Measuring Human Trafficking - A MIMIC approach

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May 2012

(Preliminary Draft, please do not cite!)

Abstract

Human Trafficking (HT) is an international phenomenon of global relevance. It is the third largest international crime after drug and weapon smuggling and a profitable international criminal activity (Interpol 2009). However, there are still no international comparable severity measures of HT which is mainly due to the fact that it is an illicit activity and the actors are active in the shadow. This paper addresses this issue by employing a Multiple Indicator Multiple Causes (MIMIC) model using existing information to measure the latent phenomenon. The existing literature indicates several causes and indicators such as GDP differences, migration flows between countries, gender inequality, and legislation on prostitution or criminality levels (Akee et al. 2010a, 2010b, 2010c; Cho 2012; Hernandez and Rudolph 2011, among others). The goal is a severity index of human trafficking and a ranking of countries indicating the intensity within the countries.

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1. Introduction

Trafficking in human beings (THB) is a phenomenon also known as “modern day slavery” (Danailova-Trainor and Laczko 2010, p. 38) that gets increasing attention on the international policy agenda in the last decades. Given that THB is a criminal activity and all actors belong to the “hidden population” (Heckathorn 1997) large parts prevail in the underground economy making a numerical assessment of the problem extremely difficult. However, policy makers need to know the intensity and spread in order to implement preventive counter measures and combat HT successfully. To analyse THB most studies use proxies of the phenomenon such as a dummy variable indicating whether more than 100 victims are detected in the country (Akee et al. 2010a, b, c) and a ranking of recipient countries based on reports of incidences of THB documented by the United Nations Office on Drug and Crime (UNODC) (Cho et al. 2011b).

The main problem in this field is the availability of comparable data. Several attempts have been conducted to increase data access: First, within the framework of the “Trafficking Statistics Project” the United Nations Educational, Scientific and Cultural Organization (UNESCO) collects data on human trafficking via internet resources with the goal to compile a global data set and compare international trends.\(^2\) However, this data is difficult to use for international comparison, because the set is a compilation of different statistics collected by different sources. A second approach of data allocation is undertaken by the International Organization for Migration (IOM) building up the Counter-Trafficking Module (CTM) Database. Information is recorded from assisted trafficking victims that are part of the counter-trafficking program within the IOM. Reports on the Database detail that at the end of 2010 it contained information on 16,000 victims in around 85 source and over 100 sending countries (Surtees and Craggs 2010). Third, the United Nations Office on Drugs and Crime (UNODC) initiated the Programme against Trafficking in Human Beings (GPAT) and collects data on the basis of reports of incidences of human trafficking (HT) within countries. This citation index has coverage of the period 1996-2003 with information from 161 countries (UNODC 2006).\(^3\) A classification of countries worldwide in sending, transit and receiving countries as well as the description of visible patterns offer valuable insights into the


\(^3\) The information systematically used in the database is open-source data taken from International Organizations, governmental institutions, research institutes, non-governmental organizations (NGOs) and media reports. The developed citation index ranges from 0 to 5 and covers the intensity of report as destination, transit or source country.
phenomenon and on international trends.\textsuperscript{4} Forth, the U.S. State Department also collects data since 2001. They publish the yearly Trafficking in Persons reports (TIP reports 2001-2011) where countries are clustered into a tier ranking. The tiers are assigned according to the compliance level with the U.S. Victims of Trafficking and Violence Protection Act (TVPA) issued in 2000. Information is collected from several international sources as well as U.S. embassies around the world.\textsuperscript{5} Finally, a newly developed index measuring policy approaches towards THB in the three main policy areas – prosecution, protection and prevention – called “3P Index” is available. The index gives a score to every country ranging from three to 15 and is also available in the three sub-indices (range 1-5) (Cho et al. 2011a).

Nevertheless, there is no measure of the intensity of HT in a large number of countries addressing all causes and implications taking into account the position of the countries as destination, transit or source country. This paper deals exactly with this issue developing a comparable measure of HT for as many countries as possible by employing the structural equation modelling of a latent variable namely Multiple Indicators Multiple Causes (MIMIC) model. The MIMIC model is a special case of structural equation model using existing estimates to derive a measure of the size of HT. Thereby an index of THB “based on estimated parameters that relate directly to the causes and indicators” (Dreher et al. 2007, 445) can be designed. This approach has been used in economics by several authors to explore latent phenomena such as the shadow economy (Schneider and Enste 2000, 2002) or corruption (Dreher et al. 2007) among others.\textsuperscript{6}

Numerous reasons indicate the importance of measuring human trafficking. Foremost, it is the third largest illicit criminal activity after drug and weapon smuggling generating profits of around US$ 30 billion annually (Interpol 2009, ILO 2005). Furthermore, besides the abuse of human rights through exploitation and coercion of people economic implications such as loss of purchasing power, tax evasion and therefore income loss for governments (all activities take part in the underground economy bypassing legal institutions) show the relevance for governments to combat HT. Especially the exploitation of victims in the shadow economy or black labour market intensifies the negative implications of the phenomenon. Fighting THB

\textsuperscript{4} For a detailed description of the citation index, global patterns and trends see the Global Report on Human Trafficking (2006). A more detailed description of the different data collection methods global as well as further national initiatives see ILO (2005).
\textsuperscript{5} See www.state.gov/g/tip/rls/tiprpt.
\textsuperscript{6} Other authors are Weck (1983), Frey and Weck-Hanneman (1984), Loayza (1996) and Giles (1999) also measuring the size of the shadow economy. To analyze institutional change in Eastern Europe Raiser et al. (2000) and Kuklys (2004) to measure welfare both also use the MIMIC approach.
engulfs resources of countries to combat traffickers internationally and batter criminal networks.

The paper is structured as follows: In section 2 human trafficking is defined and the international dimension is presented in order to get a clear picture of the phenomenon. Thereafter the MMIC model is formalised and implications for the study are described. Section 4 explains the causes and consequences of HT that are measurable which will be implemented into the model. The results of the analysis are outlined in section 5 where a country ranking based on the developed index is represented. Several aspects are additionally covered here: First, how does the ranking of countries mirror the position of individual countries as destination, transit or source country, and second, what is not covered by the index. Conclusions are outlined in section 6.

2. Framing Human Trafficking

In order to measure the phenomenon appropriately it has to be clarified what human trafficking encompasses. The definition that is internationally recognized is set forth in the Protocol to Prevent, Supress and Punish Trafficking in Persons, especially Women and Children (Palermo Protocol) which supplements the United Nations Convention against Transnational Organized Crime. In Article 3 of the Protocol it says: “Trafficking in persons shall mean the recruitment, transportation, transfer, harboring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation.” Specifically, “exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labor or services, slavery or practices similar to slavery, servitude or the removal of organs” (UN 2000). With this definition the international community manifested that trafficking of human beings has three core components, namely, deception of individuals, movement or harbouring of them, and the placement in exploitative situations.

In the Global Report on Trafficking in Persons: Global Patterns (UNODC 2006, p. 17) the main destination countries are in Northern America, Western Europe and Australia. China, South-East Asian countries and countries in Southern America are reported as main countries of origin and India and other countries in South-East Asia are both origin and destination countries. Regional patterns give a first indication on how to approach the phenomenon.
Victims are foremost women and girls and they are exploited in the commercial sex industry around the world. Up to 79 per cent of cases worldwide in registered in 2009 by the UNODC included the trafficking of women and girls for the purpose of sexual exploitation. Men and boys are target of traffickers in 21 per cent of cases. One fifths of the victims are children and additional 18 per cent of victims identified in this study are exploited in the labour market (UNODC 2009, 11). This overview of THB in general shapes the picture of it and gives insights into how it works and where traffickers operate. However, on the macro level individual cases and differences between countries are difficult to address. This study does not aim at providing precise insights into country specific aspects of HT, rather to give an overview of how severe the problem is and whether an increase of attention on the policy agenda in the country should be preferred.

3. Basics of the MIMIC approach

Like in the study of Dreher et al. (2007) I assume a latent endogenous variable with “no measurement error in the independent variables” (ibid, 3) exemplifying the MIMIC model as a special case of structural models. Using the correlation between the causes and indicators the latent variable can be determined. The formal specification of the approach was developed by Jöreskog and Goldberg (1975) for one latent variable and is built up of a system of two equations (see Dreher et al. 2007). First, showing how the examined endogenous variables are determined by the unobservable one and the structural equation model and second how the latent variable and its causes interact. Thereby the model gives me the chance to identify a country ranking determined by the causal links in the model generating a ordinal index and covering a period of the last ten years. This enables the comparison between countries and over time of the development of the phenomenon HT and gives policy makers the chance to employ effective measures on combating TIP. By comparing international advances, arguably, international learning effects can be generated, and exploitation and human rights violations might be reducible.

3.1 Formal model

3.2 Specific aspects of MIMIC on THB
4. Causes and Consequences of THB

Taking these studies in consideration I use the structural equation model to determine the endogenous latent variable of HT.

4.1 Indicators of THB

The indicators represent reflective measures of human trafficking in a country this includes the importance on the policy agenda (measured by the 3P-index), the awareness of the population (media coverage of the phenomenon, identification of victims, among others) and other consequences that we can identify in the countries. Especially focusing on the existing measures and country rankings of THB will guide the identification of indicators. Considering all relevant data sets will balance out the differences in measurement and uncertainties towards comparability. One indicator, for instance, of the intensity of THB in the countries is the reported incidence ranking of the UNODC (2006).

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4.2 Causes of THB

The causes and determinants of THB or formative indicators (Lester 2008) shape the latent phenomenon. Given several studies on the determinants of human trafficking, I will analyse a set of variables that are known to cause migration flows and increase the probability of trafficking. The main causes and implications of human trafficking have been analysed in different empirical studies by Akee et al. (2010a, 2010b, 2010b) employing a gravity-like model with a binary independent variable of whether human trafficking has been identified between countries or not. The main drivers of HT show as economic disparity between countries forcing people to migrate and ending up trafficked and exploited in host countries (Cho 2012). The study of Hernandez and Rudolph (2011) goes in the same direction finding additionally that the intensity of trafficking in persons (TIP) is dependent on the legislation in the destination countries. Basically drivers and indicators cover the push and pull factors of supply and demand of THB. Cho (2012) orders them in four dimensions – migration, crime, vulnerability and policy and institutional effort.7

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7 Additionally Cho et al. (2011b) investigate the relation between the legislation on prostitution in destination countries and HT. They find that by legalising prostitution a scale effect dominates a substitution effect towards more HT victims. However, the results are based on the existing data again indicating the need for an improved measures.
4.3 Measurement and regional differences
(to be included)

5. Results
(To be included)

6. Conclusion
(to be included)
References


