Change – Human Trafficking Nexus”, The UN Migration Agency, Retrieved from: https://publications.iom.int/system/files/pdf/mecc_infosheet_climate_change_nexus.pdf Accessed: 190218

International Labor Organization and International Organization for Migration (2015), “Impact of Livelihood Recovery Initiative on Reducing Vulnerability to Human Trafficking and Illegal Recruitment: lessons from Typhoon Haiyan”, Retrieved from: https://publications.iom.int/system/files/impacts_of_livelihood.pdf Accessed: 030418

Jasparro, Christopher and Jonathan Taylor (2008), “Climate change and regional Vulnerability to Transnational Security Threats in Southeast Asia”, *Geopolitics*, Vol. 13, No. 2, pp. 232-256

Jonsson, Sofia (2018), “The Complex Relationship between Police Corruption and Sex Trafficking in Origin Countries”, *Journal of Human Trafficking*

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi (2010), “The Worldwide Governance Indicators: Methodology and Analytical Issues”, World Bank Policy Research Working Paper No. 5430.

Lozano-Gracia, Nancy, Gianfranco Piras, Ana Maria Ibáñez, and Geoffrey J. D. Hewings (2010), “The Journey to Safety: Conflict-Driven Migration Flows in Colombia”, *International Regional Science Review*, Vol. 33, No. 2, pp. 157-180, Sage Publications

Mahmoud, Toman Omar and Christoph Trebesch (2010), “The Economics of Human Trafficking and Labour Migration: Micro-evidence from Eastern Europe”, *Journal of Comparative Economics*, Vol. 38, pp. 173-188

Mani, Devyani (2005), “Strengthening Decentralized Governance for Human Security”, United Nations Centre for Regional Development (UNCRD), Nagoya, Japan, Retrieved from: <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021098.pdf> Accessed: 010518

Masakure, Oliver (2017), “Human Trafficking and Education in Africa”, in “Security, Education and Development in Contemporary Africa”, *International Political Economy of New Regionalism series*, London; New York : Routledge, Taylor & Francis

McCarthy, Lauren (2014) “Human Trafficking and the New Slavery”, *Annual Review of Law and Social Science*, Vol. 10, pp. 221-242

Mejia, Bianca Jinete (2016), “Source Countries in International Human Trafficking: A Time Series Analysis”, Creighton University, Retrieved from: <http://public.wartburg.edu/mpsurc/images/mejia.pdf> Accessed: 030418

Miller, Mallory (2017), “Gaps in International Law Surrounding Human Trafficking and Natural Disasters”, *Denver Journal of International Law & Policy*, Retrieved from: <http://djilp.org/7008/gaps-in-international-law-surrounding-human-trafficking-and-natural-disasters/> Accessed: 160418

Montgomery, Heather (2011), “Rumors of Child Trafficking after Natural Disasters: Fact, fiction or fantasy?”, *Journal of Children and Media*, Vol. 5, No. 4, 395-410

National Economic and Development Authority (NEDA), (2015), “Statement of Economic Planning Secretary Arsenio M. Balisacan At the Yolanda Rehabilitation Recovery Joint Press Briefing: Statement”, Retrieved from: <http://www.neda.gov.ph/2015/11/05/statement-of-economic-planning-secretary-arsenio-m-balisacan-at-the-yolanda-rehabilitation-and-recovery-joint-press-briefing/> , Accessed: 290718

Nellemann, Christian, Ritu Verma and Lawrence Hislop (eds), (2011), “Women at the Frontline of Climate Change: Gender risks and hopes: A Rapid Response Assessment”, United Nations Environment Programme, GRID-Arendal

- Norlha: Aide Aux Populations Himalayennes (2015), "Impact of Natural disasters on Girls and Women: Literature Compilation of Key facts and recommendations for relief practioners with regard to the earthquakes in Nepal", Retrieved from: http://norlha.org/wp-content/uploads/2015/04/Impact_of_natural_disaster_on_girls_and_women_Norlha_June_2015.pdf Accessed: 150218
- Norwegian Refugee Council (2016), "A Record Number of Internally Displaced", Retrieved from: <https://www.nrc.no/news/2016/mai/a-record-number-of-internally-displaced/> Accessed: 070718
- O'Brien, Geoff, Phil O'Keefe, Joanne Rose and Ben Wisner (2006), "Climate change and disaster management", Disasters, Special Issue: Climate change and disaster. Vol 30, No. 1, pp. 64-80
- Plümper, Thomas and Eric Neumayer (2006), "The Unequal Burden of War: The effect of armed Conflict on the Gender Gap in Life Expectancy", International Organization, Vol. 60, No. 3, pp. 723-754
- Radio Free Europe / Radio Liberty (2012), "Awareness of Human Trafficking is Increasing, But 'So is the Problem'", Retrieved from: <https://www.rferl.org/a/interview-giammarinaro-osce-human-trafficking/24709444.html> Accessed: 020418
- Rao, Smriti, and Christina Presenti (2012), "Understanding Human Trafficking Origin: A Cross-Country Empirical Analysis", Feminist Economics, Vol. 18, No. 2, pp. 231-263
- Raschky, Paul (2007), "Institutions and The losses from Natural Disasters", Institute of Public Finance, University of Innsbruck, Natural Hazards and Earth System Sciences, Vol. 8, pp.627-634
- Relief Web (2017), "Chile: Disaster Management Reference Handbook", Retrieved from: <https://reliefweb.int/sites/reliefweb.int/files/resources/Chile-2017-draft6-lowres.pdf> Accessed: 290718
- Rothstein, Bo and Jan Teorell (2008), "What is Quality of Government? A Theory of Impartial Government Institutions", Governance: An International Journal of Policy, Administration, and Institutions, Vol. 21, No. 2, pp. 165-190
- Samuels, Annamarie (2015), "Narratives of Uncertainty: The Affected Force of Child-Trafficking Rumours in Postdisaster Aceh, Indonesia", American Anthropological Association, Vol. 117, No. 2, pp. 229-241
- Shelley, Louise (2010), "Human Trafficking: A Global Perspective", George Mason University, Cambridge University Press,
- Singh, David (2012), "Child Traffickers Thrive on Disasters", The United Nations Office for Disaster Risk Reduction (UNISDR), News Release, Unisdr.org, Retrieved from: <https://www.unisdr.org/archive/25934> Accessed 030418
- Sjuve, Maria (2015), "Natural Disasters impact on Children, with a particular emphasis on girls and children with disabilities: A case study from Haiti assessing children's vulnerabilities to natural disasters and its underlying causes", University of Agder, Faculty of Economics and Social Sciences, Department of Development Studies
- Sjöstedt, Martin and Marina Povitkina (2017), "Vulnerability of Small Island Developing States to Natural Disasters: How much Difference can Effective Governments Make?", Journal of Environment & Development, Vol. 26, No.1, pp. 82-105
- Spindler, William (2010), "Conference puts focus on human trafficking, fastest growing criminal industry", UNHCR, The UN Refugee Agency, Retrieved from: <http://www.unhcr.org/news/latest/2010/10/4cb315c96/conference-puts-focus-human-trafficking-fastest-growing-criminal-industry.html> Accessed: 020418
- Studnicka, Andrea Cirineo Sacco (2010), "Corruption and Human Trafficking in Brazil: Findings from a Multi-Modal Approach", European Journal of Criminology, Vol. 7, No. 1, pp. 29-43
- Teorell, Jan, Stefan Dahlberg, Sören Holmberg, Bo Rothstein, Natalia Alvarado Pachon & Richard Svensson (2018), "The Quality of Government Standard Dataset", Version Jan18, University of Gothenburg: The Quality of Government Institute, Retrieved from: http://www.qogdata.pol.gu.se/data/qog_std_jan18.pdf Accessed: 220218

The Government of the Philippines (GoP), Commission on Audit (COA) (2014), “Report on the Audit of Typhoon Yolanda Relief Operations”, pp. 30-49

The UN Refugee Agency, UNHCR (2015), “UNHCR Mid-Year Trends 2015”, Retrieved from: <http://www.unhcr.org/56701b969.html>, Accessed 060518

The UN Women (2015), “New Gender Alert highlights the need to ensure leadership roles for women in post-earthquake Nepal”, Retrieved from: <http://www.unwomen.org/en/news/stories/2015/5/new-gender-alert-on-nepal> Accessed: 030418

The United Nations Office for the Coordination of Humanitarian Affairs, UNOCHA (2017), “Preventing Human Trafficking among Crisis-Affected Populations in Emergency Settings”, Retrieved from: <https://www.unocha.org/sites/unocha/files/ECOSOC%20HAS%202017%20-%20SE%20Preventing%20Human%20Trafficking%20among%20CrisisAffected%20Populations%20in%20Emergency%20Settings%20-%202017%20June%207.pdf> Accessed: 160418

The United Nations Office on Drugs and Crime (2000), “Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children”, Retrieved from: <http://www.ohchr.org/EN/ProfessionalInterest/Pages/ProtocolTraffickingInPersons.aspx> Accessed: 230218

The United Nations Office on Drugs and Crime (UNODC) (2006), “Trafficking in Persons Global Patterns”, Retrieved from: https://www.unodc.org/pdf/traffickinginpersons_report_2006ver2.pdf Accessed: 180218

The United Nations Office on Drugs and Crime (UNODC) (2014), “Global Report on Trafficking in Persons”, United Nations, New York, Retrieved from: http://www.unodc.org/res/cld/bibliography/global-report-on-trafficking-in-persons_html/GLOTIP_2014_full_report.pdf Accessed: 020418

The United Nations Office on Drugs and Crime (UNODC) (2016), “Global Report on Trafficking in Persons”, United Nations Publication, New York, Retrieved from: https://www.unodc.org/documents/data-and-analysis/glotip/2016_Global_Report_on_Trafficking_in_Persons.pdf Accessed: 020418

The United Nations Office for Disaster Risk Reduction (UNISDR), and Centre for Research on the Epidemiology of Disasters (CRED), “The Human Cost of Weather Related Disasters: 1995-2015”,

USAID (2006), “Literature Review: Trafficking in Humanitarian Emergencies”, Retrieved from: https://childhub.org/es/system/tdf/library/attachments/literature_review_1007.pdf?file=1&type=node&id=18037 Accessed: 160418

Varieties of Democracy (V-Dem), (2017), “New Measure of Women’s Political Empowerment”, Retrieved from: <https://www.v-dem.net/en/news/new-measure-womens-political-empowerment/>, Accessed: 300718

Van Dijk, Jan and Fanny Klerx-Van Mierlo (2010), “Indicators of Corruption: Further Explorations of the Link between Corruption and Implementation failure in Anti-Trafficking Policies”, Working Paper, Tilburg, The Netherlands: International Victimology Institute (INTERVICT), University of Tilburg

Weitzer, Ronald (2015), “Human Trafficking and Contemporary Slavery”, Annual Reviews of Sociology, Retrieved from: <https://www.annualreviews.org.ezproxy.ub.gu.se/doi/pdf/10.1146/annurev-soc-073014-112506> Accessed: 150818

World Bank (2009), “Social Development Notes: Conflict, Crime and Violence”, No. 122, Retrieved from: http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/Resources/244362-1239390842422/6012763-1239905793229/Human_Trafficking.pdf, Accessed: 020518

World Meteorological Organization (2018), “Natural Hazards and Disaster Risk Reduction”, Retrieved from: <https://public.wmo.int/en/our-mandate/focus-areas/natural-hazards-and-disaster-risk-reduction> Accessed: 090418

Appendix 1a: Table of Countries of Origin

Very High	High	Medium	Low	Very Low
Albania	Armenia	Afghanistan	Argentina	Brunei
Belarus	Bangladesh	Algeria	Bhutan	Chad
Bulgaria	Benin	Angola	Botswana	Chile
China	Brazil	Azerbaijan	Burundi	Costa Rica
Lithuania	Cambodia	Bosnia and Herzegovina	Canada	Egypt
Nigeria	Colombia	Burkina Faso	Cape Verde	Fiji
Republic of Moldova	Czech Republic	Cameroon	Congo Democratic Republic	Jamaica
Romania	Dominican Republic	Sri Lanka	Equatorial Guinea	Macao, China SAR
Russia	Estonia	Taiwan	Eritrea	Netherlands
Thailand	Georgia	Republic of Congo	Djibouti	Paraguay
Ukraine	Ghana	Croatia	Gabon	Syria
	Guatemala	Cuba	Gambia	Uruguay
	Hungary	Ecuador	Guinea	Yemen
	India	El Salvador	Iran	
	Kazakhstan	Ethiopia (1993-)	Iraq	
	Laos	Haiti	Jordan	
	Latvia	Honduras	Korea, South	
	Mexico	Hong Kong, China SAR	Lebanon	
	Morocco	Indonesia	Lesotho	
	Myanmar		Madagascar	
	Nepal	Kenya	Maldives	
	Pakistan (1971-)	Korea, North	Nicaragua	
	Philippines	Kyrgyzstan	Panama	
	Poland	Liberia	Rwanda	
	Slovakia	Malawi	Somalia	
	Vietnam	Malaysia (1966-)	Sudan (-2011)	
	Uzbekistan	Mali	Swaziland	
		Montenegro	Tunisia	
		Mozambique	United States	
		Niger	Zimbabwe	
		Peru		
		Senegal		
		Serbia		
		Sierra Leone		
		Singapore		
		Slovenia		
		South Africa		
		Tajikistan		
		Taiwan Province of China		
		Togo		
		Turkey		
		Turkmenistan		
		Uganda		
		Macedonia		
		Tanzania		
		Burkina Faso		
		Venezuela		
		Zambia		

Source: UNODC (2006) *Global Report on Trafficking in Persons*

Appendix 1b: Table of Non-Origin Countries

Andorra	Mauritius
Antigua and Barbuda	Monaco
Australia	Mongolia
Austria	Oman
Bahamas	Namibia
Bahrain	Nauru
Barbados	Vanuatu
Belgium	New Zealand
Bolivia	Norway
Botswana	Micronesia
Belize	Marshall Islands
Solomon Island	Palau
Central African Republic	Papua New Guinea
Comoros	Portugal
Cyprus (1975-)	Guinea-Bissau
Denmark	Timor-Leste
Dominica	Qatar
Finland	St Kitts and Nevis
France (1963-)	St Lucia
Germany	St Vincent and the Grenadines
Kiribati	San Marino
Greece	Sao Tome and Principe
Grenade	Saudi Arabia
Guyana	Seychelles
Iceland	Spain
Ireland	South Sudan
Israel	Suriname
Italy	Sweden
Japan	Switzerland
Kuwait	Tonga
Libya	Trinidad and Tobago
Liechtenstein	United Arab Emirates
Luxemburg	Tuvalu
Malta	United Kingdom
Mauritania	Samoa

Source: UNODC (2006). Global Report on Trafficking in Persons

Appendix 2: Summary Statistics of Dependent and Independent Variables

Variable Name	N	Mean	SD	Min	Max
Natural Disaster	165	2.946	4.200	1.000	29.800
Human Trafficking Outflow	194	1.89	1.674	0	5
ICRG Quality of Government	137	.563	.204	.126	1.000
Population Density	188	235.794	1223.205	1.517	15762.3
Index of Globalization	179	49.082	18.096	18.931	90.637
Women Political Empowerment Index	158	.669	.193	.106	.958
Geographical Region	158	2.75	1.546	1	5
Political Stability and Absence of Violence/Terrorism	179	.012	.973	-2.668	1.627
Rule of Law	189	-.017	.987	-2.216	1.964
Political Corruption	163	.530	.281	.009	.960
Unemployment	173	9.339	6.408	.678	34.143
Government Effectiveness	185	-.031	.978	-2.181	2.114
Real GDP per Capita	189	9779.166	12543.078	247.928	71096.420
Valid N	114				

Appendix 3: Collinearity Statistics for Main OLS Model

Variables:	Tolerance	VIF
Natural disasters	.821	1.218
GDP per capita (log)	.215	4.650
Index of Globalization	.185	5.403
Women Political Empowerment Index	.403	2.483
Population Density (log)	.724	1.380
Political Stability and Absence of Violence/Terrorism	.365	2.743
Unemployment	.860	1.163
Americas Dummy	.539	1.857
Asia Dummy	.472	2.121
Pacific Dummy	.780	1.282
Europe Dummy	.317	3.151

Appendix 4: Correlations Between the Independent and Explanatory Variables:

Correlations

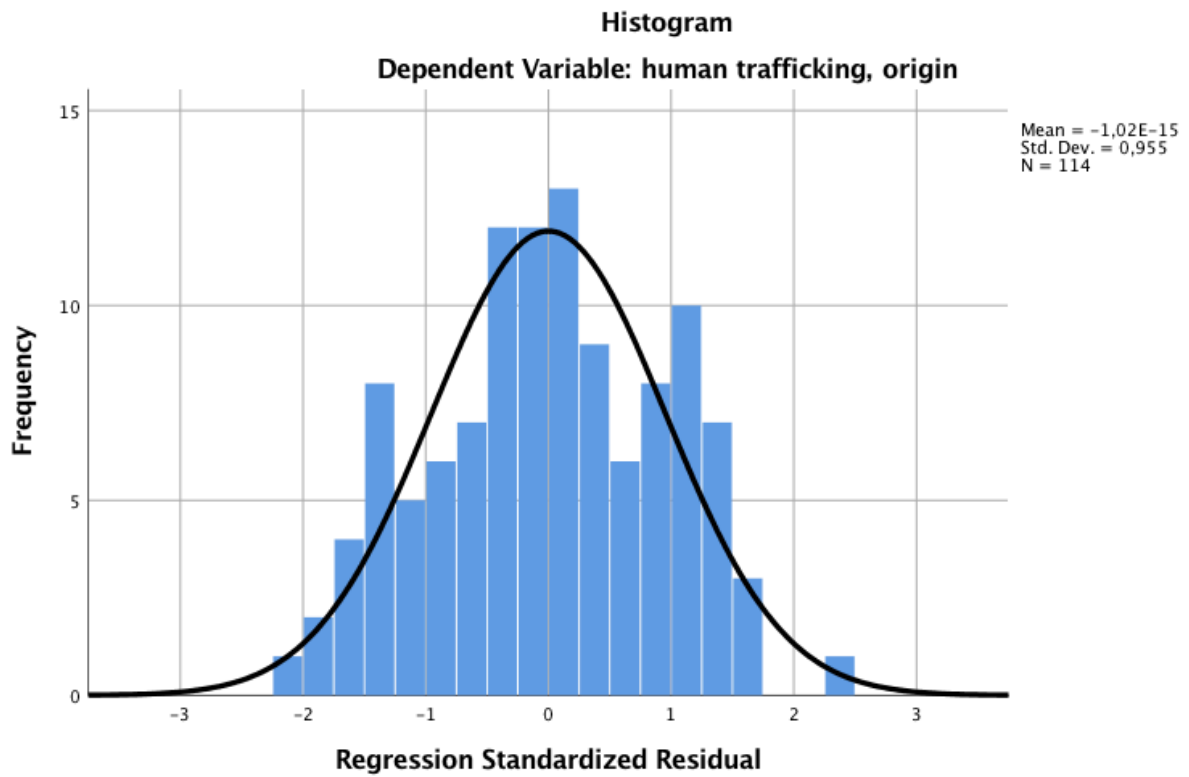
		natural disaster	human trafficking, origin	index of globalization	women political empowerment index	geographical region	political stability and absence of violence/terrorism	unemployment	logged gdp per capita	logged population density
natural disaster	Pearson Correlation	1	,254**	,044	,087	-,049	-,120	-,177*	-,034	,075
	Sig. (2-tailed)		,001	,578	,297	,560	,130	,028	,662	,339
	N	165	165	160	146	146	159	155	164	163
human trafficking, origin	Pearson Correlation	,254**	1	-,226**	-,058	-,004	-,45**	-,040	-,36**	,020
	Sig. (2-tailed)	,001		,002	,469	,959	,000	,602	,000	,781
	N	165	194	179	158	158	179	173	189	188
index of globalization	Pearson Correlation	,044	-,226**	1	,627**	,594**	,593**	-,063	,810**	,124
	Sig. (2-tailed)	,578	,002		,000	,000	,000	,416	,000	,098
	N	160	179	179	156	155	174	171	179	179
women political empowerment index	Pearson Correlation	,087	-,058	,627**	1	,479**	,562**	-,007	,486**	,093
	Sig. (2-tailed)	,297	,469	,000		,000	,000	,934	,000	,249
	N	146	158	156	158	149	158	156	158	157
geographical region	Pearson Correlation	-,049	-,004	,594**	,479**	1	,429**	-,051	,620**	,277**
	Sig. (2-tailed)	,560	,959	,000	,000		,000	,527	,000	,000
	N	146	158	155	149	158	158	157	158	157
political stability and absence of violence/terrorism	Pearson Correlation	-,120	-,452**	,593**	,562**	,429**	1	,027	,665**	,107
	Sig. (2-tailed)	,130	,000	,000	,000	,000		,726	,000	,156
	N	159	179	174	158	158	179	172	179	178
unemployment	Pearson Correlation	-,177*	-,040	-,063	-,007	-,051	,027	1	-,009	-,160*
	Sig. (2-tailed)	,028	,602	,416	,934	,527	,726		,908	,035
	N	155	173	171	156	157	172	173	173	173
logged gdp per capita	Pearson Correlation	-,034	-,362**	,810**	,486**	,620**	,665**	-,009	1	,175*
	Sig. (2-tailed)	,662	,000	,000	,000	,000	,000	,908		,016
	N	164	189	179	158	158	179	173	189	188
logged population density	Pearson Correlation	,075	,020	,124	,093	,277**	,107	-,160*	,175*	1
	Sig. (2-tailed)	,339	,781	,098	,249	,000	,156	,035	,016	
	N	163	188	179	157	157	178	173	188	188

** . Correlation is significant at the 0.01 level (2-tailed).

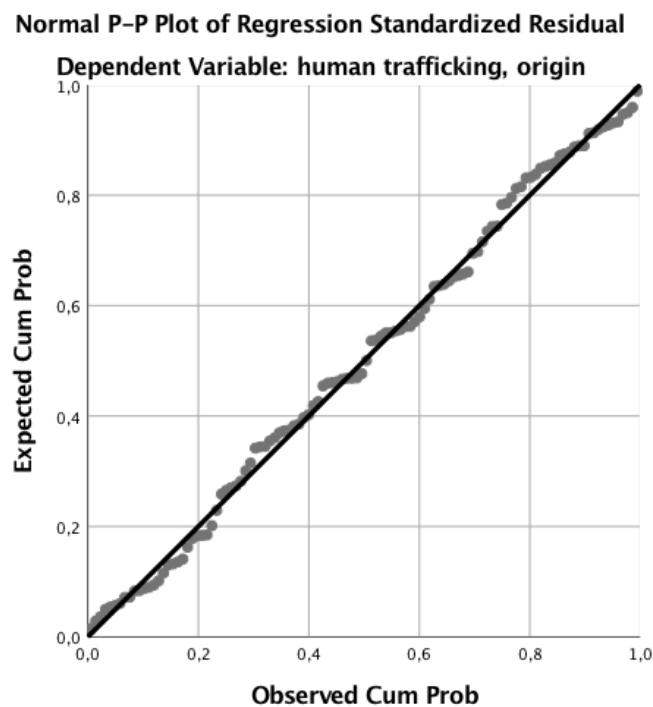
* . Correlation is significant at the 0.05 level (2-tailed).

Appendix 5: Diagnostics

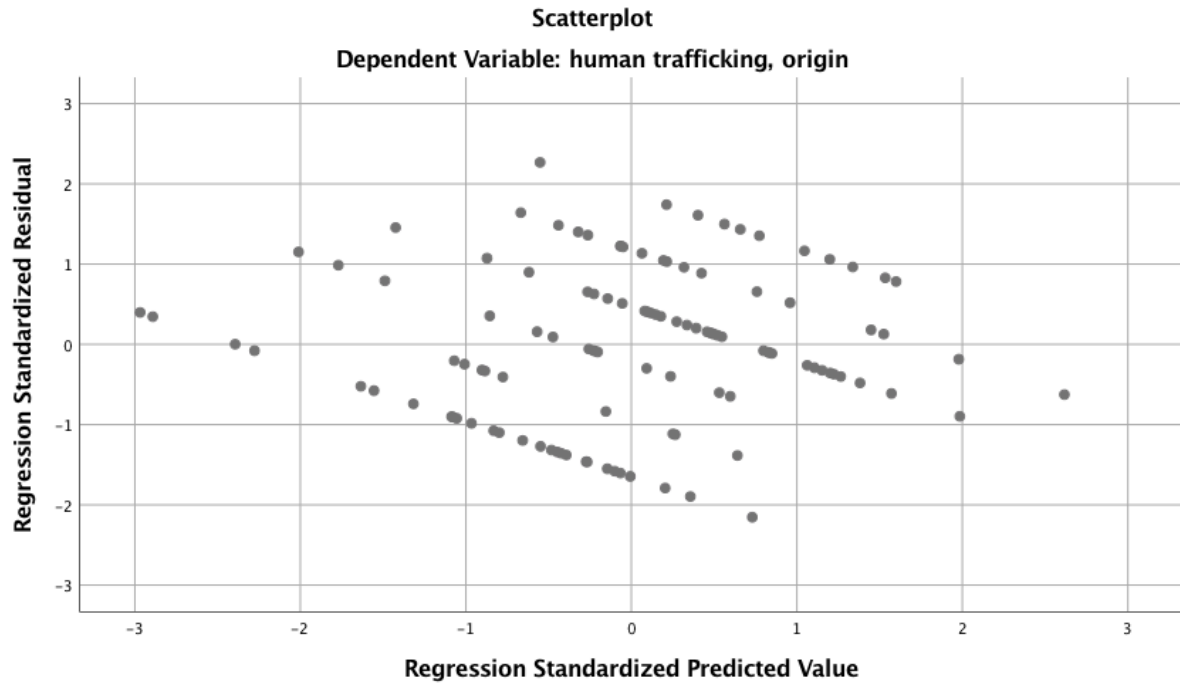
Appendix 5a: Distribution of the Residuals



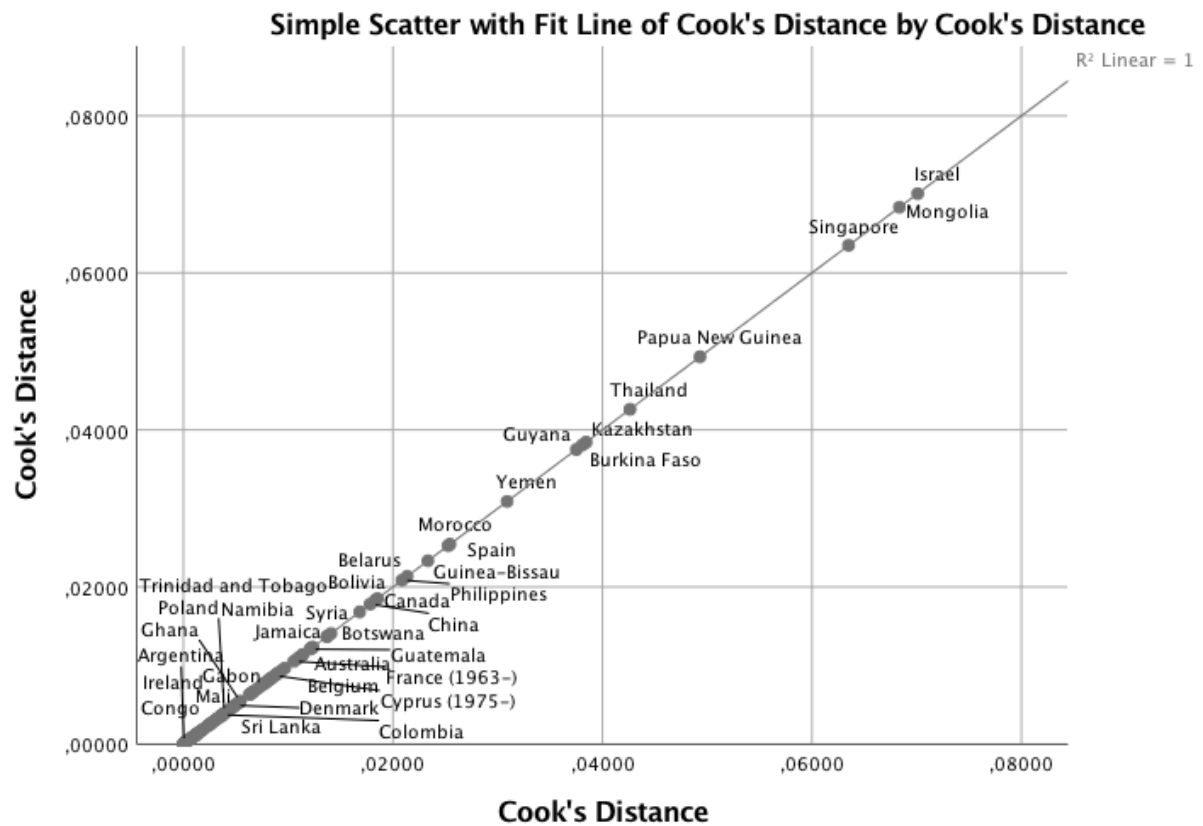
Appendix 5b: Normal P-Plot of Regression Standardized Residuals



Appendix 5c: Test for Heteroscedasticity



Appendix 5d: Test for Outliers



Appendix 6: Multiple Regressions (OLS) Interaction Effects

Table 4: Multiple Regression (OLS) Interaction Effect – ICRG Indicator of QoG

DV: Human Trafficking Outflow	M1	M2	M3	M4	M5
Natural Disaster (<i>centered</i>)	.100*** (.030)	.074*** (.027)	.077*** (.028)	.062** (.028)	.071** (.094)
ICRG Indicator of QoG (<i>centered</i>)		-3.870*** (.680)	-3.861*** (.680)	-4.469*** (1.351)	-4.188*** (1.291)
Natural disaster x ICRG (<i>centered</i>)			-.163 (.153)	-.077 (.149)	-.018 (.151)
GDP per capita (<i>logged</i>)				-.047 (.160)	-.211 (.184)
Women Political Empowerment Index				2.478** (.964)	1.947* (1.098)
Population Density (<i>logged</i>)				.295*** (.099)	.196* (.110)
Political Stability and Absence of Violence/terrorism				-.235 (.251)	-.254 (.249)
Unemployment				.015 (.025)	.015 (.025)
Region 0/1	No	No	No	No	Yes
Adjusted R2	.059	.249	.249	.317	.334
N	164	115	115	115	115

Standard errors in parentheses: * $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$

Table 5: Multiple Regression (OLS) Interaction Effect – Government Effectiveness

DV: Human Trafficking Outflow	M1	M2	M3	M4	M5
Natural Disaster (<i>centered</i>)	.100*** (.030)	.082*** (.027)	.085*** (.027)	.065** (.027)	.066** (.027)
Government Effectiveness (<i>centered</i>)		-.698*** (.129)	-.704*** (.129)	-1.174*** (.268)	-1.021*** (.274)
Natural disaster x Government Effectiveness (<i>centered</i>)			-.029 (.030)	-.013 (.029)	-.001 (.029)
GDP per capita (<i>logged</i>)				-.128 (.154)	-.097 (.185)
Women Political Empowerment Index				3.216*** (.850)	2.886*** (.995)
Population Density (<i>logged</i>)				.241*** (.089)	.142 (.093)
Political Stability and Absence of Violence/terrorism				-.190 (.205)	-.181 (.202)
Unemployment				8.024E-6(1) (.019)	.001 (.019)
Region 0/1	No	No	No	No	Yes
Adjusted R2	.059	.203	.203	.295	.321
N	164	139	139	139	139

Standard errors in parentheses: * $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$

Table 6: Multiple Regression (OLS) Interaction Effect – Rule of Law

DV: Human Trafficking Outflow	M1	M2	M3	M4	M5
Natural Disaster (<i>centered</i>)	.100*** (.030)	.080*** (.027)	.081*** (.027)	.067** (.026)	.066** (.026)
Rule of Law (<i>centered</i>)		-.747*** (.124)	-.750*** (.124)	-1.360*** (.257)	-1.296*** (.270)
Natural disaster x Rule of Law (<i>centered</i>)			-.029 (.030)	-.013 (.028)	-.001 (.028)
GDP per capita (<i>logged</i>)				.123 (.141)	-.038 (.173)
Women Political Empowerment Index				2.919*** (.790)	3.006*** (.943)
Population Density (<i>logged</i>)				.281*** (.087)	.185** (.091)
Political Stability and Absence of Violence/terrorism				.086 (.220)	.089 (.216)
Unemployment				.004 (.018)	.005 (.018)
Region 0/1	No	No	No	No	Yes
Adjusted R2	.059	.235	.235	.336	.362
N	164	139	139	139	139

Standard errors in parentheses: * $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$

Table 7: Multiple Regression (OLS) Interaction Effect – Political Corruption Index

DV: Human Trafficking Outflow	M1	M2	M3	M4	M5
Natural Disaster (<i>centered</i>)	.100*** (.030)	.079*** (.027)	.085*** (.027)	.062** (.027)	.063** (.028)
Political Corruption Index (<i>centered</i>)		2.569*** (.433)	2.592*** (.432)	3.364*** (.687)	2.912*** (.702)
Natural disaster x Political Corruption Index (<i>centered</i>)			-.144 (.106)	.055 (.103)	.019 (.104)
GDP per capita (<i>logged</i>)				-.012 (.134)	-.220 (.161)
Women Political Empowerment Index				2.978*** (.816)	2.611*** (.958)
Population Density (<i>logged</i>)				.232*** (.088)	.144 (.093)
Political Stability and Absence of Violence/terrorism				-.250 (.194)	-.239 (.193)
Unemployment				.012 (.019)	.013 (.019)
Region 0/1	No	No	No	No	Yes
Adjusted R2	.059	.231	.236	.318	.336
N	164	138	138	138	138

Standard errors in parentheses: * $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$

Appendix 7: Robustness Check: Ordered Regression (ologit)

Table 7a: Ordinal Regression (ologit) Output for Interaction Effect – ICRG QoG

DV: Human Trafficking Outflow	M1	M2	M3
Natural Disaster	.246* (.131)	.141 (.127)	.141 (.127)
ICRG Quality of Government	-3.976*** (1.141)	-5.935*** (1.933)	-5.935*** (1.933)
Natural Disaster x ICRG Quality of Government	-.245 (.206)	-.104 (.202)	-.104 (.202)
GDP per capita (logged)		-.014 (.218)	-.014 (.218)
Women Political Empowerment Index		3.441** (1.405)	3.441** (1.405)
Population Density (logged)		.429*** (.146)	.429*** (.146)
Political Stability And Absence of Violence/terrorism		-.312 (.343)	-.312 (.343)
Unemployment		.022 (.033)	.022 (.033)
Region 0/1	No	No	Yes

*Standard errors in parentheses: * p ≤ .1 ** p ≤ .05 *** p ≤ .01*

Table 7b: Ordinal Regression (ologit) Output for Interaction Effect – Government Effectiveness

DV: Human Trafficking Outflow	M1	M2	M3
Natural Disaster	.133*** (.039)	.082** (.038)	.086** (.039)
Government Effectiveness	-.766*** (.161)	-1.469*** (.373)	-1.609*** (.383)
Natural Disaster x Government Effectiveness	-.043 (.039)	-.017 (.039)	-.018 (.039)
GDP per capita (logged)		.150 (.207)	.171 (.209)
Women Political Empowerment Index		4.629*** (1.215)	4.548*** (1.222)
Population Density (logged)		.350*** (.125)	.329*** (.126)
Political Stability And Absence of Violence/terrorism		-.362 (.263)	-.212 (.276)
Unemployment		.004 (.024)	.001 (.026)
Region 0/1	No	No	Yes

*Standard errors in parentheses: * p ≤ .1 ** p ≤ .05 *** p ≤ .01*

Table 7c: Ordinal Regression (ologit) Output for Interaction Effect – Rule of Law

DV: Human Trafficking Outflow	M1	M2	M3
Natural Disaster	.100*** (.038)	.087** (.039)	.099** (.041)
Rule of Law	-.889*** (.299)	-1.938*** (.459)	-2.139*** (.515)
Natural Disaster x Rule of Law	-.037 (.040)	-.014 (.040)	.006 (.042)
GDP per capita (logged)		.133 (.225)	.025 (.275)
Women Political Empowerment Index		4.958*** (1.512)	5.046*** (1.756)
Population Density (logged)		.458*** (.147)	.337** (.161)
Political Stability And Absence of Violence/terrorism		.071 (.367)	.069 (.376)
Unemployment		.023 (.033)	.015 (.034)
Region 0/1	No	No	Yes

*Standard errors in parentheses: * p ≤ .1 ** p ≤ .05 *** p ≤ .01*

Table 7d: Ordinal Regression (ologit) Output for Interaction Effect – Political Corruption Index

DV: Human Trafficking Outflow	M1	M2	M3
Natural Disaster	.021 (.076)	.057 (.077)	.083 (.80)
Political Corruption Index	2.931*** (.787)	4.746*** (1.280)	4.426*** (1.317)
Natural Disaster x Political Corruption Index	.148 (.145)	.051 (.153)	.028 (.158)
GDP per capita (logged)		-.029 (.210)	-.253 (.258)
Women Political Empowerment Index		5.026*** (1.557)	4.277** (1.753)
Population Density (logged)		.370*** (.144)	.238 (.160)
Political Stability And Absence of Violence/terrorism		-.395 (.327)	-.460 (.034)
Unemployment		.037 (.033)	.033 (.034)
Region 0/1	No	No	Yes

*Standard errors in parentheses: * p ≤ .1 ** p ≤ .05 *** p ≤ .01*