TRAFFICKING WOMEN FOR SEXUAL LABOUR

A Game Theoretic Analysis

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ABSTRACT

Trafficking women for sexual labour operates in a highly inefficient market structure that gives way to multiple market failures. Such as serious information asymmetries, credit constraints, lack of labour contracts, negative externalities and lack of public goods. Due to the clandestine nature of trafficking, accurate statistics on the magnitude of the problem is elusive. This has been acknowledged as a major obstacle in researching the extent and scale of trafficking in women, as victims are usually hidden or unreachable. Given this setting and the definitional imprecision surrounding ‘trafficking’, this paper attempts to theoretically model this challenging problem using the tools of game theory and insights from behavioural economics.
BACKGROUND

The United Nations Protocol to Prevent, Suppress and Punish Trafficking, defines trafficking in persons as the recruitment, transportation, harbouring or receipt of persons by improper means, such as force, abduction, fraud or coercion, for an improper purpose, like forced or coerced labour, servitude or sexual exploitation (Bales, 1999). Fostered by three underlying factors, firstly, within the origin countries a seemingly endless supply of victims remains available for exploitation. Secondly, within the destination countries there seems to be an endless demand for the services of the victims and thirdly, organised criminal networks, have taken control of this economic ‘supply and demand’ situation to exploit trafficked people in order to generate enormous profits for themselves. All forms of prostitution are highly profitable for individual profiteers, criminal syndicates, pornographers, the many forms of businesses selling sex and the tourism industry, and simultaneously, detection is difficult and penalties imposed for offences such as fraudulent documents are low. Arguably, international crime syndicates are attracted to trafficking women by the profit potential in the multimillions of dollars that are untaxed and moved offshore for money laundering purposes. Increasingly, women are being forced by-recruiters-‘entertainment’ agencies-mass culture-their own families and even government agencies, to become a part of this burgeoning sex industry.

Motivation to Migrate:

For women as indeed for men, migration is caused either by so called expulsion factors (grave socio-economic crisis, war and other conflicts) or by attraction factors involving a belief that it is possible somewhere else to improve the quality of one’s life or of one’s family (Monzini, 2005). Today poverty, unemployment, increased economic insecurity, the absence of regular migration opportunities, parental and peer pressure, increased public awareness and misconceptions concerning job prospects and affluence in North American and European countries serve as principal push factors for the massive outflow not only of the educated elite but a large cadre of educationally and socio-economically disadvantaged groups.

Derks (1997) posits migrant workers have become an important labour pool throughout Asia, where economic growth has created a demand for labour that cannot be met from within. This especially includes jobs that require manual or unskilled labour, particularly, on construction sites, plantations, in homes, restaurants and brothels. Widening income disparities between Asian regions guarantees that these jobs will be done for increasingly lower wages through a steady supply of migrants. Cash remittances from young women abroad and the return of such women with visible wealth are also stimulating factors in encouraging families to push their girls to leave. As Monzini (2005) posits, for the youngest among them, one of the main incentives to emigrate is the search for independence and emancipation, where people are prepared to move without proper assurances and are liable to be exploited heavily in foreign labour markets.

Demand for Sexual Services:

The supply of young women from foreign countries to work as prostitutes is encouraged by the growing demand for sexual services. Agustin (2000), Monzini (2005) and Hall (1994), provide ample evidence of the demand for sexual services by wealthy foreign and local men. Masika (2002) along with Kuo (2000) and Robinson (1993) point out that the sex industry has expanded to the extent where aspects like age, ethnicity, race, virginity and sexual health are all key considerations for customers and thus also traffickers. Kuo (2000) adds to this the more disturbing growth of demand for younger women and child prostitutes.
Kuo (2000) also argues that the globalisation of the sex trade is legitimised by the developed world’s encouragement of Asia’s so called ‘tourism centres’. In the 1970s, the World Bank, the IMF and UNDP began approving substantial loans to Asian countries, urging them to raise capital by expanding their tourism and entertainment industries (Kuo, 2000). Bertone (2000), Monzini (2005), Hall (1994) and Kuo (2000), agree that Southeast Asian commercial sex circuits for international customers have not developed spontaneously, as a natural response to the appearance of tourist money but have followed in the wake of wars or other traumatic events.

Recruitment:

Usually, the recruiters take advantage of the hardest economic times, prior to the harvesting period or during the drought season, when jobs are scarce for poor or landless families in villages, and many look elsewhere for income to survive. Raymond et. al, argue that because of this lack of money, girls often agree to a recruiter’s arrangement, or parents themselves may seek out recruiters and offer their daughters, in exchange, for money. The job offers made to such girls tended to be false, and does not indicate the form of exploitation they would be subjected to. Initial reasoning on how the victim is identified and subsequently approached by traffickers, the inducement, if any that is offered to the victim, and the agreement reached, by the victim and the contracting trafficker, may simply appear to be the result of opportunistic behaviour by criminals. But most often, a particular type of victim is targeted and then recruited in a predetermined manner, which may sometimes be adapted to the woman’s particular culture or the context in which the approach is made (UNODC, 2006).

Coercion and Debt Bondage:

Ryan & Hall (2001), Monzini (2005) and Aronowitz (2001), suggest that the harshest forms of exploitation are organized in the world of commercial sex sector, where traffickers and enforcers have characteristically been known to use excessive violence against their victims to maintain control. Bertone (2000) and Aronowitz (2001) add more threatening practices of exploitation including constant monitoring of the victim’s whereabouts, assault, rape and cigarette burns. Agustin (2000) notes that due to the clandestine nature of the industry, there are no written contracts, benefits or social security. Monzini (2005), Ryan & Hall (2001), Salt and Stein (1997) argue that debt is the key means of subjugation and the women are forced to live under varying degrees of intensive supervision. Schloenhardt (1999) and Shahabudin posit, most migrants owe large amounts of money to the traffickers for their use of illegal services. The accumulation of large debts and the powerless positions resulting from their illegal status causes a debt bondage situation for the migrants.
Aims of the dissertation:

First, the discipline of economics has invested limited academic effort into understanding a market in which humans serve as commodities. Using a woman’s body as profitable collateral is an extreme breach of Human Rights and thus, the most important objective of this paper is to create awareness among the readers.

Second, to use game theoretic tools to construct an economic model addressing two issues: Information problems (Source Country) and Coercive-Debt Bondage situations (Destination Country). Gender and Criminological case studies provide rich accounts of the process of trafficking and are used to guide the game theoretic model.

Third, to recommend policy initiatives addressing the above mentioned problems.

Relevant Limitations in the Existing Literature:

Often the statistics produced by countries are collected in different ways at different times, use diverse terminologies and so are not comparable within- let alone outside of-individual countries. Attempts to calculate true levels of illegal migration are usually based on the views of officials and of the proportion of illegal migrants who are apprehended (Salt, 2000). Linking these figures to trafficking is even more difficult and attempts to do so usually require heroic leaps of faith. This lack of hard data, combined with the fact that many trafficking commentators merely repeat estimates derived from interviews with officials, means that many of the statistics quoted are (often large) round numbers, are unreliable and frequently revised (Salt, 2000).

The United Nations Office on Drug and Crime (2006, p.44) attribute the lack of reliable data to a number of factors: (1) Many countries lack anti-trafficking in persons legislation, (2) in many countries the definition of human trafficking applies only to the exploitation of women and children overlooking the exploitation of adult males, (3) victims maybe hesitant to provide information or cooperate with authorities in fear of harm to themselves or their families by either criminal or legal networks, (4) many countries lack a centralized agency or coordinated statistics system so that the collection of trafficking data, if done at all, is done in an ad-hoc basis, (5) collection of data on this topic has the tendency to, unknowingly, mix data related to human trafficking, migrant smuggling and irregular migration. Most statistical data on numbers trafficked are at best crude estimates, with the danger of negatively interpreting human trafficking situations in those countries for which more information is currently available. As with many other types of crime, more data is generally available in developed, than in developing countries (UNODC, 2006). This may overemphasise the countries in those regions as destination areas as well as the associated origin countries from which trafficked victims are being recruited, while intra-regional trafficking in persons between developing countries may not have received the attention it deserves. A deeper caveat is the insufficiency of official data on the issue of human trafficking. The differences between countries may depend more on the efficiency of the law enforcement agencies than on the real extent of the phenomenon.
BRIEF REVIEW OF MODELS

‘DECISION TO MOVE’

FRAMEWORK
- Tool of game theory used to demonstrate this decision to move
- Original game with incomplete information about characteristics of recruiter
- Transformed into a game with complete but imperfect information (Figure 1)
- Uncertainty taken into account in the game by the introduction of a chance move preceding the play

HYPOTHESES:
- Each recruiter belongs to one of the two possible types: Honest Or Dishonest
- Each woman thinks according to one of the three propositions below:
  - Proposition 1: Woman is a Bayesian updating rational agent
  - Proposition 2: Woman is a Bayesian updating rational agent but is unaware of situation
  - Proposition 3: Woman does not update rationally- Behaves Irrationally

Figure 1

Proposition 1: Bayesian Updating Rational Agent
- Introduces subjective probabilities where beliefs are derived from Bayes’ rule after observing the ‘job prospect’ the recruiter proposes
- 1/3rd probability of a recruiter being honest and payoff suggests the possibility of recruiting for an honest job is very low
- Only a small subset of honest jobs, find it profitable to send recruiters into villages for hiring prospective labour.

An increasing number of families in the United States are looking to employ Chinese nannies with recruitment companies experiencing a rush of requests for native Chinese-speakers (Irvine, BBC News, 2006).
Recruiter invests a lot of time and effort to convince the woman into accepting the job offer. Using blood relations or neighbours to act as mediators. Triggers suspicion.

*Typical story is of recruiters, especially female recruiters, who come into a village and try and gain the trust of a girl (Derks, 1997)*

*In Romania, the first contact person between the woman and the recruiter was a Romanian individual from a close circle of family and friends of the woman (UNODC, 2006)*

- If job prospect is exaggerated or presented in an excessively favourable light it reveals dishonesty
- 2/3rd probability that recruiter is dishonest and presence of a whole distribution of dishonest jobs whose payoffs make the possibility of recruiting very high

*In Indonesia, recruiters receive very high payments of not less than 1 million Ruppiyah (around USD 100) for each woman they bring in with added compensation if the girl is a virgin (Gatra, 3 Octobers, 1998 cited in Raymond et.al)*

- Rational updating through Bayes’ rule reveals dishonesty of job prospect. However, deception doesn’t fit into this classical model of game theory.

**Proposition 2: Unaware of recruiter characteristics and potential risks.**

- Unaware this category of deception (the dishonest branch in figure 1) even exists.

*The majority of respondents were told that they would have decent jobs abroad but were deceived and ended up in nightclubs and brothels. In most cases, recruiters gave verbal promises of unimaginable sums of money (Raymond et. al)*

- Cannot factor probability of potential risks and the possibility of being fooled.

*According to most declarations, the woman’s vulnerability stemmed from their lack of awareness when leaving Romania of the potential risks that they might encounter abroad (UNODC, 2006).*

- Believes in the small subset of honest jobs that find it profitable to send recruiters to villages for hiring labour.

*The expected utility from the ‘job prospect’ can be shown to be positive if she doesn’t rationally update and negative if she does, assuming some fixed cost of recruiting.*

**Policy Suggestions:**

- Posters warning women of possible hazards overseas and tackling deceptive recruiters
- Investment in education and creation of alternative economic opportunities (Awareness & Vocational skills training)
- Showing documentaries, short films, radio plays, street performances
Proposition 3: Does not update rationally-Irrational Behaviour

- Decisions based on descriptions of the events themselves with numerical probabilities rarely available in real life
- Inaccurate judgements based on cognitive heuristics
- Prospect Theory hints about heuristics people use to make decisions under uncertainty

People distort probabilities and think about utilities as changes from a reference point. This reference point is used to evaluate an alternative as either a gain or a loss and is affected by irrelevant factors such that people make different decisions for the same problem, depending on how it is presented to them (Baron, 2000)

- Evaluate a decision utility for an extended outcome by consulting an instantaneous representation of that outcome rather than by integrating the utilities of separate segments.
- Under emotional distress, people shift towards favouring high-risk, high-payoff options even if they are objectively poor choices. Desperation affects decision-making process.

19 year old, Rosemary was promised an educational scholarship and part-time work in the UK. The desperation to get away from home and the fear of being circumcised led her to be easily deceived (Morris, BBC News, 2007).

- Feedback from people who have returned from working abroad give a predominantly positive view, the attraction of taking a risk for high gain is kept alive
- Wishful thinking variables

Women often dismiss information and advice on the possible hazards and problems that await them with statements like “this won’t happen to me,” or “let me give it a chance” (Raymond et.al).

Policy Suggestions:

- Government established offices with reliable information on migration and availability of jobs overseas
- Government endorsed community-based initiatives
INITIAL REPEATED GAME:

HYPOTHESES
- Player W, the woman, plays the first move and decides whether to work (C) or to escape (NC)
- Player B, the brothel owner, plays the next move after observing the actions taken by the woman. His choice set: To let her go (C) or to keep her (NC) at the end of the period
- Brothel Owner’s Payoff: Receives 100 if Player W chooses (C) or receives an amount e if Player W chooses (NC) where e < 100
- Woman’s Payoff: 40 if she chooses (C) or receives a freedom payoff of F if she chooses (NC) and succeeds.
- Agreement: Brothel Owner releases a woman if she works for one period.

COOPERATIVE EQUILIBRIUM

Table 1: Brothel Owner’s Payoffs

<table>
<thead>
<tr>
<th>Agreement</th>
<th>Payoffs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respects (R)</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>(1-δ)</td>
</tr>
<tr>
<td>Deviates (D)</td>
<td>$\frac{2e}{(1-\delta)}$</td>
</tr>
<tr>
<td>Cooperative Outcome</td>
<td>Cooperation Sustained $e &lt; 50$</td>
</tr>
</tbody>
</table>

Figure 2: Woman’s Sequential Game
Table 2: Woman’s Payoffs

<table>
<thead>
<tr>
<th></th>
<th>Expected Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Works (W)</td>
<td>40 + δF</td>
</tr>
<tr>
<td>Tries to Escape (E)</td>
<td>p(F + δF) + (1-p)(40 + pδF + (1-p)40δ)</td>
</tr>
<tr>
<td>Cooperative Outcome</td>
<td>Setting F=100, p = 0.1. Cooperates when δ &gt; 0.1234</td>
</tr>
</tbody>
</table>

**TRANSFORMED REPEATED GAME**

**HYPOTHESES**

- New Agreement: Brothel owner ‘Flips a Coin’ to determine who leaves the brothel.
- The brothel is populated with two-period lived women. At the end of the second period, the women die and exit the model (overlapping generations model)
- At any stage t, 1 new woman enters the brothel. At stage t+1, 2 new women enter the brothel. At stage t+2, 1 new entrant and so on…
- At the end of the period, 50% chance of getting out for the woman if she entered the brothel with another woman. 100% chance of getting out if she entered on her own.
- Simplification: Women do not live for infinite periods as the probability of getting out of the brothel is harder to model.

**COOPERATIVE EQUILIBIRUM**

Table 3: Brothel Owner’s Payoffs

<table>
<thead>
<tr>
<th>Agreement</th>
<th>Payoffs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respects (R)</td>
<td>((100+e) + 200\delta) ((1-\delta^2)) ((1-\delta^2))</td>
</tr>
<tr>
<td>Deviates (D)</td>
<td>(\frac{3e}{(1-\delta)})</td>
</tr>
<tr>
<td>Cooperative Outcome</td>
<td>(e &lt; 100(1+2\delta)) (\frac{(2+3\delta)}{2+\delta}) (0 &lt; \delta &lt; 1) Cooperation Sustained (e &lt; 50)</td>
</tr>
</tbody>
</table>

**Results:**

- The brothel owner is indifferent between reneging in the ‘one new entrant’ case when compared to the ‘two new entrants’ case.
- The payoff received is 3e in both situations making it less appealing to renege depending on the number of women entering the brothel at a particular time.
Table 4: Woman’s Payoffs

<table>
<thead>
<tr>
<th></th>
<th>Expected Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Works (W)</td>
<td>40 + (0.5F + 0.5(0.1F + 36))δ</td>
</tr>
<tr>
<td>Tries to Escape (E)</td>
<td>( p(F + \delta F) + (1-p) (40 + p\delta F + (1-p)40\delta) )</td>
</tr>
<tr>
<td>Cooperative Outcome</td>
<td>Setting ( F=100, p = 0.1 ). Cooperates when ( \delta &gt; 0.27 )</td>
</tr>
</tbody>
</table>

Results:
- Compared to the initial repeated game, cooperation is harder to sustain due to the higher discount factor \( \delta > 0.27 \) (compared to \( \delta > 0.12 \)).
- However, cooperation will not be sustained, only if the probability of escaping successfully is higher.
- A woman who enters the brothel on her own is far more likely to cooperate due to the 100% chance of being let out, compared to a woman who enters the brothel with someone else where her chances are halved.
Further insights in the last stage of research:

1. The effort the actual employer expends signalled by the amount of money spent on recruitment. Rationally updating woman is suspicious of costs expended
   - Poor Country: Probability as a function of effort expended
   - Wealthy Country: Probability as a function of effort expended and job characteristics

2. Ways of looking at ‘Statements about Debt Repayment’ in the point of exploitation: Cheap Talk vs. Serious Signalling

3. The process of being trafficked (if time permits) from source to destination country, despite the absence of an enforceable contract between the woman and the ‘contracting’ trafficker.

4. Recommend policy initiatives that address the information problems and that create alternative economic opportunities in the source country. Thereby preventing the problem even before it occurs rather than finding a solution.

In summary, an economic analysis of the problem of trafficking women for sexual labour can prove to be an important contribution to an inter-disciplinary approach in combating this trade in humans.
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