



# What money buys: clients of street sex workers in the US

Marina Della-Giusta, Maria Laura Di Tommaso, Isilda Shima, Steinar Strøm

## ► To cite this version:

Marina Della-Giusta, Maria Laura Di Tommaso, Isilda Shima, Steinar Strøm. What money buys: clients of street sex workers in the US. *Applied Economics*, 2009, 41 (18), pp.2261-2277. 10.1080/00036840701222561 . hal-00582122

**HAL Id: hal-00582122**

**<https://hal.science/hal-00582122>**

Submitted on 1 Apr 2011

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



### What money buys: clients of street sex workers in the US

Journal:	<i>Applied Economics</i>
Manuscript ID:	APE-06-0261.R1
Journal Selection:	Applied Economics
JEL Code:	C35 - Discrete Regression and Qualitative Choice Models < C3 - Econometric Methods: Multiple/Simultaneous Equation Models < C - Mathematical and Quantitative Methods, D12 - Consumer Economics: Empirical Analysis < D1 - Household Behavior and Family Economics < D - Microeconomics
Keywords:	demand for sex, ordered logit, factor analysis, US data

**What money buys: clients of street sex workers in the US<sup>1</sup>**

**by**

**Marina Della Giusta<sup>2</sup>, Maria Laura Di Tommaso<sup>3</sup>, Isilda Shima<sup>4</sup>, Steinar Strøm<sup>5</sup>**

**Abstract**

The paper presents a review of current theoretical and empirical approaches to sex work, followed by the presentation of an original theoretical framework (Della Giusta et al, 2006) which is tested with an econometric model of the characteristics of demand for sex services by a sample of clients of street sex workers in the US. We present findings in relation to stigma and the relationship between paid and unpaid sex that corroborate our model's hypotheses and are in line with findings from other empirical studies. Furthermore, we identify in our sample two diametrically opposite profiles: one for clients whom we label 'experimenters', and one for more experienced ones that we name 'regulars', we also estimate attitudes toward risk, and draw implications in terms of both policy and future theoretical and empirical research.

JEL classification: C35, D12

<sup>1</sup> Acknowledgments: We gratefully acknowledge helpful comments and suggestions received by Francesca Bettio and participants at the 2004 Annual Conference of the International Association for Feminist Economics in Oxford, at the workshop "Analysis of migration flows at risk: prostitution and trafficking" Torino 17-17 March 2006. We would like to thank also an anonymous referee for helpful suggestions. We gratefully acknowledge research funding from the Department of Economics Cognetti de Martiis (ex- 60% research funding 2004) and from MIUR (Italian Ministry of Research and University) under the grant PRIN 2005-2006 "Analysis of migration flows at risk: prostitution and trafficking". We gratefully acknowledge The Inter-university Consortium for Political and Social Research (a unit within the Institute for Social Research at the University of Michigan, USA), which provided the data. Data are available and downloadable from:

<http://www.icpsr.umich.edu:8080/ABSTRACTS/02859.xml?format=ICPSR>

The views expressed in this paper are those of the authors.

<sup>2</sup> University of Reading UK, corresponding author, email: m.dellagiusta@reading.ac.uk

<sup>3</sup> University of Turin, Italy

<sup>4</sup> University of Turin, Italy

<sup>5</sup> University of Turin, Italy and University of Oslo, Norway

Keywords: Demand for sex, ordered logit, factor analysis, US data.

## 1. Introduction

The social scientific literature on sex work is vast (recent authoritative monographs on the subject are O'Connell Davidson, 1998, and Lim, 1998) and representative of many different views and concerns. A substantial part of the literature on sex work consists of studies of sex work and its relationship with violence, health and drugs problems, and international migration, and is often devoted to investigating the desirability of alternative regulatory regimes and the definition of rights for sex workers (McKeganey and Barnard, 1996; O'Kane, 2002; Thorbek and Pattanaik, 2002; Doezema, 1998; Tiggey et al, 2000). Whilst studies of sex workers are widespread, those who address the demand side of the industry are harder to come by, and wanting to rigorously analyse demand characteristics on the basis of empirical evidence can prove very difficult: *'Presumably, the client has not been studied until very recently because his actions are not perceived as morally reprehensible. A man who buys sex is viewed simply as a "man" doing "what men do" and therefore there is nothing unique or interesting enough about his behaviour to justify research.....For this reason, paid sex is considered legitimate, even "natural," but part of a private realm that is best left un-discussed. In the US 16% of men reported buying sex at least once in their lives, and 0.5 % reported doing so at least once a year. In Finland, as in Russia, it was found that 10-13% of men had purchased sex at least once. In Norway, the comparable figure is 11%, in Holland 14%, in Switzerland 19%, in London 7-10%, and in Spain 39%. Figures in the 70% range have been recorded for Cambodia and Thailand, but these, too, appear to be imprecise estimates'* (Ben-Israel and Levenkron, 2005:13).

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Findings from empirical studies of clients suggest that personal characteristics (personal and family background, self-perception, perceptions of women, sexual preferences), economic factors (education, income, work), as well as attitudes towards risk (health hazard and risk of being caught where sex work is illegal), lack of interest in conventional relationships, desire for variety in sexual acts or sexual partners, and viewing sex as a commodity, are all likely to affect demand.

For example, Pitts et al (2004) surveyed a sample of 1225 men and women in Australia<sup>6</sup> and found that 23.4% had paid for sex at least once, and reported paying for sex to satisfy sexual needs (43.8%), because paying for sex is less trouble (36.4%), and because it is entertaining (35.5%). Significantly, they found that there were not many significant differences between men who had paid for sex and those who had not, except that the once who had were on average older, less likely to have university education and to have had a regular partner in the last year. The motivations of sex workers' clients in the UK (who were all males and appeared to be representatives of all sectors of society) studied in the course of a programme<sup>7</sup> on the sex industry presented by Channel 4 appeared to convey the impression that a connection existed between the effort and costs associated with finding a sexual partner who would readily satisfy their sexual preferences, and the straightforward and readily accessible option of sex work. This is confirmed by Thorbek and Pattanaik (2002), who draw a sort of "psychological" profile of male sex tourists on the basis of their own descriptions of themselves and accounts of their experiences indicating that many of them are finding relationships with others very difficult (either because they do not

---

<sup>6</sup> The sample was taken by distributing a survey to customers of a Sexpo exhibition hold in Melbourne 2001. This is a commercial event hosting a wide range of exhibitors of products associated with sex; of 4.905 respondents, 1225 received a version of the questionnaires with questions on sex workers. Among 1225 respondents , 612 were men and 601 were women.

<sup>7</sup> Dispatches: Sex on the Street; Channel 4 season Prostitution –The Laws Don't Work, Channel 4, September 2002

have the time or the skills required to meet people) and choose sex tourism as an “easier” alternative, which does not imply any responsibility towards the person providing the sexual service. As for the views they held of sex workers, it appears that both sexism and racism mix in determining a very marked distancing, which allowed sex tourists to practically ignore and show no interest in the lives and working motivations of the sex workers whose services they buy. Wider phenomena connected to consumerism and globalisation are also clearly related to this industry, which reflects multiple power structures: Marttila (2003) concludes from her study of Finnish clients that: *‘the sex business is first and foremost about gendered, economic, social and cultural – global and local – power structures.* (Marttila, 2003:8). Women clients are also engaging in sex tourism, as documented both in Thorbek and Pattanaik, and in Sanchez Taylor (2001). The latter in particular offers a more in-depth analysis of North American and Northern European women buying sex work services of young men in the Caribbean, in what they themselves describe as ‘romance holidays’. Responses to her interviews suggest that, on the one hand, women clients are mostly reluctant to define what they engage in as sex work, and, on the other, that their ideas about the young men whose service they buy are deeply rooted in racist ideas about black men and black men’s sexuality. The theme of inequality appears to be at the core of the relationship: prejudices that allow the stigmatisation of another person as fundamentally “different” and inferior to oneself appear again and again in customers’ accounts (Ben-Israel et al., 2005; Pitts et al, 2004; Kern, 2000; Blanchard, 1994). From this literature emerges that stigma is an important characteristic that we should include in our theoretical model, as is the notion that the demand for paid sex is different from the demand for freely exchanged

sex, and incorporates more complex issues which we hope to see reflected in our empirical estimates.

The economic literature has traditionally approached the supply side of the paid sex market either showing how it is similar to other markets, or studying it as a form of crime and analysing the costs and benefits of alternative regulatory regimes, generally agreeing that the main motivation behind supply is an economic one (for a review, see Reynolds, 1986). More recent theoretical and empirical contributions have focussed on modelling prices (Moffat and Peters, 2001; Edlund and Korn, 2002; Cameron, 2002), different types of supply and their determinants (Cameron et al, 1999; Cameron and Collins, 2003), health risk and the effect of condom use on sex worker's earnings (Rao et al, 2003; Gertler et al, 2003), and, more recently, the evolution of paid sex markets and the ways in which urban spaces favour sexual transactions (Collins, 2004). The latter collection is much broader in scope, with paid sex markets being studied as part of the wider sexual market in which people seek partners for reasons that include deficiencies in amount or range of sexual activities in which they participate, or diversification of sexual consumption (Collins, 2004, p.1634).

Edlund and Korn (2002) have modelled sex work as a highly paid, low skill female occupation alternative to marriage explaining high wages in terms of a loss of position in the marriage market. Cameron (2002), provides a more sophisticated explanation for high wages in terms of compensation for social exclusion, risk (assault, disease, arrest, punishment), front loading in wage profile (informal pension scheme or insurance), boredom and physical effort, distaste (potential psychological and physical costs), loss of recreational sex pleasure, anti-social and inconvenient

hours, possible excess demand and prices used to screen quality, taboos, and agent fees (Cameron, 2002). Moffatt and Peters (2001) find that prices are affected by duration of the transaction, location, and age of the sex worker, but that client satisfaction and price paid are affected by different factors. Stigma enters these models in the form of a barrier faced by sex workers when wanting to enter other professions, but it is unrelated to the nature of the transaction between sex worker and client. Cameron and Collins (2003) model males' decision to entry the market for sex work services, where the male has the choice to derive utility from one relationship partner and/or one paid sex partner. They distinguish between the motivations of men in relationships (variety, specific acts, frequency, outlet for stress) and single men ("relative search costs of finding willing sexual partners, or partners willing to engage in specific sexual activities in an *ad hoc* or formal social context, and in a given time period" *ibid.* p.274).

Most models to date have shared the assumptions that the object of the sex work transaction is sex, and that sex work is one of the possible ways in which women (and occasionally men) can supply sex to men. Sex work is viewed in these papers as a more or less close substitute to other forms of sexual exchange, and being a man is essential to demanding this service. Biological determinism is used to varying degrees of explicitness and sophistication as the underlying theory of human sexual behaviour, which implies that it is not possible to have a unified economic theory of sex work independent of the sexual identities of the parties involved. Garofalo (2002) is to date the only feminist contribution focussed on explaining the different prices paid in the different sex work sub-markets in terms of the power asymmetries between



contractual parties, concentrating on the role of female sex work in the construction of male identity.

**2. Theoretical model**

The theoretical basis for the present paper is an economic model of sex work developed in Della Giusta et al (2006), which contains a number of assumptions regarding the behaviour of individuals and the opportunities and constraints they face, and incorporates both stigma and inequality between client and sex worker. Stigma is modelled as the effect on reputation from participating in this market, and we use insights on modelling reputations from the both the economic and sociology literature (Granovetter, 1985; Bordieu, 1986; Coleman, 1988; Putnam, 1993; Mansky, 2000), which point to two distinct ways in which reputations matter to economic agents: firstly because as social beings they derive utility from a positive evaluation by others in the social groups they belong to (Casson, 1991), and secondly because they are aware of the costs that social sanctions may impose on their material progress (Akerlof, 1980; Arnott and Stiglitz, 1991). Reputation has thus both intrinsic and instrumental value: it is desired per-se (provider of utility) and can be used to access other earning opportunities. Stigma is a loss of reputation, which can affect social standing and therefore both pay and working conditions (particularly personal risk) as well as access to services and other jobs for sex workers. Following Akerlof (1980), we include reputation in agents' preferences in our model and allow agents to have a different concern for their reputation depending on their personal characteristics and the specific moment at which they exercise choice. In the model, we also assume that the demand for sex and the demand for sex work are not perfect substitutes, to reflect

the fact that clients' may have other motivations, which we aim to explore empirically in the present paper.

Focusing on the demand side of the model, and following Della Giusta *et al* (2006), let

$$(1) \quad U(S_0, S, C, r, X)$$

denote the utility of a possible client buying sex.  $S_0$  is the amount of freely exchanged sex that the client has, whereas  $S$  is the amount of sex that the client has with sex workers. Amounts of sex can be measured in terms of number of sexual events (number of visits) during a certain period.  $C$  is consumption of other goods and services than sex,  $r$  is a variable related to reputation and stigma effects, and  $X$  is a vector of individual characteristics. The utility function is assumed to be increasing in  $\{S_0, S, C, r\}$  and strictly quasi-concave.

Let  $w$  denote the price per event with a sex worker and let  $I$  denote disposable income. The budget constraint is given by

$$(2) \quad I = wS + C.$$

Let  $R$  denote capacity for reputation losses, which is reduced the more sex is bought; or

$$(3) \quad r = R - S$$

Given that sex is bought, which means that the client has passed the moral and emotional threshold of buying sex, the amount of sex bought that maximizes utility (1) under the constraint (2) and (3) is given by the following demand function

(4)  $S=f(w,I,R,S_0,X)$

We expect that the amount of sex bought is decreasing in the price  $w$ , increasing in income and in the capacity for reputation losses. If demand for paid sex decreases with regular sex,  $S_0$ , paid sex and free sex are substitutes. Otherwise they are complements. In this paper, we explore empirically whether our assumptions regarding the motivations for demand are valid, by developing an econometric model of client's demand with data from a US survey of clients of street sex workers (Monto, 2000a).

**3. Description of the data**

The dataset contains background characteristics, attitudes, and reported behaviours of arrested male clients of female street sex workers in four US cities ( San Francisco, Portland, Las Vegas, Santa Chiara) over the period 1996-1999 (Monto, 2000a). The data was collected in the context of two client intervention programmes aiming to address the male demand side of sex work: Portland's Sexual Exploitation Education Project and San Francisco's First Offender Prostitution Program, both aiming at prevention efforts with clients, rather than with sex workers.<sup>8</sup>

Clients who were caught at the moment of paying a street sex worker and arrested were asked to participate in the San Francisco's First Offender Prostitution Program followed by similar initiatives in Santa Clara and Fresno, California and Las Vegas, Nevada. The one-day workshop aimed to instruct the arrested clients about the legal, social and health- related consequences of engaging in sex work and endow them with persuasive reasons to not rehire sex workers. The program considers sex work as an institution built on violence, sexual exploitation, poverty and misogyny. The

<sup>8</sup> The Inter-university Consortium for Political and Social Research (a unit within the Institute for Social Research at the University of Michigan, USA) provided the data. Data are available and downloadable from: <http://www.icpsr.umich.edu:8080/ABSTRACTS/02859.xml?format=ICPSR>

1  
2  
3  
4  
5  
6 participation of the arrested clients in this program allowed them to be dismissed by  
7  
8 their crime against a 500 dollar fee. The Portland program was a 15-hour, weekend  
9  
10 workshop administered by an independent organization in cooperation with the  
11  
12 District Attorney's Office. Some of the men participating in the programmes were  
13  
14 required to do so as part of their sentence, others had reduced fines or the arrest  
15  
16 purged from their records in exchange for their attendance. Arrested clients of street  
17  
18 sex workers who accepted to participate to an intervention program compiled a  
19  
20 detailed anonymous self-administered questionnaire. Over 80% of participants  
21  
22 completed the questionnaires, resulting in a sample of 1342 individuals.<sup>9</sup>  
23  
24  
25  
26

27 The data collection process implies 3 levels of selection:

28  
29 1. The individuals in the data set are those who were caught. We are not  
30  
31 able to check if the arrested clients' characteristics are similar or different from those  
32  
33 who were not caught. We can speculate on possible correlations between being a  
34  
35 regular client and the ability of not being caught but we are not able to measure the  
36  
37 possible bias generated by this first selection.  
38  
39  
40

41 2. The individuals in the data set are those who participate in the re-  
42  
43 habilitation programme. We do not have information on those clients who did not  
44  
45 participate.  
46  
47  
48

49 3. The individuals in the data set are those who, being arrested and  
50  
51 participating in the re-habilitation program, did complete the questionnaire.  
52  
53

54 These three selection levels introduce a bias in our analysis. Arrested clients  
55  
56 could be on average less experienced in buying sex from street sex workers than non-  
57  
58

59  
60 <sup>9</sup> Though refusals constituted the largest single category of non-completions, language barriers and late arrivals also accounted for a substantial proportion. Of these 1,342 respondents, 36 from San Francisco and 15 from Las Vegas completed a Spanish-language version of the questionnaire. Completing the English version of the questionnaire were 950 men from San Francisco, 254 from Las Vegas, 77 from Portland, and 10 from Santa Clara.

arrested clients and therefore end up in being caught. Moreover arrested clients motives for seeking sex workers could be different from those who were not caught. In this paper we do not deal with selection bias issues, which we leave for future work.

Table 1 compares the sample of clients with a National sample taken from the National Health and Social Life Survey, conducted in 1992, using a nationally representative sample<sup>10</sup> which contains extensive information on the US population aged 18-59 able to complete an interview in English.

Comparing our sample with the national survey, we note an under-representation of whites relative to other ethnic groups. On average, our clients are slightly older than the national sample and more of them are not married respect to in the national sample. They also have unhappier marriages, more sex-partners compared to in the national sample, lower frequencies of sex during the 12 months prior to the interview, and are on average better educated respect to the national sample: 71% have at least some college after high-school, against 35% nationally. Labour force participation is similar to the national sample.

**(Table 1. Characteristics of arrested clients compared to the National Sample)**

In our sample, 27% of respondents claimed that they had never had sexual relations with a sex worker (see Table 2)<sup>11</sup>. The most common circumstance of the first encounter with a sex worker was being approached by a sex worker (33%), followed by “approached the sex worker on my own” (30%), and “a group of buddies

<sup>10</sup> The nationally representative sample data of The National Health and Social Life Survey are provided by Monto (2000b). The survey data are collected by personal interviews and self-administered questionnaires, and provide information on the sexual experiences as well as social, demographic (race, education, political and religious affiliation and occupation), attitudinal (amongst which attitudes toward premarital sex, the appeal of particular sexual practices, levels of satisfaction with particular sexual relationships), and health-related characteristics. The overall response rate was 78.6 percent of the 4,369 eligible respondents selected for inclusion in the study. The sample reported in Table 1 includes only the non missing values.

<sup>11</sup> Because men in the sample were almost all arrested while propositioning a decoy posing as a sex worker, it is possible that some had never before sought out a sex worker or had not successfully completed the transaction.

set me up” (24%). The most frequent sexual act done with the sex worker was oral sex (54%), followed by vaginal sex (14%). As far as risk is concerned, 74% of the sample declared that they always used a condom (for more details see Table 2).

**(Table 2. Attitudes toward sexual behaviour)**

Arrested clients were asked to agree or disagree with 13 statements designed to reflect popular and scholarly understandings of the reasons men seek out sex workers. Many findings from other studies are supported by these results, which indicate clearly that demand for paid sex and free sex are not perfect substitutes.

**(Table 3. Motives for seeking sex workers)**

From the responses it can be observed that a considerable number of clients appear to be excited by the illicit, risky, or different quality of sex with a sex worker. Some men pay for sex because they have difficulty becoming involved in relationships, and for some of these men sex work is an attempt not only to have sex, but also to establish intimate relationships with women. Some of the men said that they had the time, energy, or interest also to engage in a conventional relationship with a woman.

Given the scope of the study our data comes from, we also include the analysis of the relationship between sex work and violence by exploring the “rape myth acceptance”<sup>12</sup>, which implicitly demonstrates a tendency of violence against women (Burt, 1980). The response rates presented in Table 4 indicates that the arrested clients do show some attitudes that validate the “rape myth acceptance”. 30% of clients think

<sup>12</sup> Rape myths are attitudes that have been shown to support sexual violence against women. Rape myths are "prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists" (Burt, 1980, p. 217) that serve to justify or support sexual violence against women and diminish support for rape victims. They include the idea that women who are raped are in some way responsible for the violence against them, the idea that women often lie about being raped for selfish reasons, and the idea that only sexually promiscuous women are raped.

that provocative dress asks for trouble; 17% think that rape victims have a bad reputation. 23% think that going home with a man implies willingness to have sex with him.

(Table 4. Rape myth acceptance)

4. Modelling demand and risk aversion

In what follows, we move to our empirical model of the demand for paid sex, for which we use two specifications: an ordered logit model of demand for paid sex, and a multinomial logit model of the probability of being a regular client.

The first specification is an ordered logit model with four categories of having sex with a sex worker. Let  $y_n^*$  be person  $n$ 's demand for having sex with a sex worker during a year. Here this demand is considered as a latent variable. Let  $x_n$  be a vector of explanatory variables that affect demand.  $\beta$  is a vector of unknown coefficients. Moreover let  $\varepsilon_n$  be a random variable. We then have the following demand function for paid sex:

(5)  $y_n^* = x_n\beta + \varepsilon_n; n = 1, 2, \dots, N$

Let  $y_{nj}$  be the observation of how many times the clients have had sex with a sex worker during a year,  $j=1,2,3,4$ , where  $j=1$  means that the client has not been with a sex worker before he was observed and arrested,  $j=2$  means that the client has been with a sex worker once before,  $j=3$  mean that he has had sex with a sex worker more than once, but less than once per month, and  $j=4$  if the client has had sex with a sex worker more than once per month. Thus the ordered structure of demand is given by:

$$(6) \quad y_{nj} = \begin{cases} 1 & \text{if client } n \text{ belongs to category } j; j=1,2,3,4 \\ 0 & \text{otherwise} \end{cases}$$

Let  $\alpha_j$  denote the threshold in the ordering of the demand, we then have

$$(7) \quad \begin{cases} y_{n1} = 1 & \text{if } y_n^* \leq \alpha_1 \\ y_{n2} = 1 & \text{if } \alpha_1 < y_n^* \leq \alpha_2 \\ y_{n3} = 1 & \text{if } \alpha_2 < y_n^* \leq \alpha_3 \\ y_{n4} = 1 & \text{if } \alpha_3 < y_n^* \end{cases}$$

The thresholds  $\alpha_j$  must satisfy  $\alpha_1 < \alpha_2 < \alpha_3$ . From (5) and (7) we obtain:

$$(8) \quad P(y_{nj} = 1) = P(\alpha_{j-1} < y_n^* \leq \alpha_j) = P(\alpha_{j-1} - x_n\beta < \varepsilon_n \leq \alpha_j - x_n\beta)$$

We will assume that  $\varepsilon_n$  is i.i.d. with c.d.f.  $P(\varepsilon_n \leq u) = F(u)$ . The  $\varepsilon_n$ -s are assumed to be logistic distributed, with the first moment of the distribution equal to zero and the second moment equal to  $\pi^2/3$ . Thus

$$(9) \quad F(u) = \frac{1}{1 + e^{-u}}$$

Now we can rewrite (8) to yield:

$$(10) \quad P(y_{nj} = 1) = F(\alpha_j - x_n\beta) - F(\alpha_{j-1} - x_n\beta)$$

and where the distribution function  $F(\cdot)$  is given in (9). Note that

$$\sum_{j=1}^4 [P(y_{nj} = 1)] = 1 \text{ so that } P(y_{n4} = 1) = 1 - F(\alpha_3 - x_n\beta)$$

The likelihood function is:

$$(11) \quad L(\alpha, \beta) = \prod_{n=1}^N \prod_{j=1}^4 [F(\alpha_j - x_n\beta) - F(\alpha_{j-1} - x_n\beta)]^{y_{nj}}$$

The coefficient vectors can then be estimated by maximizing this likelihood (or rather the log likelihood). In order to calculate the marginal effects, we note that from (10) we obtain:



$$(12) \quad \frac{\partial P(y_{nj}=1)}{\partial x_n} = \left[ \frac{\partial F(\alpha_{j-1} - x_n \beta)}{\partial x_n} - \frac{\partial F(\alpha_j - x_n \beta)}{\partial x_n} \right] \beta; \text{ for } j=1,2,3,4$$

From (9) and (12) we then derive:

$$(13) \quad \begin{cases} \frac{\partial P(y_{n1}=1)}{\partial x_n} = -F(\alpha_1 - x_n \beta)[1 - F(\alpha_1 - x_n \beta)]\beta \\ \frac{\partial P(y_{n2}=1)}{\partial x_n} = \{F(\alpha_1 - x_n \beta)[1 - F(\alpha_1 - x_n \beta)] - F(\alpha_2 - x_n \beta)[1 - F(\alpha_2 - x_n \beta)]\}\beta \\ \frac{\partial P(y_{n3}=1)}{\partial x_n} = \{F(\alpha_2 - x_n \beta)[1 - F(\alpha_2 - x_n \beta)] - F(\alpha_3 - x_n \beta)[1 - F(\alpha_3 - x_n \beta)]\}\beta \\ \frac{\partial P(y_{n4}=1)}{\partial x_n} = \{F(\alpha_3 - x_n \beta)[1 - F(\alpha_3 - x_n \beta)]\}\beta \end{cases}$$

We note that the first and last marginal effects have an opposite sign. The terms in braces can be positive or negative.

In the second specification of demand we model the probability of being a “regular” client (multinomial logit). Let  $U_{nj}$  be the utility for client  $n$  of being  $j$ -type of client. When  $j=1$ , the client is a “regular” client and when  $j=0$  he is an “experimenter”. We will assume that  $U_{nj}$  is given by

$$(14) \quad U_{nj} = x_n \gamma_j + \varepsilon_{nj}; j=0,1; n=1,2,\dots,N$$

The vector  $x_n$  is the same as in the ordered logit presented above, except that it includes 1 to allow for a constant, and  $\gamma_j$  is a vector of alternative specific coefficients. By assuming that  $\varepsilon_{nj}$  is extreme value distributed (the double exponential distribution) with zero expectation and a constant variance, and by assuming utility maximization, we get the following probability for being a “regular” customer:

$$(15) \quad P(U_{n1} \geq U_{n0}) = \frac{\exp(\sum_{k=0}^K \gamma_{1k} x_{nk})}{\exp(\sum_{k=0}^K \gamma_{0k} x_{nk}) + \exp(\sum_{k=0}^K \gamma_{1k} x_{nk})} = \frac{\exp(\sum_{k=0}^K \gamma_k x_{nk})}{1 + \exp(\sum_{k=0}^K \gamma_k x_{nk})}$$

where

$$\gamma_k = \gamma_{1k} - \gamma_{0k}, \text{ and } x_{n0} = 1.$$

Let  $y_{n1}=1$  if the individual has chosen to be a regular customer, and equal to zero otherwise, and let  $\varphi_{n1}(\sum_k \gamma_k x_{nk})$  be the choice probability in (13). Then the likelihood of the data,

$$(16) \quad L(\gamma) = \prod_{n=1}^N [\varphi_{n1}(\sum_{k=0}^K \gamma_k x_{nk})]^{y_{n1}} [1 - \varphi_{n1}(\sum_{k=0}^K \gamma_k x_{nk})]^{1-y_{n1}}$$

The coefficients  $\gamma_k$ ,  $k=0,1,\dots,K$  are estimated by maximizing this likelihood (or rather the log-likelihood).

Apart from the demand for paid sex we also estimate the demand for condom use in order to analyse the peculiarity of clients' behaviour with respect to risk. Condom use is almost always negotiated directly between the interested client and the sex worker. Therefore, the client who requires the use of condoms, signals that he has a more risk adverse attitude. The choice probability of using condom follows from a similar utility maximizing procedure, with an additive random utility model, as the one that led to the likelihood in (16).

## 5. Empirical estimates.

In order to estimate the model for demand of paid sex (as presented in Section 2, equations 1-4) we would need prices and income variables. In our data we do not observe the price paid, neither do we observe income. What we observe are the following variables: full-time work or not, education (college/or more, or less), age, job-type (executive/business manager versus lower level), race (non-white versus white), married or not. Full-time jobs, education, age, job-type and race are important determinants for income. Income tends to be higher for workers with full-time job, for workers with higher education, for executive managers and for whites. Moreover,

with seniority wage structures income tend also to increase with age. However, education, job-type and race may also have a direct impact on the capacity for reputation losses so that this capacity is lower, i.e. easier to ruins one's reputation, the higher the education is, the more leading job a person has, married versus non-married. Thus we would expect full-time work to have a positive impact on demand for paid sex (positive income effect) while the impact of education, age, job type and race are ambiguous.

The data also contains a large number of attitudinal variables. To see whether it was possible to reduce the number of variables, we performed a factor analysis with the purpose of uncovering a possible latent structure of these variables in the data set<sup>13</sup>. These factors will then be included in the demand function. In the factor analysis we exclude those variables which have a percentage of missing values exceeding 22%, as well as missing demographic variables. We derived 6 factors (as the number of eigenvalues exceeding 1 is 6) which are presented in Table 5.

**(Table 5. Factor analysis)**

The first factor, “against gender violence” is a predictor of violent sexuality. It might indicate that one of the motivations when clients approach the sex workers is the attraction to violence, which can be satisfied through buying sex with sex workers, if found to be a significant factor in explaining demand. The higher the score for this factor, the less gender violent is the client.

<sup>13</sup> The choice of the number of factors is based on the number of eigenvalues of pattern/correlation matrix, which is the covariance matrix of the standardized variables<sup>13</sup>, which are greater than 1. Eigenvalues for a certain factor measures the variance in all the variables, which are grouped into that factor. The ratio of eigenvalues is the ratio of explanatory importance of the factors with respect to the variables. A low eigenvalue poorly explains the variance of the variable. Thus the correlation between indicators and factors is characterized by large loadings above 0.5, moderate loadings between 0.3 and 0.5 and small loadings below 0.3. In our case we have considered only loadings > 0.45.

The second factor named “against sex work” can be taken to indicate both relatively conservative views and, alternatively, a commodified prospective toward sex work. The higher the score on this factor, the more the client is against sex work.

The third factor is “sex workers are not different and dislike their job”. This factor contains also the idea that sex workers are different to other women in that they like men and sex more, and they like sex rougher; it can also be used as an indicator for justifying sex commodification and avoids the intrinsic feeling of treating of sex as commodity. The higher this factor score, the less clients think that sex workers are different and like their job.

The fourth factor “like relationships” captures the fact that some respondents prefer sex work to relationships and find the latter burdensome, so they interact with individuals who can respond to their needs without demanding intimate relationships. The higher this factor, the more the clients like relationships and related responsibilities.

Factor five, “variety dislike”, captures the view that sex work forms part of sex consumption, and can for example serve to satisfy those sexual appetites that the regular partner is unwilling to satisfy<sup>14</sup>, or the desire for variety of sexual partners. The higher this factor, the less the clients like variety.

The sixth factor “Relationship troubles” reflects the actual relationship status of respondents. The higher the factor, the less intact and more troubled is the relationship life of the client.

---

<sup>14</sup> “The desire to “have a variety of sexual partners” and “be in control during sex,” and the need to “have sex immediately when I am aroused” all point to this kind of self-focused sexuality that Blanchard (1994) calls “McSex” in his popular expose on “young johns.” According to one man he interviewed ‘it’s like going to McDonalds; most people are looking for a good quick cheap meal. It’s satisfying, it’s greasy, and then you get the hell out of there.’” Paying for sex because of the desire to have sex with women with particular physical attributes, a motivation described by McKeganey (1994), also reflects a conception of sex as a commodity”. (Monto 2000b, pg 34).

The characteristic of being against sex work may be related to individuals with a lot to lose reputation wise when having commercial sex. Married persons tend to like relationship and may/or may not have troubles with relationship. The latter can also imply that to have sex one has to go outside marriage. These variables, and perhaps dislike variety, may thus capture the impact regular sex may have on the demand for commercial sex. In table 6 we summarize what our expectations are with respect to how the observed variables and the factors affect demand for sex work.

**7. Results**

We use the frequency of encounters with a sex worker during last year as dependent variable in the ordered logit model (see Table A2 in the Appendix). We consider 4 categories  $j=1,2,3,4$ . Where  $j=1$  means that the client has not been with a sex worker before he was observed and arrested,  $j=2$  means that the client has been with a sex worker once before,  $j=3$  mean that he has had sex with a sex worker more than once, but less than once per month, and  $j=4$  if the client has had sex with a sex worker more than once per month. As far as the probability of being a regular clients is concerned, our second model, the dependent variable (see Table A3 in the Appendix) is defined equal 1 if the clients has been more than once with a sex worker over last year (categories 3 and 4 in the first model). The dependent variable is equal 0 if the clients has been only once or never with a sex worker (categories 1 and 2 in the first model).

The probability of using a condom (see Table A3 in the Appendix) is defined as 1 if the client uses a condom more than once or often, and as 0 if the clients never or seldom use a condom.

The vector  $x_n$  of explanatory variables that affect demand in the first model includes the following variables: the 6 factors defined in the previous paragraph, the working status of the client, his educational level, his age, his occupation, his race, his marital status, a variable about disliking control (see Table A4 for definitions and descriptive statistics). The dataset does not contain information regarding the level of earnings, and hence some of the personal characteristics proxy the income level.

The variable “dislike control” is defined in Table A5. It takes the value of 1 if clients agree strongly with the statement that they like control during sex. It takes the value of 2 if they agree somehow, value of 3 if they disagree somehow and value equal 4 if they disagree. The higher the value for this value, the more individuals dislike control.

The vector  $x_n$  of explanatory variables for the second and the third model are the same as for the first model but they also include an intercept.

Table 7 contains the estimation results for both the ordered logit for the demand of sex work, the logit for being a regular client and the probability of using a condom.

#### **(Table 7. Estimation results)**

The ordered logit results imply that demand for paid sex, in terms of frequency per year, is the same across education levels (this variable is not significantly different from 0), it is higher among full-time worker than individuals working less hours (this could be due to an income effect), and non-white individuals demand more than white individuals (this could be an effect related to the particular segment of the sex industry our sample is drawn from, or to the unobserved biases in the sample). Married individuals demand less than non-married. The variable control dislike is

very significant and the positive sign implies that the more individuals dislike control, the more they demand sex work; in other words the more they like control, the less they demand. Demand in our sample is increasing with the age of the client. In another specification of the model<sup>15</sup>, we have also added the age when first with a sex worker. We wanted to test the hypothesis that the younger a client starts to visit sex workers, the higher the frequency: a sort of addiction effect. Nevertheless we found that the variable was not significantly different from zero so we rejected the hypothesis of an addiction effect. The positive sign for the coefficient of factor 1 “against gender violence” implies that the higher this variable, i.e. the more the clients dislike violence, the more they demand. In other words, the more clients like gender violence the less they demand. The more clients are against sex work the less they demand (negative sign of factor 2 and significant at 10%). The more they think that sex workers are not different and dislike their job the more they demand (positive sign of Factor 3 and significant at 5%). The parameter for Factor 4 “Like relationships” is negative and strongly significant (1%) and it implies that the more the clients like to be in a relationship with its responsibilities, the less they demand. Factor 5, “Variety dislike”, shows that the more they like variety in sex life, the more they demand paid sex (significant at 1%). Factor 6, “Relationship troubles” is not significant.

The results are somewhat mixed compared to prior expectations, but as demonstrated in Table 8, the overall results for the ordered logit in Table 7 shadow for differences in behaviour across individuals with little experience with sex workers (named “experimenters”) and those with more experience (named “regulars”). In Table 8, we distinguish between four groups of clients. The first two are those who

<sup>15</sup> Available from the authors on request.

declared to have never had sex with sex workers before or only once before: the “experimenters” (48% of respondents). Clients in the two last groups are named “regulars” because they declare having had sex with street sex workers at least more than one time, but less than once a month (3rd group) or 1 to 3 times a month (4<sup>th</sup> group), overall these are just over 52% of respondents. Table 8 shows the impact on demand of marginal changes in the explanatory variables, the marginal effects, within each group. As noted above the marginal effects in an ordered logit for the first and the last category must have opposite sign. The signs for the middle categories are free to vary. In our case, category 1 and 2 show the same pattern of behaviour and the 3<sup>rd</sup> and 4<sup>th</sup> show the same pattern, but with opposite sign relative to category 1 and 2.

**(Table 8. Marginal effects in the ordered logit)**

The “experimenters” demand more street sex work the less they work, more if they are white opposed to non-white, more the younger they are and more the more they like to have control when having sex. The “regulars” characteristics are quite the opposite. The more experimenters are against gender violence the less they demand street sex work (i.e. they demand more, the more gender violent they are). The more experimenters are against sex work, the more they demand; the more they think that the sex workers dislike their job and are not different from other women, the less they demand; the more they like relationships and responsibilities the more they demand, and the less they like variety in their sex life, the more they demand. For the regulars all of these effects are reversed.

Thus the experimenters correspond to a more machist type, with negative views of women, of sex work, and of sex workers (who are believed to be different from other women but condemned at the same time), and viewing street sex work as a



complement to stable relationships. The regulars have more liberal views of women, of sex work and of sex workers, the more they dislike control the more they demand, and they like variety. Their demand also increases with age and with having a permanent job, which may indicate a positive income effect. These appear to be men who are happy to satisfy their sexual wants through sex work, which they prefer to relationships. In Table 7 we also give the estimates of the probability of being a “regular” client as opposed to being an “experimenter”. Comparing these results with the marginal effects for the “regulars” derived from the ordered logit given in Table 7, we observe that the results are quite similar, which is a further confirmation of the conclusions drawn above.

In Table 7 we also report the estimates from the use of condoms, which is a measure of risk aversion on the part of the client (Gertler, 2003). Concentrating on the significant parameters<sup>16</sup> we note that the probability of using condoms is higher among the non-white compared to the white respondents. The probability of using condoms is higher among those who are opposed to gender violence relative to those who are not, and the probability of using condom is higher the more they favour sex work and the less they like variety. It is also interesting to note that among those with a good relationship the probability of using a condom is lower than among those with a broken relationship. Thus the users of condoms seem to fit the profile of the regulars, whereas the non users fit that of the experimenters.

**8. Implications and conclusions**

<sup>16</sup> We note that the distribution of the dependent variable is such that the percentage of 0, i.e. clients who use the condom never and seldom is only 5.6%.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
The results of our empirical analysis confirm the behavioural assumptions behind our theoretical framework: stigmatisation of clients and sex workers are important characteristics of this market (as reflected in the attitudes of clients in the sample towards sex work, towards sex workers, and towards being caught), and demand for paid sex is not simply a substitute for demand for free sex. Both of these general results confirm the findings of the empirical literature discussed in section 1.

20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
Moreover, in our sample there appear to be two distinct groups of clients, whose personal characteristics and attitudes are radically opposite: experimenters, to whom street sex work is a complement to stable relationships, and who hold negative views of women, of sex work, and of sex workers; and regulars, who hold more liberal views, like variety and find relationships a burden, and for whom paid sex is a commodity and a normal good whose demand increases with income. The experimenters demand more sex the more they like to have control while the regulars do the opposite. This suggest the need to explicitly incorporate this variable when modelling demand for sex work, and also to further test with empirical evidence whether control in sex is related to perception of control in other areas of a clients' life. This seems particularly important in order to understand whether it is possible to test empirically the idea put forward in several papers that demand for sex work is related to the construction of male identity (Marttila, 2003; Garofalo, 2002). In this sense, it would also be interesting to see which factors are at play in women's demand for male sex work services.

55  
56  
57  
58  
59  
60  
As far as attitudes towards risk are concerned, we note that risk aversion is also correlated to our two clients' profiles, with experimenters being more risk loving and regulars more risk averse. Notwithstanding the selection bias problems presented by

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

our data, our results appear to be in line with those of other studies. Furthermore, our evidence also confirms that the demand for sex work is a phenomenon with multifaceted characteristics which need to be properly investigated and understood when designing regulation for this sector. This is particularly relevant since regulation is overwhelmingly concerned with supply-side considerations, and failure to understand the demand side of this phenomenon is likely to generate ineffective policy outcomes.

For Peer Review

## Bibliography

- Akerlof, G. 1980. A theory of social custom, of which unemployment may be one consequence, *Quarterly Journal of Economics*, vol 94, no.4, p.749-775.
- Aggleton, P. Ed. 1998. *Men who sell sex*, London: UCL Press.
- Arnott, R. Stiglitz J. E. 1991. *Equilibrium in Insurance Markets with Moral Hazard*. Working Paper No. 3588, Cambridge, MA: National Bureau of Economic Research, Inc.
- Bordieu, P.1986. *The forms of capital*, in Richardson J.G. Ed. Handbook of Theory and Research for the Sociology of Education, pg 241-258. Greenwood.
- Ben-Israel, Hanny and Numi Levenkron (2005) "The Missing Factor: Clients of Trafficked Women in Israel's Sex Industry", unpublished manuscript, Hebrew University in Jerusalem.
- Blanchard, K. "Young Johns" *Mademoiselle* 100(5), 1994.
- Burt, Martha R. (1980). Cultural myths and supports for rape. *Journal of Personality and Social Psychology*. 38: 1217-230.
- Cameron, Samuel (2002), *The economics of Sin*, Cheltenham: Edward Elgar Publishing Limited.
- Cameron S., Alan Collins, and Neill Thew (1999), "Prostitution services: an exploratory empirical analysis", *Applied Economics* , 31: 1523-1529.
- Cameron, S., and Alan Collins (2003), "Estimates of a Model of Male Participation in the Market for Female Heterosexual Prostitution Services", *European Journal of Law and Economics*, vol 16, no.3, pp.271-288.
- Casson, M. 1991. *The Economics of Business Culture*, Oxford: Clarendon Press.
- Coleman, J.S. 1988. Social Capital in the Creation of Human Capital, *American Journal of Sociology*, vol. 94, pg S95-S120.

Collins, Alan. Ed. 2004. Sex and the City, *Urban Studies*, vol 41, no.9.

Della Giusta, M., M.L. Di Tommaso and S. Strom (2006) "Sex, power and reputation: a model of the market for prostitution services" forthcoming in *Journal of Population Economics*.

Doezema, Jo (1998), "Forced to Choose. Beyond the Voluntary v. Forced Prostitution Dichotomy", in Kempadoo, K., Doezema J., *Global Sex Workers. Rights, Resistance, and Redefinition*, Routledge, New York – London

Edlund, Lena and Evelyn Korn (2002), "An Economic Theory of Prostitution", *Journal of Political Economy*: Vol 110, No 1.

Garofalo, Giulia (2002) "Towards an economic theory of prostitution", mimeo.

Gertler, Paul et al (2003) "Risky Business: the Market for unprotected commercial sex", mimeo Cornell University.

Granovetter, M. 1985. *Economic Action and Social Structure: The Problem of Embeddedness*, American Journal of Sociology, vol. 91, pg 481-510.

Kern, Roger M. (2000), "Prostitute Client Profiles: Indicators of Motivations for prostitution Use", mimeo Eastern Michigan university.

Lim, L. L. ed. 1998. *The sex sector: the economic and social bases of prostitution in Southeast Asia*. Geneva: International Labour Office.

Mansky, C. 2000. Economic Analysis of Social Interactions, *Journal of Economic Perspectives*, vol.14, pp.114-136

Marttila, Anne-Maria (2003) "Consuming Sex: Finnish Male Clients and Russian and Baltic Prostitution". Presented at Gender and Power in the New Europe, the 5th European Feminist Research Conference August 20-24, 2003 Lund University, Sweden.

McKeganey, Neil and Marina Barnard (1996) "*Sex work on the streets: sex workers and their clients*", Buckingham: Open University Press.

Moffatt, Peter.G, and Simon A. Peters (2001), "The pricing of Personal Services", mimeo, Royal Economic Society in Durham.

Monto, Martin A. (2000a) "Clients of street sex workers in Portland, Oregon, San Francisco and Santa Clara, California, and Las Vegas, Nevada 1996-1999", University of Portland. Ann Arbor: MI: Inter-university Consortium for Political and Social Research.

Monto, Martin, (2000b) "Why Men Seek out Prostitutes," in R.Weitzer (ed.), *Sex for Sale: Prostitution, Pornography, and the Sex Industry*, New York: Routledge.

Monto, Martin (2004), "Female Prostitution, Customers, and Violence," *Violence Against Women*: (10) 160–168.

O'Connell Davidson J.(1998), "*Prostitution Power and Freedom*", Polity Press, 1998.

O'Kane, Maggie 2002. *Prostitution: The Laws Don't Work*, Channel 4 Documentary, UK.

Pitts, Marian K., Anthony M.A. Smith, Mary O'Brien, and Sebastian Misson (2004), "Who pays for sex and why? An analysis of social and motivational factors associated with male clients of sex workers", *Archives of Sexual Behaviour*, 33 (4): 353-358.

Putnam, R. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton University Press.

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.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Reynolds, H. 1986. *The Economics of Prostitution*, Thomas, Illinois, USA.

Sanchez Taylor, J. (2001), “Dollars are a Girls' Best Friend? Female Tourists' Sexual Behaviour in the Caribbean”, *Sociology* , Vol. 35, No. 3, pp.749-764. Cambridge : Cambridge University Press.

San Francisco Task Force on Prostitution. (1996). Final Report. San Francisco: The Task Force.

Thorbek, Susanne and Bandana Pattanaik, Eds. (2002). *Transnational Prostitution: Changing Global Patterns*, London: Zed Books.

Tiggey, May, Alex Harocopos, and Michael Hough M (2000) “For love or money: pimps and the management of sex work”, London: Home Office, Policing and Reducing Crime Unit.

**Table 1. Characteristics of arrested clients.**

Variable description	Responses of arrested clients	National sample
<b>Race</b>		
White	57.7%	84.6%
Black or African American	5.2%	10.6%
Other	37.2%	4.8%
Observations Total	1313= 100%	1463=100%
<b>Education</b>		
Didn't graduate high school	10.5%	12.1%
Graduated high school	18.4%	52.3%
College aft high school	36.3%	6.9%
Received bachelor's	24.2%	18.8%
Received a masters	10.7%	9.9%
Observations Total	1329= 100%	1460= 100%
<b>Labor force Status</b>		
Working Full time	82.9%	77.1%
Working Part time	5.9%	8.1%
In school	2.2%	3.3%
Unemployed/laid off	4.4%	5.4%
Other	4.6%	6.1%
Observations Total	1275= 100%	1463= 100%
<b>Average age of arrested clients</b> (mean = 38 min=18 and max=84)		
Age 18-25	12.7%	14.4%
Age 26-35	33.1%	31.6%
Age 36-45	31.1%	31.2%
Age >46	23.2%	22.8%
Observations Total	1248= 100%	1463= 100%
<b>Marital Status</b>		
Married	42.2%	55.8%
Widowed	1.6%	0.8%
Divorced	14.9%	11.9%
Separated	6.4%	2.4%
Never Married	34.9%	29.1%
Observations Total	1328= 100%	1463= 100%
<b>Marriage description</b>		
Very happy	37.9%	59.7%
Pretty happy	40.3%	37.9%
Not too happy	21.8%	2.4%
Observations Total	528= 100%	809= 100%
<b>Sex partners last year</b>		
0 partners	9.9%	10.1%
1 partner	37.6%	70.9%
2 partners	16.7%	8.2%
3 -4 partners	17.0%	7.4%
more than 5 partners	18.8%	3.4%
Observations Total	1315= 100%	1349= 100%
<b>Frequency of sex during last 12 months</b>		
Not at all	10.3%	9%
Once or twice	9.1%	6.4%
Once a month	15.3%	10.9%
3 times per month	21.3%	18.5%
Once a week	19.2%	21.7%
2-3 times per week	17.7%	25.1%
More than 3 time per week	7.2%	8.4%
Observations Total	1268= 100%	1317= 100%



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

**Table 2. Attitudes toward sexual behaviour.**

Variable description	Responses of arrested clients
Circumstances when 1st with sex worker	
Were approached by sex workers	32.7%
They approached the sex workers on their own.	29.7%
A group of buddies set them up	23.9%
Other	5.1%
Family member or relatives set them up	4.5%
Brothel	2.9%
Military	1.2%
Total observations	1040=100%
Mostly done with a sex worker	
Oral sex	53.6%
Vaginal sex	14.4%
Checked more than 2 acts	17.8%
Half and half	10.5%
Other	3.7%
Total observations	911=100%
Condom use with sex workers	
Always use it	74.2%
Often	11.7%
Sometimes	7.1%
Never use it	4.2%
Seldom	2.8%
Total observations	1024=100%
Sex with prostitute during last 12 months	
Never	26.8%
Only one time	26.7%
More than 1 time but less than once per month	34.6%
1 to 3 times per month	9.3%
Once or 2 times per week	1.7%
3-4 times per week	0.4%
5 or more times per week	0.5%
Total observations	1054=100%

**Table 3. Motives for seeking sex workers.**

	Agree Strongly and Agree somewhat in percent	Disagree Strongly and disagree somewhat in percent	Total In percent	Total observations
Difficulty-meeting women who are not nude dancers or prostitutes	23	77	100	1244
Think most women find me unattractive physically	24	76	100	1248
Want different kind of sex than regular partner	41	59	100	1237
Shy and awkward when try to meet a woman	41	59	100	1246
Have sex with a prostitute than have a onventional relationship with a woman	18	82	100	1244
Excited by the idea of approaching a prostitute	43	57	100	1244
Don't have the time for a conventional relationship	32	68	100	1239
I don't want the responsibilities of a conventional relationship	28	72	100	1233
Like to have a variety of sexual partners	41	59	100	1244
Like to be in control when I'm having sex	42	58	100	1232
Like to be with a woman who likes to get nasty	52	48	100	1230
Need to have sex immediately when aroused	31	69	100	1235
Like rough hard sex	19	81	100	1233

**Table 4. Rape myth acceptance.**

Variables	Agree and Somewhat agree	Disagree and Somewhat disagree	Total observations
Stuck-up woman deserve a lessons	7%	93%	1200=100%
Women hitchhiking get what they deserve.	9%	91%	1203=100%
Provocative dress asks for trouble	30%	70%	1223=100%
Rape victims have bad reputation	17%	83%	1200=100%
Forced sex after necking's woman fault	16%	84%	1197=100%
Going to home implies willing to have sex	23%	77%	1218=100%

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

**Table 5. The results of the factor analysis.**

Factors	Eigenvalues	Variables
<b>Factor1</b> 'Against gender violence'	0.5305	Forced sex after necking's woman's fault
	0.5462	Women hitchhiking deserve rape
	0.5814	Stuck-up women deserve a lesson
	0.6778	Sex fun if woman fights
	0.5036	Some women like being smacked
<b>Factor2</b> 'Against sex work'	0.6396	Want sex more when angry
	-0.6296	Prostitution creates problems
	-0.6586	Cops should crack down on prostitution
	0.7296	Prostitution not wrong
	0.6644	Should legalize prostitution
<b>Factor3</b> 'Sex workers are not different and dislike their jobs'	0.5323	Should decriminalize prostitution
	0.5301	Sex workers like sex more
	0.4821	Sex workers like sex rougher
	0.5765	Sex workers enjoy work
	0.5483	Sex workers like men
<b>Factor4</b> 'Like Relationship'	0.4988	Prefer prostitution to relationship
	0.7108	No time for relationship
	0.6952	Don't want relationship responsibilities
<b>Factor5</b> 'Variety dislike'	0.4599	Excited by approaching sex workers
	0.5134	Like to have a variety of partners
	0.4755	Like woman who gets nasty
<b>Factor6</b> 'Relationship troubles'	0.4833	Serious trouble with partner
	0.7355	Separated from partner
	0.6250	Broke up with partner

**Tab 6. Effects of variables on demand for sex work**

Effects of variables on demand for sex work	Signs: A priori expectations	Signs: Estimates
Education	?	Not significant
Full time job	+	+
Race	?	+
Executive officer	?	Not significant
Married	?	-
Like relationship	-	-
Dislike variety	-	-
Relationship trouble	+	?
Against sex work	-	-
Dislike control	?	+
Against gender violence	?	+
Sex workers dislike their jobs	?	+

**Table 7. Estimation results.**

Variables	Ordered Logit	Logit: Probability of being a “regular” client	Logit: Probability of using condom
Education =1 college or more; =0 otherwise	0.160 (0.194)	0.067 (0.243)	0.067 (0.474)
Work status =1 Full time; =0 otherwise	0.655** (0.281)	0.656* (0.347)	0.476 (0.564)
Race =1 if non white; =0 white	0.491*** (0.186)	0.201 (0.226)	1.121** (0.576)
Job =1 executives/business managers; =0 otherwise	-0.125 (0.170)	-0.151 (0.209)	-0.023 (0.415)
Marriage =1 married; =0 otherwise	-0.312* (0.173)	-0.118 (0.213)	0.090 (0.412)
Control dislike	0.276*** (0.096)	0.220* (0.118)	-0.062 (0.234)
Age	0.017* (0.009)	0.030*** (0.011)	-0.031 (0.020)
Factor1 'against gender violence'	0.181* (0.108)	0.274** (0.136)	0.464* (0.259)
Factor2 'against sex work'	-0.159* (0.094)	-0.199* (0.112)	-0.400* (0.222)
Factor3 'sex workers not different and dislike their job'	0.198** (0.101)	0.200* (0.124)	-0.102 (0.242)
Factor4 'like relationships'	-0.536*** (0.112)	-0.641*** (0.137)	-0.351 (0.266)
Factor5 'variety dislike'	-0.968*** (0.121)	-1.031*** (0.151)	0.692*** (0.281)
Factor6 'relationship troubles '	-0.026 (0.109)	0.006 (0.137)	0.482* (0.293)
Threshold $\alpha_1$	0.788 (0.550)		
Threshold $\alpha_2$	2.233*** (0.559)		
Threshold $\alpha_3$	4.452*** (0.580)		
Constant		-2.501*** (0.692)	3.643*** (1.339)
# of observations	582	582	570
Mcfaddens rho	0.14	0.18	0.71

Standard errors in parentheses. (Blank: Not significant. \*\*\*:Significant at  $\leq 1\%$ , \*\*: Significant at  $\leq 5\%$ , \*:Significant  $\leq 10\%$ )

**Table 8: Marginal effects in the ordered logit**

Variables	Never with sex workers	Once with sex workers	More than 1 time but less than once per month	1 to 3 times per month
Education =1 college or more; =0 otherwise	-0.0269 (0.033)	-0.012 (0.014)	0.027 (0.033)	0.012 (0.014)
Work status =1 Full time; =0 otherwise	-0.123** (0.059)	-0.033*** (0.008)	0.113** (0.048)	0.0429*** (0.015)
Race =1 if non white;=0 white	-0.077*** (0.028)	-0.044** (0.018)	0.079*** (0.029)	0.0425** (0.017)
Job =1executives/business managers =0 otherwise	0.02 (0.028)	0.01 (0.014)	-0.02 (0.028)	-0.010 (0.013)
Marriage =1 married; 0 otherwise	0.051* (0.0287)	0.026* (0.015)	-0.052* (0.029)	-0.025* (0.014)
Control Dislike	-0.045*** (0.016)	-0.023*** (0.008)	0.046*** (0.017)	0.022*** (0.008)
Age	-0.002** (0.002)	-0.001* (0.0008)	0.002* (0.0015)	0.001* (0.0007)
Factor1 'Against gender violence'	-0.029* (0.018)	-0.015* (0.0094)	0.030* (0.018)	0.014* (0.0088)
Factor2 'Against sex work'	0.026* (0.015)	0.013* (0.0083)	-0.026* (0.015)	-0.012* (0.0077)
Factor3 'Sex workers not different and dislike their job'	-0.032** (0.016)	-0.016* (0.009 )	0.033** (0.0172)	0.016* (0.0083)
Factor4 'Like Relationships'	0.088*** (0.0186)	0.045*** (0.011)	-0.09*** (0.020)	-0.043*** (0.009)
Factor5 'Variety dislike'	0.159*** (0.02)	0.085*** (0.015)	-0.162*** (0.024)	-0.078*** (0.012)
Factor6 'Relationship troubles'	0.004 (0.017)	0.002 (0.009)	-0.004 (0.018)	-0.002 (0.008)

Standard errors in brackets. (Blank: non significant, \*: significant at 10%, \*\*: 5%, \*\*\*: 1%).

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Appendix

Table A1. Descriptive statistics of the variables used in the factor analysis. Number of obs= 582.

		Agree strongly =1	Agree somewhat =2	Disagree somewhat =3	Disagree strongly =4	Total %
Factor1	Forced sex after necking's woman's fault	3,26	10,48	23,02	63,23	100
	Women hitchhiking deserve rape	2,23	4,81	14,43	78,52	100
	Stuck-up women deserve a lesson	2,41	3,26	8,25	86,08	100
	Sex fun if woman fights	1,55	4,12	11,68	82,65	100
	Some women like being smacked	3,09	18,38	25,95	52,58	100
	Want sex more when angry	1,72	4,64	9,79	83,85	100
Factor2	Prostitution creates problems	15,46	25,77	29,55	29,21	100
	Cops should crack down on prostitution	13,06	26,12	26,12	34,71	100
	Prostitution not wrong	17,35	34,02	30,76	17,87	100
	Should legalize prostitution	41,24	33,33	12,03	13,4	100
	Should decriminalize prostitution	39,18	32,47	17,01	11,34	100
Factor 3	Sex workers like sex more	4,3	15,64	34,19	45,88	100
	Sex workers like sex rougher	2,58	15,54	32,99	51,89	100
	Sex workers enjoy work	2,75	22,85	47,77	26,63	100
	Sex workers like men	5,84	34,36	42,44	17,35	100
Factor4	Prefer prostitution to relationship	6,19	15,98	21,31	56,53	100
	No time for relationship	13,06	22,16	18,21	46,56	100
	Don't want relationship responsibilities	12,71	17,7	17,53	52,06	100
Factor5	Excited by approaching sex workers	12,89	38,14	24,05	24,91	100
	Lke to have a variety of partners	14,78	35,57	19,93	29,73	100
	Like woman who gets nasty	22,68	35,4	19,42	22,51	100
		Yes=1	no =0	Total %	Total obs	
Factor 6	Serious trouble with partner	32,99	67,01	100	582	
	Separated from partner	20,79	79,21	100	582	
	Broke up with partner	20,1	97,9	100	582	

Table A2 Dependent variable for the ordered logit

Frequency of sex with sex worker during last year .	No of Obs 582 Frequency per cent
=1 never	25.4
=2 once	27.0
=3 more than 1 but less than once per month	35.0
=4 1 to 3 times per month	12.5

Table A3. (1) Dependent variable for the probability of being a regular client; (2) Dependent variable for the probability of using a condom.

(1) Frequency of sex with sex worker during last year.	No. of Obs 582 Frequency per cent	(2) Condom Use	No of Obs 570 Frequency Per cent
=1 if more than once with a sex worker in the last year	52.4	=1 use more than once and often the condom	94.4
=0 if never or once with a sex worker last year	47.6	=0 use condom never and seldom	5.6

Table A4. Descriptive statistics of the variables of the sample used for estimation in table 6. Number of obs=582.

Variable	Mean	St. dev	Min	Max
Education:=1 college or more, =0 otherwise	0.7457	0.435	0	1
Work status =1 Full time, =0 otherwise	0.907	0.290	0	1
Race: =1 if non white, =0 white	0.355	0.4791	0	1
Job:=1 executives/ managers, =0 otherwise	0.4329	0.495	0	1
Marriage :=1 married, =0 otherwise	0.482	0.500	0	1
Control dislike	2.735	0.941	1	4
Age	39	10.009	18	76
Factor1 'Against gender violence'	0.035	0.8693	-5.488	1.154
Factor2 'Against sex work'	0.011	0.929	-2.264	2.189
Factor3 'Sex workers not different and dislike their job'	0.0006	0.885	-3.0865	2.5491
Factor4 'Like relationships'	0.0077	0.8919	-2.623	1.667
Factor5 'Variety dislike'	-0.020	0.856	-2.424	2.490
Factor6 'Relationship troubles '	0.004	0.834	-1.385	4.129



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Table A5. Control like

Do you like control during sex?		Total observations = 582
		Frequency per cent
=1 if agree strongly		10.3
= 2 if agree somewhat		30.1
=3 if disagree somewhat		35.4
=4 if disagree strongly		24.2