

DiTommaso, M. L.; Shima, I.; Strøm, S.; Bettio, F.

Working Paper

As bad as it gets: Well being deprivation of sexually trafficked women

Memorandum, No. 2007,09

Provided in Cooperation with:

Department of Economics, University of Oslo

Suggested Citation: DiTommaso, M. L.; Shima, I.; Strøm, S.; Bettio, F. (2007) : As bad as it gets: Well being deprivation of sexually trafficked women, Memorandum, No. 2007,09, University of Oslo, Department of Economics, Oslo

This Version is available at:

<https://hdl.handle.net/10419/63066>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

MEMORANDUM

No 09/2007

**As bad as it gets:
Well being deprivation of sexually exploited trafficked
women**

**Di Tommaso M.L., Shima I., Strøm S. and
Bettio F.**

ISSN: 0809-8786

**Department of Economics
University of Oslo**

This series is published by the
University of Oslo
Department of Economics

P. O.Box 1095 Blindern
N-0317 OSLO Norway
Telephone: + 47 22855127
Fax: + 47 22855035
Internet: <http://www.oekonomi.uio.no/>
e-mail: econdep@econ.uio.no

In co-operation with
**The Frisch Centre for Economic
Research**

Gaustadalleén 21
N-0371 OSLO Norway
Telephone: +47 22 95 88 20
Fax: +47 22 95 88 25
Internet: <http://www.frisch.uio.no/>
e-mail: frisch@frisch.uio.no

List of the last 10 Memoranda:

No 08/07	Olav Bjerkholt Ragnar Frisch's contribution to business cycle analysis. 33pp.
No 07/07	Steinar Holden and Fredrik Wulfsberg Are real wages rigid downwards? 40 pp.
No 06/07	Morten Nordberg Employment behaviour of marginal workers. 46 pp.
No 05/07	Morten Nordberg Total Tax on Labour Income. 53 pp.
No 04/07	B. Gabriela Mundaca Monitoring, liquidity provision and financial crisis risk. 30 pp.
No 03/07	B. Gabriela Mundaca and Kjell Bjørn Nordal Corporate investment, cash flow level and market imperfections: The case of Norway. 51 pp.
No 02/07	Geir B. Asheim Procrastination, partial naivete, and behavioral welfare analysis. 23 pp.
No 01/07	Fridrik M Baldursson and Nils-Henrik von der Fehr Vertical Integration and Long-Term Contracts in Risky Markets. 35 pp.
No 26/06	Reyer Gerlagh, Snorre Kverndokk and Knut Einar Rosendahl Optimal Timing of Environmental Policy; Interaction Between Environmental Taxes and Innovation Externalities. 29 pp.
No 25/06	Tiziano Razzolini Study on labour supply when tax evasion is an option with Box-Cox functional forms and random parameters. 39 pp.

A complete list of this memo-series is available in a PDF® format at:
<http://www.oekonomi.uio.no/memo/>

Di Tommaso M.L.¹, Shima I.², Strøm S.³, Bettio F.⁴

**As bad as it gets:
well being deprivation of sexually exploited trafficked women⁵**

Abstract

The International Organization for Migration has collected data on trafficked individuals. The aim of this paper is to use the sub-sample of sexually exploited women in order to explore the relationship between their well being deprivation, their personal characteristics, and their working locations. We use the theoretical framework of the capability approach to conceptualize well being deprivation and we estimate a MIMIC (Multiple Indicators Multiple Causes) model. The utilized indicators measure abuse, freedom of movement, and access to medical care. This model also allows us to estimate the effects of some covariates on this measure of well being.

J.E.L: J16, C35, I32, O15 .

Keywords: Structural equation models, well being, capability approach, trafficking, Eastern and Western European countries.

¹ Corresponding author. Dept. of Economics and CHILD, University of Turin, via Po 53, Torino, 10124, Italy. Fax: +39 011 6703895, e-mail: marialaura.ditommaso@unito.it

² Dept. of Economics, University of Turin, via Po 53, Torino, 10124, Italy. Fax: +39 011 6703895, e-mail: shima@econ.unito.it

³ Dept. of Economics, University of Turin, via Po 53, Torino, 10124, Italy. Fax: +39 011 6703895 and Dept of Economics, University of Oslo, Blindern, PO Box 1095, Blindern 0317, Oslo, Norway. E-mail: steinar.strom@econ.uio.no

⁴ Dept of Economics, University of Siena, Piazza S.Francesco 7, 53100, Siena, Italy. Fax +39 0577 232661, e-mail: bettio@unisi.it

⁵ This research has been carried out thanks to a MIUR (*Ministero dell'Istruzione, della Università e della Ricerca*) research grant (*Progetti di ricerca cofinanziati*) for the year 2005 and 2006. We especially wish to thank the IOM Counter-Trafficking Unit and Theodora Suter, in particular, for granting us access to their data bank. IOM should not in any case be held responsible for what is contained in this paper. We would also like to thank the remaining participants to the projects for the collective discussions that have been a source of inspiration. Special thanks go to Tushar Nandi for his very competent data management.

**As bad as it gets:
well being deprivation of sexually exploited trafficked women**

Abstract

The International Organization for Migration has collected data on trafficked individuals. The aim of this paper is to use the sub-sample of sexually exploited women in order to explore the relationship between their well being deprivation, their personal characteristics, and their working locations. We use the theoretical framework of the capability approach to conceptualize well being deprivation and we estimate a MIMIC (Multiple Indicators Multiple Causes) model. The utilized indicators measure abuse, freedom of movement, and access to medical care. This model also allows us to estimate the effects of some covariates on this measure of well being.

J.E.L: J16, C35, I32, O15 .

Keywords: Structural equation models, well being, capability approach, trafficking, Eastern and Western European countries.

1. Trafficking in persons and economic theorizing

1.1 Definition of trafficking and exploitation

Trafficking in women has been estimated to generate \$ 12 billion a year, enough to be ranked just after trafficking in weapons and drugs (Bindel 2003; see also the recent UNODC report: UNODC 2006). Within economics, theoretical or empirical research on trafficking in human beings - its actors, market and institutional characteristics - is thin or non-existent, and lack of suitable data is a credible if not entirely genuine excuse.

This paper addresses this gap by analyzing working and living conditions of individuals that have reported to the Anti-Trafficking Unit of the International Organization for Migration (IOM henceforth) for assistance and have been identified as ‘victims of trafficking’ for the purpose of ‘sexual exploitation’. The International Organization for Migration has developed a Counter-Trafficking Module Database to collect information on victims of trafficking⁶. This database enables IOM to reconstruct the trafficking scenario by analyzing the situation of the victims before and during the exploitation. It also allows the IOM to better target the assistance programs and reintegration of the victims. Our research here is confined to the sub-sample identified as female victims of sexual exploitation.

Although the subject matter of the research is seemingly neat, ‘victims’, ‘trafficking’ or ‘sexual exploitation’ – are loaded terms over which there is no clear consensus in the literature. Contested semantics invariably signals differences in

theoretical and policy perspectives, whereby the same word hides different contours for the phenomenon under investigation as well as a different research and policy agenda.

According to the Palermo Protocol signed by 80 countries in December 2000 after two years of negotiation⁷:

“ ‘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. 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”. (Art. 3a, United Nations, 2000)

“The consent of a victim of trafficking in persons to the intended exploitation shall be irrelevant where any of the means set forth in article 3a have been used.” (Art. 3b, United Nations, 2000)

Many would agree that identifying those who have been trafficked is less problematic now thanks to this protocol. But while the definition agreed upon is found useful by opposite sides in the debate (Gallagher 2001), several issues remain unresolved. One such issue is whether sexual services should be recognized as labor services. In the effort to overcome the deep political division between those for

whom prostitution cannot be entered out of truly free choice because it always violates the human right to dignity and those who emphasize agency on the part of prostitutes and advocate full labor rights, article 3b of the protocol qualifies as ‘victims’ also those migrants that may have consented to prostitution in the first place, provided they were subjected to exploitative conditions at some point. At the same time, the Protocol gives each country the choice of whether or not prostitution should be considered as work and granted commensurate rights.

The consensus achieved by the Protocol on the irrelevance of the initial consent needs to be emphasized. Take the example of somebody agreeing to do sex work in a night club for a given wage and number of hours and under conditions of freedom of movement. If this initial agreement actually lead to a job where s/he does not have choice over clients, money or contraception and is not free to move, then the Protocol applies⁸. In other words, the consent of a victim of trafficking in persons to the intended exploitation is irrelevant where any of the ‘means’ identified in the Protocol’s definition of trafficking have been used. Indeed, in many human trafficking cases, there is initial consent or cooperation between victims and traffickers. This is followed by more coercive, abusive and exploitative actions on the part of traffickers (UNODC 2006).

One additional issue is what exactly constitutes sexual exploitation. Given that the Protocol does not settle the question of whether prostitution should be treated as work, it is hardly surprising that what constitutes sexual exploitation is also left undefined. GAATW (2001:31) reports that no agreement could be reached during the negotiations on the term ‘exploitation of the prostitution of others or other forms of exploitation’. Nor could expressions like ‘abuse of power’ or ‘other forms of coercion’ be further elaborated upon (O’Connell Davidson and Andersen 2006).

While the above issues are of general interest to any analysis of trafficking for sexual exploitation, the specific terms of the debate surrounding the Protocol are not central to the kind of analysis we pursue in this paper. For this reasons we shall hereafter use the terms sexually exploited victims of trafficked or trafficked sex workers interchangeably.

1.2 Economic theory and trafficking for sexual exploitation

Sexual exploitation within trafficking has received practically no attention from economists so far, despite its manifest economic importance, but three strands of economic analysis first come to mind for potential relevance, namely the economics of sex work, of migration and of crime. As we shall argue in this section, however, none is especially suitable to analysis of the IOM database while the capability approach by Amartya Sen asks some pertinent questions.

Start with the economics of sex work. A few explicit attempts at modeling prostitution are currently contributing to this area of enquiry. Orthodox economic theorizing views it as a 'service' freely supplied and demanded, with biology explaining why demand is mainly male and supply female (Posner 1992). A more recent attempt by Edlund and Korn (2002) acknowledges specificity for this 'service' in the guise of a social stigma that separates two markets, the prostitution market and the marriage market. Lack of mobility between the two markets - married women are discouraged from entering prostitution and prostitutes are not acceptable marriage candidates - increases fees for sexual services to the point that lifetime 'gains' from prostitution become equivalent to the lifetime gains from marriage.

Some authors (Della Giusta et al 2007a, Della Giusta et al 2007b, Di Tommaso 2007a) have recently advocated that supply of sex work is rooted in the lack of economic alternatives and that prohibitionist policies, both on the supply and the demand side, worsen working conditions and health of workers in this sector. Della Giusta et al. (2007b) presents an economic model of prostitution, which makes no restrictive assumptions regarding the gender, pay, and nature of forgone earning opportunities of prostitutes and clients, and applies the same behavioral hypotheses to both. Their model gives a central role to stigma and reputation effects for both clients and prostitutes. Stressing the importance of income inequality, it predicts the current over-representation of women among suppliers and men among demanders without the need for biological determinism.

Key issues in this literature are the feminization of sex work, segmentation between the marriage and the sex market, the prices of sexual services, the importance of limited economic opportunities and the role of legislation. Most of these issues are equally relevant to the analysis of sexual exploitation within trafficking. However, some are not sufficiently well documented in the IOM dataset: e.g., questions asking the average fee per client report many missing, while the time span of the data is too short to consider analyzing the impact of (change in) the legal treatment of sex work in origin or destination countries. Other issues, like limited economic opportunities or life-time gains from sex work would have to be recast in terms of the decision to migrate and with reference to economic settings permeated by criminal markets in order to become meaningful in the context of trafficking.

The economics of crime and that of migration are potential sources of inspiration in this latter respect. The former is a growing and differentiated field

where, following the seminal contributions by Becker (1968) and Ehrlich (1973), the core question is individual ‘choice’ between legal and illegal activities based on the comparison between net gains in the respective activities⁹. Akerlof and Yellen (1994) broadened this comparison to include considerations of community values and personal identity that may be especially relevant when the illegal activity is sex work. Migration models are built upon a different comparison involving wage differentials, employment differentials or, more broadly, living standard differentials between origin and destination countries.¹⁰ Both strands of theorizing offer suggestions for conceptualizing the risk of falling into trafficking once it is recognized that asymmetric information considerably distorts knowledge about the risks and prospects of available opportunities from migration¹¹ and interacts with other local factors - like poor employment opportunities – to raise the potential gains accruing to traffickers.

Neither strand of literature, however, has much to say about what goes on when the risk of trafficking has already materialized into an exploitative situation that may bear little relation to the initial ‘choice’ of migrants, e.g. when a woman is promised employment as waiter and is later forced to prostitution, or when she accepts sex work expecting to be able to retain at least part of the earnings and she is later denied this right. This is the stage at which we can investigate trafficking for sexual exploitation using the IOM data, and at this stage room for choice may be so restricted that the utility maximizing behavior which drives these models loses cogency. By contrast, questions about what may influence the working and living conditions of these trafficked sex workers become relevant and can be fruitfully put to these data since they have inspired the data collection in the first place.

We believe that Sen's capability approach (Sen 1992, 1999) is both theoretically relevant for this type of investigation and sufficiently flexible to overcome the limitations in the data. In fact, given the difference between a sex worker and a person who has been trafficked for sexual exploitation, and given the limitations of the data, we limit our analysis to well being deprivation. Within this framework it is possible to analyze the well being deprivation of individuals in terms not only of their income losses but in terms of some basic aspect of life that are relevant for trafficked women: freedom of movement, access to medical care, security from violent assault. These three aspects have been included in most capabilities lists (see Nussbaum 1999, Robeyns 2003). Nussbaum defines them as follows:

Bodily Integrity : *“Being able to move freely from place to place; to be secure against violent assault, including sexual assault and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction.”* (Nussbaum, 1999, pg 41).

Bodily Health : *“Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter”* (Nussbaum, 1999, pg 41).

Robeyns (2003 pg 71) provides similar definition for these capabilities: *“Life and physical health: being able to be physically healthy and enjoy a life of normal length; Bodily integrity and safety: being able to be protected from violence of any sort.”*

Anand and Santos (2006) also analyze these capabilities showing evidence of their importance in assessing well being for British women. In particular they explore gender inequalities in the causes, experiences and consequences of violent

crime. Measuring not only experienced violence, but also feelings of fear and vulnerability to future experiences of violence, they show how these two types of variables interact and how they impact on well being.

This paper has three aims: first, to identify a theoretical framework to analyze well being deprivation of trafficked individuals; to verify how well the theoretical framework fits the data; to understand how deprivation is influenced by personal characteristics of the victims (their previous work experience, their education, their background characteristics) and some characteristics of the job (work location, the use of condoms).

In order to pursue our purposes, we estimate a Structural Equation Model for well being deprivation. Well being in this model is considered an unobserved variable of which it is possible to observe some indicators (abuse, freedom of movement, access to medical care). This model allows us to estimate the impact of some covariates on the unobserved construct well being. Previous papers which utilize Structural Equation Models to estimate well being within a capability framework include Ballon and Krishnakumar (2006) and Di Tommaso (2007b). The first paper uses SEM to estimate the capability of being able to be educated and to be adequately sheltered on Bolivian data. The second paper estimate the well being of Indian children (defined over malnutrition, schooling and work indicators).

2. Description of the IOM data set

2.1. Description of the IOM assistance program

Data in IOM dataset are collected from IOM field missions based on two standardized questionnaires. The first questionnaire is administered to all individuals applying for assistance and is used for screening. Applicants admitted

to the assistance program are administered the final questionnaire which includes all the questions from the screening questionnaire plus additional information. Information concerns demographic characteristics, socio-economic and family background, recruitment and trafficking process, type of exploitation in the destination country, work and pay conditions while trafficked, and current health conditions. We chose the data set provided by the assistance interviews because the screening interviews did not provide enough information about personal characteristics of the victims.

The data set has two main limitations for econometric analysis.

The first one is the selection of the individuals in the sample. Because data comes from IOM field missions, it is not a representative sample of the population of trafficked individuals. Individuals come from the countries where the IOM missions were located. Moreover, individuals in the program may have on average different characteristics from the individuals who did not enter into IOM program; one obvious example of this possible bias is the high level of education of women (6% have a university degree). More educated women could find easier to report the traffickers relative to the less educated. The second major problem with the data is the frequency of missing values that reaches 50 percent or above for some 'sensitive' questions.

As far as the first problem is concerned, we note that we are dealing with trafficking i.e. with a crime and it would be impossible to have a representative sample of the population. Nevertheless in order to explore the potential self selection bias we estimate the model both on the total number of observations and on two sub-samples: One sub sample include only self-reporting women; the other include women who were deferred to the IOM program either by the police or by

NGO's. The splitting of the data according to how the victim was freed provides some indications on the possible selection bias and on the heterogeneity contained in the data. Respect to the second problem, we note that, due to heterogeneity and self selection, missing data imputing techniques would have introduced more biases in the data.

2.2. Description of the sub-sample of sexually exploited women

The complete data set include individuals who were trafficked for sexual exploitation (86 per cent), for forced labor (11 per cent), and other forms of exploitation (3 per cent); of the sexually exploited individuals, 89 per cent are women and 11 per cent men (see Table 1). In our analysis we select the sub-sample of sexually exploited women. The reason for this choice relies on the large number of missing variables for males¹².

Table 1 approximately here

The majority of IOM assisted victims had been trafficked for sexual exploitation out of their own country¹³, originating from ex-Soviet Union, Eastern and Balkan countries and have been found working in one of the following destinations: Italy, Greece, Spain, Portugal, Lebanon, Israel, Turkey, Syria, Albania, Bosnia, Romania, Bulgaria, Croatia, Macedonia, Moldavia, Serbia & Montenegro, Slovenia, Armenia, Georgia, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Uzbekistan, Lithuania, Iran, Azerbaijan, Belarus, Ukraine (see Appendix 1 for details).

Table 2 shows the personal characteristics of the victims. 54 per cent of the women are between 20 and 30 years old. A surprising large number had children

(34 per cent), more than expected on the basis of marriage status: only 25 percent reported being partner in a relation, married or divorced. The educational level is not low. Although the majority of victims had not gone beyond middle/trade school, a non negligible 25 percent had completed high school and 6 percent had received college/ university education.

Table 2 approximately here

Table 3 reports the economic status of the family and own occupational status prior to being trafficked: 59% of trafficked female sex workers declared to come from a poor family, despite the fact that the vast majority of participants were employed prior to departure. However, the average level of declared monthly earnings did not exceed 52 US dollars per month, which is in sharp contrast to the average amount of money for which they were sold, i.e. 4,659 US dollars. Both these figures must be taken with great caution given that not all answered either questions.

Table 3 approximately here

Table 4 describes the recruitment and the trafficking process. The vast majority of them had been recruited via personal contacts (84 percent) while television or internet advertisements accounted for an additional 7 percent. 5 percent were kidnapped and less than 1 percent had been sold by family members. In most of the cases the recruiters offered the victims the opportunity to find a job abroad in the hope to attract them. More than half of the recruiters were strangers

(53 percent of valid answers) whereas friends made up more than a quarter (29 percent). The gender composition of the recruiters was fairly balanced with 46 percent females and 50 percent were males (with 4 percent not identified gender). The typical work being offered was domestic help/ babysitter (28 percent), followed by selling/waitress/sweatshops (24 percent) and with dancer. A non negligible share declared being explicitly offered sex work (9 percent). A small but non negligible group of victims had been trafficked more than once (9 per cent).

Table 4 and 5 approximately here

Table 5 describes some characteristics, attitudes and conditions of trafficked sex workers and their clients . Most sex workers reported civilian and local clients as opposed to police, military or international, although the reported incidence of the latter is not negligible. Almost half of them worked in bar and nightclubs (48 percent), 12 per cent worked in the streets, 11 per cent worked in private houses and apartments, 7 per cent in sauna or massage parlors; only a small share (4 percent) was employed by call-girl and escort agencies.

The majority of victims, often the vast majority of them, reported being denied basic working rights (Tables 5). The overwhelming majority was denied any freedom of choice over clients (96 percent) or over sexual services (88 percent). Furthermore, more than half were allowed to use condoms regularly, the remaining half being entirely or partially denied this option (9 and 40 percent, respectively).

Table 6 provides information about sexual exploitation in the destination country. Freedom of movement was granted to a tiny minority (6 percent) , while the vast majority had none (58 percent) or could move only if accompanied (36

percent). More than 82 percent of trafficked sex workers had been abused, the most frequent types of abuse being, in order of importance, denial of food and medical care (35%), physical assault (31 percent), and sexual assault/rape (17 percent). The percentage of clients being abusive is not negligible since 11 percent of the abusers belonged to the category “clients”. At the same time, 5 percent of the clients actively contributed to free the sexually exploited victims (see Table 4). However, most participants had freed themselves by escaping and soliciting assistance to the authorities (31%) or thanks to the intervention of NGOs (29 percent) and law enforcement agents (26 percent).

Insert Table 6 and 7 approximately here

The reported working schedule also depicts an alarming picture. Table 7 shows that trafficked sex workers worked on average 7 days per week and 13 hours per day, serving on average 5 clients per day. Customers were charged 94 US dollars on average, with only 10 percent of them being asked to pay more than 150 US dollars. However, fees were reported by only 235 interviewees.

3. The MIMIC Approach

3.1 Introduction

The MIMIC approach (Multiple Indicators and Multiple Causes) is our approach to understanding how the life conditions of sexually exploited trafficked women is affected by their personal characteristics, their background condition, and their working locations.

This modeling approach allows us to consider well being as a latent construct of which we observe only few dimensions. The principal advantage of this approach is that it does not rely on exact measurement of well being. Each indicator represents a noisy signal of well being. This modeling strategy has been extensively used in psychometrics and more recently in econometrics (see for example Di Tommaso, M.L et al. 2007), and is founded upon the specification of a system of equations which establishes the relationship between an unobservable latent variable (well being), a set of observable endogenous indicators and a set of observable exogenous variables (which are believed to be the causes of well being).

This approach builds upon the early work of Joreskog and Goldeberger (1975) and Zellner (1970) and has been formalized in the LISREL (Linear Structural Relationships) model of a set of linear structural equations. An excellent review of the literature is to be found in Bentler and Weeks (1980) and Aigner, Hsiao, Kapteyn, and Wansbeek (1984), and Wansbeek and Meijer (2000).

For the purposes of this paper we assume that well being is captured by 3 indicators, respectively psychological or physical abuse, freedom of movement and access to health care. As noted in section 1.2 we use these components in the data because they are measures of fundamental capabilities: the capability of bodily health and the capability of bodily integrity. Other measures of well being available in the data, like for instance the freedom of choosing her own clients or the percentage of money they could retain for each transaction, contain too many missing values to be used in this model (see Table 5 and 7).

In addition we would like to determine the impact of *causes* on the well being of these women. The MIMIC approach allows us to think of this model as comprising two parts: a structural equation for well being (which relates the latent

variable well being to the causes) and a measurement equation that takes into account that there is no single variable called well-being. For each of the indicators chosen to represent the latent construct well being, a weight (a factor loading) will be estimated. This weight represents how much that specific functioning counts in explaining well being relative to other functioning.

3.2 Model Specification

The structure of the model is as follows:

$$Y = \Lambda^Y Y^* + \varepsilon, \quad (1)$$

where $Y = (Y_1, Y_2, Y_3, \dots, Y_m)$ is a vector with m elements representing an unobserved independent indicator of well being, denoted Y^* . $\Lambda^Y = \{\Lambda^Y_1, \Lambda^Y_2, \Lambda^Y_3, \dots, \Lambda^Y_m\}$ denotes a $m \times 1$ parameter vector of factor loadings, with each element representing the expected change in the respective indicators following a one unit change in the latent variable. ε is a $m \times 1$ vector of measurement errors, with Θ_ε denoting the covariance matrix.

In addition we posit that well being is linearly determined by a vector of observable exogenous variables $x = (x_1, x_2, \dots, x_s)$ and a stochastic error ζ giving,

$$Y^* = x' \gamma + \zeta \quad (2)$$

where γ is a $s \times 1$ vector of parameters.

Examining (1) and (2) we may think of our model as comprised of two parts: (2) is the structural equation and (1) is the measurement equation reflecting that the

observed measurements are imperfect indicators. The structural equation specifies the casual relationship between the observed exogenous causes and well being. Combining (1) and (2) the reduced form representation is written as

$$Y = \pi x + v \quad (3)$$

where $\pi = \Lambda^Y \gamma'$ is the $m \times s$ reduced form coefficient matrix and $v = \Lambda^Y \zeta + \varepsilon$ is the reduced form disturbance.

4. Description of the data set used for the estimation

As we mentioned earlier, our model assumes that well being is captured by 3 indicators: the first one is a measure of abuse, either psychological or physical. This variable takes value 0 if the victim was abused and value 1 otherwise. The second indicator is a measure of their freedom of movement i.e. how free the trafficked sex worker were to move, if their passport had been retained by the traffickers, if they could go out at all or partially. This variable is constructed as a categorical indicator taking value 0 if freedom of movement is totally denied, value 1 if they could move only accompanied and value 2 if there were no restrictions and they were free to move. The third indicator is a measure of access to medical care services. This is also a categorical indicator as the original variable and is ordered from value 0 to 3. It takes value 0 if the access to medical care is totally denied, value 1 if only in emergency occasions, value 2 if the access to medical care is only occasional and it takes value 3 if the access to health services is regularly. Tables A2, A3 and A4 in Appendix 2 report details.

In addition we would like to determine the impact of *causes* on the well being of these women. The observed exogenous causes of well being include variables measuring personal characteristics, family economic status, previous work experience and actual working location.

Marital status is among the personal characteristics included as observed exogenous cause. This is a dichotomous variable, taking value 0 if the victims are not married and takes value 1 if the victims are married or co-habiting. Having children or not is included among the causes of the well being.

Previous work experience in the country of the origin is a dichotomous covariate taking value 0 if the person has no work experience and value 1 otherwise.

Education is included as a categorical variable. The high level of education takes value of 1 if the victims has either a college/university degree or a high school degree; 0 otherwise. Middle education is equal 1 if the victims has a middle school or a trade/technical school degree; 0 otherwise. Primary school dummy is equal 1 if the victim attended primary school, 0 otherwise.

Family economic status is also categorical and is transformed into a dichotomous variable. It takes value 0 for categories poor and very poor and value 1 for the categories standard and well-off.

The working location of trafficked sex workers is represented by 4 dummies of work location. The dummy “bar” includes girls working in bars and Escort/Call-girl agencies; “street” relates to working in the street; “hotel” includes hotels, motels and Sauna/massage. Finally the dummy “apartment” includes private houses/apartments.

We estimate two specifications. Specification 2 adds the variable “frequency of condom use” to the covariates. This variable is categorized following an ascending order and takes value 0 if the sex worker never uses condoms, value 1 if the use of condoms is not regular, value 2 if the use is regular and value 3 if condoms are always used.

5. Empirical estimates

We have estimated the model described in Section 3 on the data set described in Section 4. The main regression results are presented in Table 8. The top of the table records regression coefficients for different specification of the structural equation and reports both simple and standardized coefficients¹⁴. The latter allows us to directly compare the relative contribution of different determinants of well being.

(Table 8.a and 8.b approximately here)

The second part (Table 8.b) presents estimates of the factor loadings for each of the components of well being in the measurement equation, together with R-square statistics for each sub-components separately, showing how closely the model fits each of the indicators.

Specification 1: Having had previous working experience as well as coming from a relatively well off family have a positive and significant coefficient on “Well being”. Education has a negative effect (the base category is low education). This result may seem counterintuitive. In order to further explore the issue, we have run

a regression on the small sub sample of women (184) who reported their charge per client (see Table A4 in Appendix 2 for the descriptive statistics of this sample).

Regressing the variable charge per client on the same exogenous variables of our MIMIC model we find that education has a positive and significant effect on the earnings of these women. This suggests that traffickers may seek to have a higher control (give less freedom and abuse more) over women with a higher education because the latter yield higher returns. The interpretation is that to the higher educated the less freedom is given to the trafficked women by the trafficker for two reasons: The traffickers like to keep a better control of the best paid trafficked women, and the higher educated trafficked woman is more likely to have higher desires and better opportunities to escape the trafficker than the lesser educated if not kept under strict control.

Table 9 approximately here

Other interesting results concern the working location. The estimates show that the more trafficked sex workers operate in secluded spaces the worse off they are. The coefficients for working location are positive with increasing values as we move from the apartments (base category), to hotels, to bars and night clubs, to the streets. These results confirm many other studies that have looked at the consequences of criminalization policies (see among others, Day and Ward 2004, Collins 2004, Della Giusta et al 2007). Whenever sex work has been criminalized, sex workers have been moved to more secluded places with the consequences of being more exposed to different kind of risks: assault, fraud, control and lack of freedom.

Specification 2 includes the variable for condom use: the use of condom contributes significantly to the well-being of sex workers per se. The standardized coefficient shows that this is the second largest effect on well being (after working in bars). While our findings imply that the use of condoms improves well being of sex workers, empirical studies have shown that sex workers are strongly discouraged to use them: Rao et al (2003) found that the compensating differential for condom use was between 79 and 66 per cent among sex workers in Calcutta, India. Our results stress the importance of policies to encourage the use of condoms among sex workers.

Table 8.b reports the estimated weights for each of the components of well being in the measurement equation¹⁵. It shows that access to medical care has the highest weight in the underlying measure of well being, while the lowest weight accrues to freedom of movement.

As far as the squared multiple correlation for the variables is concerned, it indicates to what extent the common factor account for the variance of each indicator or how closely the model fits each indicator. Measures of fit are better for Specification 1 with R-squared closer to 1, with the highest measure of fit for access to medical care, followed by abuse and freedom of movement. Specification 1 is thus our preferred specification for drawing policy conclusion.

In order to explore the issue of heterogeneity and self-selection bias in our data, we split the sample in two sub-samples according to the variable “ How the victim was freed” (see Table 4, last variable). We define a victim as self-reporting if she was freed by herself, by a friend, by family, by clients. If she was freed by NGO’s or Law enforcement, we define her as non-self reporting. The idea here is to

try to understand if self reporting victims are different from non self reporting victims.

Looking at the descriptive statistics of the two sub-sample (Table A3 in Appendix 2), we note that self-reporting victims are on average more abused, less free, have less access to medical care than non self-reporting . They are on average better educated, one year older, more are married, working more in streets, hotels, apartments, less in bars.

Table 10a and 10b report MIMIC estimates for the two sub-samples. It is interesting to note that high education is now only significantly different from 0 for self-reporting women. The interpretation we gave above regarding the negative effect of education on well being is reinforced because women with high education have a stronger incentive to escape and self report.

The sub-group who was deferred to the IOM by NGO's and police intervention did not completely select themselves into the sample and therefore may have characteristics which are closer to the one of the total population¹⁶.

For both sub samples and both specifications, working in the street has a positive and significant effect on well being. This result is therefore very robust in all the specifications. For self reporting women, also working in bars relative to working in apartment has a positive and significant effect. Our interpretation is that the most deprived and better educated women reported themselves to IOM because they had a stronger incentive and better means to escape. Within this group the individuals working in apartment and hotels were the worst off.

In addition, we note that not coming from a poor background has a positive effect on well being if the victim belongs to the self-reporting group. This may

imply a positive correlation between the family economic background and the probability of self-reporting.

Analyzing the estimates of the loadings for each components of well being (Table 10b) we notice that for self reporting women, access to medical care is still the most important variable in the latent construct well being. For the non self reporting women, instead, the most important variable is freedom of movement.

6. Conclusion

Trafficking for sexual exploitation is a very well known crime, the extent of which is object of investigation of most governments. As part of its program to protect victims of trafficking, the International Organization for Migration collects data on those victims who enter the program. This paper has three aims: first, to identify a theoretical framework to analyze well being deprivation of trafficked individuals. Second to verify if the theoretical framework fits the data. Third to understand how well being deprivation can be alleviated, looking at some personal characteristics of the victims (their previous work experience, their education, their background characteristics) and some characteristics of the job (work location, use of condoms).

We use the theoretical framework of the capability approach to conceptualize well being deprivation and we estimate a MIMIC (Multiple Indicators Multiple Causes) model. Well being is an intrinsically unobservable variable of which we can only observe some indicators that are measured with errors. Our indicators measure abuse, freedom of movement, and access to medical care. We find that the model fits the data with all indicators having similar “loadings” on the latent variable well being, but access to medical care has the highest loading. This model

also allows us to estimate the effects of some covariates on this measure of well being. Working in apartments or in secluded spaces has a negative effect on well being with respect to working on the street. Having a previous working experience and coming from a relatively well off family have a positive effect on well being of trafficked women. The effect of education is negative. Our interpretation is that women with higher education are more profitable to the traffickers than uneducated women, and they also tend to be kept in secluded spaces. As a consequence their freedom of movement is more constrained. We find support for this interpretation because education has a strong positive effect on charge per client.

The major drawback of this work is possible self selection bias. Individuals in the survey are only those who voluntarily reported their traffickers to the IOM for assistance or were referred to IOM by other organizations (police or NGO's). Although the sample is large, we cannot, therefore, exclude that their characteristics differ from those of non-reporting women. In order to investigate into this issue we have split the sample in two sub-sample according on how the victim was freed. These further results confirm the previous conclusions regarding the role of education and work location.

Bibliography

Akerlof, G., & Yellen, J. L. (1994). Gang Behavior, Law Enforcement, and Community Values. In *Values and Public Policy*, edited by Aaron H. J, T. Mann and T. Taylor, Brookings, Washington.

Akerlof, G.,& Kranton, R. (2000). Economics and Identity. *Quarterly Journal of Economics*, 115(3), 715-753.

Aigner, D. J., Hsiao, C., Kapteyn A., & T. Wansbeek (1984). Latent Variable Models in Econometrics. *Handbook in Econometrics*. ed. by Z. Griliches, and M.D. Intriligator, vol. II, pp 1323-1393. North Holland, Amsterdam.

Anand, P., & Santos, C. (2006). Violent Crime, Gender Inequalities, and Life Satisfaction. Probits Models and Evidence from a British Capabilities Survey, *mimeo*. Open University.

Bentler, P.M., & Weeks, D.G., (1980). Multivariate Analysis with Latent Variables. *Handbook of Statistics*. ed. by P.R. Krishnaiah, and L.Kanal, pp 747-771, North Holland, Amsterdam.

Becker, G. S., (1968). Crime and Punishment: an Economic Approach. *The Journal of Political Economy*. Vol. 76, No. 2, 169-217.

Bindel, J., (2003). Tacking the Traffickers. *Guardian*, 12 August

Collins, A. (2004). Sex and the City. *Urban Studies*, vol 41, no.9.

Della Giusta, M., Di Tommaso, M.L., Shima, I., Strom, S. (2007a). What money buys: clients of street sex workers in the US. *Applied Economics*.Forthcoming.

Della Giusta M., Di Tommaso, M.L., Strom, S. (2007b). Who's Watching? The Market for Prostitution Services. *Journal of Population Economics*. Forthcoming.

Day, S., & Ward, H., (2004). Sex Work, Mobility and Health in Europe. Kegan Paul Limited, USA.

Di Tommaso, M.L. (2007a). Book Review of Sex Work, Mobility and Health in Europe. (eds Sophie Day and Helen Ward). *Feminist Economics* 2007. Forthcoming.

Di Tommaso, M.L., (2007b). Measuring the Well Being of Children using a Capability Approach. An application to Indian data. *Journal of Socio Economics*. Forthcoming.

Di Tommaso, M.L., Raiser, M., Weeks, M., (2007). A Structural Model of Institutional Change: Evidence from Transition Economies. *Economic Journal*. Forthcoming.

Edlund, L., & Korn, E., (2002). A Theory of Prostitution. *Journal of Political Economy*. 1:181-214

Ehrlich, I., (1973). Participation in Illegitimate Activities: A Theoretical and Empirical Investigation. *The Journal of Political Economy*. 81. XXXX.

Ehrlich, I., (1996). Crime, Punishment and the market for Offenses. *Journal of Economic Perspectives*, 10 (1): 43-67.

GAATW (2001). Human Rights and Trafficking in Persons: A Handbook GAATW. Bangkok.

Ghallagher, A., (2001). Human Rights and the new UN Protocols on Trafficking and Migrant Smuggling: A Preliminary Assessment. *Human Rights Quarterly*, 23, 975-1004.

Joreskog, K. G., & Goldberger, A. S., (1975). Estimation of a Model with Multiple Indicators and Multiple Causes of a Single Latent Variable. *Journal of the American Statistical Association*, 70, 631-639.

Krishnakumar, J., & Ballon, P., (2007). Estimating Basic Capabilities: A Latent Variable Approach Applied to Bolivian Data. *Mimeo*, University of Geneve.

Nussbaum, M.C., 1999. *Sex and Social Justice*. Oxford University Press. New York.

O'Connell Davidson, J., & Anderson, B., (2006). The Trouble with 'Trafficking'. *Trafficking and Women's Rights*. edited by van den Anker C.L. and J. Doornick, Palgrave (Macmillan). UK.

Posner, R., (1992). *Sex and Reason*. Harvard University Press, Cambridge MA.

Rao, V., Gupta, I., Lokshin, M., & Jana, S. (2003). Sex Workers and the Cost of Safe Sex: The compensating Differential for Condom Use among Calcutta prostitutes, *Journal of Development Economics*, Vol 71, pp 585-603.

Robeyns, I., (2003). Sen's Capabilities Approach and Gender Inequalities: Selecting Relevant Capabilities. *Feminist Economics* 9, 2-3, 61-92.

Sen, A. (1992). *Inequality re-examined*, Oxford University Press.

Sen A. (1999). *Development as Freedom*, Oxford University Press.

Stark, O (1991). *The migration of Labor*, Cambridge: Basil Blackwell

Todaro, M., (1976). *International Migration in Developing Countries*, Geneve: I.L.O.

United Nations. (2000). Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children.

UNODC (2006). Trafficking in Persons: Global Patterns. UNODC, Vienna.

Venturini, A. (2004). Postwar Migration in Southern Europe: 1950-2000. Cambridge University Press, Cambridge, UK.

Zellner, A. (1970). Estimation of Regression Relationships Containing Unobservable Variables. *International Economic Review*, 11, 441-454.

Wansbeek, T., & Meijer, E. (2000). Measurement Error and Latent Variables in Econometrics. North Holland, Elsevier Science, The Netherlands.

Table 1. Trafficked individuals by gender and type of exploitation in the IOM data set.

	Female	%	Male	%	Total	%
Forced labor	430	8,4	230	27,9	660	11,1
Sexual Services	4559	89,0	560	68,0	5119	86,2
Other	128	2,5	33	4,0	161	2,7
Total	5117	100	823	100	5940	100

Table 2. Sexually exploited trafficked women: Personal characteristics (Total number of observation 4559)

Trafficking	internal	27,3%
	international	72,7%
	total	4211
Age	less than 9	0.1%
	>9&<=20	37,0%
	>20&<=30	54,4%
	>30&<=40	7.4%
	>40	1.1%
	total	4533
Marital status	cohabiting/married	13,2%
	divorced	11,4%
	single	68,5%
	other	6,9%
	total	3368
Children	no	65,8%
	yes	34,2%
	total	3472
Education	college/univ	5,9%
	high school	24,6%
	middle/trade school	30,0%
	primary school	17,5%
	other	20,1%
	none	2,0%
	total	3312

The number of observations for each variable changes because of the exclusion of missing values.

Table 3. Sexually exploited trafficked women: Economic profile

Family economic status	Poor	59,1%
	Standard	20,1%
	Very poor	20,5%
	Well of	0,2%
	Total	2857
Occupation at home	Agriculture	1,6%
	Domestic	2,8%
	Industry	4,0%
	Private/public	78,6%
	Self-employment	5,3%
	Sex industry	1,2%
	Other	6,5%
Previous salary	Total	1765
	Monthly/us\$	51,5
Amount sold	Total	1305
	US\$ total	4659
	Total	721

The number of observations for each variable changes because of the exclusion of missing values.

Table 4. Sexually exploited trafficked women: Recruitment characteristics.

How recruited?	Kidnapped	5,4%
	Internet/newspaper/TV	7,4%
	Sold by family	0,5%
	Personal	84,1%
	Other	2,5%
	Total	3103
Gender of the recruiter	Both	4,4%
	Female	45,6%
	Male	50,0%
	Total	3361
What was offered (answers here include kidnapped people)	Job	84,7%
	Marriage	1,7%
	Study	0,1%
	Turism	6,2%
	Other	7,4%
	Total	3497
Type of job offered	Agriculture	2,1%
	Domestic help/babysitter	28,0%
	Dancer	23,8%
	Sex worker	8,5%
	Selling/sweatshop/waitress	24,6%
	Other/begging	13,0%
	Total	1733
Relationship with the recruiter	Business	0,5%
	Partner	2,7%
	Family/relative	3,3%
	Friend	29,3%
	Stranger	53,1%
	Pimp	0,7%
	Other	10,3%
	Total	3018
Knew were sold	No	42,7%
	Yes	57,3%
	Total	2633
Victim of trafficking Before this occasion	No	90,7%
	Yes	9,3%
	Total	1857
How was freed	Client	5,3%
	Family	1,3%
	Friend	0,9%
	Law enforcement	26,0%
	NGO	29,5%
	Self	31,2%
	Other	5,9%
	Total	3332

The number of observations for each variable changes because of the exclusion of missing values.

Table 5. Sexually exploited trafficked women: Characteristics of the job.

Clients	
Mainly internationals	7.9
Mainly locals	73.5
Other	18.6
Total	1,605 = 100.00
Occupation of clients	
Civilians	55.2
Military	4.2
Other	31.9
Police	8.7
Total	620 = 100.00
Type of working location	
Bars/Nightclubs	47.9
Escort/Call-girl agencies	3.6
Hotels	2.4
Motels	3.2
Other	12.9
Private houses/Apartments	10.8
Sauna/Massage parlors	7.2
Streets	11.9
Total	2,499 = 100.00
Allowed to use condoms?	
At all times	5.6
Never	8.5
Not regularly	39.9
Regularly	46.0
Total	2,250 = 100.00
Freedom of choice, over client?	
None	96.3
Partial	3.0
Yes	0.6
Total	627 = 100.00
Freedom of choice, over sex services?	
None	88.0
Partial	6.2
Yes	5.7
Total	609 = 100.00

The number of observations for each variable changes because because of the exclusion of missing values.

Table 6. Sexually exploited trafficked women: Deprivation of the victims.

Medical care	Denied	58.1%
	Occasional	18.0%
	Only in emergency cases	16.2%
	Regular	7.7%
	Total	2408
Abuse	No	17,9%
	Yes	82,1%
	Total	3059
By whom abused	Clients	10.7%
	Pimp	20.8%
	Supervisor	24.1%
	Other	44.3%
	Total	2264
Nature of abuse	Physical assault	31,1%
	Psychological abuse	8,5%
	Sexual assault/Rape	17,4%
	Threats	6,5%
	Other/denial of med.care, food	35,5%
	Total	1644
Freedom of movement	No restrictions	6.4%
	Only accompanied	35.8%
	Totally denied	57.8%
	Total	3014

The number of observations for each variable changes because of the exclusion of missing values.

Table 7. Sexually exploited trafficked women: Monetary terms of the exploitation

	Obs	Mean	Std. Dev.	Min	max
Number of customers/day	1521	5.157	4.68	1	40
Average charge per client (US \$)	235	94.31	116.27	0.02	1000
Amount allowed to keep per day	72	78.60	162.15	0.25	1000
Days worked per week	830	6.88	0.65	1	7
Hours worked per day	632	13.11	4.99	1	24

The number of observations for each variable changes because of the exclusion of missing values.

Table 8.a. Sexually exploited trafficked women: MIMIC MODEL
Regression Coefficients of the structural equation: γ

	Specification 1		Specification 2	
	Estimates	Standardised coefficient	Estimates	Standardised coefficient
Age	-0.010 (0.014)	-0.015	-0.004 (0.013)	-0.008
Married	-0.053 (0.162)	-0.031	-0.048* (0.149)	-0.036
Children	-0.165 (0.128)	-0.095	-0.111 (0.116)	-0.083
Work Experience	0.489 * (0.132)	0.280	0.381* (0.119)	0.287
Middle Education	-0.275 * (0.136)	-0.157	-0.232 (0.126)	-0.175
High Education	-0.442 * (0.160)	-0.253	-0.372* (0.149)	-0.280
Not poor	0.446 * (0.139)	0.255	0.323* (0.124)	0.243
Work location: street	0.965 * (0.256)	0.552	0.741* (0.226)	0.558
Work location: bars	0.926 * (0.222)	0.530	0.524* (0.180)	0.395
Work location: hotels	0.313 * (0.207)	0.179	0.175 (0.184)	0.132
Condom			0.410* (0.094)	0.309
Number of Obs.	1263		1092	

Standard errors in parenthesis. * Significant at 5% level. The base category is low education, working in apartments.

Table 8.b. Sexually exploited trafficked women: MIMIC MODEL
Estimates of the “loadings” for each of the components of Well Being in the measurement equation Λ^Y

	Specification 1		Specification 2	
	Estimates	Std.coef	Estimates	Std.coef
Abuse	1	0.868	1	0.799
Freedom of movement	0.964 * (0.181)	0.860	1.135* (0.246)	0.833
Access to medical care	1.328 * (0.311)	0.918	1.509* (0.376)	0.895

Squared Multiple correlation for Y variables – R²

	Specification 1	Specification 2
Abuse	0.753	0.638
Freedom of movement	0.739	0.694
Access to medical care	0.843	0.801
Latent variable “Well Being”	0.860	0.839

Standard errors in parenthesis. * Significant at 5% level.

Table 9. Sexually exploited trafficked women: OLS estimation of the logarithm of charge per client

Age	-0.009 (0.017)
Married	-0.002 (0.191)
Children	-0.037 (0.154)
Work Experience	0.036 (0.140)
Middle Education	0.479* (0.173)
High Education	0.449* (0.195)
Not poor	-0.065 (0.157)
Work location: street	-0.227 (0.193)
Work location: bars	0.499* (0.167)
Work location: hotels	-0.336 (0.218)
Constant	3.807* (0.374)
Number of Obs.	184
R ²	0.25

Standard errors in parenthesis. * Significant at 5% level.

Table 10.a. Sexually exploited trafficked women: MIMIC MODEL
Regression Coefficients of the structural equation: γ

	Specification 1 Self reporting ind.	Specification 1 Non-self reporting ind.	Specification 2 Self reporting ind.	Specification 2 Non-self reporting ind.
Age	-0.017 (0.024)	0.002 (0.017)	0.005 (0.016)	-0.004 (0.015)
Married	0.221 (0.261)	-0.288 (0.212)	0.059 (0.183)	-0.192 (0.197)
Children	-0.097 (0.218)	-0.224 (0.156)	-0.130 (0.156)	-0.074 (0.138)
Work Experience	0.349** (0.213)	0.554* (0.164)	0.254 (0.158)	0.407 (0.148)
Middle Education	-0.345 (0.252)	-0.163 (0.151)	-0.345** (0.201)	-0.046 (0.136)
High Education	-0.657* (0.312)	-0.254 (0.175)	-0.572* (0.262)	-0.168 (0.157)
Not poor	0.764* (0.281)	0.157 (0.147)	0.461* (0.205)	0.090 (0.132)
Work location: street	0.955* (0.418)	0.820* (0.337)	0.564** (0.303)	0.535* (0.279)
Work location: bars	1.310* (0.430)	0.337 (0.245)	0.650* (0.284)	-0.020 (0.205)
Work location: hotels	0.459 (0.323)	-0.024 (0.277)	0.243 (0.227)	-0.188 (0.239)
Condom			0.395* (0.142)	0.336* (0.107)
Number of Obs.	619	662	520	589

Standard errors in parenthesis. * Significant at 5% level. The base category is low education, working in apartments.

Table 10.b. Sexually exploited trafficked women: MIMIC MODEL
 Estimates of the “loadings” for each of the components of Well Being in the
 measurement equation Λ^Y

	Specification 1 Self reporting ind.	Specification 1 Non-self reporting ind.	Specification 2 Self reporting ind.	Specification 2 Non-self reporting ind.
Abuse	1	1	1	1
Freedom of movement	0.682* (0.202)	1.388* (0.384)	0.790* (0.269)	2.06* (0.727)
Access to medical care	1.160* (0.449)	1.369 (0.390)	2.178* (1.039)	1.261* (0.341)

Squared Multiple correlation for Y variables – R²

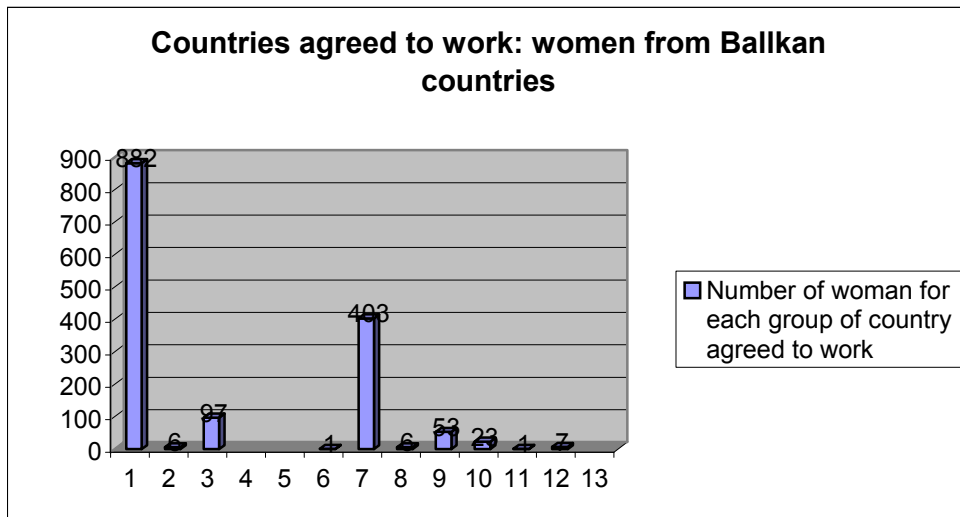
	Specification 1 Self reporting ind.	Specification 1 Non-self reporting ind.	Specification 2 Self reporting ind.	Specification 2 Non-self reporting ind.
Abuse	0.824	0.626	0.658	0.478
Freedom of movement	0.684	0.763	0.545	0.795
Access to medical care	0.863	0.758	0.901	0.593
Latent variable “Well Being”	0.890	0.801	0.884	0.744

Standard errors in parenthesis. * Significant at 5% level.

APPENDIX 1

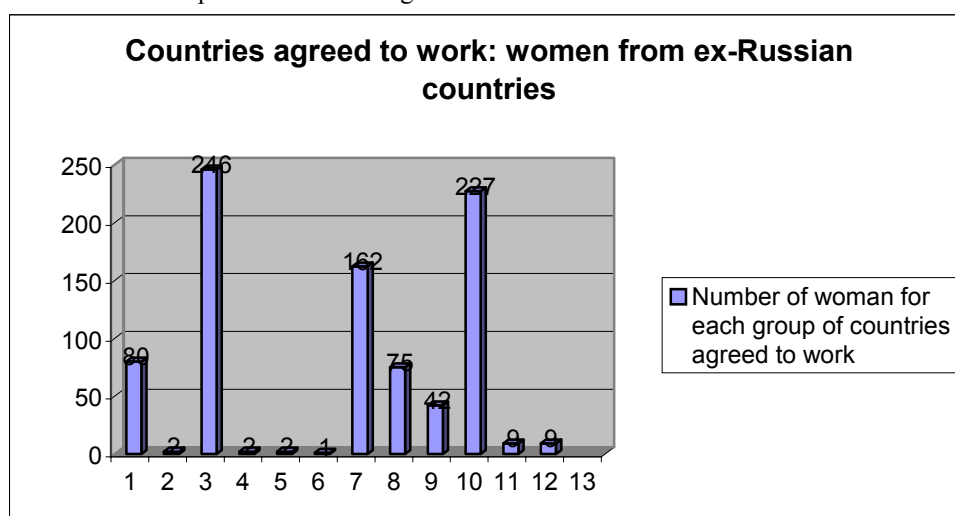
Graph A1 and A2 show, respectively where trafficked sex workers originating from the Balkans and from ex-Soviet Union countries agreed to work in: more than half nationals from the Balkans had agreed to work in Mediterranean countries while ex Russian nationals had agreed to work in the Middle East, their own countries or the Balkans.

Graph A1: Countries agreed to work for: women from Balkans



Group 1: Italy, Greece, Spain, Portugal. Group 2: Egypt, Algeria, Marocco. Group 3: Lebanon, Israel, Turkey, Syria. Group 4: Liberia, Chad, Kenya, Benin, Mali, Togo, Ghana, Niger, Uganda, Cote d' Ivoire, Gabon, Guinea. Group 5: Argentina, Ecuador, Columbia, Chile, Paraguay, Peru. Group 6: Bahamas, Dominica, Honduras. Group 7: Albania, Bosnia, Romania, Bulgaria, Croatia, Macedonia, Moldavia, Serbia & Montenegro, Slovenia. Group 8: Czech Rep., Hungary, Poland, Slovakia. Group 9: Germany, Switzerland, Ireland, UK, Belgium, France; Group 10 Armenia, Georgia, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Uzbekistan, Lithuania, Iran, Azebarjan, Belarusia, Ukraina. Group 11: China, Macau Group 12: Cambodia, Vietnam Group 13: Maldives, Sri Lanka, Philippines, Indonesia.

Graph A2: Countries agreed to work for: women from Ex-Soviet union



Group 1: Italy, Greece, Spain, Portugal. Group 2: Egypt, Algeria, Marocco. Group 3: Lebanon, Israel, Turkey, Syria. Group 4: Liberia, Chad, Kenya, Benin, Mali, Togo, Ghana, Niger, Uganda, Cote d' Ivoire, Gabon, Guinea. Group 5: Argentina, Ecuador, Columbia, Chile, Paraguay, Peru. Group 6: Bahamas, Dominica, Honduras. Group 7: Albania, Bosnia, Romania, Bulgaria, Croatia, Macedonia, Moldavia, Serbia & Montenegro, Slovenia. Group 8: Czech Rep., Hungary, Poland, Slovakia. Group 9: Germany, Switzerland, Ireland, UK, Belgium, France; Group 10 Armenia, Georgia, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Uzbekistan, Lithuania, Iran, Azebarjan, Belarusia, Ukraina. Group 11: China, Macau Group 12: Cambodia, Vietnam Group 13: Maldives, Sri Lanka, Philippines, Indonesia.

The nationality of the subgroup of women trafficked for sexual exploitation is reported in table A1. For a *legenda* of the groups see footnote to graph A1 or A2. The majority of victims comes from Eastern European and ex Soviet Union countries.

Table A1. Sexually exploited trafficked women: nationality

Group 1	0	0.0%
Group 2	1	0.0%
Group 3	0	0.0%
Group 4	164	3.6%
Group 5	42	0.9%
Group 6	46	1.0%
Group 7	2751	60.4%
Group 8	7	0.2%
Group 9	1	0.0%
Group 10	1505	33.0%
Group 11	7	0.2%
Group 12	15	0.3%
Group 13	17	0.4%
Total	4556	100.0%

APPENDIX 2

Table A2: Transformations from original data

Original data			Transformed data		
Abuse	1=no	17,9%	Abuse	0=yes	82,1%
	2=yes	82,1%		1=no	17,9%
Total obs.		3059			3059
Freedom of movement	1=no restrictions imposed	6.4%	Freedom of movement	0=denied	57.8%
	2=only accompanied	35.8%		1=accompanied	35.8%
	3=totally denied	57.8%		2=no restrictions	6.4%
Total obs.		3014			3014
Medical care	1= denied	58.1%	Medical care	0= denied	58.1%
	2=occasional	18.0%		1= emergency	16.2%
	3=only in emergency cases	16.2%		2=occasional	18.0%
	4=regular	7.7%		3=regular	7.7%
Total obs.		2408			2408
Condom use	1= all times	5.6%	Condom use	0=never	8.5%
	2=never	8.5%		1=not regularly	39.9%
	3=not regularly	39.9%		2=regularly	46.0%
	4=regularly	46.0%		3= all times	5.6%
Total obs.		2250			2250
Marital status *	1=cohabitating	2.7%	Marital status *	0=no	86.8%
	2=divorced	11.4%		1=yes	13.2%
	3=married	10.5%			
	4=separated	5.9%			
	5=single	68.5%			
	6=widowed	1.0%			
Total obs.		3368			3368
Have children?	1=no	65.8%	Have children?	0=no	65.8%
	2=yes	34.2%		1=yes	34.2%
Total obs.		3472			3472
Work experience in the country of origin	1=no	35.9%	Work experience in the country of origin	0=no	35.9%
	2=yes	65.1%		1=yes	65.8%
Total obs.		3335			3335
Education **	1=college/univ	5.9%	Dummy middle school	0=no	51.5%
	2=high school	24.6%		1=yes middle school	48.5%
	3=middle/trade school	30.0%	Dummy high school	0=no	75.5%
	4=primary school	17.5%		1=yes high school	24.6%
	5=other	20.1%	Dummy primary school	0=no	80.9%
	6=none	2.0%		1=yes primary	19.1%
Total obs.		3312			3299
Family economic status***	1=poor	59.1%	Dummy family economic status	0=poor	79.7%
	2=standard	20.1%		1=not poor	20.3%
	3=very poor	20.5%			
	4=well-off	0.2%			
Total obs.		2857			2857
Working location****	1= bars/nightclubs	48.0%	Dummy Work street	0=no	86.3%
	2=escort/call-girl agencies	3.6%		1=yes	13.7%
	3=hotel	2.4%	Dummy Work bar	0=no	40.7%
	4=motel	3.2%		1=yes	59.3%
	5=others	12.9%	Dummy Work hotel	0=no	85.3%
	6=private houses/apartment	10.8%		1=yes	14.7%
	7=sauna/massage	7.2%	Dummy Work apartment	0=no	87.6%
	8=streets	11.9%		1=yes	12.4%
Total obs.		2493			2175

* Category "yes" of marital status includes "being married" and "co-habiting". ** Middle school includes middle and trade/technical school; high school includes college and high school; primary school includes primary and "other" education. *** The new category "poor" includes "poor" and "very poor", the category "not poor" includes standard and well-off.

**** The category of work location "others" is replaced by missing values. Dummy "work location bar" includes category 1 and 2, dummy "work location street" includes category 8; dummy "work location hotel" includes category 3, 4 and 7; dummy "work location apartment" includes category 6.

Table A3 Descriptive statistics of the sample used for the MIMIC model

		Total sample %	Sub-sample of self reporting %	Sub-sample of NGO or police reporting %
Abuse	0=yes	89%	92,6	86,4
	1=no	11%	7,1	13,6
Freedom of movement	0=denied	58%	60,9	56,5
	1=accompanied	36%	35,2	37,0
	2=no restrictions	5%	3,9	6,5
Medical care	0= denied	60%	67,5	54,4
	1= emergency	19%	16,6	21,3
	2=occasional	13%	10,2	14,8
	3=regular	8%	5,7	9,5
Marital status	0=no	88%	85,1	90,2
	1=yes	12%	14,9	9,8
Have children?	0=no	68%	67,5	68,1
	1=yes	32%	32,5	31,9
Work experience in the country of origin	0=no	37%	37,0	36,9
	1=yes	63%	63,0	63,1
Level of education-middle school	0=no	48%	45,1	51,8
	1=yes	52%	54,9	48,2
Level of education-high school	0=no	72%	70,1	73,7
	1=yes	28%	29,9	26,3
Level of education-primary school	0=no	81%	84,8	74,5
	1=yes	19%	15,2	26,5
Family economic status	0=poor	79%	81,4	77,9
	1=not poor	21%	18,6	22,1
Sex Working location street	0= no street	87%	84,7	89,9
	1= yes street	13%	15,3	10,1
Sex Working location bars	0= no bar	43%	54,1	31,9
	1= yes bar	57%	45,9	68,1
Sex Working hotel	0=no	83%	80,1	86,4
	1=yes	17%	19,9	13,6
Sex Working apartment	0=no	86%	81,1	91,8
	1=yes	14%	18,9	8,2
Age (years)	Mean	22	23,2	22,45
	Min	10		
	Max	56		
Total number of observations		1263	619	662

Table A4: Descriptive statistics for the estimation of log charge per client

Marital status	0=no	86.4%
	1=yes	13.6%
Have children?	0=no	71.7%
	1=yes	28.3%
Work experience in the country of origin	0=no	44.0%
	1=yes	56.0%
Level of education-middle school	0=no	52.7%
	1=yes	47.3%
Level of education-high school	0=no	69.0%
	1=yes	31.0%
Not poor	0=poor	81.0%
	1=not poor	19.0%
Sex Working location street	0= no street	77.7%
	1= yes street	22.3%
Sex Working location bars	0= no bar	56.0%
	1= yes bar	44.0%
Sex Working hotel	0=no	87.0%
	1=yes	13.0%
Age (years)	Mean	22
	Min	16
	Max	38
Total number of observations = 184		

Notes

⁶ The IOM counter-trafficking activities are geared toward the prevention of trafficking in persons, particularly women and children, and the protection of migrant's rights. They include information campaigns, counselling, conducting research on migrant trafficking, ensuring safe and dignified return as well as reintegration assistance to the victims, helping governments to improve their legal systems and technical capacities in order to counter trafficking.

⁷ “Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children” and “Protocol Against the Smuggling of Migrants by Land, Sea and Air”, supplementing the “Convention Against Transnational Organized Crime,”

⁸ On the contrary, often, in the political discourse, the fight against trafficking is equated to a fight against sex work (Di Tommaso 2007a). For instance, the United States Leadership Against HIV/AIDS, Tuberculosis and Malaria Act of 2003 sets aside \$15bn in aid, but only to those organizations (for instance NGO’S) that have an explicit policy opposing prostitution and sex trafficking (as if they were

synonymous). No funds can be used to promote or advocate the legalisation or practice of prostitution or sex-trafficking. “Included are ‘organisation advocating prostitution as an employment choice or which advocate or support the legalisation of prostitution.’”(Day and Ward, 2005 pg 157).

⁹ For a more recent review of the Becker-Ehrlich type of models on crime see Ehrlich (1996).

¹⁰ For a comprehensive review of economics of crime models see Venturini A. (2004).

¹¹ See the models of Stark 1991 and Todaro 1969

¹² Once selected the variables for the estimates and deleted the cases where at least one variable was missing, our sample did not contain any men.

¹³ The transition matrix was constructed using the variable “nationality” and the variable “country agreed to work”. The total number of observations is 2499.

¹⁴ Standardized coefficients show the mean response in standard deviation units of the dependent variable for one standard deviation change in an explanatory variable, holding constant the other variables in the model.

¹⁵ The vector Λ^Y .

¹⁶ Nevertheless, these specifications do not deal with the possible bias coming from the selection of individuals from countries where the IOM field missions are located.