

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

Abstract

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 Organisation for Migration has collected data on those victims who entered the program. 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 and their personal characteristics, their background conditions, and their working locations.

Our paper therefore, concerns only a specific sub-group of women working in the sex industry who became victims of trafficking (according to the UN definition) and had the courage and the possibility to report their traffickers. 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. These 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. We find that all the indicators we use are important to measure well being, access to medical care having the highest loading. Working in apartments or in secluded spaces has a negative effect on well being 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 respect to uneducated women. As a consequence their freedom of movement is more constrained respect to uneducated, less ‘valuable’ women. We find support for this interpretation because education has a strong positive effect on charge per client.

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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

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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 the two largest industries for profit generation on a global scale: 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 analysing 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'.

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 negotiation:

“ ‘Trafficking in persons’ shall mean the recruitment, transportation, transfer, harbouring, or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labor or services, slavery or practices similar to slavery, servitude or the removal of organs”. (Art. 3a)

“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)

(“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,” United Nations, December 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 recognised as labour 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 labour 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 Protocol is therefore enough clear to indicate that some individuals may have agreed to work in the sex work industry with conditions which were not defined as exploitation. The Protocol applies when, after the choice has been made, the individual has been exploited. For example, a person may have agreed to work as sex worker in a night club at a certain wage for some hours of the day and in condition of freedom of movement. If then this initial agreement is transformed in a job where she does not have choice over clients, money, contraception and in addition I have limitations over my freedom of movement, then the Protocol can be applied⁶. In other words, the consent of a victim of trafficking in persons to the intended exploitation is irrelevant where any of the means detailed in the 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

⁶ On the contrary, often, in the political discourse, the fight against trafficking is equated to a fight against sex work. 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).

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).

1.2 Economic theory and trafficking

Economics has not dealt with trafficking so far. Hereafter we analyze some possible economic theories that can be extended to trafficking, namely economics of sex work, economics of crime, and economics of migration.

Sex work has not been theorized or studied much by economists despite its manifest economic importance. 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 have advocated (see Della Giusta et al 2007, Della Giusta et al 2007, Di Tommaso 2007) 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. (2006) 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 behavioural 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.

Economic theorizing on crime and migration is an alternative sources of inspiration. The economics of crime is a growing and differentiated field, but the core question that this literature addresses, following the seminal contributions by Becker (1968) and Ehrlich (1973), is individual net gains from engaging in illegal versus legal activities⁷. Migration models too are usually built around a key comparison that drives people's choice and may involve wage differentials, employment differentials or, more broadly, living standard differentials between origin and destination countries. In particular migration theories which include risk propensity (for instance risk of unemployment in the arrival country) and asymmetric information (Stark 1991, Todaro 1969), could seem good candidate for a model about trafficking. We could think to an individual who is choosing to migrate or not and include the risk of being trafficked or include asymmetric information about the possibility of being trafficked (for a comprehensive review of economics of crime models see Venturini A. (2004). Both strands of theorizing offer interesting suggestions to conceptualize trafficking in economic terms, although neither cannot be used.

The above theories imply that the individual is maximizing his/her utility by making a choice about selling sexual services, migrating, or becoming a criminal.

⁷ For a more recent review of the Becker-Ehrlich type of models on crime see Ehrlich (1996). Akerlof has introduced important innovations in this literature that make it more suitable for an economic analysis of prostitution, e.g. the notion of community values and of personal identity. See Akerlof and Yellen (1994) and Akerlof and Kranton (2000).

Even including risk propensity and asymmetric information, they imply a choice. The UN definition of trafficking underlines precisely that the individual can be defined as a victim (our sample concern indeed only those individual who were identified as victims according to the Protocol) if there has been exploitation. Consent is irrelevant. So choice is irrelevant.

Moreover, our data include only those individuals who were trafficked. So it would be rather difficult to model the choice of the individual because we don't have the group of people who did migrate or did sell sexual services but were not trafficked. The theoretical framework this paper adopts is the capability approach (Sen 1992, 1999). The capability approach is both theoretically relevant and sufficiently flexible to overcome the limitations in our 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 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 provide 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, the use of condoms).

In order to reach these aims, 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), Di Tommaso (2007b). The first paper use SEM to estimate the capability of being able to be educated and to be adequately sheltered with Bolivian data. The second paper estimate the well being of Indian children (defined over malnutrition, schooling and work indicators). Our paper utilizes the same framework but it deals with completely different issues.

2. Description of the IOM data set

2.1. Description of the IOM assistance program

The International Organization for Migration has developed a Counter-Trafficking Module Database to collect information on victims of trafficking⁸. This database enables IOM to reconstruct the trafficking scenario by analyzing the situation of the victims before and during the exploitation. Also, this process allows IOM to better target the assistance programs and reintegration of the victims. The information is 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 programme are administered the final questionnaire which includes practically all the questions from the screening questionnaire. Information thus collected concerns demographic characteristics, socio-economic and family background, recruitment

⁸ 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.

and trafficking process, type of exploitation in the destination country, work and pay conditions while trafficked, and current health conditions. Because the vast majority of applicants have so far been found eligible to assistance, we have used only the final questionnaire given that the loss of information is minimal. As already mentioned with regard to earnings, the main limitations of the data for econometric analysis is the frequency of missing values that reaches 50 percent or above for some ‘sensitive’ questions. This counterbalances the richness of the questionnaire.

2.2. Description of the data

The majority of assisted victims had been trafficked for sexual exploitation out of their own country,⁹ originated from ex-Soviet Union, Eastern and Balkan countries and had agreed to work 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 1, shows the personal characteristics and the social economic profile of the victims¹⁰. 89% percent were female, with about 50% aged between 20 and 30 years old. A surprising large number had children (32%), 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

⁹ The transition matrix was constructed using the variable “nationality” and the variable “country agreed to work”. The total number of observations is 2499.

¹⁰ The number of observations differ across variables because of missing values.

victims had not gone beyond middle/trade school, a non negligible 24 percent had completed high school and 6 percent had received college/ university education.

Table 1 approximately here

Table 2 reports the economic status of the family and own occupational status prior to being trafficked: 59% of trafficked sex workers declared to come from a poor family, despite the fact the vast majority of participants were employed prior to departure. However, the average level of declared monthly earnings did not exceed 52 dollars per month, which is in sharp contrast to the average amount of money for which they were sold, i.e. 4,654 \$. Both these figures must be taken with great caution given that few answered either questions.

Table 2 and 3 approximately here

Table 3 describes the recruitment and the trafficking process. A small but non negligible group of victims had been trafficked more than once. The vast majority of them had been recruited via personal contacts (89 percent) while television or internet advertisements accounted for an additional 8 percent and less than 1 percent had been sold by family members or kidnapped. 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 (27 percent). The gender composition of the recruiters was fairly balanced with 46 percent females and 50 percent were males. The typical work being offered was domestic/housekeeper (28

percent), followed by babysitter/waitress/sweatshops (24 percent) and with dancer. A non negligible share declared being explicitly offered sex work (9 percent).

Table 4 provides information about sexual exploitation in the destination country. More than 81 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 (32 percent), and sexual assault/rape (18 percent). The percentage of clients being abusive is not negligible since 13 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. However, most participants had freed themselves by escaping and soliciting assistance to the authorities (31%) or thanks to the intervention of NGOs and law enforcement agents (29%).

Table 4 and 5 approximately here

Table 5 describes some characteristics, attitudes and conditions for 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 (47 percent), followed by hotels/motels, sauna or massage parlours (13 percent), streets (12 percent), private house/ apartments (10 percent); 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 6). The overwhelming majority was denied any

freedom of choice over clients (96 percent) or over sexual services (88 percent). Furthermore, less than half were allowed to use condoms regularly, the remaining half being entirely or partially denied this option (9 and 40 percent, respectively). Freedom of movement was granted to a tiny minority (6 percent) , while the vast majority had none (57 percent) or could move only if accompanied (36 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 dollars. However, fees were reported by only 235 interviewees.

3. The MIMIC Approach

The aim of this paper is to explore the richness of the IOM data set in order to understand how the life conditions of sexually exploited trafficked women is affected by their personal characteristics, their background condition, and their working locations.

In order to reach this goal we will try to measure their well being on the basis of their living conditions. In particular we define their well being as an intrinsically unobservable variable of which we can observe some indicators that are measured with errors.

The MIMIC approach developed in this paper is our approach to this problem. This modelling approach allows us to consider well being as a latent construct of which we observe only few dimension.

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 modelling strategy has been extensively used in psychometrics and more recently in econometrics (see for example Di Tommaso, M.L, Raiser, M., and Weeks M. 2006), and is founded upon the specification of a system of equations which specify the relationship between an unobservable latent variable (well being), a set of observable endogenous indicators and a set of observable exogenous variables (what 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 formalised in the LISREL (Linear Structural Relationships) model of a set of linear structural equations. Excellent review of the literature is to be found in Bentler and Weeks (1980) and Aigner, Hsiao, Kapteyn, and Wansbeek (1984), and Wansbeek T. and Meijer E., (2000).

In the case of this paper we assume that well being is composed by 3 indicators: the first one is a measure of abuse, either if they were abused psychologically or physically. The second indicator is a measure of their freedom of movement i.e. how free they were to move, if their passport had been retained by the traffickers, if they could go out at all or partially. The third indicator is a measure of access to health services.

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 (see Section 1.2 above). 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 7).

In addition we would like to determine the impact of *causes* on the well being of these women. The Multiple Indicators and Multiple Causes (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 respect to other functionings.

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 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 denote the covariance matrix.

In addition we posit that Well being is linearly determined by a vector of observable exogeneous 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 exogeneous 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, our model assumes that well being is composed by 3 indicators: the first one is a measure of abuse, either if they were abused psychologically or physically. 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 they 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 which 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. Table A1 and A2 in appendix 2 report the transformation of the data set and the descriptive statistics of the sample used for the estimates.

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 are presented by the variables such as the personal characteristics, family economic status, previous work experience and actual working location.

Marital status is one of personal characteristics variables considered as observed exogenous cause. This variable is a dichotomous one, 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. Also the previous work experience in the country of the origin is a dichotomous variable taking value 0 if the person has no work experience and value 1 if he victims had some work experience.

Education is one of the variables that is defined as a categorical variable. We have constructed 3 dummy variables. The high level of education takes value of 1 if the victims belongs to the category college/university and high school. The dummy variable of middle school includes middle and trade/technical school. The dummy variable of primary school includes primary and "other" education.

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

The variable of work location for the victims of sexual exploitation is represented by 4 dummies of work location. The dummy variable of work location “bar” includes girls working in bars and Escort/Call-girl agencies. The dummy variable of work location “street” relates to working in the street. The dummy variable of work location “hotel” includes hotels, motels and Sauna/massage. The dummy variables of working location “apartment” includes private houses/apartments.

Specification 2 includes the variable frequency of condom use among the explanatory variables. This variable is categorized following an increasing order which takes value 0 if never use condoms, value 1 if the use of condoms is not regular, value 2 if uses condoms regularly and value 3 if uses condoms all the times.

5. Empirical estimates

We have applied the model described in Section 3 to the data set described in section 4. The main regression results are presented in Table 8. The top of the table presents regression coefficients for different specification of the structural equation. We report both simple and standardised coefficients. The latter allows us to compare directly 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 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: The variables that have a strong correlation with the latent construct well being turned out to be the following. Having a previous working experience has a positive and significant coefficient on Well being as well as coming from a relatively well off family. Education has a negative effect (the base category is low education). This result could seem counterintuitive. Nevertheless, we have run a regression on the small sub sample of women (184) who reported their charge per client (see Table A3 in Appendix 2 for the descriptive statistics of this sample).

Table 9 approximately here

Regressing the variable charge per client on the same exogeneous variables of our MIMIC model we find that education has a positive and significant effect on the earnings of these women. Therefore it seems that traffickers have a higher control (give less freedom and abuse more) on those women with a high education because of the higher returns.

Other interesting results regard the working location. The estimates show that the more these individuals work 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 per se of sex workers. The standardized coefficient shows that this is the second large effect on well being (after working in bars). The use of condoms therefore will improve well being of sex workers. Nevertheless, empirical studies have shown that sex workers are strongly discouraged to use condoms: 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 equation¹¹. It shows that access to medical care has the highest weight in the underlining measure of well being, while the lowest weight is accorded to freedom of movement.

As far as the Squared Multiple correlation for Y 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 of medical care, followed by abuse and freedom of movement. Spec. 1 is our preferred specification for drawing policy conclusion.

6. Conclusion

¹¹ The vector Λ^Y .

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 Organisation for Migration has collected data on those victims who entered the program. 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 and their personal characteristics, their background conditions, 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. Well being is an intrinsically unobservable variable of which we can only observe some indicators that are measured with errors. These 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. We find that all the indicators we use are important to measure well being, access to medical care having the highest loading. Working in apartments or in secluded spaces has a negative effect on well being 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 respect to uneducated women. As a consequence their freedom of movement is more constrained respect to uneducated, less 'valuable' women. 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.

Bibliography

Addabbo T. Di Tommaso M.L and Facchinetti G., (2004) To what extent fuzzy set theory and structural equation modelling can measure functionings? An application to child well being, *Materiali di Discussione del Dipartimento di Economia Politica* n.468 Settembre 2004.

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

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

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

Ballon P., and Krishnakumar J. (2006), Estimating basic Capabilities: A Latent Variable Approach Applied to Bolivian Data, *mimeo*, University of Geneva.

Bentler, P.M., and D.G. Weeks (1980): “ Multivariate Analysis with Latent Variables” in 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, Alan. Ed. 2004. Sex and the City, *Urban Studies*, vol 41, no.9.

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

Della Giusta M., Di Tommaso M.L., Strom S. (2007), 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, 2007 (forthcoming).

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

Edlund L. and E. Korn (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 Quaterly*, 23, 975-1004.

Joreskog, K. G., and A. S. Goldberger (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.

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

O' Connell Davidson J. and B. Anderson (2006) "The Trouble with 'Trafficking'", in *Trafficking and Women's Rights*, edited by van den Anker C.L. and J. Doomernick, 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*, Geneva: 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. and Meijer E., (2000), *Measurement Error and Latent Variables in Econometrics*, North Holland, Elsevier Science, The Netherlands.

Table 1: Personal characteristics

Trafficking	internal	27,5%
	international	72,5%
	total	4425
Gender	female	89,1%
	male	10,9%
	total	5119
Age	less than 9	0.4%
	>9&<=20	39.6%
	>20&<=30	51.7%
	>30&<=40	7.1%
	>40	1.1%
	total	5150
Marital status	cohabiting/married	13,6%
	divorced	11,1%
	single	68,0%
	other	7,2%
	total	3477
Children	no	68,0%
	yes	31,9%
	total	3975
Education	college/univ	6,0%
	high school	24,3%
	middle/trade school	48,1%
	primary school	17,7%
	other	1,7%
	none	2,2%
	total	3381

Table 2 Economic profile of the victims

Family economic status	Poor	59,2%
	Standard	20,1%
	Very poor	20,4%
	Well of	0,2%
	Total	2874
Occupation at home	Agriculture	1,7%
	Domestic	2,7%
	Industry	4,0%
	Private/public	78,3%
	Self-employment	5,5%
	Sex industry	1,2%
	Other	6,6%
	Total	1774
Previous salary	Monthly/us\$	51,6
	Total	1313
Amount sold	US\$ total	4653,6
	Total	722

Table 3: Recruitment characteristics

How recruited?		
	Kidnapped	5.4%
	Internet/newspaper/TV	7.4%
	Sold by family	0.5%
	Personal	84.1%
	Other	2.7%
	Total	3130
Gender of the recruiter		
	Both	4,3%
	Female	45,6%
	Male	50,0%
	Total	3441
What was offered (answers here include kidnapped people)		
	Job	84,4%
	Marriage	1,8%
	Study	0,2%
	Turism	6,1%
	Other	7,4%
	Total	3572
Type of job offered		
	Agriculture	2,2%
	Domestic help/babysitter	27,8%
	Dancer	23,7%
	Sex worker	8,4%
	Selling/sweatshop/waitress	24,5%
	Other/begging	13,3%
	Total	1742
Relationship with the recruiter		
	Business	0,5%
	Partner	2,8%
	Family/relative	3,7%
	Friend	29,4%
	Stranger	52,6%
	Pimp	0,7%
	Other	10,3%
	Total	3062
Knew were sold		
	No	44,7%
	Yes	55,3%
	Total	2744

Table 4: Exploitation in the destination country

Victim of trafficking Before this occasion		
	No	91,2%
	Yes	8,8%
	Total	2028
How was freed		
	Client	5,2%
	Family	1,3%
	Friend	1,4%
	Law enforcement	25,8%
	NGO	29,3%
	Self	30,9%
	Other	6,0%
	Total	3378

Table 5: Sexual exploitation, clients and sex workers

Clients		
Mainly internationals		7.9
Mainly locals		73.5
Other		18.6
Total	1,608 =	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	2,503 =	100.00
Allowed to use condoms?		
At all times		5.6
Never		8.5
Not regularly		39.9
Regularly		46.0
Total	2,253 =	100.00
Freedom of choice, over client?		
None		96.3
Partial		3.0
Yes		0.6
Total	628 =	100.00
Freedom of choice, over sex services?		
None		88.0
Partial		6.2
Yes		5.7
Total	610 =	100.00

Table 6 “Wellbeing” of the victims, peculiarities

Medical care	Denied	58.1%
	Occasional	17.9%
	Only in emergency cases	16.2%
	Regular	7.7%
	Total	2112
Abuse	No	18,7%
	Yes	81,3%
	Total	3103
By whom abused	Clients	13,3%
	Pimp	25,9%
	Supervisor	5,9%
	Other	54,9%
	Total	1833
Nature of abuse	Physical assault	31,4%
	Psychological abuse	8,5%
	Sexual assault/Rape	17,7%
	Threats	6,5%
	Other/denial of med.care, food	35,9%
	Total	1649
Freedom of movement	No restrictions	6.4%
	Only accompanied	35.7%
	Totally denied	57.9%
	Total	3019

Table 7: Monetary term of the exploitation

	Obs	Mean	Std. Dev.	Min	max
Number of customers/day	1524	5.158	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
How many other persons on the same situation	1827	9.05	11.32	1	200

Table 8.a: 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
Rich	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.

Table 8.b: 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

Standard errors in parenthesis.

* Significant at 5% level.

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 F1	0.860	0.839

Standard errors in parenthesis.

* Significant at 5% .

Table 9 : OLS Estimation of the Logarithm of charge per client

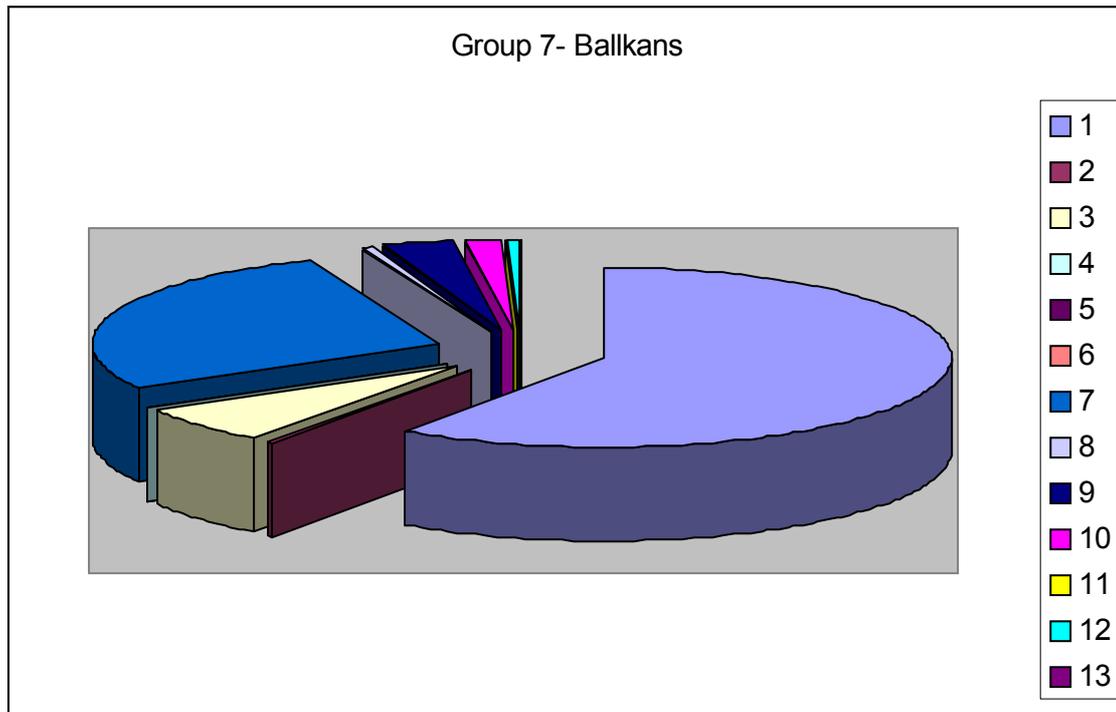
Age	-0.009 (0.017)
Married	-0.002 (0.191)
Children	-0.037 (0.154)
Work Experience	0.036 (0.140)
Middle Education	0.479* (0.173)
High Education	0.449* (0.195)
Rich	-0.065 (0.157)
Work location: street	-0.227 (0.193)
Work location: bars	0.499* (0.167)
Work location: hotels	-0.336 (0.218)
Constant	3.807* (0.374)
Number of Obs.	184
R ²	0.25

Standard errors in parenthesis.

APPENDIX 1

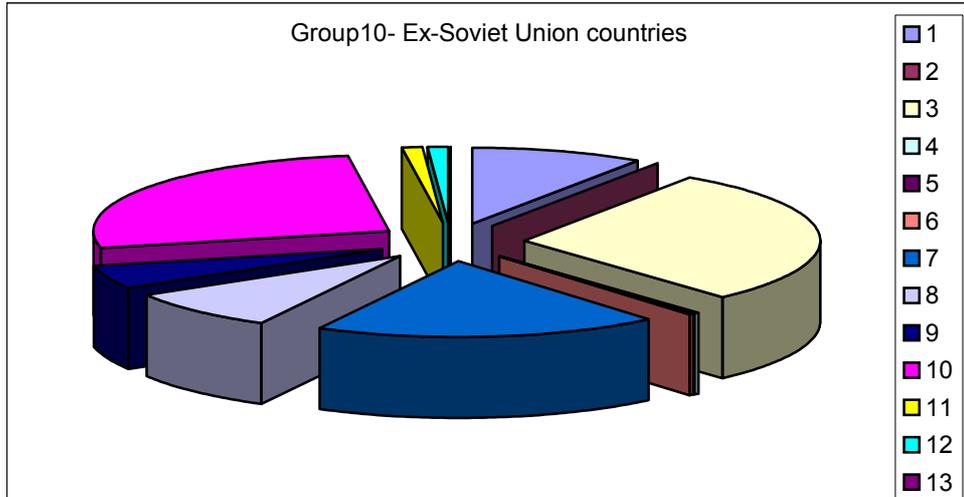
Graph A1 and A2 show, respectively where trafficked sex workers originating from the Balkans and from ex-Soviet Union countries agreed to work in: more than half nationals from the Balkans had agreed to work in Mediterranean countries while ex Russian nationals had agreed to work in the Middle East,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

APPENDIX 2

Table A1: Transformations from original data

Original data			Transformed data		
Abuse	1=no	18.73%	Abuse	0=yes	81.27%
	2=yes	81.27%		1=no	18.73%
Total obs.		3096			3096
Freedom of movement	1=no restrictions imposed	6.45%	Freedom of movement	0=denied	57.83%
	2=only accompanied	35.73%		1=accompanied	35.73%
	3=totally denied	57.83%		2=no restrictions	6.45%
Total obs.		3009			3009
Medical care	1= denied	58.08%	Medical care	0= denied	58.08%
	2=occasional	17.95%		1= emergency	16.25%
	3=only in emergency cases	16.25%		2=occasional	17.95%
	4=regular	7.71%		3=regular	7.71%
Total obs.		2112			2112
Condom use	1= all times	5.60%	Condom use	0=never	8.49%
	2=never	8.49%		1=not regularly	39.93%
	3=not regularly	39.93%		2=regularly	45.98%
	4=regularly	45.98%		3= all times	5.60%
Total obs.		2249			2249
Marital status *	1=cohabitating	2.86%	Marital status *	0=no	86.35%
	2=divorced	11.08%		1=yes	13.65%
	3=married	10.79%			
	4=separated	6.17%			
	5=single	68%			
	6=widowed	1.10%			
Total obs.		3466			3466
Have children?	1=no	68.01%	Have children?	0=no	68.01%
	2=yes	31.99%		1=yes	31.99%
Total obs.		3964			3964
Work experience in the country of origin	1=no	38.94%	Work experience in the country of origin	0=no	38.94%
	2=yes	61.06%		1=yes	61.06%
Total obs.		3567			3567
Education **	1=college/University	6.02%	Dummy middle school	0=no	48.19%
	2=high school	24.30%		1=yes middle school	51.81%
	3=middle school	29.79%	Dummy high school	0=no	69.67%
	4=none	2.17%		1=yes high school	30.33%
	5=other	1.72%	Dummy primary school	0=no	80.68%
	6=primary/Elementary school	17.60%		1=yes primary	19.32%
	7=trade/Technical/Vocational school	18.40%			
Total obs.		3370			3370
Family economic status***	1=poor	59.22%	Dummy family economic status	0=poor	79.68%
	2=standard	20.08%		1=not poor	20.32%
	3=very poor	20.46%			
	4=well-off	0.24%			
Total obs.		2864			2864
Working location****	1= bars/nightclubs	48.00%	Dummy Work street	0=no	86.30%
	2=escort/call-girl agencies	3.60%		1=yes	13.70%
	3=hotel	2.36%	Dummy Work bar	0=no	40.74%
	4=motel	3.20%		1=yes	59.26%
	5=others	12.93%	Dummy Work hotel	0=no	85.33%
	6=private houses/apartment	10.77%		1=yes	14.67%
	7=sauna/massage	7.21%	Dummy Work apartment	0=no	87.63%
	8=streets	11.93%		1=yes	12.37%
Total obs.		2498			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 A2 Descriptive statistics of the sample used for the MIMIC model

Abuse	0=yes	89%
	1=no	11%
Freedom of movement	0=denied	58%
	1=accompanied	36%
	2=no restrictions	5%
Medical care	0= denied	60%
	1= emergency	19%
	2=occasional	13%
	3=regular	8%
Marital status	0=no	88%
	1=yes	12%
Have children?	0=no	68%
	1=yes	32%
Work experience in the country of origin	0=no	37%
	1=yes	63%
Level of education-middle school	0=no	48%
	1=yes	52%
Level of education-high school	0=no	72%
	1=yes	28%
Level of education-primary school	0=no	81%
	1=yes	19%
Family economic status	0=poor	79%
	1=not poor	21%
Sex Working location street	0= no street	87%
	1= yes street	13%
Sex Working location bars	0= no bar	43%
	1= yes bar	57%
Sex Working hotel	0=no	83%
	1=yes	17%
Sex Working apartment	0=no	86%
	1=yes	14%
Age (years)	Mean	22
	Min	10
	Max	56
Total number of observations = 1263		

Table A3: Descriptive statistics for the estimation of log charge per client

Marital status	0=no	86.41%
	1=yes	13.59%
Have children?	0=no	71.74%
	1=yes	28.26%
Work experience in the country of origin	0=no	44.02%
	1=yes	55.98%
Level of education-middle school	0=no	52.72%
	1=yes	47.28%
Level of education-high school	0=no	69.02%
	1=yes	30.98%
Rich	0=poor	80.98%
	1=not poor	19.02%
Sex Working location street	0= no street	77.72%
	1= yes street	22.28%
Sex Working location bars	0= no bar	55.98%
	1= yes bar	44.02%
Sex Working hotel	0=no	87.5%
	1=yes	12.5%
Age (years)	Mean	22
	Min	16
	Max	38
Total number of observations = 184		

