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# Understanding Human Trafficking Origin: A Cross-Country Empirical Analysis

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## **Understanding Human Trafficking Origin: A Cross-country Empirical Analysis**

### Abstract

Feminist work on global human trafficking has highlighted the conceptual difficulty of differentiating between trafficking and migration. This paper uses a cross-country UN dataset on human trafficking to empirically evaluate the socio-economic characteristics of high trafficking origin countries and compare them to patterns that have emerged in the literature on migration. In particular, we ask how and how much per capita income and gender inequality matter in shaping patterns of human trafficking origin. Ordinal logit regressions corrected for sample selection bias tell us that trafficking has an inverse-U shaped relationship with income per capita, and, controlling for income, is more likely in countries with higher shares of female to male income. These results suggest strong parallels between patterns of trafficking and migration and lead us to believe that trafficking cannot be addressed without addressing the drivers of migration.

Keywords: Trafficking, migration, gender

## INTRODUCTION

In the last decade there has been growing international concern over cross-border human trafficking, particularly the trafficking of women for sex work. While mainstream research on migration initially ignored women, assuming they were ‘followers’ of male migrants (Donato et al 2006), in the trafficking literature women are hyper-visible. Human trafficking has become synonymous with trafficking for sex work, which primarily involves women and girls, while trafficking for forced labor, which also involves men and boys, continues to be an overlooked component of global human trafficking (Piper 2005b).

There is now a rich body of feminist work addressing the reasons for this singular focus on sex trafficking and the complex issues of consent and agency that arise in any attempt to understand sex trafficking and its interconnections with migration. While international organizations such as the United Nations view trafficking as the movement of people across borders accompanied by coercion and significant human rights violations, the specific differences between trafficking and illegal migration continue to be debated.

Trafficking is often portrayed as a phenomenon distinct from larger streams of migration (Derks, Henke and Vanna 2006). One consequence of this portrayal is the sharp contrast between popular and official concern for the trafficked and far less sympathetic attitudes towards illegal immigrants (Perez 2011, Basok and Piper 2011). Furthermore, because the victim of trafficking, unlike a migrant, is assumed to have been coerced into moving across borders, the solution to trafficking becomes the removal/arrest of traffickers, and repatriation of the trafficked (Sharma 2005). This particular way of framing the problem shifts attention away from the immigration laws in western host countries and the close links between illegal migration and trafficking that studies based on primary interviews have pointed to. As Salt (2000) pointed out, advocacy on trafficking has often run ahead of factual knowledge about trafficking and there is a strong need for a more systematic empirical picture of the causes and consequences of human trafficking.

Economists have contributed little to the literature on trafficking thus far. Work in the area largely consists of theoretical models (see Salt and Stein 1997, Van Leimt 2004, Dessy and Pallage 2006, Tamura 2010). Recent empirical studies have focused on the well being and rights violations of sexually trafficked women (Di Tomasso et al 2009, Bettio and Nandi 2010) and on the relationship between prostitution laws and trafficking in destination countries (Jakobsson and Kotsadam 2010).

The importance of exploitation and coercion in the trafficking literature is one possible explanation for the relative absence of economic literature in this area. As feminist critiques of the economics orthodoxy have helped to show, the methodology of mainstream economics struggles to handle questions of power and its abuse. Another explanation for the relative absence of economics literature on trafficking lies in the lack of reliable data. Most studies of trafficking are based upon small samples of primary interviews with victims of trafficking and the analysis of court cases and police and news reports, with, as Di Tomasso et al (2009) point out, problems relating to selection bias and the lack of a control group.

Our study takes a ‘macro’ approach and evaluates the empirical case for treating trafficking as distinct from illegal migration at the cross-country level. Using a UN dataset on trafficking origin, we identify the socio-economic characteristics of countries that have a higher incidence of international human trafficking origin. In particular, we ask how and how much economic development and gender inequality matter in shaping patterns of human trafficking origin and whether these patterns are different from those observed in the literature on migration. Our results imply that is difficult to empirically distinguish between trafficking and migration, suggesting that the problem of trafficking is unlikely to be solved without addressing the drivers of international migration.

The UN dataset we use counts only instances of trafficking across international borders, thus excluding internal trafficking. As explained later in the paper, the UN database also uses an unusual methodology to get around the problem of trying to document an illegal activity. This

methodology relies considerably on academic, government and media reports of trafficking and generates a possible sample selection bias that we attempt to account for. Finally, these source reports largely focus on the trafficking of women for the sex trade. Only 28% of these source reports mention trafficking for forced labor, while 87% mention the sexual trafficking of women (UNODC 2006). Any patterns uncovered are thus likely to explain the vulnerability of women rather than men, and shed more light on the determinants of sexual trafficking rather than trafficking for forced labor, shaping our study's focus on the former.

### THE LITERATURE ON TRAFFICKING

Popular as well as academic concern about human trafficking has increased over the last decade, even as the definition of trafficking has changed considerably. In 1994, human trafficking was defined by the International Organization for Migration(IOM) as “the facilitation for money of largely voluntary illegal migration” (IOM 1994 in Lazco 2005: 10), a definition that today would better fit the term ‘human smuggling’ (Lazco 2005). Human trafficking has instead come to mean a coercive and exploitative ‘forced’ crossing of international borders. As famously defined by the UN Palermo Protocol (2000),

“Trafficking in persons shall mean the recruitment, transportation, transfer, harboring or receipt of persons, *by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability, or of the giving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation.*”(Emphasis added).

Of course if human smuggling is only “largely voluntary” the difference between trafficking and illegal migration facilitated by human smugglers is only one of the degree of abuse. As several studies point out, even legal migration sometimes involves deception and legal violations on the part of both migrants and the those who serve as migration ‘agents’(ILO 2004, Augustin 2005, Andrejsivic 2007). The literature on trafficking suggests that in the case of migration, any abuse

and exploitation is expected to end once the migrant has arrived at the destination, while in case of the trafficking it continues (Derks, Henke and Vanna 2006). The distinction is tenuous and, more importantly, may not always be useful to preserve from a migrant rights perspective.

This emphasis on coercion and exploitation in the Palermo definition of trafficking certainly provides activists and governments working against human trafficking wide leeway to prosecute human traffickers. At the same time however, critics of the Palermo protocol point out that it subsumes almost every kind of illegal migration under trafficking, and thus as subject to anti-trafficking laws (Jordan 2002, Anderson and O'Connell 2004) . In particular, critics stress, almost every illegal migrant who engages in sex work could be considered trafficked under this definition (Doezema 2002). The considerable feminist literature on trafficking is centered upon these tricky issues of consent versus coercion in sex work and the fine line between trafficking and migration.

### **The Feminist Debate over Trafficking**

In sharp contrast to the literature on migration, women have been the focus of trafficking studies from the very beginning. Lazco (2005) found that 50 per cent of the literature on trafficking addressed the trafficking of women and girls, a fact that is reflected in the predominance of information about the trafficking of women in the UN database we use for this study.

Much of the political mobilization around trafficking, including by religious and politically conservative groups in the USA, has also focused on sex trafficking. For instance, the very first US congressional hearings on trafficking in 1999 were exclusively about sex trafficking, and the prevention of sex trafficking was the primary motivation for the passage of the 2000 US law against trafficking (Stolz 2007).

Tanya Basok and Nicola Piper(2011) point out that in the case of international rights organizations such as the IOM in the Caribbean, the resources dedicated to solving the problem of trafficking are in sharp contrast to the meager programmatic support for migrants more generally. Marta Perez(2011) also emphasizes the extent to which sex trafficking differentiates 'true

victims' from the broad mass of 'illegal aliens' in the eyes of Spanish judges and policemen and the significantly differing degree of sympathy accorded to the former by a deliberately capricious law enforcement apparatus. This interest in and concern for trafficked women in the west thus stands in stark contrast to often hostile attitudes towards illegal immigrants (Sharma 2005).

The focus on the sex trafficking of women and girls could be understood as a response to the fact that the majority of human trafficking is indeed for sex work. However, estimating the volume of international trafficking has proven to be difficult, and it is not clear that the fascination of the popular press with sex trafficking is indeed a response to the preponderance of such cases amongst trafficking cases overall (Ghosh 2009). Many researchers point out that trafficking for forced labor, which also involves men and boys, is a significant and overlooked component of the global trafficking business (see Piper 2005b for a discussion). It appears that popular representations of legal and illegal migration usually involve men, with women appearing when the discussion turns to victims of trafficking (Derks, Henke and Vanna 2006).

None of this is to deny that sex trafficking does in fact violate the human rights of thousands of women, men, girls and boys. Indeed the trade in human beings highlights continuing inequalities between the mobile rich and the immobile poor, and between capital and labor. Nevertheless, there is indeed a debate over trafficking -- not over whether there are women, men and children whose travel across borders would meet the Palermo definition of trafficking, but rather over three related issues.

The first issue concerns how the trafficked are perceived and whether they are seen as victims, or seen as exercising an admittedly limited agency. A second aspect of this debate centers around how traffickers are perceived: are they cast as criminals (often as members of mafia groups) whose illegal activities are the root of the problem, or seen as actors in a larger tragedy, profiting from human desperation but nevertheless less important to understanding the phenomenon of trafficking than prevailing immigration regimes? The third contested issue is the solution to the problem of trafficking that emerges depending on the framing of the first two

issues. That is, whether the solution is the removal/arrest of traffickers, and the repatriation of the trafficked; or the transformation of immigration laws and efforts to address global inequalities.

As Kamala Kempadoo(2005) points out, the current state of the popular conversation about trafficking resembles an earlier ‘moral panic’ over the ‘white slave trade’. There too, the idea of women (in that case white) being trapped into sex by male traffickers (primarily Asian, at the time) became the subject of public outcry and ultimately led to the first international treaties against trafficking. There this ‘moral panic’ was fuelled both by opposition to prostitution per se, as well as by a fear of miscegenation. These themes do recur, although in somewhat different ways, in the current debate over trafficking for sex work.

Clearly the attempt to define and fight human trafficking has revived older feminist battles over consent and agency in sex work (Jordan 2002, Doezema 2002). For those feminists who believe that the act of selling sex cannot really be voluntary, migrant women in prostitution are coerced, and to the extent that coercion is a significant element of the definition of trafficking, such women are indeed trafficked. The campaign against trafficking, for ‘neo abolitionist’ feminists, is also a campaign against prostitution as an industry (Hughes 2000, Miriam 2005). On the other hand, for others it is important to find a way to separate the definition of trafficking from sex work and prostitution, and to leave room in the definition for the possibility of a voluntary performance of sex work (Kempadoo 2005).

It also appears that to the extent that most illegal migrants in the sex industry get subsumed under the Palermo definition of trafficking, the problem becomes individual/gangs of traffickers, cast as the primary violaters of human rights, rather than immigration laws in western host countries that selectively deny mobility to those not rich or highly skilled. The most common solution to the problem of trafficking that emerges within this paradigm is to eliminate trafficking networks and ‘free’ trafficked women (Hughes 2000, Hughes and Raymond 2001).

From the perspective of governments, however, freeing these women and men overwhelmingly means deporting them back home. In both the US and Canada, for example, the



overwhelming majority of trafficking victims applying for visas under special ‘trafficking victim’ exceptions have been denied permission to stay (Sharma 2005). To the extent that such accounts of trafficking focus on the mostly non-white, certainly ‘foreign’ individuals and groups who traffic, critics argue, they also feed into latent racism in the popular press, with the anti-trafficking campaign becoming yet another in which the white man(or woman) saves the brown woman from the brown man (Doezema 2002).

On the other hand, in arguing that the trafficked have, in some sense, ‘chosen’ to leave their home countries even if not the oppressive conditions of their work at the destination, those who stress the agency of the trafficked argue that their choice must be respected and that neither the elimination of particular trafficking networks nor the repatriation of trafficked women does much to address the underlying issues. Instead such authors often turn their attention to reforming immigration regimes (Kempadoo 2005, Andrijasevic 2007).

While this paper does not address the controversy over sex work, a broader issue at the core of this debate is the extent to which we should preserve the line between a ‘voluntary’ illegal migration and an ‘involuntary’ act of trafficking. The reality on the ground, as the migration literature has shown us, is that illegal (and legal) migrants pay agents, who are often involved in acts of deception and violations of human rights (ILO 2004, Van Leimt 2004, Derks, Henke and Vanna 2006). Illegal migrants are transported across borders under terrible conditions, and money is extorted from them along the way (UNDP 2009). However as Andrijasevic (2003) found in her interviews with trafficked women, those abused and exploited in this manner may nevertheless see the crossing of the border as a voluntary act and view the agents who facilitate this crossing as ultimately their allies against hostile host country governments and law enforcement agencies.

There might then be a case for subsuming all forms of non-legal movement under a single category of “trafficking like” practices (Kelly 2005), encompassing differing degrees of human rights violations and constituting “alternate circuits of survival” (Sassen 2002) and exploitation that include both illegal migrants and those who would fit the Palermo protocol

definition of the trafficked. The choice of the term ‘trafficking like’ practices to describe this continuum is an acknowledgement of the currency that the term has gained. However we do realize that using this particular term requires that it be re-appropriated to highlight not just a less simplistic notion of women’s rights but the labor and migrant rights violations committed by states themselves.

For those worried that failing to separate out trafficking glosses over the more extreme human rights violations involved, we argue that the use of the term ‘trafficking like’ activities only further emphasizes the importance of human rights by including in our concern for the rights of the trafficked the rights of those forced to migrate illegally as well(Piper 2005b).

#### AN EMPIRICAL APPROACH TO THE TRAFFICKING DEBATE

The literature on trafficking within economics is not extensive. The contributions that economists have made have been largely theoretical. For example, a model of trafficking as a profit-maximizing endeavor (Salt and Stein 1997), a model describing the supply side for child trafficking (Dessy and Pallage 2006), and a model suggesting trade-offs made by governments attempting to regulate trafficking (Tamura 2010). Interestingly, in each case the authors assume substantial overlap between forms of illegal migration and trafficking, but in each case data limitations prevent empirical applications.

More recently, economists have undertaken empirical studies of trafficking using aspects of the UNODC dataset that we employ in this paper. Jakobsson and Kotsadam (2010) use the UNODC data on trafficking destination for Europe alone and find that European countries are more likely to become trafficking destinations if they adopt more liberal prostitution laws. Di Tomasso et al (2009) use micro level interviews conducted by the UNODC with trafficking victims to examine the well-being deprivation of trafficking victims and factors that might help alleviate this deprivation. We draw upon their findings at various points below. Bettio and Nandi (2010) use the same dataset to find determinants of the extent to which trafficked women’s rights

are violated. They focus on the characteristics of destination countries and work location but they do find that being educated does not imply fewer rights violations but that victims from better off families reported fewer rights violations.

Our interest is in examining cross country patterns of trafficking origin to examine how similar or different they are from patterns of migrant origin. The fact that there was little work on female migration until recently does mean that we do not know quite as much about patterns of female migrant origin as we would like (Donato et al 2006). Mainstream economics, in particular, has paid little attention to the economic migration of women. A recent influential review of the migration literature in economics had one sentence pointing out the feminized nature of migration flows to the West, but no other mention of the words 'women' or 'gender' (Freeman 2006).

We nevertheless argue that an attempt to validate an exclusively 'trafficking' approach could begin by testing two assumptions about trafficking origin considered to be pervasive by authors who otherwise differ on trafficking issues (Kelly 2002, Kempadoo 2005, Piper 2005b). First, that poverty makes women more susceptible to being trafficked; second, that women in countries experiencing more severe forms of gender discrimination are more likely to be trafficked.

### **Income, poverty and trafficking**

Poverty is cited throughout the trafficking literature to explain why parents may sell their children to traffickers, or why men and women decide to migrate illegally and risk being trafficked (Travnickova 2004, ActionAid 2005). Bettio and Nandi(2010) find evidence that the poorest families are most likely to sell women to traffickers. In the case where an attempt to migrate turns into trafficking, the lower the income of the family or individual, the lower the opportunity cost of migration. Furthermore, the lower the income of the country or region of origin, the lower the future expected stream of income from remaining in that country or region. Ideally, one would use the ratios of income streams in origin and destination country to indicate the extent of

economic push and pull factors, but in our case the UN data source we use does not link origin and destination points for specific instances of trafficking. As a result this study focuses exclusively on factors that are local to the origin country.

The migration literature however suggests that the relationship between poverty and migration is not positive but negative. The cost of migration – including payments to agents and travel costs – has long been seen as a deterrent to the migration of the poorest (Freeman 2006, Piper 2005a). Tightened legal restrictions have only exacerbated the problem, so that migration no longer helps bring about economic convergence in the way that it did for Europe in the 19<sup>th</sup> and early 20<sup>th</sup> centuries (Hatton and Williamson 2003). Meanwhile, the very rich are free to move, but have fewer incentives to migrate.

At the micro-level this suggests that the incomes of the originating households of migrants lie in the middle of the origin country's income distribution scale. As the 2009 Human Development Report points out, there is a macro level implication here too. At the cross country level, migration streams today are greatest from middle income countries and display an inverse U-shaped relationship with the country's income per capita, with the poorest unable to afford migration and the richest less likely to be interested in moving (UNDP 2009, Chiswick and Hatton 2002, Hatton and Williamson 2003, Freeman 2006). If the drivers of human trafficking and migration are similar, we would expect to see the same relationship for trafficking.

Furthermore, as discussed below, patterns of demand in both the sex and forced labor industries require social skills that most in the poorest countries are unlikely to possess. Instead, as Sassen (2002) points out, in many developing countries those who are able to leave legally do so; the less fortunate become part of 'alternate circuits of survival' and exploitation, such as illegal migration and trafficking. The tragedy is that even these alternate circuits act to exclude, with some of the world's poorest people immobilized by the intersection of their poverty and the current global immigration regime.

IOM interviews with trafficked women, analyzed by Di Tomasso et al (2009), bear out these hypotheses. The interviewees were almost entirely from Eastern Europe, so they were already from a relatively middle income region with higher levels of female education and work force participation in urban labor markets than in many other regions of the world. Within that context, the authors found some interesting characteristics of those trafficked. First, 85% of them were promised jobs outside the sex industry. They were potential economic migrants for the most part. Furthermore, while 20% reported coming from very poor families, 79% came from ‘poor’ or ‘standard’ families and only 0.2% reported coming from well-off families.

One of our questions was thus whether trafficking patterns at the macro level seemed to mirror this pattern or significantly deviate from it. While we use the PPP GDP per capita as the primary measure of income, we also control for the level of absolute poverty within a country. Given that we need a measure of poverty that is comparable across countries, we use the headcount ratio of poverty based on a 2\$/day (PPP) poverty line. Poverty measures were not available for several developing countries in our sample, so we report results both without and with the head count ratio.

### **Gendering the determinants of trafficking**

One obvious difference between migration and trafficking is the preponderance of documented female victims in the latter case. This means that the role of gender inequality in generating trafficking has been the subject of some discussion. The assumption is often that gender inequality serves as ‘push’ factor, increasing the level of trafficking. Thus, for example, Liz Kelly(2002:25) concludes:

The layers of connections between trafficking and gender inequality point to the need for more dialogue and cross-fertilization between research on trafficking, on the one hand, and gender/feminist studies on the other. Of particular interest here is the uneven progress within Europe (and also globally) *where trafficking flows are from regions where women’s political and socio-economic position has declined and patriarchal traditions remain entrenched, to those with*

*a higher degree of formal gender equality* (emphasis added).

From an economic perspective, there are two possible mechanisms underlying this assumption. If trafficking victims are indeed a subset of female economic migrants, their decision to migrate would be affected by expected future streams of income for women workers in particular, partly a function of the extent of gender inequality in origin country labor markets. A second possibility is that fewer economic opportunities for women in a region could result in the greater devaluation of women and thus their 'sale' to traffickers (Kelly 2005, Bettio and Nandi 2010).

While the second possibility is specific to trafficking, the first has not been analyzed as much within the migration literature, in part because work on female economic migrants traveling alone is so recent. There is indeed a large body of evidence showing that women are more economically vulnerable in more gender unequal societies, with higher unemployment rates, lower wages, less occupational choice and less control over earnings (Heyzer 2002). In more patriarchal societies, women may also be more affected by conflict and broader social and economic dislocation (UNDP 2009). The prospect of finding a job abroad, however risky the means, is thus likely to become more attractive (Travnickova 2004).

However, background research for the 2009 UNHDR on migration showed that migrants in general were on average more educated (and more likely to be of working age) than the general populations in their home countries (UNDP 2009). What we know from the many micro level studies of women migrants suggests that such women largely work in the care sector in the west and, given the nature of demand in such sectors, are relatively well-educated and likely to have participated in urban or semi-urban labor force in their home countries (Parrenas 2001, Ehrenreich and Hochschild 2003). Pools of such women would be more available in countries with higher levels of economic and educational attainment for women.

Micro-level studies of trafficked women suggest similar patterns, as we discuss below. Indeed, in many gender unequal countries women face significant legal and cultural barriers to mobility. In such societies, women are discouraged from traveling alone and a woman leaving the

country unescorted by a male family member would violate local codes of morality. While severely decreasing a woman's freedom and autonomy, such curbs on women's movements do have the effect of lowering the likelihood that they will migrate alone and thus that they will be trafficked (Anderson and O'Connell 2004, Ghosh 2009). As Hausner (2005) explains, in Nepal such curbs on women's movements have been codified into law, and one of the potential impacts of this regressive law does seem to be that it decreases instances of the trafficking of women.

More significantly, due to the structure of demand in host countries, higher levels of female labor force participation and education may actually be correlated with higher incidence of trafficking. Employers within 'service' industries such as housework and sex-work seek less easily defined socio-cultural attributes such as 'genteel-ness' or 'cleanliness' that become associated not just with particular ethnic groups but also with formal education and a level of acculturation to western notions of clothing or hygiene that can only be found amongst the middle and upper middle classes in the developing world (Ehrenreich and Hochschild 2003). In sex-work, these demands extend to meeting racialized definitions of beauty in the host country, which may be one reason why Eastern European women form a large percentage of sex trafficking victims in the US and Europe (Anderson and O'Connell 2004).

The profile of trafficked women from primary interviews suggests that it is at least somewhat educated women already in the labor force who tend to be trafficked to the west (Salt 2000, Van Leimt 2004, Augustin 2005). Furthermore, if the decision to leave illegally is the result of an aspiration for a better life, it is working women with high economic and/or non-economic expectations who have the motivation to seek a better life elsewhere (Augustin 2005).

In the study by Di Tomasso et al (2009) the vast majority of trafficking victims interviewed were already in the workforce in their home countries, with only 1.6% working in agriculture. Furthermore, they point to a surprisingly high level of education amongst the women, with a "non-negligible" 25% reporting having completed high school and 6% having college degrees. Only 2% reported having no education at all (Di Tomasso 2009, 148).

As far as labor market inequalities go, lower gender wage and labor force participation gaps within a developing country may actually encourage greater out-migration of women and thus increase the risk of being trafficked. To the extent that these economic aspirations are also a function of broader societal support for women, women's ability to access education and health could also be positively related to trafficking incidence.

In our study we use the ratio of female to male income as computed by the UNDP in its annual Human Development Report as an indicator of expected streams of income for women, controlling for the overall income per capita in the country. The UN calculates the female male income ratio based upon the ratio of female/male labor force participation in a country as well as available information on urban wage gaps in the country. As a result this indicator combines information on work and earnings, both relevant to calculations of expected future income in the origin country, but largely in the context of the urban economy. We do note that poorer countries tend to be penalized in the calculation of this indicator so that it is important to control for income per capita (Klasen 2006). As measures of more general level of support for women's well-being we use the ratio of female to male literacy, the ratio of female to male life expectancy. Influenced by the literature on missing women, we also include the sex ratio(female:male) for the population aged 15 and under (migration itself may skew the sex ratios for the population over age 15).

As indicated in table 3, the sex ratio and the ratios of female to male life expectancy and literacy are correlated both to each other and to GDP per capita. However, the share of female to male income is not correlated with any of these indicators. Thus despite its limitations (Klasen 2006) it might be the most robust indicator of gender inequality in our particular study.

*(insert table 3 about here)*

Other measures of gender inequality, for example those used in the Gender Empowerment Measure (GEM), contain some components that are unavailable for a large number of countries in our sample and could not be used.



These cross-country measures of gender inequality are, of course, relatively blunt. For the most part they capture only what Deniz Kandiyoti(1999) called ‘Classic Patriarchy’. ‘Classic Patriarchy’ includes patrilocal-patrilineal kinship structures; little effective claim on property for women and the societal devaluation of women’s work. The emphasis, as with current cross-country measures, is on gender discrimination as a lack of autonomy or economic independence. As Kandiyoti suggested, an alternative metric might privilege the attainment of economic security for women (which may or may not go along with greater economic autonomy). The feminist emphasis on ‘social provisioning’ reflects this different view of empowerment (Power 2003). As Piper (2005b) suggests that such an alternative view would also integrate feminist work on trafficking into a broader paradigm privileging human security in all its dimensions. However, cross-country measures of this ‘social provisioning’ view of empowerment are not as easily available, particularly for developing countries, so that for now we use more conventional and widely available indicators of gender inequalities.

To summarize, then, given the patterns of demand in industries where the trafficked women are concentrated and the considerable costs of movement imposed by immigration regimes, our hypothesis is that gender inequality may actually be negatively correlated with trafficking origin. This would once again indicate more rather than less overlap between migration and trafficking.

#### DESCRIPTION OF THE DATASET

The United Nations office on Drugs and Crime (UNODC) released its report *Trafficking in Persons: Global Patterns*, in April 2006. The report noted that within the trafficking literature, “what is missing is a reliable global overview”, pointing to “patchy statistics” that hide the severity of the problem (UNODC 2006). The UNODC report is an attempt to quantify the scale of the problem globally while avoiding the pitfalls of estimating actual numerical flows of trafficked persons across borders.

Rather than estimate actual numbers of trafficked humans from/in each country, researchers searched over 4,950 accounts of trafficking victims from newspapers, NGO reports and official government reports, totaling 113 different individual source institutions, covering the period 1996-2003. There are three links in the trafficking supply chain: origin, transit and destination. The researchers counted the number of times a country was cited as an origin country for one or more victims, the number of times it was cited as a transit country, and the number of times it was cited as a destination country. Within each of these three categories, a country was classified on a scale of severity from very low to very high. Based on the level of citations, for each such link in the trafficking supply chain the country was then ranked 'very low' through 'very high'. At the end of the process the report yielded 'origin' rankings for 127 countries.

One potential limitation of this data is of course that it is frequency of citations that determines the ranking of a country. It is, however, still the most carefully constructed and comprehensive database on trafficking currently available from a relatively 'neutral' source<sup>1</sup>. As mentioned earlier, the database tracks sexual trafficking better than other forms of trafficking, and does not address the issue of internal trafficking. There is also potential geographical (and also perhaps cultural) bias in the dataset given that almost 60 per cent of the sources are based in Western Europe or North America. We try to take account of this potential bias in our analysis by using the heckman correction method for sample selection bias.

### **Description of the Dependent Variable**

There are two primary hypotheses we are trying to test in order to determine the empirical justification for treating migration and trafficking as distinct phenomena. i) Whether trafficking is associated with higher levels of gender inequality in trafficking origin countries; and ii) whether trafficking originates in the poorest countries.

The UNODC dataset has data on trafficking by country of origin for 127 countries, which are then classified into 5 categories, ranging from very low to very high based on reported levels

of trafficking. Due to data problems, we were only able to include 118 countries in our final analysis of trafficking origin.

The UN database suggests that countries in Eastern European and CIS states, along with China and Thailand, are significant origin points for international trafficking (Table 1). Putting together the ‘very high’ and ‘high’ categories further reinforces the fact that based on UN definitions and methodology, Eurasia is the primary source region for international trafficking. This is a result that will be familiar to followers of the migration literature (HDR 2009). In another similarity to the literature on migration, despite relatively high levels of poverty in Africa very few African countries feature in this UN trafficking database. These ‘alternate circuits of survival’ and exploitation thus exclude in ways similar to their more mainstream counterparts. *(Insert table 1 here)*

### **Description of the Independent Variables**

Our independent variables are also drawn primarily from UN sources – the 2005 Human Development Report being the most important (see Table 2 for descriptive statistics and the Appendix for data sources). As indicators of gender inequality, we use the female-male ratios of income, literacy, income and life expectancy and the sex ratio for the under-15 population.

We use the log of the 2003 GDP per capita (PPP \$) as a metric of the standard of living in the country. We include a squared term to capture any non-linearities. Later we also include the headcount ratio using the 2\$(PPP) poverty line to test if this pattern is robust to income distribution within the country.

*(Insert table 2 about here)*

### **Control variables**

Reports of trafficking in the west consistently point to Eastern Europe and the CIS states as important points of origin (Hughes and Raymond 2001, USDOS 2007). The transition from state to market-led economies in these countries was often accompanied by unemployment, declining

real wages, and increases in inequality. We use a dummy for ‘transition’ economies’ to control for this effect. Interestingly non-European transition countries such as China and Vietnam are also considered relatively ‘high’ origin countries.

We also include the (log) total population in a country. The law of averages suggests that countries with larger populations would be more likely to be origin points for both migration and trafficking. We also construct a geographic variable that indicates whether or not a country is landlocked (versus having some access to the sea). We chose this variable both because of the literature linking geography to development outcomes (Faye et al 2004), as well as because we expect access to sea routes to potentially affect the level of trafficking from a country.

The literature on trafficking suggests that the political situation within a country is also an important determinant of the level of trafficking. Conflict and civil war have been extensively cited as push factors for migration as and trafficking (Heyzer 2002, Hausner 2005). To account for the impact of conflict, we use the *UCDP/PRIO 2007 Armed Conflict Database* to classify countries into two groups: those with a reported conflict either ongoing or concluded between 1990 and 2004, the period covered by and just preceding the UN report versus those with no reported conflict in this time.

Organized crime networks are believed to play a significant role on the supply-side of trafficking, particularly in Eastern Europe (Orlova 2004). Other studies point out the importance of non-mafia based traffickers who often act alone (Andrijasevic 2003, Hausner 2005). In both cases trafficking depends upon law enforcement officials willing to ‘look the other way’ (Hughes 2000, Kelly 2002). The World Bank Institute has constructed a cross country ‘rule of law’ indicator that combines an index of organized crime with other commonly used indices of corruption and illegal activity. This indicator is a point estimate for each country based on this collection of survey data with higher values corresponding to greater rule of law (Kauffman et al 2010). Despite concerns about the ideological stances of some of the organizations providing this

data, this ‘rule of law’ indicator helps us control for differences in the law enforcement environment.

## METHODOLOGY

Our regression analysis takes the variable ‘reported incidence of origin of trafficking’ as the ‘dependent’ variable, and we use the ‘independent’ or causal variables discussed below to try and isolate the most important characteristics of countries that rank high on the incidence of origin of trafficking. Since the dependent variable, ‘incidence of origin’ is ordinal with five ranked categories, we use multivariate ‘ordinal logit’ regression to try and isolate the primary characteristics of origin countries.

Assume that the underlying level of trafficking originating in country  $i$  is  $y_i^*$ , which is in turn is based upon a number of determinant factors  $x_i$  such that:

$$y_i^* = \alpha + \beta^*x_i + u_i, i= 1 \text{ to } N$$

where  $\alpha$  is a constant and  $u_i$  is an error term with a logistic distribution

The data available to us is a classification of the countries into categories such that:

$$y_1 = 1 \text{ if } -\infty < y^* < k_1$$

$$y_2 = 1 \text{ if } k_1 < y^* < k_2 \dots \text{ etc.}$$

The dependent variable in this case is ‘incidence of origin’ and has 5 categories, taking values from 1 to 5. We did run likelihood ratio tests to evaluate the possibility of collapsing this variable into 3 categories, but the tests suggested that collapsing categories would result in loss of information. We should therefore add a caveat to our analysis in that we realize that the results may be affected by the small size of the dataset relative to the large number of categories in the dependent variable, and the large number of independent variables used.

The estimated parameters  $\beta_i$  are generated using the maximum likelihood method and are to be interpreted as the probability that a change in the independent variable will result in a change in the log odds ratio of a country having the highest level of trafficking origin (versus the

remaining four combined). Greene (2002) points out that these coefficients provide the most accurate picture of movements between the extreme categories – i.e. a shift from very low to very high, but say less about what would increase the likelihood of countries moving between the categories in the middle (medium to high).

Before undertaking this regression analysis, however, we did correct for one possible problem in the data. While the UN classifies 127 countries by incidence of origin, several other countries, including most in Western Europe, are listed as ‘not reported’ – i.e. no reports were found citing them as origin countries for trafficking.

Table 4 shows us that many of these excluded countries are relatively high income democracies located in the west. This classification may, on the one hand, reflect a genuine lack of trafficking from these countries. It may also reflect geographical biases in the sources used by the UN. Given the difficulty of defining trafficking, however, it could also reflect cultural or political biases in the media reports used in the database, as we discuss below. As researchers, we are unable to supplement the data the UN makes available. We thus try to correct for sample selection bias using a statistical technique called the Heckman selection procedure, modified for an ordinal dependent variable.

### **Heckman selection procedure**

The Heckman procedure involves constructing a ‘selection equation’ that, in our case, would estimate the probability that a country was included in the database merely due to reporting biases. The results of a binary probit estimation of the selection equation are used to calculate an ‘inverse mills ratio’ which, in the Heckman procedure, is included in the regression analysis of the dependent variable to correct for any selection bias (Greene 2002). Maximum likelihood estimation is required when the dependent variable is ordinal. In this case the variable of interest for determining the strength of sample selection bias is coefficient on ‘rho’ the correlation between the errors terms in the first and second stage regressions. An additional likelihood ratio test of  $\rho=0$  might be important in case of the relatively small sample we have in this case.

We acknowledge that using sample selection on a relatively small dataset may result in bias and instability of the results. We do find however that the results obtained here are robust to both the exclusion and inclusion of certain variables of interest, as reported below.

The STATA program ‘glamm’ can be used to estimate selection models for a variety of outcome types, including ordinal variables. In this paper we use a ‘wrapper’ program, ssm, developed to simplify and standardize the use of ‘glamm’ for selection models. Miranda and Rabe-Hesketh (2005) describe the program, the simple code required to install both glamm and the ssm wrapper program and how to use it.

The selection equation in our analysis uses a binary dependent variable taking the value ‘1’ if the country was included in the database and 0 if it was left out (see Table 4 for a list of excluded countries). Of a total of 172 countries, 118 took value ‘1’.

*(Include table 4 about here)*

We used two main determinants of selection. The first is a five category ordinal variable representing the regional location of the country. The sources for the UNODC dataset were concentrated in certain regions of the world, creating a possible source of sample selection bias. Latin America and the Caribbean, for example, only accounted for 4% of all sources, while Europe & the CIS accounted for 36%(UNODC 2006, 111). The classificatory regions we used, in ascending order of the share of data sources from that country were: Latin America and the Caribbean, Africa, Asia, North America, and Europe & the CIS. Thus the ‘region’ variable takes values 1 through 5 with a country located in Latin America receiving a value of 1 and so on.

The second determinant of selection was the country’s Freedom of the Press score according to the 2005 Freedom House country ranking<sup>2</sup>. This score can range from 0 to 100 with 100 representing an entirely unfree press. Given that the UNODC database relies considerably upon media reports we think it is important to control for the extent to which journalists may be able to work in or receive reports about a country.

However, the role of the media in this case is ambiguous. A simple bivariate correlation tells us that the press freedom score is in fact statistically significantly but positively correlated with inclusion in the report (neither the size nor sign of the correlation coefficient indicate a relationship with the incidence variable)<sup>3</sup>. That is, the more free the media the fewer the reports of trafficking originating from that same country. This could of course indicate the fact that better information dispersion reduces the incidence of trafficking and that selection bias is not an important here. However, as discussed earlier, the literature on trafficking suggests that media reports often perpetuate stereotypes about who is trafficked and indeed what trafficking means. Thus incidents involving countries and peoples more familiar to media sources may be classified as incidents of migration rather than trafficking. While we are unable to probe this issue further in this study, we think this is an interesting question for further research.

The independent variables from the second stage regression were also included as covariates in the selection equation with one exception. None of the countries excluded from the report were transition economics, which created a problem of collinearity. As a result, the transition dummy was dropped from the selection equation.

## RESULTS

Table 5 reports the results of our initial specification. As far as the sample selection estimation goes, the (lack of) Press Freedom variable was statistically significant and positively signed – thus it was countries with less press freedom that were more likely to be included, all else constant. As discussed above we think this is an interesting result that bears further investigation. The (log) GDP per capita terms suggests an inverse-U relationship: both the richest and the poorest countries were less likely to be reported on in the UN database. Total population was also statistically significant. Countries with larger populations were more likely to be selected.

Importantly, while the coefficient on rho was positive and statistically significant at the 10% level, likelihood ratio tests of  $\rho=0$  suggested that the null hypothesis could not be rejected.



This suggests that sample selection bias was not significant in this formulation of the regression equation. As Table 4 shows, the sign and significance of effects without the heckman correction were unchanged and the larger size of the coefficients corresponded with the fact that rho was positively signed<sup>4</sup>.

*(insert table 5 about here)*

As expected, the dummy variable for transition economies was highly significant at the 1% level. All else constant, the odds ratio tells us that being a transition economy made a country 19 times more likely to be in the highest trafficking category (relative to the remaining four combined). This variable may be capturing not just the loss of economic and physical security that accompanied transition in many countries but also the demand side effects of racialized notions of beauty and genteelness discussed earlier.

Total population(ln), was also positively and significantly correlated. A one per cent increase in population, all else constant, would make a country 1.6 times more likely move to a higher trafficking category.

The coefficients on the (ln)GDP per capita and (ln)GDP per capita squared terms confirmed an inverse U-shaped relationship between national income and trafficking. The result did suggest that there might be some merit to viewing trafficking and human smuggling or illegal migration as lying along a continuum, rather than as distinct phenomena requiring significantly different institutional responses. As with immigration, the poorest and richest countries are less likely to be sources for trafficking both due to the cost of migration and the forces of demand in the labor ‘markets’ that the trafficked enter.

The only indicator of gender inequality that was statistically significant was the ratio of female to male income, which was positively correlated with the incidence of trafficking origin. Thus countries with less (urban) labor market gender inequality were actually more likely to be origin points for trafficking. A 1% increase in the female-male income ratio would make it 1.05 times more likely a country was in the highest rather than the four lower categories combined.

Due to the possibility of correlation amongst gender inequality variables, we also ran the same sample selection regression with each measure separately and once again only the female male income ratio was statistically significant. The results of the regression using only the female male income ratio as the metric of gender inequality are reported in Table 6. Other results are available upon request.

*(Insert Table 6 about here.)*

We also ran an alternative specification of the complete equation with the inclusion of the headcount ratio, lowering the sample size to 95. Neither the freedom of press nor the region variable was statistically significant and the likelihood ratio test for  $\rho=0$  was also insignificant. However, the results for the income terms and the ratio of female to male income were similar to the previous regressions and did not change when the selection equation was dropped.

Interestingly, the share of female to male life expectancy was now also statistically significant and, once again, positively related to trafficking origin.

*(insert table 7 about here)*

## ANALYSIS OF THE RESULTS

These results empirically validate what interviews of trafficking victims have indicated – the majority of such victims are not the poorest of the world’s women and men. Instead, both for demand-side and supply-side reasons they tend to be women and men who have perhaps already achieved some measure of economic mobility, but now feel that those gains are threatened within their own countries. The results for the transition dummy suggest the kinds of events that increase the perception and reality of such threats.

As far as gender inequality goes, the more obvious manifestations of patriarchy, lower female literacy and low sex ratios ratios have no impact upon trafficking. The female to male income ratio was, however, positively and significantly correlated with trafficking incidence. Once we controlled for the level of absolute poverty in a country, the female to male life expectancy ratio was also positively and significantly related to trafficking origin. These results

bear out micro level studies suggesting that it is in societies permissive enough to allow women to travel alone and be potential economic migrants – indeed to have aspirations to economic mobility – that we are likely to see trafficking originate.

Our results thus validate feminist approaches to trafficking that first, accept the very real desire to move that drives victims of trafficking and second, do not conflate poverty and gender inequality with this desire to move.

## CONCLUSIONS

This study is an attempt to empirically evaluate the factors that increase a country's likelihood of being an origin point for inter-country human trafficking. In particular, we ask how and how much economic development and gender inequality matter in shaping patterns of human trafficking and whether these patterns are different from those observed in the literature on illegal migration. While our analysis is constrained by limitations of data we find some interesting results that do appear fairly robust.

Ordinal logit regressions corrected for sample selection bias tell us that trafficking is not more likely in countries with greater gender inequality. This finding reminds us that the problem of human trafficking cannot be reduced to the problem of gender inequality in developing countries. Solutions that shift the focus away from immigration laws in host countries to better education or wages for women in origin countries, for example, do not receive support from our results. While better education and wages for women are important for multiple reasons, our study does not suggest that they are the primary solution to the particular problem of trafficking. The result does of course also remind us of the limits of available cross-country measures of gender inequality which do not yet reflect the feminist emphasis on economic security or social provisioning as an essential component of empowerment.

Our study also finds an inverse U-shaped relationship between the (PPP) income per capita for a country and the incidence of trafficking origin. Research on migration suggests a very similar relationship. Overall it appears that at this macro-level it is difficult to clearly distinguish

between trafficking, even according to the Palermo protocol's own definition, and forms of illegal migration. We thus see merit in the case for addressing both under the umbrella of what could be termed 'trafficking like' practices, to better capture both the immense constraints placed upon the movement of people from the developing world and the resultant ease with which 'voluntary' shades into 'involuntary'. Most of all, a clearer recognition that even these circuits of exploitation exclude those who are worst off may redirect some of the energy and resources devoted to trafficking towards ending the new 'global apartheid' (Sharma 2005) of immigration laws.

### **End notes**

<sup>1</sup>The US department of state does maintain a similar record of trafficking levels in different countries but the UN data is more comprehensive because it incorporates the US official trafficking reports alongside other such official and non official reports.

<sup>2</sup>While Freedom House is largely funded by the US government and thus might be slanted toward the 'official' view, other such rankings (e.g by the Intelligence unit of The Economist) unfortunately also come with possible ideological biases. This particular ranking covers a very wide range of countries, allowing us to maximize the number of observations in our analysis.

<sup>3</sup>The correlation between being included and the freedom of press score was 0.49 and significant at the 1% level.

<sup>4</sup>If significant, a positively signed value for 'rho' indicates that the impact of an independent variable that also appears in the selection equation is larger than the coefficient in the outcome equation alone.

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## Appendix: Sources for Data

Variable	Source
Incidence of Origin of trafficking	UNODC 2006 Trafficking Report.
HDI value	2005 HDR Report
Transition Economies	Social Science Electronic Publishing.
GDP per capita (PPP) US\$ 2003	2005 HDR Report.
Ratio of female to male adult Literacy Rate (% ages 15 and above) 2003	2005 HDR Report
Ratio of female to male life expectancy, 2003	2005 HDR Report
Ratio of estimated female to male earned income, 2003	2005 HDR Report
Total Population	2005 HDR Report
Freedom of Press scores	Freedom House, 2005
Conflict	UCDP/PRIO Armed Conflict Dataset.
Regional/Geographic Classification	UNODC 2006 Trafficking Report
Access to Sea	UN office of the high representative for the least developed countries, landlocked developing countries and small island developing states
Sex ratio under 15	CIA Factbook 2005
Rule of law index	World Governance Indicators, 2005
Headcount ratio under 2\$ a day (PPP)	World Development Indicators, 1997-2005

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UN office of the high representative for the least developed countries, landlocked developing countries and small island developing states <http://www.unohrls.org/en/ldc/39/>