# The Economics of Human Rights

# - Gender, Human Trafficking, and Policy

Dissertation
zur Erlangung des wirtschaftswissenschaftlichen Doktorgrades
der Wirtschaftswissenschaftlichen Fakultät
der Universität Göttingen

vorgelegt von

Seo-Young Cho

aus Seoul, Republik Korea

Göttingen, 2011

Erstgutachter: Prof. Dr. Axel Dreher

Zweitgutachter: Prof. Stephan Klasen, Ph.D.

Drittgutachter: Prof. Eric Neumayer, Ph.D.

Tag der mundlichen Prüfung: 23. Juni 2011

Acknowledgement

I would like to thank Axel Dreher and Stephan Klasen for their support and advice during my PhD study period. Also, I am grateful to my co-authors, Eric Neumayer and Krishna Chaitanya Vadlamannati, for their collaboration, as well as my colleagues in the Development Economics Research Group at the University of Göttingen. Financial support from the European Commission (Prevention of and Fight against Crime Action Grant) and the German Academic Exchange Service (DAAD) during my PhD years are cordially acknowledged.

Additionally, I want to thank my husband, Ulrich Kreppein, for his support and encouragement.

Göttingen, May 2011 Seo-Young Cho

## Table of Contents

## Figures

## Tables

## Overview

This dissertation includes four papers prepared during my PhD study period (2008-2011), investigating a variety of topics on human rights through economic analyses. All the papers discuss the socio-economic problems related to vulnerable populations – such as women – and their policy implications in the era of globalization. Such problems can be investigated from three important, interconnected angles and my research comprises of these three pillars.

The first pillar is 'gender'. Women are arguably societal minorities in most countries and their empowerment is a critical part of the development of a society and policy design. Through my research, I investigate institutional and social conditions which can enhance women's rights, particularly under global governance. My empirical findings suggest that women's rights can be promoted through the joint efforts of the global gender regime together with domestic democratic institutions. Furthermore, distinguished from the existing literature, my study shows that social globalization, rather than economic globalization, can be a driving force in improving women's fundamental rights.

The second pillar is 'human trafficking'. Human trafficking has been one of the fastest growing transnational crimes in the era of globalization and continues to be today. It is also often a gender-based crime, with the majority of victims being females. My research focuses on the international anti-trafficking regimes and their effects. As an effort to measure anti-trafficking policy, I developed the Anti-trafficking Policy Index to evaluate governmental efforts in combating the problem. By utilizing this Index, I – together with Axel Dreher and Eric Neumayer – find empirical evidence that anti-trafficking policy is diffused worldwide through interdependent policy-making decisions across countries. This occurs namely through spatial effects via negative externalities and learning processes. Additionally, my study – together with Krishna C. Vadlamannati – suggests that countries demonstrate a strategic behavioral pattern in complying with the anti-trafficking regime under the presence of the pressure from the major global powers.

Concluding my dissertation, the last pillar, 'policy', looks at the important role of global governance and interdependent policy-making today. This observation leads to policy implications implying that joint efforts among stakeholders at the global level are crucial to tackling gender inequality and human trafficking, two critical problems related to vulnerable people in the 21$^{st}$ century.

The economics of human rights, the central theme of my dissertation, is concerned with issues related to the human rights of vulnerable people, an understudied field in the economics literature to date. My dissertation contributes to the literature by introducing and empirically analyzing the three interconnected pillars, with evidence suggesting that these are crucial issues in the area of human rights in the 21st century.

# Chapter 1.

# The Spread of Anti-trafficking Policies – Evidence from a New Index[1]

## 1. Introduction

In the last few decades, human trafficking has become a growing phenomenon worldwide. The illicit trade in human beings across borders violates the human rights of victims, threatens national security and deteriorates the health of the affected economies and societies by increasing the size of the shadow economy and organized criminal activities (Belser 2005). Although the exact magnitudes and dimensions of the problem are unknown, available statistics suggest that human trafficking is one of the most serious transnational crimes in the 21st century. According to the U.S. Department of State (2010), there are more than 12 million victims of human trafficking worldwide. Interpol (2009) estimates that human trafficking is a multi-billion-dollar business, amounting to the third largest transnational crime following drug and arms trafficking.

Human trafficking can be seen as one of the dark sides of globalization. As advancements in technology and transportation connect countries more closely regardless of geographical distances, illicit flows of human beings have also become a global phenomenon. Anecdotal evidence suggests that traffickers recruit victims worldwide and transfer them from one country to another, often across continents (U.S. Department of State 2010). For instance, according to the UNODC (2006), trafficking victims found in the United States came from 66 countries in different regions (China, Mexico and Nigeria for example). Germany, another major destination, receives trafficking victims from at least 51 countries, including many from outside Europe (Afghanistan, Colombia, the Dominican Republic, etc.).

Given the growing significance of international human trafficking, it is no surprise that the international community has adopted several measures in the past ten years, including the *United Nations Convention against Transnational Organized Crime* and its *Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children* (2000, hereinafter the "Convention" or "Protocol"). Accordingly, social scientists have started to turn their attention towards policies enacted to combat human trafficking (Akee et al. 2010(a); Auriol and Mesnard 2010; Avdeyeva 2010; Bartilow 2010; Di Tommaso et al. 2009; Friebel and Guriev 2006; Mahmouda and Trebesch 2009; Simmons and Lloyd 2010). One of the

[1] Joint work with Axel Dreher and Eric Neumayer

problems scholars face is the lack of reliable data on countries' anti-trafficking policies which can be compared over time and between countries. The U.S. Department of State reports a ranking of countries with respect to their actions in fighting human trafficking. They use a scale of 1-3,[2] which is based on the level of compliance with the United States 2000 Victims of Trafficking and Violence Protection Act (TVPA). However, the tier ranking has several drawbacks, which limit its reliability and relevance.[3] In particular, while the tier ranking provides an aggregate score of compliance with anti-trafficking policies, it fails to recognize the different levels of compliance in the three main policy dimensions – prosecution, protection and prevention. Separating the three dimensions is important. Theory and evidence indicate that better protection policy may encourage potential victims to risk illegal migration, which could lead them to fall prey to traffickers. Human trafficking inflows might therefore increase as a consequence, contradicting the objectives of prosecution and prevention policies (Akee et al. 2010(a)). Countries can thus have the same overall ranking on the index, but for very different reasons.[4]

We make two important contributions to the growing literature on human trafficking. First, we develop novel and original indices of anti-trafficking policies around the world, providing better, more detailed and disaggregated measures of the three prime policy dimensions enacted by countries. Specifically, we use raw data from two reports on human trafficking – the Annual Reports of Trafficking in Persons (United States State Department, 2001-2010) and the Reports on Trafficking in Persons: Global Patterns (United Nations Office on Drugs and Crime, 2006 and 2009) – to construct separate indices on the three policy dimensions (prosecution, protection and prevention), as well as one overall aggregate anti-trafficking policy index for up to 177 countries over the 2000-2009 period. The index provides a score from 1 to 5 for the level of compliance, with each dimension of anti-trafficking policies for each country and year. Second, we argue that policy choices across countries are very unlikely to be independent from each other. Major destination countries

[2] The tier-ranking consists of tier 1, 2, 2-watchlist and 3. "Tier 2" and "tier 2-watchlist" reflect the same level of compliance (with 'watchlist' providing information about a country's development relative to the previous year).

[3] The decision rule of the tier-ranking is not transparent to the public. It is not clear how the three levels of the ranking – full compliance, significant efforts and no significant efforts – are assessed and determined, making the ranking vulnerable to subjectivity (GAO 2006). It has been argued the tier-ranking is largely a tool of the U.S. government to influence other country's policies through 'naming' and 'shaming' (Simmons and Lloyd 2010). It is determined based on evaluation of compliance with the United States' domestic anti-trafficking law – the Victims of Trafficking and Violence Protection Act (TVPA 2000) – rather than international law. Its relevance for evaluating international standards is therefore limited.

[4] A number of countries in full compliance with the tier-ranking fail to ensure the basic legal rights of victims, punishing and deporting them, while demonstrating sound policy interventions in the other dimensions (prosecution and prevention). For instance, in the tier 1 group, victims in France and the United Kingdom were reportedly imprisoned and deported due to their actions related to the situations in which they were trafficked in 2008 and 2009 (U.S. Department of State, 2009 and 2010).

will wish to push for policy changes in relevant transit and origin countries. More generally, international human trafficking creates significant cross-country externalities and countries will also want to learn from or emulate the policies enacted by other countries. Because of these cross-country spillover effects, we argue that countries spatially depend on each other in their respective policy choices. We empirically investigate this hypothesis with a spatial autoregressive estimation model.

To foreshadow our results, we find evidence for spatial dependence in anti-trafficking policies. In particular, policies diffuse via externality effects across contiguous countries and main trading partners – with the exception of protection policies, for which one would not expect any externality effect. Policies also diffuse via learning or emulation effects as countries look for cues (or information) from other countries sharing political and cultural similarities. However, we do not find any significant effect of pressure from the United States via aid. Nor do we find evidence that major destination countries pressurize relevant major transit and origin countries to enact stricter anti-trafficking policies.

We proceed as follows. In section 2, we develop theoretical arguments as to why anti-trafficking policies are not independently chosen by countries. In section 3, we introduce our indices on anti-trafficking policies. The method of estimation and data are described in section 4, while we discuss our results in section 5. Section 6 tests for the robustness of our results. The final section concludes the paper.

## 2. Spatial Dependence in Anti-trafficking Policies

Spatial dependence in policy choices has become a key concept in the recent literature analyzing policy diffusion across countries (Neumayer and Plümper 2010; Gassebner et al. 2011; Gauri 2011; de Soysa and Vadlamannati 2010; Greenhill et al. 2009; Eichengreen and Leblang 2008; Pitlik 2007; Blonigen et al. 2007). Spatial dependence exists whenever the marginal utility of one unit of observation (here: a country) is affected by the decision-making of other units of observation (Neumayer and Plümper 2010). For example, if policies enacted in one country are influenced by policy choices in other countries, then they are said to spatially depend on each other. From a theoretical perspective, spatial dependence can result from pressure, externalities, learning and emulation (Elkins and Simmons 2005; Simmons and Elkins, 2004).[5] The major destination countries of internationally trafficked persons are likely to exert pressure onto countries which function as major sources of transit and/or origin for

[5] They list coercion, rather than pressure, and add competition. However, coercion is incompatible with policy choice and competition can be subsumed under externalities. On the other hand, emulation could be subsumed under learning unless countries blindly follow others in their policy choices.

people trafficked into these major destinations. Major destination countries will be averse to illegal migration into their territories (as international trafficking always is) and will resent the increase in other transnational criminal activities (such as drug and arms trafficking) that typically accompany human trafficking (Bartilow 2010). Moreover, human trafficking creates a shadow economy of illegal labor markets and businesses with estimated annual profits of some one billion dollars in industrialized countries (Belser 2005) – money which is not taxed and is likely to be used for illegal activities. Yet, the effectiveness of policies undertaken in destination countries will be undermined if other countries, particularly relevant transit and origin countries, do not follow suit. The strictest anti-trafficking policies in destination countries may be ineffective if countries of origin and transit have lax policies in place. Hence, successful anti-trafficking policies in destination countries depend on a ratcheting up of policies in origin and transit countries, as well as major destination countries exerting pressure on laggards.

In addition to pressure, externalities are rampant in this policy area (Simmons and Llyod 2010). Anti-trafficking policies enacted by one country create significant externalities that other countries cannot simply ignore. Stricter policies in one destination country will deflect some of the flows of trafficked persons into other destination countries, while stricter policies in one origin or transit country will prompt transnational trafficking networks to increasingly resort to other origin or transit countries. Similar to international drug-trafficking, unless policies can address the underlying supply and demand factors driving international trafficking (which they typically cannot), stricter anti-trafficking policies in one country will merely deflect the problem onto other countries with weaker policies in place, such that there is an incentive to ratchet policies upwards over time. In other words, by predicting externality effects of such transnational crime, countries will be able to update their anti-trafficking measures, following relevant policy changes of other countries which share certain characteristics, such as geographic proximity and economic similarity.

Lastly, anti-trafficking policies are being set in a relatively new arena of public policies, with some countries, such as the United States and a few countries in Western Europe, running ahead of others. Laggards will be uncertain in regards to which policies to choose on their own, and will therefore look for cues (or information) in the policies of other countries. Importantly, countries will not simply wish to follow the top leaders in North America and Western Europe. These are all major destination countries and following their lead may not produce positive outcomes in other countries – mostly origin and transit countries of trafficking victims – because the root causes of the problem and the groups

targeted differ from those of the leading countries as does their cultural and political setting. In dealing with uncertainty regarding policy design and its outcomes, the more competently governed lagging countries will want to actively learn from leaders in their *reference* groups – i.e., from culturally, politically, or geographically proximate countries who are also early adopters of relevant policies (Elkins and Simmons 2005), while other laggards may simply wish to emulate or mimic policies from other reference countries without any major learning effect.

In sum, there are many reasons why one would expect spatial dependence in anti-trafficking policies. Some countries will be pressured by others, some will experience externalities created by others, and some will want to learn from or emulate others. Importantly, the strength of these effects will differ across countries, depending on how and to whom they are connected. To test for these hypothesized spatial dependence effects, we estimate spatial autoregressive models in section 5, in which the spatially-weighted policy choices of other countries are allowed to affect the domestic policy choice of the country under observation, with the weights capturing the various types of connectivity among countries. Before discussing our empirical research design, we explain how we have coded novel measures of anti-trafficking policies.

## 3. Novel Measures of Anti-trafficking Policies

In response to the emergence of human trafficking onto the international policy arena, several important international legal instruments have been introduced in the past ten years, including the *United Nations Convention against Transnational Organized Crime* and its *Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children* (2000) and the *Council of Europe Convention on Action against Trafficking in Human Beings* (2008).[6] The adoption of the Convention and the Protocol is followed by rapid ratification by countries. After opening for signature in November 2000, the Convention has been ratified by 158 parties and the Protocol by 142 to date. The Protocol in particular represents an important step forward, by providing an internationally recognized definition of human trafficking[7] for

[6] There are several earlier versions of international treaties for human trafficking, including the International Agreement for the Suppression of the "White Slave Traffic" (1904). Several other international treaties relevant to human trafficking exist today: The International Labor Organization Convention 182, the Elimination of Worst Forms of Child Labor (1999); the United Nations Optional Protocol to the Convention on the Rights of the Child on the Sale of Children, Child Prostitution and Child Pornography (2000); the International Labor Organization Convention 29, Forced Labor (1930); and the International Labor Organization Convention 105, Abolition of Forced Labor (1957).

[7] According to the Anti-trafficking Protocol, *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*

the first time, as well as introducing its three important policy dimensions: (i) prosecuting (criminalizing) traffickers, (ii) protecting victims, and (iii) preventing the crime of human trafficking (UNODC 2006).

Our novel and original indices are coded to reflect policies in these three dimensions. We decompose each dimension into several important requirements prescribed by the Protocol and evaluate compliance for each of them. Compliance with these requirements is independently evaluated by at least two trained coders based on clearly instructed coding guidelines and decision rules.[8] The scores for each dimension are aggregated to a five-point scale ranging from 1 to 5, where the highest value indicates full compliance and the lowest value no compliance.[9]

The raw data are derived from two reports on human trafficking, the Annual Report of Trafficking in Persons (United States State Department, 2001-2010) and the Report on Trafficking in Persons: Global Patterns (United Nations Office on Drugs and Crime, 2006 and 2009). The U.S. State Department reports provide detailed country narratives every year on the anti-trafficking efforts of up to 180 countries in the three dimensions of human trafficking listed above (an annual report covering the period one year before publication). The UN Office on Drugs and Crime reports include information about criminal justice and victim protection policies in approximately 155 countries for various years.[10] As the State Department's reports provide systematic and comprehensive information covering a larger number of countries each year, we use these as our main source. We then check the validity of the information provided by employing the UN reports.

The sub-index on 'prosecution policy' measures the level of governments' efforts to punish and prosecute traffickers and other related offenders (such as employers of trafficking victims, law enforcement officials who collude with traffickers, and clients of services provided by human trafficking victims). The prime requirements for governments to implement are broken down into six areas: (i) the adoption of anti-trafficking law, (ii) the adoption of child trafficking law, (iii) the application of other relevant laws, (iv) the stringency of penalties, (v) the level of law enforcement, and (vi) the collection of crime

---

*abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labor or service, slavery or practices similar to slavery, servitude or the removal of organs* (article 3-*(a)*).

[8] Appendix 1.A presents a short version of the coding guidelines. The full version is available in our online appendix (www.human-trafficking-research.org).

[9] In the rare case of disagreement between the two coders, the principal investigators decided on the scores.

[10] The reports summarize information about the adoption and implementation of anti-trafficking policies from the 1990s to the present, but do not provide systematic information on an annual basis.

statistics. We select these requirements based on article 5 (criminalization) of the Protocol. Countries receive the highest possible score (five) if the country has a legislative measure specifically prohibiting trafficking in persons and the law is fully enforced. It receives a score of four if it has adopted legislative measures specifically prohibiting trafficking in persons but the law is not fully enforced. A score of three is coded if the country does not have a legislative measure specifically prohibiting trafficking in persons but applies some other relevant laws to punish offenders and this other law is at least adequately enforced. A score of two implies that the country does not have a legislative measure specifically prohibiting trafficking in persons, but it applies some other related law to punish offenders without, however, adequately enforcing this law. If the country has a legislative measure specifically prohibiting trafficking in persons but does not enforce the law at all it also receives a score of two. The lowest possible score of one is obtained if the country does not have a legislative measure prohibiting trafficking in persons, no other law is applied, and there is no evidence of punishment for such a crime at all. The short description of the coding guideline is reproduced in Appendix 1.A and the detailed full version is available in our online appendix.[11]

The second sub-index, 'protection policy', is coded analogously. It assesses the level of governmental efforts to protect and assist the victims of human trafficking. Nine prime requirements imposed by the Protocol (article 6, 7 and 8) are evaluated: (i) no punishment of victims, (ii) imposing no self-identification in order to prove their status as a victim; (iii) assistance for legal proceedings, (iv) the provision of residence permits, (v) basic services for housing, (vi) medical training, (vii) job training, (viii) assistance for rehabilitation and (vi) assistance for repatriation. Ensuring no punishment of victims receives special consideration in our evaluation[12] because this requirement represents a basic human right in anti-trafficking policy, recognizing 'victims of exploitation' (UNODC 2006; Cameron and Newman 2008: Chapter 1). The highest score of five is given to countries demonstrating very strong efforts in preventing trafficking in persons. Countries obtain a score of four (three) if they demonstrate strong (modest) efforts against trafficking in persons, and a score of two for limited efforts. A score of one is given if the country demonstrates no effort against trafficking in persons. Again, the coding guidelines are provided in Appendix 1.A and the online appendix.

The third dimension of anti-trafficking policies, 'prevention policy', evaluates the level of governmental efforts to prevent and combat human trafficking. Based on the requirements of the Protocol provided in article 9, 10, 11, 12 and 13, seven areas are

[11] See www.human-trafficking-research.org.
[12] To obtain score 4 or 5, the requirement of no punishment of victims has to be satisfied.

evaluated. Examples are the implementation of campaigns for anti-trafficking awareness; training government and military officials (including peace keepers); facilitating information exchange among relevant authorities; monitoring borders, train stations, airports, etc.; adopting national action plans for combating trafficking in persons; promoting cooperation with NGOs and international organizations; and facilitating cooperation with other governments. Again, the index ranges between one and five, with higher values reflecting stricter policies, as detailed in Appendix 1.A.

In addition to the three sub-indices, we also calculate an overall "3P" anti-trafficking policy index. This is computed as the unweighted sum of the three dimensions. The overall index thus ranges between 3 and 15. It is available for up to 175 countries over the 2000-2009 period. Data availability and global and regional average scores are illustrated for selected years in Table 1.1. As can be seen, relevant information becomes available for more countries over time. As expected, the developed world performs better than the rest of the world. European and OECD countries demonstrate the highest commitments to anti-trafficking policies in all of the three dimensions, while efforts are minimal and even decreasing in South Asia and the Middle East in recent years.

**Table 1.1.**: Global and Regional Average Scores of 3Ps (2000, 2005 and 2009)

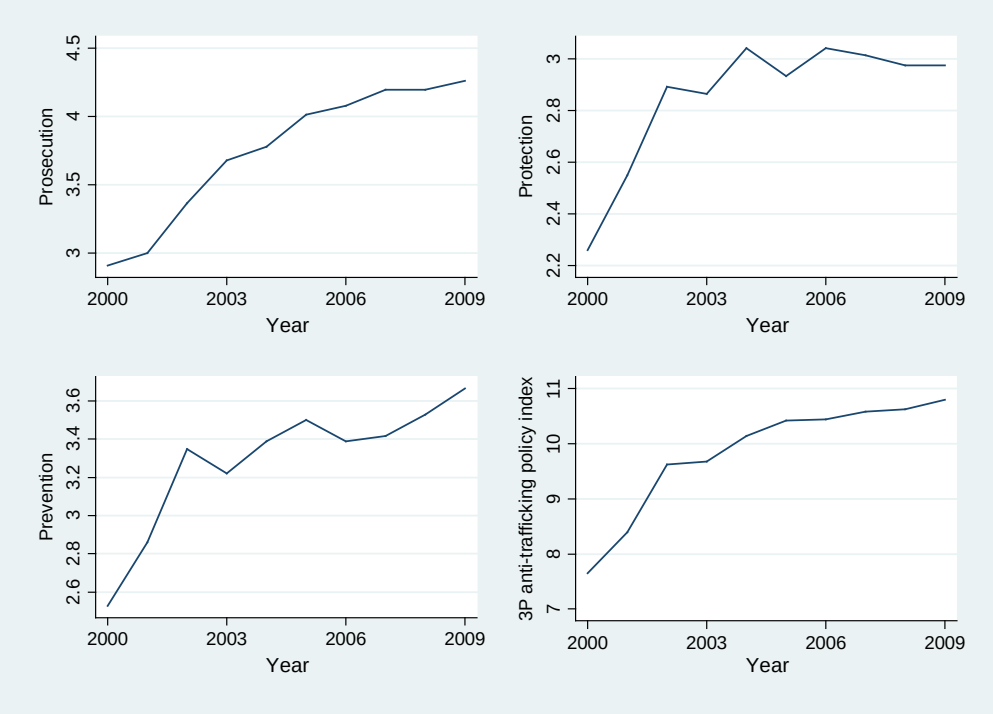
| | Prosecution | | | Protection | | | Prevention | | | Aggregate 3Ps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2005 | 2009 | 2000 | 2005 | 2009 | 2000 | 2005 | 2009 | 2000 | 2005 | 2009 |
| Worldwide | 2.89 (81) | 3.55 (159) | 3.76 (177) | 2.24 (78) | 2.79 (156) | 2.78 (176) | 2.49 (78) | 3.19 (159) | 3.28 (176) | 7.58 (74) | 9.61 (156) | 9.85 (175) |
| East Asia / Pacific | 2.63 (8) | 3.33 (12) | 3.76 (17) | 2.25 (8) | 2.33 (12) | 2.29 (17) | 2.71 (7) | 2.83 (12) | 2.76 (17) | 7.71 (7) | 8.50 (12) | 8.82 (17) |
| Eastern Europe /Central Asia | 2.70 (17) | 4.50 (24) | 4.67 (24) | 1.63 (16) | 2.82 (23) | 3.17 (24) | 2.19 (16) | 3.42 (24) | 3.50 (24) | 6.40 (15) | 11.0 (23) | 11.3 (24) |
| Latin America / Caribbean | 3.44 (9) | 3.48 (23) | 3.96 (25) | 2.22 (9) | 2.78 (23) | 3.17 (24) | 2.5 (8) | 2.96 (23) | 3.21 (24) | 8.13 (8) | 9.22 (23) | 10.6 (23) |
| Middle East /North Africa | 1.41 (2) | 2.50 (12) | 2.58 (12) | 1.50 (2) | 1.83 (12) | 1.32 (12) | 2.00 (2) | 2.25 (12) | 2.25 (12) | 5.50 (2) | 6.58 (12) | 6.25 (12) |
| Western Europe /OECD | 3.30 (23) | 4.02 (42) | 4.17 (48) | 2.50 (22) | 3.31 (42) | 3.25 (48) | 2.91 (23) | 3.64 (42) | 3.77 (48) | 8.67 (21) | 11 (42) | 11.2 (48) |
| South Asia | 3.6 (5) | 4.33 (6) | 3.43 (7) | 2.6 (5) | 2.50 (6) | 2.00 (7) | 2.4 (5) | 3.17 (6) | 3.00 (7) | 8.6 (5) | 10 (6) | 8.43 (7) |
| Sub-Saharan Africa | 2.25 (16) | 2.79 (38) | 3.02 (42) | 2.47 (15) | 2.72 (36) | 2.50 (42) | 2.19 (16) | 3.10 (38) | 3.14 (42) | 6.87 (15) | 8.78 (36) | 8.66 (42) |

Notes: Number of countries in parentheses.

Table 1.1 is based on all available information with changing country samples over time. In order to detect policy changes over time, we prefer to fix the sample to those countries that have data available over the entire period of time. This is done in figures 1.1-1.3, which illustrate how anti-trafficking policies in different groups of countries develop over time. This graphical illustration shows that the level of compliance in all of the three dimensions improved for the last ten years (see figure 1.1). In particular, compliance with prosecution policy was highest, on average, for all years and experienced the most significant improvement during the period: In the fixed sample, the worldwide average score of 2.90 in 2000 increased to 4.26 in 2009. Meanwhile, the average prevention policy score increased from 2.53 in 2000 to 3.67 in 2009. On the contrary, our index suggests that governmental efforts to protect victims of human trafficking remain weaker than their efforts to criminalize traffickers and prevent the crime of human trafficking. The worldwide average score of protection policy are lowest for all years, e.g., 2.26 in 2000 and 2.97 in 2009, and also shows the slowest improvement over time. This descriptive outcome of our index indicates that, in terms of compliance with anti-trafficking policy, countries take the 'justice and prevention' aspect of the crime more seriously than the human rights aspect, as pointed out by Simmons and Lloyd (2010).

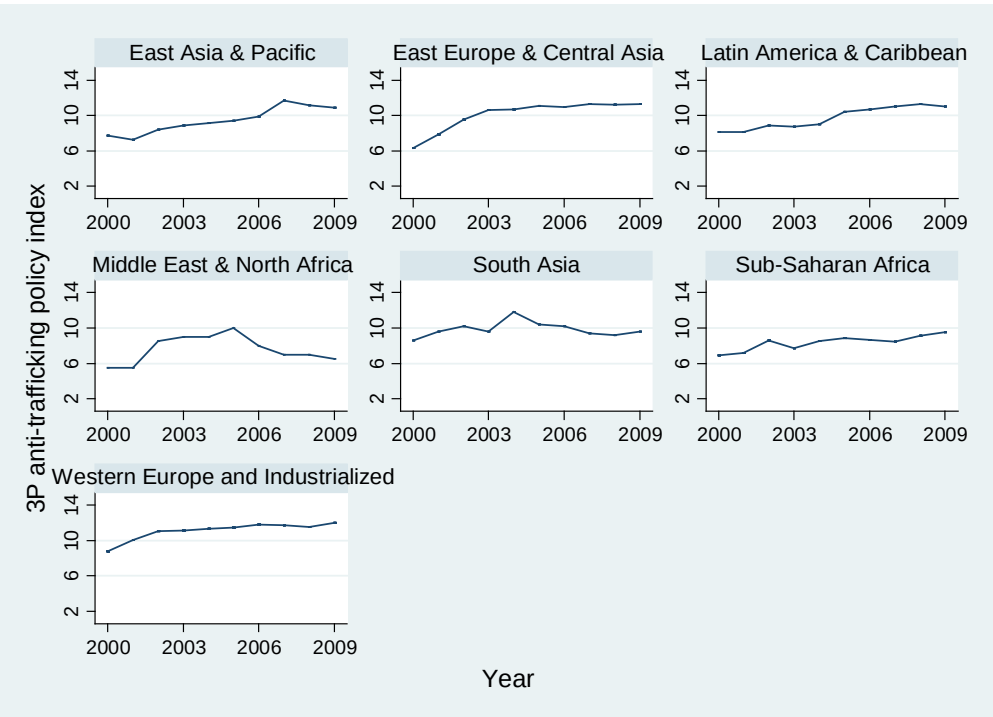
Figure 1.2 shows the development of the 3P index across regions over time, while figure 1.3 contains the same information for different income groups. As can be seen, with the exception of the Middle East/North Africa and South Asia, there are clear improvements in compliance with anti-trafficking policies over time. It is in these regions, together with Sub-Saharan Africa, where the overall level of the anti-trafficking policy index is lowest in 2009. It is also remarkable that the 3P index showed high values in the Western Europe and other industrialized countries group, while the remaining groups converged to this higher level over the 2000-2009 period. Splitting the sample up by income, the index levels are particularly high for OECD countries. High-income non-OECD countries show lower levels of compliance with anti-trafficking policies, comparable to those of low income countries, as well as lower and upper middle income countries. All country groups have improved their index values since 2000.

**Figure 1.1**. Compliance with anti-trafficking policies (global sample), 2000-2009



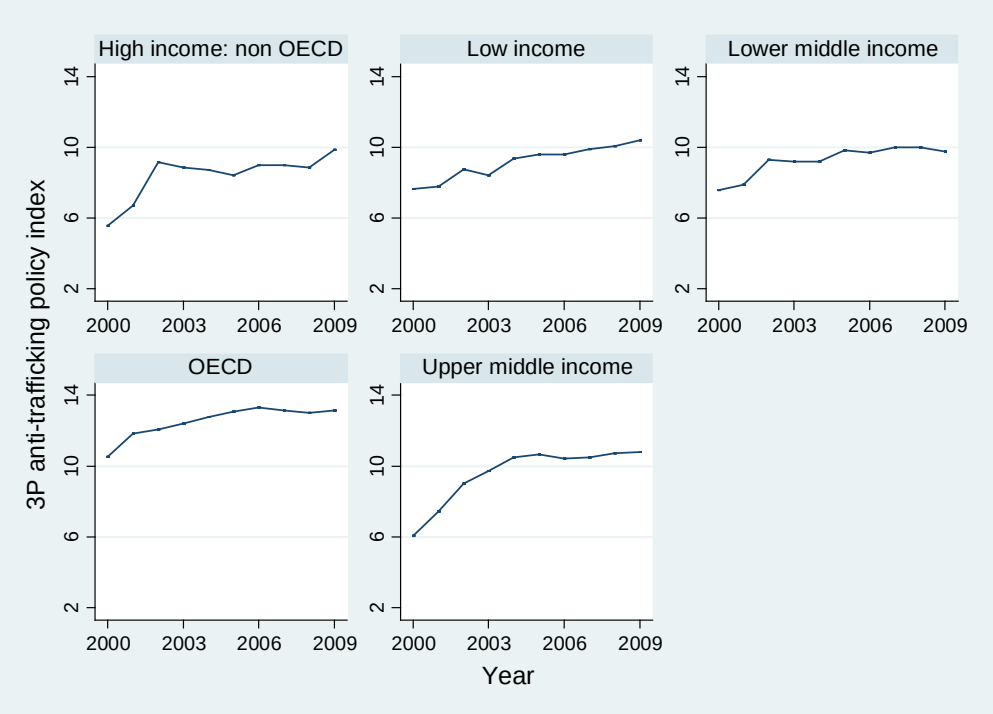

Note: The unweighted averages use balanced country samples.

**Figure 1.2**: Compliance with anti-trafficking policies across regions and time




Note: The unweighted averages use balanced country samples.

**Figure 1.3**. Compliance with anti-trafficking policies across income groups and time




Note: The unweighted averages refer to balanced country samples.

Table 1.2 shows that the three dimensions of the 3P anti-trafficking policy index are clearly not redundant. It reports the correlation coefficients across the sub-indices and the overall index, as well as the U.S. Department of State's tier-ranking. Not surprisingly, the three dimensions are positively correlated with each other. However, the correlations among the sub-indices of the 3P index are modest, ranging between 0.52 and 0.64. This suggests that the sub-indices are individually relevant and the disaggregation into the three dimensions captures differences in compliance across countries with each of the 3Ps.[13] The table also shows the modest levels of correlation between each of the 3Ps and the tier-ranking. The correlation of 0.72 between the aggregate 3P index and the tier-ranking suggests that both measures capture the general direction of the development of anti-trafficking policies, but are to some extent different. We stress that compared to the tier-ranking, our index does not rely on a single informational source, but integrates all available information in order to minimize potential biases one informational source may have.

[13] The usual threshold for regarding sub-dimensions as relevant is a correlation of at most 0.7 (McGillivray and White 1993).

**Table 1.2**: Correlation across prosecution, protection, prevention and the tier-ranking

| | Prosecution | Protection | Prevention | Aggregate 3P | Tier-ranking |
|---|---|---|---|---|---|
| Prosecution | 1.00 | | | | |
| Protection | 0.51 | 1.00 | | | |
| Prevention | 0.52 | 0.64 | 1.00 | | |
| Aggregate 3P | 0.83 | 0.85 | 0.84 | 1.00 | |
| Tier-ranking | 0.53 | 0.63 | 0.66 | 0.72 | 1.00 |

Note: A lower tier-ranking score reflects better compliance on the original scale, so we reverse the scale here.

## 4. Estimation Model, Method and Data

Our baseline estimation model follows the specification in Bartilow (2010). His dependent variable is the level of compliance with the United States 2000 Victims of Trafficking and Violence Protection Act (TVPA). The U.S. Department of State reports a ranking of countries with respect to their actions to fight human trafficking, on a scale of 1-3.[14] On the original scale, countries whose governments fully comply with the TVPA receive the lowest value (tier 1). Countries with governments not fully complying with the minimum standards required but exerting a significant effort to achieve full compliance, are ranked medium (tier 2), while countries with governments that do not fully comply and do not exert significant efforts are ranked highest (tier 3).[15] We recode the ranking so that higher values are deemed "better." We use this dependent variable only in a baseline regression for comparative reasons. Our main estimations are based on our newly constructed anti-trafficking policy variables.

Our regressions are based on pooled time-series cross-section (panel) data, covering the 2002-2009 period.[16] We use robust standard errors, clustered at the country level, to account for the fact that observations from the same country in different years are not independent observations. Since some of the data are not available for all countries or years, the panel data are unbalanced and the number of observations depends on the choice of explanatory variables. Still following Bartilow, we include the temporal lag of the dependent variable, which turns out to be highly significant according to all specifications. Our preferred estimation equation takes the following form:

[14] Bartilow (2010) uses a fourth category relying on information on how a country's policies evolve compared to the previous year (i.e., whether the country is on the "watchlist"). We do not follow this coding, as "tier 2" and "tier 2-watchlist" reflect the same level of compliance.
[15] See the Trafficking in Persons Report (2010), U.S. Department of State.
[16] Data on compliance with human trafficking policies for the years 2000-01 are also available. However, given that values are missing for many countries in these years we exclude them from the analysis.

, (1)

where represents our measures of anti-trafficking policies in country at year , is the vector of explanatory variables, and represent country and year fixed effects respectively, and represents the idiosyncratic error term. The spatial lag variable consists of the product of the 'spatial y' and a spatial weighting matrix . The spatial y is the value of the dependent variable in other countries *k*, while the spatial weighting matrix measures the relative connectivity between country *i* and other countries *k* (Plümper and Neumayer 2010). We use different weights, as explained below, thus generating different spatial lag variables, which enter separately in the estimation models. The reason for not including them together in our preferred specifications is that the spatial lag variables are highly correlated with each other, thus creating multi-collinearity problems if jointly estimated.[17] Still, we also report results with all spatial lag variables included. We row-standardize all weighting matrices, such that the spatial lag variables represent the weighted average of policies in other countries. This practice, which is typically, if erroneously, regarded as standard practice (Plümper and Neumayer 2010), is nevertheless justified here. Our theory predicts that countries will learn from their civilizational peers and main trading partners, independent of how many peers there are or how much they absolutely trade. With this is mind, row-standardization is appropriate. All spatial lag variables are temporally lagged by one year since it is unlikely that countries could react to the policies of other countries immediately (i.e., in the same year).

The dependent variables are categorical and ordinal, for which in principle ordered probit or ordered logit would be the most appropriate estimators. However, the larger the number of categories, the less persuasive the case for using ordered probit or logit (Wooldridge 2002) and our aggregate 3P index has 15 categories. Moreover, Hausman tests strongly call for the inclusion of country fixed effects to avoid omitted variable bias from unobserved country heterogeneity (see equation (1)), which is facilitated by using a linear estimator like ordinary least squares (OLS) or the system GMM estimator suggested by Arellano and Bover (1995) and Blundell and Bond (1998). We therefore use both ordered probit, OLS and system GMM.

In choosing our control variables, we follow Bartilow (2010) and include an index of control of corruption. This perceptions-based index is provided by Kaufmann et al. (2009) and

[17] In our estimation sample, the correlation of the spatial lags is around 0.5. Note that the significant coefficients might thus to some extent reflect the effects of other, omitted, lags.

ranges from -1.63 (high risk of corruption) to 2.58 (low risk of corruption), in the estimation sample of Table 1.3, column 1 below.[18] As Bartilow argues, enforcement of policies is likely to depend on the government and bureaucracy's capacity to enforce these policies. With rising corruption, both bureaucrats and government officials are less likely to enforce sound policies. A lower degree of corruption is thus likely to improve policies against human trafficking. We include the Polity IV indicator of democracy, ranging between -10 and 10, with higher values representing a more democratic political regime (Marshall and Jaggers 2009). This is because democratic governments should be more likely to follow international law (Bjørnskov 2010(a), Dixon 1993, Hathaway 2007, Neumayer 2005, Slaughter 1995). In democratic countries, it is easier for citizens, non-governmental organizations and the media to monitor governmental compliance with an international treaty. Furthermore, as the democratic legalism literature suggests, democracies are more likely to comply with international legal obligations because of their respect for judicial processes and constitutional constraints carried over into the realm of international politics (Simmons 1998). According to Bartilow, gender representation is important for human trafficking policies. As he argues, women are more likely to pursue policies which protect their own rights.[19] We measure the level of women's rights employing two indicators: The percentage of female parliamentarians in the national parliament (taken from the World Bank Gender Statistics 2010) and the Cingranelli-Richards indicator of women's economic rights.[20] We code an International Regime dummy variable, using data on whether or not a country has ratified the United Nations Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children (2000). Finally, we include a country's (log) per capita GDP and the amount of U.S. aid inflows (as a percentage of GDP). While per capita GDP proxies for a country's level of development, U.S. aid measures the potential pressure exerted by the U.S. to reform policies. Indeed, the U.S. State Department sometimes threatens to withhold aid in case of non-compliance with human trafficking policies (U.S. Department of State, Annual Report on Trafficking in Persons 2004).[21] In

[18] Bartilow uses Transparency International's Corruption Perception Index. However, this index does not provide comparable time-series data and substantially reduces the number of observations if included, so we prefer to use the index provided by Kaufmann et al. (2009) here.

[19] This is in line with the broader literature. For example, according to Chattopadhyay and Duflo (2005), reservation of political mandates for women in India has led to policies benefiting especially women. Studying voting behavior of U.S. congressmen, Washington (2006) finds that congressmen with daughters are substantially more likely to vote in-line with feminist views.

[20] Bartilow uses a narrower indicator on gender equality of marriage and divorce, while we prefer to use an indicator more broadly defined. Using the CIRI indicator of women's social rights, we lose more than 400 observations, so we prefer taking the economic rights indicator. Correlation between the two among our sample is 0.64.

[21] Bartilow (2010) uses the absolute amount of U.S. aid. We prefer to scale inflows by GDP in order to avoid capturing a mere scale effect. We also included the share of women among the ministers of a country's

section 2, we identified pressure as one of the reasons for spatial dependence in anti-trafficking policies. The inclusion of the U.S. aid measure is meant to capture any pressurizing effect that the U.S. might exert on aid-receiving developing countries, such that our spatial lag variables, to which we turn now, do not simply pick up the effect that U.S. pressure has on policies in the main recipient countries of its aid.

As argued in section 2, when choosing anti-trafficking policies, countries are very likely to spatially depend on the policy choices of other countries. Such spatial dependence is best analyzed in what is called a spatial autoregressive model, in which the weighted average of the dependent variable in other countries (the so-called spatial lag variable), enters the estimation equation as an explanatory variable. The weights used in the construction of the spatial lag variable represent the relative importance of foreign countries' policy choices for domestic policy-making in the country of observation. Weights can be dichotomous, as is the case with the dummy variables for the location of countries in a certain region or the sharing of a common border between countries, or continuous, as is the case for the variables measuring the spatial proximity between countries or the importance of their trade relationship.

In section 2, we identified pressure, externalities, learning and emulation as reasons for spatial dependence in anti-trafficking policies, i.e., as causal mechanisms or channels through which policies might diffuse. Unfortunately, it is not possible to choose weights that either perfectly or exclusively capture one of these diffusion channels. However, our weights were chosen with a view to account for these channels as much as possible. Specifically, as weighting variables we use information on the identity of the major transit and source countries for each destination country, contiguity (two countries share a land border or are separated by less than 150 miles of sea distance), bilateral trade, similarity in voting on those issues regarded as key by the United States in the United Nations General Assembly,[22] and a civilizational dummy. Transit and source countries are vulnerable to pressure from their major destination countries since the effectiveness of policies in the latter requires the ratcheting-up

government (taken from various issues of the UNDP Human Development Reports). Given that these data are only available for four years, we had to use linear interpolation before being able to include the variable in the regression. Note however, that the share of female ministers is not significant at conventional levels in any of the specifications shown in Table 1.3. Bartilow also uses some additional variables that did not turn out to be significant at conventional levels in his regressions. We do not include them here.

[22] Not all votes in the General Assembly are likely to be of great importance. Focusing on a sub-set of votes might thus be superior. The U.S. State Department provides a classification of votes it considers important in yearly reports since 1983. Arguably, these votes are also likely to be the more important ones (on average) for countries other than the United States. The voting behavior of each country on every roll call vote in the UN General Assembly since 1946 has been documented by Voeten and Merdzanovic (2008), and revised by Kilby (2009).

of policies in the former. Note that in the estimations containing this spatial lag variable, the sample is reduced to countries which function as major transit or origin countries as we assume that these countries experience pressure from destination countries. The relevant spatial lag variable is undefined for countries that do not fall into this category. Contiguity and bilateral trade predominantly capture externalities. A country contiguous to other countries *k* is likely to experience the strongest impact of any externality generated by policy choices in countries *k.* This is because contiguous countries tend to be close substitutes as either destination, transit or origin countries. The same is true for countries which trade a lot with each other, not least because flows of people often follow flows of goods and services. Of course, contiguity and bilateral trade do not exclusively capture externality effects, but will also partly cover learning and emulation effects if countries learn from or emulate those countries of geographical proximity or economic importance. To some extent, due to the correlation among the spatial lags they will in part also capture the impact of the omitted lags. Yet, we argue that similarity of voting and the civilizational belonging of countries predominantly capture learning and emulation effects. Countries wishing to learn from or emulate other countries will seek those with which they share common political views and/or values. The similarity of voting in the UN General Assembly, particularly on key issues, captures the similarity of political views well, while countries belonging to the same civilization, such as the Western, Islamic, African, Latin American, Sinic or Hindu groups, are likely to share common values.

Appendix 1.B shows the exact definitions of all variables with their sources, while Appendix 1.C reports descriptive statistics.

## 5. Results

Column 1 of Table 1.3 replicates the analysis of Bartilow (2010) for our sample and definition of explanatory variables. The dependent variable is the 3-scale tier ranking provided by the U.S. Department of State. Given the ordinal nature of the dependent variable, estimation is carried out with ordered probit. We therefore omit the country fixed effects because including country dummies in ordered probit/logit models with a limited number of observations tends to produce inconsistent estimates – the so-called incidental parameter problem (for a summary see Lancaster 2000). We do, however, include a dummy for each year.

**Table 1.3**: Anti-Trafficking Policies (Aggregate 3Ps and Tier-ranking), 2002-2009

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| dependent variable, t-1 | 2.060*** | 0.610*** | 0.759*** | 0.302*** | 0.511*** | 0.302*** | 0.525*** |
| | (12.52) | (23.70) | (33.88) | (8.74) | (7.17) | (8.96) | (7.48) |
| control of corruption | 0.458*** | 0.106 | 0.095 | 0.961** | 0.331** | 0.833* | 0.385*** |
| | (4.53) | (1.58) | (1.20) | (2.14) | (2.20) | (1.89) | (4.06) |
| democracy | 0.025** | 0.024*** | 0.033*** | -0.067* | 0.058*** | -0.076** | 0.069*** |
| | (2.13) | (3.25) | (3.46) | (1.89) | (3.05) | (2.01) | (3.34) |
| women legislators (percent) | 0.010* | 0.008** | 0.008* | -0.011 | 0.014 | -0.005 | 0.007 |
| | (1.74) | (2.17) | (1.79) | (0.80) | (1.64) | (0.34) | (0.79) |
| women economic rights | 0.196* | 0.126** | 0.151** | 0.156* | 0.288*** | 0.150* | 0.239** |
| | (1.93) | (2.27) | (2.23) | (1.80) | (3.30) | (1.77) | (2.49) |
| international regime membership | 0.138 | 0.070 | 0.105 | 0.133 | 0.108 | | |
| | (1.08) | (0.98) | (1.17) | (0.75) | (0.66) | | |
| (log) GDP p.c. | -0.064 | 0.029 | 0.018 | 0.087 | 0.037 | | |
| | (1.12) | (0.73) | (0.36) | (0.28) | (0.39) | | |
| US aid (percent of GDP) | 0.004 | 0.012 | 0.011 | -0.008 | -0.002 | | |
| | (0.23) | (1.31) | (0.93) | (0.50) | (0.11) | | |
| Method | oprobit | oprobit | OLS | OLS, fe | GMM | OLS, fe | GMM |
| Number of observations | 918 | 943 | 943 | 943 | 943 | 983 | 983 |
| Number of countries | 143 | 145 | 145 | 145 | 145 | 150 | 150 |
| Adj. R-Squared | 0.54 | 0.31 | | | | | |
| Number of instruments | | | | | 60 | | 57 |
| Arellano-Bond test (Pr>z) | | | | | 0.40 | | 0.27 |
| Hansen test (Prob>chi2) | | | | | 0.55 | | 0.59 |

Notes: The dependent variable is the U.S. State department tier ranking in column 1 and the aggregate 3P index in columns 2-7. Standard errors are clustered at the country level. A dummy for each year is included. Absolute z-statistics in parentheses; * (**, ***) indicates significance at 10 (5, 1) percent level.

As can be seen in column 1, the quality of a country's anti-trafficking policy improves with the perceived absence of corruption and a more democratic regime, at the one and five percent levels of statistical significance, respectively. At the ten percent level, better women's rights on the CIRI indicator are correlated with stricter policies against human trafficking. The lagged dependent variable is also significant at the one percent level, with the expected positive coefficient. Contrary to the results in Bartilow, per capita GDP, U.S. aid, and international regime membership are not significant at conventional levels.[23]

Column 2 replicates the analysis using our overall 3P index as the dependent variable instead. As can be seen, the results are largely unchanged. The exception is the control of corruption index, which turns out to be insignificant at conventional levels.

Given that our 3P index contains 15 categories, OLS seems suitable as well. Given that it also eases the quantitative interpretation of the coefficients, we report OLS results in columns 3 and 4. While column 3 excludes country fixed effects, column 4 includes them. Excluding fixed effects, the results are almost identical to the ordered probit specification. However, once we include them, the control of corruption index is significant at the five percent level, while the share of women in the legislature is no longer significant at conventional levels. Surprisingly, the coefficient of democracy reverses its sign, but is only significant at the ten percent level.

With the temporally lagged dependent variable and the country fixed effects simultaneously included in the estimations, our results could be biased and inconsistent in a short panel (Nickell 1981). We therefore proceed with the system GMM estimator as developed in Arellano and Bover (1995) and Blundell and Bond (1998). Results are based on the two-step estimator implemented by Roodman (2005) in Stata, including Windmeijer's (2005) finite sample correction. The Hansen test on the validity of the instruments used (amounting to a test for the exogeneity of the covariates), and the Arellano-Bond test of second order autocorrelation (which must be absent from the data in order for the estimator to be consistent), do not reject the specification at conventional levels and thus support our choice of which variables to model as exogenous.

The results from column 5 are similar to those obtained previously with ordered probit and OLS (excluding country fixed effects). In columns 6 and 7 we replicate the results excluding the three variables that are never significant at conventional levels (international regime membership, per capita GDP and U.S. aid). The results are unchanged.

[23] Note however that Bartilow uses instrumental variables to take account of the potential endogeneity of U.S. aid. Given that this variable is not central to our analysis, we do not follow Bartilow here, but acknowledge the likely endogeneity of the variable.

Quantitatively, we find that an increase in the democracy index by one point increases the 3P index by 0.07 points, while an increase in the women's rights index by one point increases it by 0.24 points (focusing on the GMM results reported in column 7). An increase in corruption by 0.1 on the -1.6 to 2.6 scale, increases the 3P index by almost 0.04.

**Table 1.4**: Anti-Trafficking Policies (Aggregate 3Ps) with spatial lags, GMM, 2002-2009

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| dependent variable, t-1 | 0.538*** | 0.487*** | 0.606*** | 0.609*** | 0.563*** | 0.471*** |
| | (7.62) | (7.01) | (8.63) | (9.32) | (7.44) | (5.71) |
| control of corruption | 0.432*** | 0.397*** | 0.222** | 0.237*** | 0.349*** | 0.537*** |
| | (3.78) | (3.67) | (2.09) | (2.89) | (3.41) | (3.05) |
| democracy | 0.069*** | 0.053*** | 0.060*** | 0.046*** | 0.068*** | 0.061** |
| | (3.19) | (2.60) | (2.81) | (2.60) | (3.21) | (2.04) |
| women legislators (percent) | -0.005 | 0.001 | 0.005 | 0.007 | 0.002 | -0.009 |
| | (0.63) | (0.09) | (0.65) | (0.91) | (0.22) | (0.69) |
| women economic rights | 0.168 | 0.184* | 0.250*** | 0.194** | 0.218** | 0.233* |
| | (1.58) | (1.78) | (2.59) | (2.03) | (2.32) | (1.79) |
| spatial lag, traffic link-weighted | 0.051 | | | | | -0.253 |
| | (0.64) | | | | | (1.58) |
| spatial lag, contiguity-weighted | | 0.232*** | | | | 0.287 |
| | | (2.70) | | | | (1.56) |
| spatial lag, trade-weighted | | | 0.197 | | | -0.007 |
| | | | (1.43) | | | (0.02) |
| spatial lag, voting-weighted | | | | 0.526** | | 0.533 |
| | | | | (2.26) | | (1.48) |
| spatial lag, civilization-weighted | | | | | 0.088 | -0.210 |
| | | | | | (1.22) | (1.42) |
| Method | GMM | GMM | GMM | GMM | GMM | GMM |
| Number of observations | 807 | 974 | 983 | 983 | 983 | 801 |
| Number of countries | 119 | 148 | 150 | 150 | 150 | 118 |
| Number of instruments | 101 | 101 | 101 | 101 | 101 | 67 |
| Arellano-Bond test (Pr>z) | 0.27 | 0.42 | 0.19 | 0.20 | 0.25 | 0.40 |
| Hansen test (Prob>chi2) | 0.50 | 0.26 | 0.29 | 0.15 | 0.13 | 0.28 |

Notes: The dependent variable is the aggregate 3P index. Standard errors are clustered at the country level. A dummy for each year is included. Absolute z-statistics in parentheses; * (**, ***) indicates significance at 10 (5, 1) percent level.

In Table 1.4 we turn to the estimation of our hypothesis of spatial dependence in anti-trafficking policies, initially focusing on the aggregate 3P anti-trafficking policy index. The identification of a spatial dependence effect rests on the assumption that the estimation model controls for confounding factors that may be correlated with the spatial lag. This is a demanding requirement. If, for example, policies generally become more stringent over time, then spatial lag variables will tend to be statistically significant predictors, but unless the general upward trend in policies is truly caused by spatial dependence, the estimated coefficient is upward biased. Similarly, although countries may make similar policy choices

because of shared values or cultures predominating in a region for example, this doesn't necessarily mean that any true spatial dependence effect is at work via learning or emulation. Plümper and Neumayer (2010) argue that one must include the temporally lagged dependent variable and year-specific time fixed effects to account for common trends over time and common temporal shocks, while country fixed effects are needed to account for unobserved spatial heterogeneity and the spatial clustering of countries. Such stringent model specification minimizes, but cannot fully eliminate, the impact of potentially confounding factors. Fortunately, this model specification coincides with our preferred estimation equation (1). Spatial lag variables cannot be exogenous: If country *i* were to be affected by the policies of other countries, the policies of other countries will also be affected by the policies chosen by country *i*. Rather than applying spatial maximum likelihood techniques, which are computationally difficult to implement, in Table 1.4 we exclusively use the system GMM estimator, additionally modeling the spatial lag variables as endogenous, similar to the temporally lagged dependent variable. Kukenova and Monteiro (2009) show that in Monte Carlo simulations, the system GMM estimator outperforms other estimators for spatial dynamic panel data models with one or more endogenous variables. For parsimony, we focus on the model specification from column (7) in Table 1.3.

As can be seen in Table 1.4, the effects of the control variables are not greatly affected by the inclusion of the spatial lags. Two of the spatial lags are significant at the five percent level at least, those being the contiguity and voting similarity-weighted ones. As argued above, this most likely captures an externality and a learning or emulation effect. Contiguous countries are exposed to the effect of stricter policies in neighboring countries,[24] while countries look for cues from other countries with similar political views in their own policy design. In contrast, we find no evidence of a pressure effect since origin and transit countries do not seem to follow the policies of the countries for which they are major countries of transit or origin. If other contiguous countries increased the strictness of their anti-trafficking policies by one point in the previous year, then the country under observation is estimated to tighten its own policy by 0.232 points. In other words, the (short-run) speed of policy diffusion is about one quarter. The speed of policy diffusion is stronger for the spatial dependence effect, which weighs the influence of other countries by the degree to which they vote similarly on key issues at the UN General Assembly. A one point tightening of policies

[24] We alternatively weighted anti-trafficking policies with distance rather than contiguity. The resulting coefficient is not significant at conventional levels. This would suggest that the externality-effect is concentrated on geographically proximate countries, as captured by contiguity, with countries further away having no impact.

in similar countries in the previous year raises domestic policy stringency by roughly half a point.[25]

Column 6 includes the spatial lags jointly rather than separately. In order to minimize the number of instruments in the regressions, we collapse the matrix of instruments as suggested in Roodman (2006), a practice we follow in all other specifications that jointly include all spatial lag variables.[26] As can be seen, none of the lags remains significant at conventional levels, even though the insignificance is marginal in most cases. However, the voting-weighted lag remains significant in a specification where we do not collapse the instruments (not shown in the table). Overall, we prefer to rely on the specifications including one spatial lag at the time, but note that the significant coefficients might to some extent reflect the effects of other, omitted, lags.

In Table 1.5 we focus on the individual dimensions of the 3P index, starting with model specifications excluding the spatial lag variables. Estimation is done with GMM, despite the ordinal nature of the five-scale variables. This is because the problem of endogeneity is arguably more important than ignoring the ordinal nature of the dependent variables, in particular when we include the spatial lag variables below.[27] We report specifications both including GDP per capita and U.S. aid and excluding them. Note that the Arellano-Bond test rejects the regressions focusing on the prosecution index (columns 3 and 4). We therefore include the second lag of the dependent variable (in columns 5 and 6). This specification is not rejected at conventional levels.

According to the results, GDP per capita and U.S. aid are not significant determinants of either of the constituent dimensions of anti-trafficking policies at conventional levels. The results for the remaining control variables are similar compared to the overall index. The lagged dependent variable is significant at the one percent level throughout. Control of corruption improves prevention and protection policies, but not those relating to prosecution. When controlling for the second lag of the dependent variable in the prosecution regressions, the same holds for democracy. Prevention and prosecution policies improve with better

[25] Note that the sum of the coefficients of the spatial lag and the lagged dependent variable exceed unity in column (4) and some other model specifications reported in the following tables. This would imply an explosive process if interpreted as a non-changing long-run relationship. However, in the context of the limited time-series we focus on, the sum of the coefficients does not need to be below unity since diffusion might resemble an explosive process to start with, and then significantly slow down as time passes. Coefficients of similar size are commonly reported in the recent literature (e.g., Gassebner et al. 2011). In an analysis of the spread of corporate responsibility standards, Perkins and Neumayer (2010) find that an explosive diffusion process in a short panel turns into a non-explosive process when a panel of longer duration is analyzed.

[26] It is necessary to limit the number of instruments because the power of the Sargan-Hansen test is low when many instruments are used (Bowsher 2002). Moreover, too many instruments might cause an overfitting of the instrumented variable.

[27] This is common in the recent literature (e.g., Dreher et al. 2010).

**Table 1.5**: Anti-Trafficking Policies (prevention, prosecution, and protection), GMM, 2002-2009

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | Prevention | | | Prosecution | | | Protection | |
| dependent variable, t-1 | 0.309*** | 0.301*** | 0.655*** | 0.644*** | 0.709*** | 0.708*** | 0.393*** | 0.389*** |
| | (4.92) | (4.52) | (10.96) | (10.49) | (16.49) | (18.68) | (5.74) | (5.51) |
| dependent variable, t-2 | | | | | 0.182*** | 0.194*** | | |
| | | | | | (3.86) | (4.52) | | |
| control of corruption | 0.271*** | 0.213*** | -0.024 | 0.059 | -0.030 | 0.002 | 0.205** | 0.215*** |
| | (3.13) | (3.87) | (0.36) | (1.63) | (0.69) | (0.05) | (2.55) | (4.45) |
| democracy | 0.022*** | 0.029*** | 0.018** | 0.021** | 0.004 | 0.005 | 0.031*** | 0.038*** |
| | (2.71) | (2.75) | (2.00) | (2.24) | (0.72) | (0.97) | (3.82) | (4.58) |
| women legislators (percent) | 0.004 | 0.004 | 0.002 | -0.001 | -0.001 | -0.002 | 0.010** | 0.009** |
| | (1.07) | (0.70) | (0.49) | (0.21) | (0.45) | (0.90) | (2.20) | (2.23) |
| women economic rights | 0.099** | 0.102** | 0.111** | 0.109** | 0.057* | 0.055* | -0.014 | -0.028 |
| | (2.35) | (2.16) | (2.47) | (2.37) | (1.67) | (1.67) | (0.31) | (0.57) |
| international regime membership | 0.055 | | -0.004 | | 0.043 | | 0.037 | |
| | (0.73) | | (0.05) | | (0.70) | | (0.50) | |
| (log) GDP p.c. | -0.047 | | 0.046 | | 0.016 | | 0.013 | |
| | (1.03) | | (1.00) | | (0.49) | | (0.28) | |
| US aid (percent of GDP) | -0.006 | | -0.004 | | 0.002 | | -0.002 | |
| | (1.15) | | (0.43) | | (0.64) | | (0.16) | |
| Method | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM |
| Number of observations | 946 | 986 | 946 | 987 | 874 | 910 | 945 | 986 |
| Number of countries | 145 | 150 | 145 | 150 | 143 | 147 | 145 | 150 |
| Number of instruments | 60 | 57 | 60 | 57 | 64 | 61 | 60 | 57 |
| Arellano-Bond test (Pr>z) | 0.26 | 0.28 | 0.05 | 0.02 | 0.99 | 0.65 | 0.59 | 0.51 |
| Hansen test (Prob>chi2) | 0.33 | 0.31 | 0.31 | 0.16 | 0.60 | 0.52 | 0.09 | 0.05 |

Notes: The dependent variables are the Prevention index (columns 1-2), the Prosecution Index (Columns 3-6), and the Protection index (columns 7-8). Standard errors are clustered at the country level. A dummy for each year is included. Absolute z-statistics in parentheses; * (**, ***) indicates significance at 10 (5, 1) percent level.

economic rights of women, at least at the ten percent level, but not with the share of women in the legislature, while the reverse holds for protection policies.[28]

Tables 1.6 and 1.7 include the spatial lags to the parsimonious specifications. The results for prevention and protection policies are reported in Table 1.6, those for prosecution policies are shown in Table 1.7 (again including and excluding, respectively, the second lag of the dependent variable). Results for prevention policies are similar to those of the 3P aggregate policy measure when we include the spatial lags individually (columns 1-5). In addition, there is evidence that countries follow policies of those belonging to the same civilizational group, arguably because of learning or emulation effects. When we include the spatial lags jointly (in column 6), only the voting-weighted lag remains significant at the ten percent level. Results on protection policies are striking in that all evidence for spatial dependence has disappeared, with the exception of the voting similarity weighted spatial lag variable (this holds when including the spatial lags individually and jointly). Interestingly, the impact of the contiguity-weighted spatial lag variable is essentially zero. This is exactly what one would expect if our argument that contiguity captures an externality effect is correct. Stricter prevention and prosecution policies deflect flows of trafficked people onto other countries, thus generating an externality, however better victim protection policies do not deflect flows onto others – in fact, the opposite may even be the case, as we argued in the introduction.

Results on prosecution policies confirm that countries follow the policies of contiguous countries. When including the spatial lags separately, countries also seem to follow the policies of their major trading partners. Countries do not seem to follow policies of politically similar countries, as measured by the voting similarity weighting variable, but follow policies of countries belonging to their own civilization. As was the case before, we find no evidence for diffusion of policies via pressure from destination countries on their major transit and source countries (the relevant spatial lag is marginally significant in column (1), but insignificant if the second temporal lag of the dependent variable is included (as is required according to the result of the Arellano-Bond test). In the specification that includes all spatial lag variables, we even find a negative coefficient of the traffic link weighted spatial lag. Thispoints toward a potential substitution effect: Stricter prosecution policies in destination countries would allow relevant major transit and origin countries to relax their prosecution policies, knowing that perpetrators are more strongly prosecuted elsewhere.

[28] Note however that the Hansen test is borderline in columns (7) and (8).

**Table 1.6**: Anti-Trafficking Policies (Prevention and Protection) with spatial lags, GMM, 2002-2009

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Prevention | | | | | | | | Protection | | | |
| dependent variable, t-1 | 0.330*** | 0.335*** | 0.353*** | 0.343*** | 0.384*** | 0.352*** | 0.435*** | 0.431*** | 0.402*** | 0.475*** | 0.462*** | 0.386*** |
| | (4.99) | (6.22) | (5.86) | (6.26) | (6.06) | (5.20) | (7.00) | (6.80) | (6.44) | (8.61) | (7.15) | (4.87) |
| control of corruption | 0.233*** | 0.213*** | 0.213*** | 0.161*** | 0.186*** | 0.236*** | 0.217*** | 0.177*** | 0.199*** | 0.107** | 0.155*** | 0.202*** |
| | (2.88) | (4.08) | (4.09) | (3.28) | (3.76) | (2.70) | (3.41) | (4.23) | (4.39) | (2.40) | (4.06) | (2.65) |
| democracy | 0.025** | 0.022** | 0.028*** | 0.021** | 0.019** | 0.018 | 0.035*** | 0.033*** | 0.035*** | 0.023*** | 0.033*** | 0.023** |
| | (2.42) | (2.46) | (2.99) | (2.41) | (2.38) | (1.41) | (3.74) | (4.54) | (4.66) | (3.06) | (4.46) | (2.08) |
| women legislators (percent) | -0.002 | -0.002 | 0.002 | 0.002 | 0.003 | -0.003 | 0.003 | 0.009* | 0.008* | 0.008* | 0.006 | 0.008 |
| | (0.56) | (0.38) | (0.39) | (0.36) | (0.51) | (0.57) | (0.83) | (1.88) | (1.69) | (1.86) | (1.42) | (1.47) |
| women economic rights | 0.081 | 0.095** | 0.089** | 0.099** | 0.074 | 0.097* | 0.020 | 0.032 | -0.012 | 0.002 | -0.009 | 0.055 |
| | (1.54) | (2.23) | (2.04) | (2.12) | (1.48) | (1.79) | (0.36) | (0.68) | (0.24) | (0.04) | (0.18) | (0.82) |
| spatial lag, traffic link-weighted | -0.101 | | | | | -0.200 | -0.052 | | | | | -0.166 |
| | (1.03) | | | | | (1.32) | (0.48) | | | | | (1.08) |
| spatial lag, contiguity-weighted | | 0.168* | | | | 0.133 | | 0.016 | | | | -0.030 |
| | | (1.91) | | | | (1.08) | | (0.16) | | | | (0.22) |
| spatial lag, trade-weighted | | | -0.030 | | | -0.333 | | | 0.079 | | | 0.211 |
| | | | (0.17) | | | (1.11) | | | (0.61) | | | (0.93) |
| spatial lag, voting-weighted | | | | 0.843** | | 1.317* | | | | 0.957*** | | 1.214** |
| | | | | (2.01) | | (1.91) | | | | (2.83) | | (2.29) |
| spatial lag, civilization-weighted | | | | | 0.243** | -0.062 | | | | | 0.196 | -0.255 |
| | | | | | (2.06) | (0.28) | | | | | (1.47) | (1.07) |
| Method | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM |
| Number of observations | 810 | 977 | 986 | 986 | 986 | 804 | 810 | 977 | 986 | 986 | 986 | 804 |
| Number of countries | 119 | 148 | 150 | 150 | 150 | 118 | 119 | 148 | 150 | 150 | 150 | 118 |
| Number of instruments | 101 | 101 | 101 | 101 | 101 | 67 | 101 | 101 | 101 | 101 | 101 | 67 |
| Arellano-Bond test (Pr>z) | 0.39 | 0.32 | 0.39 | 0.39 | 0.41 | 0.39 | 0.45 | 0.45 | 0.47 | 0.32 | 0.43 | 0.45 |
| Hansen test (Prob>chi2) | 0.44 | 0.85 | 0.11 | 0.19 | 0.06 | 0.35 | 0.34 | 0.41 | 0.14 | 0.19 | 0.21 | 0.26 |

Notes: The dependent variables are the Prevention index (columns 1-4) and the Protection index (columns 5-8). Standard errors are clustered at the country level. A dummy for each year is included. Absolute z-statistics in parentheses; * (**, ***) indicates significance at 10 (5, 1) percent level.

**Table 1.7**: Anti-Trafficking Policies (Prosecution) with spatial lags, GMM, 2002-2009

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Prosecution | | | | | | |
| dependent variable, t-1 | 0.640*** | 0.649*** | 0.671*** | 0.688*** | 0.650*** | 0.525*** | 0.666*** | 0.650*** | 0.676*** | 0.674*** | 0.623*** | 0.613*** |
| | (10.88) | (10.15) | (12.63) | (11.38) | (11.06) | (7.69) | (15.09) | (13.79) | (15.49) | (17.15) | (13.18) | (9.23) |
| dependent variable, t-2 | | | | | | | 0.238*** | 0.151*** | 0.165*** | 0.200*** | 0.190*** | 0.144*** |
| | | | | | | | (4.71) | (2.86) | (2.90) | (3.92) | (3.60) | (2.72) |
| control of corruption | 0.065 | 0.062 | 0.004 | 0.031 | 0.056 | 0.092* | 0.022 | -0.003 | -0.010 | -0.017 | 0.013 | 0.084 |
| | (1.33) | (1.58) | (0.12) | (0.90) | (1.55) | (1.70) | (0.50) | (0.09) | (0.29) | (0.44) | (0.46) | (1.14) |
| democracy | 0.008 | 0.000 | 0.012 | 0.014 | 0.015* | 0.013 | 0.007 | -0.003 | 0.004 | -0.002 | 0.004 | 0.003 |
| | (0.86) | (0.03) | (1.48) | (1.56) | (1.81) | (1.13) | (1.46) | (0.51) | (0.68) | (0.29) | (0.73) | (0.31) |
| women legislators (percent) | -0.002 | -0.001 | 0.002 | -0.002 | 0.001 | -0.007* | -0.004* | -0.004 | -0.002 | -0.002 | -0.002 | -0.010** |
| | (0.50) | (0.25) | (0.60) | (0.52) | (0.33) | (1.65) | (1.72) | (1.49) | (1.01) | (1.09) | (0.83) | (2.40) |
| women economic rights | 0.074 | 0.056 | 0.051 | 0.080* | 0.035 | 0.097* | 0.095* | 0.020 | 0.051 | 0.062 | 0.053 | 0.114** |
| | (1.49) | (1.16) | (1.21) | (1.65) | (0.71) | (1.86) | (1.91) | (0.44) | (1.25) | (1.46) | (1.29) | (2.17) |
| spatial lag, traffic link-weighted | 0.220** | | | | | -0.214 | -0.181 | | | | | -0.575*** |
| | (2.17) | | | | | (1.20) | (0.99) | | | | | (2.92) |
| spatial lag, contiguity-weighted | | 0.300*** | | | | 0.264** | | 0.296*** | | | | 0.456*** |
| | | (3.43) | | | | (2.41) | | (4.13) | | | | (3.05) |
| spatial lag, trade-weighted | | | 0.571*** | | | -0.157 | | | 0.376** | | | -0.291 |
| | | | (4.17) | | | (0.63) | | | (2.24) | | | (1.24) |
| spatial lag, voting-weighted | | | | 0.449 | | 0.202 | | | | 0.461 | | 0.152 |
| | | | | (1.53) | | (0.43) | | | | (1.05) | | (0.27) |
| spatial lag, civilization-weighted | | | | | 0.202*** | 0.110 | | | | | 0.173** | 0.008 |
| | | | | | (3.00) | (1.04) | | | | | (2.37) | (0.06) |
| Method | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM | GMM |
| Number of observations | 811 | 978 | 987 | 987 | 987 | 805 | 757 | 903 | 910 | 910 | 910 | 752 |
| Number of countries | 119 | 148 | 150 | 150 | 150 | 118 | 117 | 145 | 147 | 147 | 147 | 116 |
| Number of instruments | 101 | 101 | 101 | 101 | 101 | 67 | 31 | 31 | 31 | 31 | 31 | 67 |
| Arellano-Bond test (Pr>z) | 0.04 | 0.04 | 0.02 | 0.02 | 0.03 | 0.05 | 0.62 | 0.61 | 0.40 | 0.71 | 0.76 | 0.86 |
| Hansen test (Prob>chi2) | 0.15 | 0.19 | 0.20 | 0.18 | 0.02 | 0.51 | 0.67 | 0.81 | 0.95 | 0.97 | 0.81 | 0.89 |

Notes: The dependent variable is the Prosecution index. Standard errors are clustered at the country level. A dummy for each year is included. Absolute z-statistics in parentheses; * (**, ***) indicates significance at 10 (5, 1) percent level.

## 6. Robustness Tests

Finally, we perform two important robustness tests. First we estimate regional jackknife analyses, in which all countries of one particular region are dropped from the analysis at the time in order to test whether the results are driven by the presence of observations from a specific region in the sample.[29]

The results shown in Tables 1.8 and 1.9 are based on model specifications that include each spatial lag variable on its own. Starting with overall anti-trafficking policies in the upper part of Table 1.8, we find that the contiguity and voting-weighted spatial lag variables remain statistically significant independent of the region dropped from the sample. Strikingly, as the results reported in column 1 show, there is much more evidence for spatial dependence in anti-trafficking policies in developing countries. If the developed countries are dropped from the sample, there is additional evidence of anti-trafficking policies diffusing via trade links and civilizational similarities. For prevention policies, the contiguity and voting-weighted spatial lags remain statistically significant at conventional levels in most jackknife specifications, but it is only diffusion via reference to countries that belong to the same civilization for which there is almost consistent evidence, with the exception of the model excluding countries from North Africa and the Middle East.[30]

For protection policies, the regional jackknife estimation results reported in the upper part of Table 1.9 suggest that the voting-weighted spatial lag variable is a robust predictor. There is again some evidence for diffusion via civilizational belonging, but the respective spatial lag variable is only significant in three out of seven estimations. Results for prosecution policies largely confirm the existence of spatial dependence working via contiguity, trade and civilizational links. Interestingly, in two cases we find again negative coefficient signs for the traffic link-weighted spatial lag variable, which we found already in table 1.7, but only for the specification that included all spatial lag variables simultaneously. This suggests that the effect reported for table 1.7 was not entirely due to multi-collinearity problems. Dropping either Eastern and Central European or Sub-Saharan African countries from the sample, we find that stronger prosecution policies in destination countries have a negative (or substitution) effect on prosecution policies in major transit and origin countries,

[29] We also examined the robustness of our results to the exclusion of countries where neither major flows of human trafficking originate from nor, respectively, go to. In both sets of regressions the t-statistics are lower compared to those reported above, but the results are generally similar. All results will be made available in the replication data.

[30] Note that the specification excluding the Middle East and North Africa suffers from a potential endogeneity problem, the p-value of the Hansen test being 0.09, while the Hansen tests in all other samples do not reject the specifications at conventional levels of significance.

**Table 1.8**: Regional jackknife analysis for aggregate and prevention policies

| | (1) Western/OECD | (2) East Asia | (3) Eastern Europe/Central | (4) Latin America/Carib | (5) Middle East/North | (6) South Asia | (7) Sub-Saharan Africa |
|---|---|---|---|---|---|---|---|
| P3 | | | | | | | |
| traffic link-weighted | 0.034 | 0.053 | 0.020 | 0.122 | 0.135 | 0.049 | -0.322* |
| | (0.38) | (0.64) | (0.23) | (1.56) | (1.53) | (0.65) | (1.85) |
| contiguity-weighted | 0.243*** | 0.280*** | 0.143* | 0.260*** | 0.204** | 0.216** | 0.172** |
| | (2.69) | (2.95) | (1.71) | (3.04) | (2.29) | (2.43) | (1.97) |
| trade-weighted | 0.239** | 0.150 | 0.142 | 0.310* | 0.252 | 0.181 | 0.015 |
| | (2.07) | (1.13) | (1.17) | (1.88) | (1.46) | (1.29) | (0.12) |
| voting-weighted | 0.531** | 0.568** | 0.608** | 0.484** | 0.426* | 0.525** | 0.403* |
| | (2.00) | (2.46) | (2.28) | (2.17) | (1.76) | (2.29) | (1.69) |
| civilization-weighted | 0.204*** | 0.103 | 0.017 | 0.069 | 0.082 | 0.080 | 0.074 |
| | (2.73) | (1.40) | (0.18) | (1.02) | (1.09) | (0.98) | (1.25) |
| Prevention | | | | | | | |
| traffic link-weighted | -0.092 | -0.106 | -0.112 | 0.033 | -0.057 | -0.156 | -0.171 |
| | (0.81) | (0.95) | (1.22) | (0.34) | (0.51) | (1.55) | (1.02) |
| contiguity-weighted | 0.177* | 0.184* | 0.119 | 0.188** | 0.130 | 0.177* | 0.126 |
| | (1.66) | (1.77) | (1.32) | (2.07) | (1.40) | (1.83) | (1.54) |
| trade-weighted | -0.092 | -0.017 | -0.160 | 0.012 | 0.082 | -0.082 | 0.056 |
| | (0.56) | (0.10) | (0.99) | (0.07) | (0.39) | (0.44) | (0.31) |
| voting-weighted | 0.985* | 1.074** | 1.092** | 0.656 | 0.650 | 0.681 | 0.939*** |
| | (1.71) | (2.45) | (2.25) | (1.47) | (1.54) | (1.54) | (2.70) |
| civilization-weighted | 0.295*** | 0.223* | 0.229* | 0.219* | 0.135 | 0.311** | 0.233** |
| | (2.60) | (1.73) | (1.86) | (1.80) | (1.22) | (2.55) | (2.17) |

Notes: Reports the same regressions as in table 1.4 for 3P and column (1)-(5) of table 1.6 for prevention, respectively, excluding one region at the time.

**Table 1.9**: Regional jackknife analysis for protection and prosecution policies

| | (1) Western/OECD | (2) East Asia | (3) Eastern Europe/Central | (4) Latin America/Carib | (5) Middle East/North | (6) South Asia | (7) Sub-Saharan Africa |
|---|---|---|---|---|---|---|---|
| Protection | | | | | | | |
| traffic link-weighted | -0.043 | -0.085 | -0.090 | -0.046 | 0.022 | -0.057 | 0.014 |
| | (0.30) | (0.80) | (0.87) | (0.36) | (0.22) | (0.53) | (0.11) |
| contiguity-weighted | 0.101 | -0.008 | -0.048 | 0.073 | 0.046 | 0.018 | 0.045 |
| | (0.91) | (0.09) | (0.48) | (0.71) | (0.43) | (0.17) | (0.49) |
| trade-weighted | 0.041 | 0.044 | 0.043 | 0.012 | 0.093 | 0.050 | -0.018 |
| | (0.29) | (0.31) | (0.34) | (0.09) | (0.66) | (0.37) | (0.14) |
| voting-weighted | 1.050*** | 1.052*** | 1.098*** | 0.831*** | 0.811** | 0.885** | 0.935*** |
| | (2.71) | (3.00) | (3.11) | (2.65) | (2.38) | (2.51) | (2.72) |
| civilization-weighted | 0.243** | 0.161 | 0.309** | 0.146 | 0.111 | 0.247* | 0.067 |
| | (2.09) | (1.22) | (1.99) | (1.02) | (0.87) | (1.75) | (0.58) |
| Prosecution | | | | | | | |
| traffic link-weighted | -0.005 | -0.219 | -0.424** | -0.218 | 0.007 | -0.137 | -0.799** |
| | (0.03) | (1.12) | (2.25) | (1.09) | (0.05) | (0.79) | (2.02) |
| contiguity-weighted | 0.231*** | 0.338*** | 0.226*** | 0.372*** | 0.311*** | 0.288*** | 0.371*** |
| | (2.93) | (4.27) | (2.68) | (4.33) | (4.35) | (3.95) | (3.74) |
| trade-weighted | 0.324** | 0.403** | 0.250 | 0.360** | 0.427** | 0.386** | 0.462** |
| | (1.99) | (2.38) | (1.30) | (2.09) | (2.34) | (2.20) | (2.10) |
| voting-weighted | -0.000 | 0.561 | 0.351 | 0.398 | 0.518 | 0.478 | 0.694 |
| | (0.00) | (1.17) | (0.65) | (0.91) | (1.13) | (1.07) | (1.51) |
| civilization-weighted | 0.115 | 0.202*** | 0.099 | 0.170** | 0.196*** | 0.186** | 0.232*** |
| | (1.36) | (2.77) | (0.94) | (2.11) | (2.70) | (2.21) | (3.00) |

Notes: Reports the same regressions as in column (6)-(10) of table 1.6 for protection and column (6)-(10) of table 1.7 for prosecution, respectively, excluding one region at the time.

such that the latter relax their own policies knowing that perpetrators are more vigorously prosecuted in destination countries. This result is not robust to other model specifications and we do not want to make too much of it, but we regard this as one of the findings that deserves closer attention in future research.

Next we turn to the robustness of our results to the choice of control variables. As the theory and empirics of anti-trafficking policies have only begun to be seriously addressed recently, there is still considerable uncertainty about which explanatory variables to include. To examine the sensitivity of the results reported above, we therefore employ (variants of) the extreme bounds analysis (EBA), as proposed by Leamer (1983) and Levine and Renelt (1992), as our second test for robustness. EBA enables us to examine whether the spatial lags are indeed robust determinants of anti-trafficking policies, independent of which additional variables are also included in the set of control variables.

To conduct an EBA, equations of the following general form are estimated:

, (2)

where again represents our measures of anti-trafficking policies in country *i* at year *t*, *M* is a vector of "commonly accepted" explanatory variables and *F* is a vector containing the variables of interest (i.e., each spatial lag on its own). The vector *Z* contains up to three possible additional explanatory variables (as in Levine and Renelt 1992), which, according to the broader literature, are related to the dependent variable. The error term is *v*.

The EBA-test for a variable in *F* states that if the lower extreme bound for $\beta_F$ — i.e., the lowest value for $\beta_F$ minus two standard deviations — is negative, while the upper extreme bound for $\beta_F$ — i.e., the highest value for $\beta_F$ plus two standard deviations — is positive, the variable *F* is *not* robustly related to anti-trafficking policies.

Sala-i-Martin (1997) argues that this criterion is far too restrictive for any variable to pass the test. If the distribution of the parameter of interest has both positive and negative support, then a researcher is bound to find at least one regression model for which the estimated coefficient changes sign if enough regressions are run. Consequently, not only do we report the extreme bounds, but also the percentage of the regressions in which the coefficient of the variable *F* is statistically different from zero at the five percent level.

Moreover, instead of merely analyzing the extreme bounds of the estimates for the coefficient of a particular variable, we follow Sala-i-Martin's (1997) recommended procedure and analyze the entire distribution. Accordingly, we also report the unweighted parameter

estimate of $\beta_F$ and its standard error, as well as the unweighted cumulative distribution function, CDF(0). The latter represents the proportion of the cumulative distribution function lying on each side of zero. CDF(0) indicates the larger of the areas under the density function (either above or below zero). Therefore, CDF(0) always lies between 0.5 and 1.0.

The vector *M* contains the same variables as the regressions in the tables above. In accordance with the previous literature, to test for the robustness of our results we have collected a total of 14 additional variables which could potentially influence the level of anti-trafficking policies. All variables and their sources are listed in Appendix 1.B.

Our choice of variables follows the three most recent papers on the determinants of anti-trafficking policies (Avdeyeva 2010; Bartilow 2010; Simmons and Lloyd 2010). As Bartilow (2010) and Simmons and Lloyd (2010) argue, a generally well-developed legal system and the enforcement of the law can be an important determinant of the adoption and implementation of anti-trafficking laws. We therefore use the rule of law indicators provided by the ICRG, as well as the World Bank Governance Indicators, to test for the robustness of our results.

According to Bartilow, women's social rights can further capture the gender dimension of human trafficking, while Simmons and Lloyd point out that worker's rights are a good indicator of a country's tolerance of exploitative, forced labor.[31] As the issue of human trafficking can be brought into the public spotlight through the media, the level of media freedom, measured by Freedom House, has the potential to influence relevant policy operations (Simmons and Lloyd). Membership in a prestigious club can also explain the compliant behavior of certain countries, in terms of their concern for their reputation. We therefore include a dummy for EU membership, following Avdeyeva (2010). The degree of economic, social and political globalization, measured by the KOF Index of Globalization (Dreher et al. 2008), may also capture associations between the spread of anti-trafficking policies and countries' economic, social and political exposure to the world. This is broadly suggested by Avdeyeva (2010) and Simmons and Lloyd (2010). Inflows of remittances (as a percentage of GDP) can indicate the economic interests a country may have in sending its nationals abroad to work (Simmons and Lloyd). Furthermore, we add those variables already included in Table 1.3, but excluded from later tables due to their insignificance: (log) per capita GDP, the amount of U.S aid inflows (as a percentage of GDP) and protocol ratification.

The results for the EBA models are presented in Table 1.10. Following Sala-i-Martin, we use a CDF(0) value of 0.90 as the threshold above which we consider variables to be

[31] Both dimensions are measured with data taken from Cingranelli and Richards (2008).

robust.[32] We report the results in four panels, one for each dependent variable. The upper-left panel of Table 1.8 shows the results for the overall anti-trafficking index. As can be seen, the lagged dependent variable is clearly a robust determinant of current levels, with the CDF(0) being equal to one. Among the control variables, democracy and women's economic rights exceed the critical threshold. In line with Table 1.4 above, the contiguity-weighted spatial lag turns out to be a robust determinant of anti-trafficking policies, with a CDF(0) of 0.95. The effect of the second spatial lag that was significant in Table 1.4 – voting-weighted – does not turn out to be a robust determinant of the index when we include the various combinations of the explanatory variables. However, given that the correct model specification is unknown, it is worth noting that the CDF will potentially reflect a combination of correctly specified models and misspecified ones. Moreover, the CDF will also partly reflect models with a lower number of observations due to missing data for some of the explanatory variables. While we can have confidence in the robustness of a variable with a CDF(0) exceeding 0.9, we cannot know for sure whether those below this threshold are truly insignificant predictors of the dependent variable.

The remaining panels of Table 1.10 test the robustness of the models for the individual dimensions of the anti-trafficking index. In summary, some of our previous results turn out to be robust. Regarding prevention, the civilization-weighted spatial lag is highly robust, while the contiguity and voting-weighted spatial lags are not. With respect to protection, the voting-weighted lag is robust, while for prosecution policies, the contiguity-weighted lag survives the EBA test and the trade-weighted lag is very close to the threshold of a CDF(0) exceeding 0.9. Thus conclusively, we continue to find evidence for spatial dependence in anti-trafficking policies even if the spatial lag variables are subjected to this rather demanding robustness test.

## 7. Conclusion

In this paper, we have introduced new measures of countries' policies aimed at combating international trafficking in human beings. Our aggregate policy index is fine-grained and

[32] Sala-i-Martin (1997) proposes using the (integrated) likelihood to construct a weighted CDF(0). However, the varying number of observations in the regressions due to missing observations in some of the variables poses a problem. Sturm and de Haan (2001) show that as a result this goodness of fit measure may not be a good indicator of the probability that a model is the true model and the weights constructed in this way are not equivariant for linear transformations in the dependent variable. Hence, changing scales will result in rather different outcomes and conclusions. We therefore restrict our attention to the unweighted version. Furthermore, for technical reasons – in particular our unbalanced panel setup – we are unable to use the extension of this approach called Bayesian Averaging of Classical Estimates (BACE) as introduced by Sala-i-Martin, Doppelhofer and Miller (2004).

**Table 1.10**: Extreme Bounds Analysis, GMM, 2002-2009

| Variable | Avg. Beta | Avg.Std.Err | %Sign. | CDF-U |
|---|---|---|---|---|
| P3 | | | | |
| dependent variable, t-1 | 0.51 | 0.09 | 1.00 | 1.00 |
| control of corruption | 0.15 | 0.23 | 0.29 | 0.74 |
| democracy | 0.05 | 0.02 | 0.71 | 0.95 |
| women legislators (percent) | 0.00 | 0.01 | 0.00 | 0.52 |
| women economic rights | 0.29 | 0.13 | 0.91 | 0.98 |
| traffic link-weighted | 0.02 | 0.12 | 0.09 | 0.60 |
| contiguity-weighted | 0.21 | 0.11 | 0.78 | 0.95 |
| trade-weighted | 0.18 | 0.19 | 0.21 | 0.81 |
| voting-weighted | 0.37 | 0.32 | 0.41 | 0.84 |
| civilization-weighted | 0.15 | 0.12 | 0.26 | 0.83 |
| Prevention | | | | |
| dependent variable, t-1 | 0.32 | 0.07 | 1.00 | 1.00 |
| Corruption | 0.16 | 0.12 | 0.48 | 0.89 |
| Democracy | 0.02 | 0.01 | 0.54 | 0.94 |
| Women in parliament | 0.00 | 0.01 | 0.00 | 0.65 |
| Women economic rights | 0.13 | 0.06 | 0.84 | 0.97 |
| traffic link-weighted | -0.10 | 0.13 | 0.12 | 0.72 |
| contiguity-weighted | 0.13 | 0.12 | 0.24 | 0.82 |
| trade-weighted | 0.03 | 0.21 | 0.02 | 0.53 |
| voting-weighted | 0.59 | 0.51 | 0.43 | 0.84 |
| civilization-weighted | 0.40 | 0.17 | 0.83 | 0.98 |

| Variable | Avg. Beta | Avg.Std.Err | %Sign. | CDF-U |
|---|---|---|---|---|
| Protection | | | | |
| dependent variable, t-1 | 0.32 | 0.09 | 0.99 | 0.99 |
| Corruption | 0.23 | 0.12 | 0.71 | 0.90 |
| Democracy | 0.02 | 0.01 | 0.73 | 0.93 |
| Women in parliament | 0.00 | 0.01 | 0.01 | 0.70 |
| Women economic rights | 0.04 | 0.07 | 0.00 | 0.72 |
| traffic link-weighted | -0.12 | 0.15 | 0.09 | 0.77 |
| contiguity-weighted | -0.06 | 0.16 | 0.00 | 0.63 |
| trade-weighted | -0.05 | 0.21 | 0.01 | 0.56 |
| voting-weighted | 0.83 | 0.44 | 0.64 | 0.95 |
| civilization-weighted | 0.23 | 0.22 | 0.32 | 0.80 |
| Prosecution | | | | |
| dependent variable, t-1 | 0.69 | 0.06 | 1.00 | 1.00 |
| Dependent variable, t-2 | 0.19 | 0.07 | 0.91 | 0.99 |
| Corruption | -0.11 | 0.10 | 0.33 | 0.79 |
| Democracy | 0.01 | 0.01 | 0.08 | 0.71 |
| Women in parliament | 0.00 | 0.00 | 0.26 | 0.86 |
| Women economic rights | 0.10 | 0.07 | 0.45 | 0.92 |
| traffic link-weighted | -0.14 | 0.24 | 0.11 | 0.68 |
| contiguity-weighted | 0.26 | 0.10 | 0.99 | 0.99 |
| trade-weighted | 0.32 | 0.28 | 0.51 | 0.89 |
| voting-weighted | 0.72 | 0.53 | 0.18 | 0.86 |
| civilization-weighted | 0.11 | 0.10 | 0.37 | 0.81 |

Notes: All results are based on 469 regressions. 'Avg. beta' reports the average coefficient while 'Avg S.E.' indicates the average standard error of all regressions. '%Sig' shows the percentage of regressions in which the coefficient is statistically different from zero at the 5 percent level at least. 'CDF-U' shows the (unweighted) mass of the larger part of the distribution of the estimated coefficients (i.e., the value is always greater or equal to 0.5). The criterion for a variable we consider as robust is a value of 0.9 or above.

based on the consistent coding of a wide range of informational sources, while our disaggregated measures capture the three different fundamental dimensions of anti-trafficking policies, namely prevention, protection and prosecution. Scholars may wish to use the aggregate index if they are interested in overall policies, but we strongly recommend that future research analyzes the different dimensions of overall policies separately and in greater detail than we could do here. For example, protection policies mainly protect victims, while prosecution policies mainly target the perpetrators. Why countries choose to pursue one type of policy rather than the other deserves closer scrutiny.

Besides introducing novel data to the still recent, yet burgeoning literature on human trafficking, we have also contributed to the analysis of anti-trafficking policies by analyzing the effect of spatial dependence in this policy domain, which the extant literature has so far neglected. Domestic policies, we have argued, will be affected by policies abroad because of pressure, externalities, learning or emulation effects. Our results only partly corroborate these hypotheses. On the one hand, we find no evidence for anti-trafficking policies diffusing via pressure exerted by destination countries onto their major transit or origin countries. Our results suggest that anti-trafficking policies are an area where destination countries seem unwilling, or, even if they are willing, are unable to pressure the countries where the majority of victims of human trafficking come from or are channeled through, to change their policies. On the other hand, we find consistent evidence for externality effects – with the exception of protection policies, for which one would not expect such an effect. We thus find that stricter policies in contiguous countries, or sometimes in major trading partners, are followed by stricter domestic policies as well. The most likely explanation is simple: Stricter policies create negative externalities on neighboring countries and trading partners, exacerbating their problems in dealing with human trafficking as a result. Contiguity and trade might also partially capture learning or emulation channels of diffusion. In fact, we find robust evidence that countries look towards those with similar political views, as proxied by our connectivity variable of voting similarity on key issues in the UN General Assembly. This is also the case for countries sharing similar cultural values, as proxied by our connectivity variable measuring civilizational belonging. All in all, we find robust evidence that countries do not operate in isolation when deciding on anti-trafficking policies, being affected by the prior choices of other countries on which their policy choices spatially depend.

# Chapter 2.

# Compliance for Big Brothers

# - An Empirical Analysis on the Impact of the Anti-trafficking Protocol[33]

## 1. Introduction

Human trafficking is a growing phenomenon worldwide, threatening national security and damaging the domestic human rights reputation of a country. The United States Department of State estimates that there are more than 12 million victims of human trafficking worldwide, putting the global prevalence of trafficking victims at 1.8 per 1,000 inhabitants (United States Department of State, 2010). In responding to the need to combat such crimes, the United Nations General Assembly adopted the *Convention against Transnational Organized Crime* and its *Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children* in 2000. The Protocol is arguably the most important international system to combat human trafficking (UNODC 2006). In particular, it regulates the obligations of member states in order to achieve the three objectives: preventing the crime of human trafficking, protecting victims and prosecuting traffickers (the so-called 3Ps). Despite the fact that human trafficking is one of the largest transnational crimes (Interpol 2009) in the globalization era, the effectiveness of global anti-trafficking efforts has been rarely studied. Our paper aims to address this issue by examining the impact of the Anti-trafficking Protocol on domestic policies. At present, there are only two papers investigating this question (Avdeyeva 2010; Bartilow 2010). However, their studies do not distinguish between differences across the 3Ps, whose objectives can conflict each other[34], as they only employ an aggregate measurement on anti-trafficking policies.

We make two contributions to the literature. First, to the best of our knowledge, our study is the first to assess the potentially differentiated impact of ratification of the Protocol on prevention, protection and prosecution policies, which can lead to different levels of compliance

[33] Joint work with Krishna Chaitanya Vadlamannati

[34] Prosecution (crime justice) and prevention (crime prevention) policies aim to reduce human trafficking flows, while protection policy aims to protect the human rights of victims, which may encourage illegal migration, possibly increasing human trafficking flows.

given their different objectives and costs (either financial or political) of compliance. Second, we hypothesize 'efficient compliance' by connecting the theory of 'pressure' and 'costs', two important concepts in the compliance literature. We then empirically show the strategic compliance behavior of countries.

Distinguished from other human rights treaties, the Anti-trafficking Protocol reflects the interests of the major powers because they receive huge flows of human trafficking into their own territories. Thus, the Anti-trafficking Protocol is, arguably, not mere 'cheap talk' but is actually likely to create effects on the domestic policies of member states, in particular developing countries which send human trafficking flows into major countries. In the literature, Cho, Dreher and Neumayer (2011, see chapter 1) investigate the evidence of 'pressure' on anti-trafficking policies via policy diffusion from destination to origin countries, finding no evidence of such diffusion effects. However, diffusion via pressure cannot be easily distinguished from other types of interdependent decision-making effects such as learning and emulation, as the authors also point out. Thus there is a need to further investigate the evidence of pressure in complying with the anti-trafficking policies through a different angle. In this paper, we address the 'pressure argument' by proposing 'efficient compliance' upon ratification as a strategy for countries when dealing with pressure from the major powers.

In fact, compliance is generally very costly, requiring the amendment of national law and budgetary allocation for new policy programs, putting political and monetary burdens on member states (Hathaway 2007). Therefore, compliance decisions are not always straightforward and countries will tend to strategically deliberate, selecting the most efficient way of complying, – i.e. meeting the demands of the major powers while, at the same time, having the lowest possible political and financial costs in the domestic setting. We predict that prevention policy is arguably the first candidate for such 'efficient compliance'. Prevention policy, including border and travel document control, can be a quick solution to crack down on human trafficking flows, fulfilling the needs of the major powers[35]. In addition, prevention policy mainly consists of public awareness campaigns, border controls, information exchange and international cooperation, which can be implemented without new legislative adoption and does not involve

[35] In section 2, we will explain in more detail about the contents and constraints of compliance through prevention, protection and prosecution, as well as comparing them.

great risk in terms of conflicting with other existing laws (e.g. immigration law[36]). We thus hypothesize that the Anti-trafficking Protocol has the strongest impact on prevention policy and empirically analyze this question by using panel data from 147 countries for the period of 2001-2009. To measure compliance, we employ the newly developed Anti-trafficking Policy Index (see, Dreher and Neumayer 2011, chapter 1), which evaluates governmental efforts in prevention, prosecution and protection policies respectively. This index is the only available measurement so far quantifying the level of compliance with each of the 3Ps.

To foreshadow our results, we find that ratification of the Protocol has a positive, significant effect on the prevention policy of a country, but not on the other two policies, confirming our hypothesis of 'efficient compliance'. Our paper continues as follows. In section 2 we present our theoretical arguments and hypotheses. Section 3 describes the methodologies of measuring anti-trafficking policies (3Ps) and ratification of the Protocol. Section 4 follows with estimation strategies. In section 5 we present the empirical results and then check for robustness in section 6. In section 7 we conclude with policy implications.

## 2. Hypothesis: 'Efficient Compliance'

Whether ratification of a treaty can create an effect on compliance is a recurring question in the literature. With respect to the impact of human rights treaties, theoretical arguments provide rather skeptical predictions because such treaties do not have an official mechanism to punish violators (Bayefsky 2001). Like other human rights treaties, the Anti-trafficking Protocol lacks an enforcement mechanism. Despite being regulated, the translation of the Protocol into domestic legislation and enforcement upon ratification is not forced to members, therefore being subject to the individual decisions of member states (Winer 2004). This means that there is no official cost imposed on member states for not fulfilling obligations prescribed by the Protocol – namely implementing 3Ps, and this lack of punishment may encourage potential violators to join the Protocol as a way of 'window-dressing', as argued in studies on other treaties such as the Convention against Torture (Hathaway 2002; Vreeland 2008). Indeed, human rights treaties are

[36] Financial costs of implementing prevention policy are not necessarily trivial as the controlling of borders requires a great amount of financial resources. However, given this is a common obligation for a sovereign government, its implementation would not trigger a large political burden in a country. On the other hand, the adoption of prosecution and protection policy requires an amendment of national immigration, criminal and labor laws, possibly causing political disputes. Its enforcement can also be a great burden, particularly in most developing countries.

often criticized as an 'empty promise' or 'cheap talk', particularly in the realist tradition (Hoffmann 1956; Fisher 1981), while some others try to highlight the possible function of human rights treaties in generating effects such as norm processing (Keck and Sikkink 1998) and recognition-building (Keohane 1984).

In the absence of official enforcement mechanisms, 'state power' and 'state interests' can, however, function as a quasi-enforcement tool ensuring compliance (Simmons 2009). In other words, if the major countries have interests in enforcing compliance with a treaty, the compliance of member states would increase and even countries whose national interests are inconsistent with the treaty would also comply due to coercion and pressure from the major powers. In reality, however, the human rights records of other countries are rarely of great concern to the major countries, hence there is no exertion of pressure or sanctioning of non-compliers, leading to the conclusion that human rights treaties are futile (Krasner 1993; Goldsmith and Posner 2005).

Compared to similar human rights treaties, combating human trafficking is different. The United States is known to be one of the major destinations for trafficking victims. The United Nations Office on Drugs and Crime (2006) defines the United States as a destination country with very high inflows of human trafficking. The United States Annual Report on Trafficking in Persons (2005) estimates that 14,500–17,500 individuals are trafficked into the United States from other countries every year. Facing huge flows of human trafficking inside its own territory alone, the United States has a great interest in reducing human trafficking originating from other countries. Other developed countries are also confronted with high flows of human trafficking[37]. According to the UNODC Incidence Index (2006), 18 OECD member states receive very high or high inflows of human trafficking (see appendix 2.C). In addition to the numbers of victims coming into these countries, economic losses caused by human trafficking are also tremendous. The ILO (Belser 2005) estimates that annual profits from forced labor and human trafficking in industrialized countries stand at USD 3.5 billion, which is not taxed and likely to be used for

[37] The inflows of human trafficking to the major countries originate from all over the world (UNODC 2006). The major destination countries receive victims of human trafficking from various countries without regional limitations. For instance, according to the UNODC (2006), trafficking victims found in the United States come from 66 countries, ranging from China to Mexico to Nigeria. Germany, another major destination, receives trafficking victims from 51 countries, including Poland, Afghanistan and the Dominican Republic.

illegal activities. This phenomenon implies that combating human trafficking should not be seen as an 'empty promise', but an urgent issue for the developed world.

In order to reduce huge flows of human trafficking into their countries, the United States and the European Union have adopted anti-trafficking policy as one of their national priorities (TVPA 2000; the Council of Europe Convention on Action against Trafficking in Human Beings 2008) and actively promote efforts to combat human trafficking worldwide. Moreover, American interests embodied in the development of the Protocol are evident, and it is often argued that it is a replica of the United States domestic law, i.e. the Victims of Trafficking and Violence Protection Act (TVPA 2000) (United States Senate Hearing 2004)[38]. The United States also evaluates countries' compliance by providing an annual tier ranking, using this evaluation as a conditionality imposed on international aid (United States Department of State 2004).

In contrast to major destination countries, it may not be in the best interests of countries sending victims abroad – mostly developing countries – to comply with the Anti-trafficking Protocol. Exporting victims abroad causes the loss of human capital, damages state reputation and violates national borders. However, as victims no longer live in the country and therefore exploitation occurs outside of their own country, the problem is less noticeable (and also probably less urgent) than it is in receiving countries. Some sending countries even neglect the situation because of the expectation of remittance and/or population pressure. This implies that if sending countries comply with the Protocol, it is not because of their own needs but rather because of the pressure exerted by the major powers. It seems that 'pressure' can be key to explaining compliance with the Anti-trafficking Protocol, particularly in developing countries.

However, the effects of pressure are not always directly translated into compliance with the Anti-trafficking Protocol (Cho, Dreher and Neumayer 2011, see chapter 1). One reason for this could be that the effects of pressure are not easily distinguishable from other causes of interdependent decision-making, such as externalities or learning effects, which can be more

[38] Without any further need to adopt a new legislation, the United States signed the Protocol in 2000 and ratified it in 2005, much faster when compared to its ratification of other international human rights treaties. In fact, the United States has not ratified several major human rights treaties such as the International Covenant on Economic, Social and Cultural Rights, the Convention on Elimination of All Forms of Discrimination against Women, and the Convention on the Rights of the Child. Also, it took the United States 25-30 years to ratify the International Convention on the Elimination of All Forms of Racial Discrimination and the International Covenant on Civil and Political Rights.

eminent in the case of anti-trafficking policies fighting such a transnational crime (Cho, Dreher and Neumayer 2011, see chapter 1; Simmons and Lloyd 2010). Moreover, even in the presence of pressure, there are domestic conditions – such as national interests and institutional/financial capabilities – countries need to consider with respect to their compliance decisions. Certain conditions may lead to compliance, for instance gender representation (Bartilow 2010) or the membership in prestigious international organizations (Avdeyeva 2010), while other conditions such as domestic political resistance or resource constraints may be an obstacle. With this respect, it can be argued that political and/or financial costs are important in compliance decisions, not only because compliance is costly (Hathaway 2007) but also because it may not be a high priority in many countries (especially sending countries) to combat human trafficking, especially if they don't receive high flows like the United States and Western Europe do. Given their constraints and lower interests, countries would try to find a strategic way to fulfill the needs of the major powers at the lowest cost.

Compliance with the Protocol requires new legislative adoption and policy implementation, which not only imposes a monetary burden on a country, but also triggers domestic resistance due to potential conflict with existing law – in particular immigration law. Thus, countries will make a conscious decision on what they should comply with and will select those obligations which best satisfy the preferences of the major powers, while minimizing domestic political opposition and financial burdens. This is arguably the most 'efficient' form of compliance. The needs of the major powers include quickly cracking down on human trafficking flows into their territories. The costs of compliance consist of efforts to establish new legislation, enforcement of the subsequent new laws with police and judiciary capacity, implementing necessary policy programs, as well as the domestic resistance to such changes. With this in mind, countries will be tactical in making compliance decisions, strategically selecting those obligations which ensure the highest appreciation from the major powers at lowest possible cost.

As mentioned earlier, prevention policy is the first candidate to fulfill the criteria of 'efficient compliance'. The obligations of prevention consist of conducting anti-trafficking public and media campaigns, training government officials and police/military personnel, controlling borders, airports and train stations, and pursuing international cooperation with other

governments and exchanging information (part III of the Protocol)[39]. Amongst these, border (and airport/train station) control brings distinct advantages, thus being of great importance for the major powers. The major countries often conduct border controls to crack down on human trafficking, as seen in cases along the United States-Mexico border (Reuter 2010), as well as the Spain-North Africa, and Italy-Libya borders. Indeed, border control is one of the quickest and easiest (although not the most effective way in tackling the root causes of human trafficking in the long run) methods of reducing flows of human trafficking. Additionally, international cooperation with other governments and international organizations can easily impress the major countries, seeing as these activities are more visible compared to domestic court proceedings for prosecution and the implementation of protection programs. Effective prevention policy greatly appeases the major powers, while the political and financial constraints to implement such policy are relatively low. Among the obligations set under 'prevention' by the Protocol, no area requires new legislative adoption which could cause domestic resistance or conflicts with other laws. Also, most anti-trafficking public campaigns and training programs for government officials and military can be implemented with existing resources. Protecting borders is a basic responsibility for a sovereign state and is therefore unlikely to cause a great political dispute, although its implementation could be financially costly.

In contrast to prevention, prosecution policy requires lengthy and expensive judicial processes to implement. To comply with the obligations for prosecution, countries need to adopt the newly defined concept of human trafficking in national legislation, i.e. the criminalization of human trafficking with specific and strict penal codes, as well as the delegation of anti-trafficking enforcement personnel including police and prosecutors (article 5 of the Protocol). The criminalization of human trafficking calls for amendments to general immigration law and careful interpretation in the court proceedings of related cases (Fredette 2009). This may have the potential to cause political disputes and administrative burdens, especially in countries with lower institutional capabilities – i.e. most developing countries. Furthermore, assigning enforcement personnel exclusively to anti-trafficking tasks creates monetary burdens and general weak enforcement problems many developing countries face may also cause delays in punishing

[39] In addition to the listed obligations, article 9 of the Protocol recommends that countries implement social and economic initiatives to prevent human trafficking and alleviate the factors that make persons vulnerable. However, we exclude this obligation in our analysis due to its vagueness (Fredette 2009).

traffickers. This can be a hindrance to reducing human trafficking flows efficiently in many countries, ultimately causing resentment from the major countries.

Compliance with protection policy (part II of the Protocol) is also likely to trigger domestic resistance against such policy adoption. Assistance programs for shelters, medical care and job training might be less costly for many countries if they are effectively cooperating with NGOs and other social networks, thus utilizing existing facilities. However, non-punishment of victims for violating immigration law and granting (temporal or permanent) residence would conflict with existing law (particularly immigration law) in many countries. Also, generous treatment for victims in host countries may induce more human trafficking flows because it would encourage more potential victims in developing countries to risk illegal migration into those countries, which may lead to further human trafficking (Akee et al. 2010(a); Auriol and Mesnard 2010). Given the potential dangers of increasing human trafficking inflows, protection policy may not only contradict the objectives of the other two policy dimensions, but also not meet the needs of the major powers in regards to reducing human trafficking flows. Additionally, the major countries may not be interested in protecting victims found in other countries, although they might be more concerned about protection in their own territories because of their human rights reputation.

Given the greater demand and need from major countries, and the expected lower domestic resistance and costs of compliance, prevention is arguably the first choice for many countries in complying; our theory predicts that the ratification of the Protocol has the strongest effect on prevention compared to the other two dimensions.

**H1:** ***Ceteris paribus, the ratification of the Anti-trafficking Protocol has the strongest impact on state compliance towards prevention policy.***

Additionally, the impact of ratification is expected to be stronger in developing countries because the pressure from the major powers is a more serious issue there, particularly given the fact that developing countries are mostly origin countries sending victims to major countries, therefore needing to demonstrate stronger commitment. In doing so, developing countries are likely to select compliance with protection policy as proof of this additional commitment. This is because many protection programs can be implemented in cooperation with international

organizations and NGOs, as described in the Annual Reports on Trafficking in Persons (2001-2010), reducing financial burdens on the respective governments. Furthermore, implementing protection policy may not be overly costly in developing countries because they tend to be countries of origin and therefore the majority of human trafficking victims (except a small number of returned victims) cease to reside there. In other words, the amount of people who will benefit from protection programs is presumably quite small in developing countries. More importantly, while protection policy is likely to create conflicts with immigration law by granting foreign victims residency, which can subsequently induce more human trafficking flows, this risk is minimal in developing countries as they are first and foremost countries of origin rather than destination. Thus, compared to prosecution policy requiring intensive policing and lengthy judiciary proceedings, protection policy can be more efficient, in particular in the context of developing countries where human trafficking inflows are comparatively small, as are target groups for protection programs.

**H2:** ***Ceteris paribus, in developing countries the ratification of the Anti-trafficking Protocol has an additional impact on protection policy.***

### 3. Measuring Anti-trafficking Policies and Treaty Ratification

We use a newly developed index on the three main anti-trafficking policy areas (Anti-trafficking Policy Index - Cho, Dreher and Neumayer 2011, see chapter 1), namely prevention, protection and prosecution (3Ps). The index on each of the three policy measures is coded on a scale of 1 to 5, where the highest value indicates full compliance and the lowest value no compliance. This index is constructed annually from 2000 to 2009 for approximately 177 countries (maximum). The sources of information used for coding the index are from the Annual Reports of Trafficking in Persons (TIP Reports, United States Department of State, 2001-2010). The Reports on Trafficking in Persons: Global Patterns (United Nations Office on Drugs and Crime, 2006 and 2009) are also used as supplementary informational sources.

There are two prime reasons for employing this index in our study. First, unlike the aggregate tier-ranking provided by the TIP Reports (tier 1, 2, 2 Watchlist and 3) – the only other available measurement on anti-trafficking policies – the Anti-trafficking Policy Index not only distinguishes between compliance in the three different areas, but also measures the level of

compliance in each area separately. Disaggregated measurements on each of the 3Ps are important because the implementation of the 3Ps can sometimes contradict each other, in particular for protection policy aiming to ensure the human rights of victims, and prevention and prosecution policies pursuing crime prevention and criminal justice. Second, the Anti-trafficking Policy Index is coded based on the specific content available to measure compliance, following the requirements of the Anti-trafficking Protocol(the international standard), while the tier-ranking is given based on compliance with United States domestic law, i.e. the TVPA. Additionally, a third reason for employing this dataset is its reliability. The coding of each variable for each country/year is independently evaluated by at least two trained coders based on very clear and specific coding guidelines, and the final scores were determined by the principal investigators through a further review of the coding[40]. Appendix 1.A illustrates the measurement scale of each of the three indices, as well as the tier-ranking.

Naturally, the three dimensions of anti-trafficking policies are not independent of each other. As can be seen in table 2.1 however, the three different components that make up the anti-trafficking policies are only moderately correlated with each other, showing that each sub-index of the 3Ps is not redundant by definition – i.e. correlation lower than 0.7 (McGillivray and White 1993). This indicates that the differentiated levels of compliance on each of the 3Ps, which these disaggregated sub-indices capture, are in fact substantial.

**Table 2.1.** Bivariate correlations among the three forms of Anti-trafficking policies

| | Prosecution | Protection | Prevention | Tier-ranking |
|---|---|---|---|---|
| Prosecution | 1.00 | | | |
| Protection | 0.51 | 1.00 | | |
| Prevention | 0.52 | 0.64 | 1.00 | |
| Tier-ranking[41] | 0.53 | 0.63 | 0.66 | 1.00 |

[40] For the detailed coding guideline, see online appendix (Cho, Dreher and Neumayer 2011) at www.human-trafficking-research.org

[41] In the tier-ranking, the lowest value, score 1, reflects full compliance and the highest value, score 3 no compliance. We recode the score so that the highest value reflects full compliance.

Turning to our main independent variable of interest, it is the ratification of the UN Protocol Preventing, Suppressing and Punishing Trafficking in Persons, especially Women and Children (the Anti-trafficking Protocol)[42] as part of the UN Convention against Transnational Organized Crime. Instead of the Convention, we focus on the Anti-trafficking Protocol in our study because it exclusively addresses objectives to combat human trafficking, while the Convention includes issues on a wide range of crimes, such as drug and arms trafficking and money laundering. Ratification of the Convention is a prerequisite to the ratification of the Protocol. To date, 158 countries have ratified the Convention and 142 the Protocol since being open for signature in November 2000. For the year in which a country ratified the Anti-trafficking Protocol and every year thereafter, we code the value 1. Otherwise we code the country with the value 0.

**4. Estimation Strategy**

We estimate pooled Time Series Cross-Section (TSCS) regressions across a sample of 147 countries during the period 2001 – 2009[43]. Our model to be estimated has the following specification:

$$Policy_{it} = \phi_1 + \psi_2 H_{it-1} + \psi_3 Z_{it} + \mu_i + \upsilon_t + \omega_{it} \qquad (1)$$

$Policy_{it}$ represents each of the aforementioned 3P sub-indices of country *i* in year *t*. $H_{it-1}$ denotes the main independent variable of interest, that being the ratification of the Anti-trafficking Protocol, while $\mu_i$ is country fixed effects and $\upsilon_t$ time fixed effects. $\omega_{it}$ is the idiosyncratic error term. We lag one year for the main variable of interest, $H_{it}$, for the following reason. It may take some time for a country to change domestic legislation and policy upon ratification because the adoption of new law requires the approval of the parliament. Upon ratification, the number of years needed to generate any effect depends on legislative procedures, the urgency of the objectives and other political considerations of a country. Indeed, there is no consensus on this question to date. Thus, we select one year to lag the main variable of interest,

[42] This Protocol was adopted by resolution A/RES/55/25 of 15th November 2000 at the fifty-fifth session of the General Assembly of the United Nations. The Protocol was later opened for signature from UN member states from December 2000. Upon its ratification by 20 respective signatory states, the Protocol was finally entered into force in December 2003.

[43] Given the missing observations in our dependent variables and other explanatory variables, our panel is unbalanced.

following the vast majority of the literature, and further lag the main variable for two-years as a robustness check[44].

We first estimate our model using ordered probit with time-fixed effects, taking into account that our model has an ordinal structure. We select ordered probit over logit because the scales of the 3P sub-indices are very close to being normally distributed (Long 1997). With the ordered probit models, we cluster standard errors at the country level to account for the fact that observations from the same country in different years are not independent. In these estimations using ordered probit, we do not control for country-specific effects for two main reasons. First, due to the incidental parameter problem: having country-dummy variables causes an inconsistency problem in these types of non-linear estimations with limited observations (Lancaster 2000, Wooldridge 2002)[45]. Second, we include time-invariant (in/out)flows of human trafficking variables in order to estimate the effects of severity of human trafficking problems, arguably a crucial determinant for policy responses. The use of two-way fixed effects in such cases will not only be collinear with time-invariant regressors, but cannot be estimated (Beck 2001). However, as controlling for unobserved individual heterogeneity, which may affect the compliance decision of a country, is critically important in estimating the impact of ratification[46], we address this issue by employing OLS with two-way fixed effects and a system-GMM estimation, which will be discussed later in this section.

The vector of control variables ($Z_{it}$) includes other potential determinants of government policy combating human trafficking. We follow the pioneer studies of Avdeyeva (2010) and Bartilow (2010), which are closely related to our topic, as well as other comprehensive evaluations on determinants of government policy for related problems (Neumayer 2005; Simmons 2009). Accordingly, the models control for the effects of economic development by including per capita income (logged) in US dollars, using year 2000 constant terms (ERS Macroeconomics Dataset). In order to avoid mulicollinearity problems between per capita income and other control variables – in particular governance indicators - we take income group

[44] Simmons (2009) uses different choices – one year, two year-lagged, and contemporary ratification – depending on types of treaties, while Neumayer (2005) takes only contemporary values of ratification and lags one year as a robustness check.
[45] Ferrer-i-Carbonell and Paul Frijters (2004) developed a method for ordered logit with fixed effects, which can be an alternative. However, in our estimation, regressions do not converge by employing this approach.
[46] The authors thank Eric Neumayer for pointing out this issue.

dummies – high income, high middle income, low middle income and low income. This follows the World Bank's categorization. We also control for democracy using the Polity IV data (Marshall and Jaggers, 2009). Democracies are more likely to be responsive to demands for compliance (Neumayer 2005). We subtract the autocracy score from the democracy score, as is standard when using the Polity data. The democracy score ranges from +10 (full democracy) to –10 (full autocracy). Additionally, we account for the quality of institutions by including two measures from the World Bank's Governance Indicators, namely the rule of law (related to the ability of the state to protect victims, prevent crime and prosecute criminals involved in human trafficking) and the control of corruption (which reinforces the legitimacy of the state in law enforcement). In both indices, the highest value denotes good governance. Due to high correlation between the two indicators ($r = 0.95$), we include the two variables separately in our specifications. Existing statistics on human trafficking suggest that it is a gender related crime; more than 70% of victims are females being exploited for sex and domestic services (UNODC 2006; IOM CTM 2010). As female legislators and political representatives tend to be more concerned about interests of women (Chattopadhyay and Duflo 2004), they are more likely to pursue anti-trafficking policy (Bartilow 2010). We thus include the female share in parliament as a proxy for gender representation.

Unlike most other human rights treaties, the Anti-trafficking Protocol is of great interest to the United States, and is thus actively promoted by them (Winer 2004). With this in mind, we control for political proximity between the United States and a particular country by including a country's voting behavior on key issues (i.e. key votes) in line with the United States in the United Nations General Assembly. The voting behavior index is based on the definition of Thacker (1999), who codes votes in agreement with the United States as 1, votes in disagreement as 0, and abstentions as 0.5. The resulting numbers are then divided by the total number of votes in each year (Dreher and Sturm 2010). Alternatively, we also make use of the amounts of bilateral aid from the United States (as percentage of GDP) to capture U.S. influence in a particular country. In addition, membership in the OECD is included because this club of advanced economies expresses a particular interest in combating human trafficking and adopting anti-trafficking policy as a priority.

Facing high flows of human trafficking would also affect the response of national policy because the more severe the problem is, the more it becomes a state priority. By including this variable, we control for the effects of having similar conditions which lead to similar policy responses (Elkins and Simmons 2005). Six-point indices on inflows and outflows of human trafficking (0 being no flows, 5 being very high flows), taken from the UNODC (2006), are used to measure the flows of human trafficking in a country[47].

Additionally, much of the literature suggests that the current level of compliance has a strong association with past compliance. However, the inclusion of a lagged dependent variable causes inconsistent estimations in a short panel controlling for fixed/random effects (Nickell 1981). Therefore, we control for the level of past compliance by employing the dynamic system-GMM estimator as suggested by Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998). The dynamic panel GMM estimator exploits an assumption about the initial conditions to obtain moment conditions that remain informative, even for persistent data. Moreover, the system-GMM has another advantage in that it controls for country fixed effects, as mentioned above, as well as addressing potential reverse-feedback effects running from the level of compliance to ratification decisions. The system-GMM estimation technique employed here is further explained in section 4.1 below.

### 4.1. Endogeneity Concerns

We address whether our main model is subject to reverse feedback effects. It is possible that our key explanatory variable – the ratification of the Protocol – is endogenous to having better anti-trafficking policies. Apart from an omitted variable bias, endogeneity could also result from the fact that ratification could also be a consequence, rather than a cause, of designing better anti-trafficking policies in a country. Although our model takes ratification in the previous year, this specification may not be completely free from reverse causality as long as contemporary compliance is correlated to past compliance.

[47] For details on data sources see appendix 2.A.

In order to address reverse-feedback problems, we employ the system-GMM method[48] as mentioned above. This method is considered most appropriate in the presence of endogenous regressors. We treat the lagged dependent and the ratification variables as endogenous, and all other variables as strictly exogenous. The two-step estimator developed by Roodman (2005) in Stata, including Windmeijer's (2005) finite sample correction, is applied here. We test for the exogeneity of covariates by employing the Hansen test on the validity of the instruments used and also apply the Arellano-Bond test of second order autocorrelation, which must be absent from the data in order for the estimator to be consistent. As shown in table 2.4, the Hansen test and the Arellano-Bond test do not reject the GMM specifications at conventional levels of significance across all columns (we lag two years for prosecution in order to avoid second-order autocorrelation). The Hansen J-Statistic clearly shows that the null-hypothesis of exogeneity cannot be rejected at conventional levels of significance. The numbers of instruments[49] employed are sufficiently smaller than the number of countries, minimizing a potential weak instrument problem (Roodman 2007).

Additionally, we employ an instrumental variable (IV) approach where we instrument for the potentially endogenous ratification variable. Here we utilize ordered probit IV estimations, reflecting the ordinal structure of the dependent variable (which was not captured in the system-GMM). Standard errors are corrected by bootstrapping[50]. Knowing that valid instruments are very hard to come by, we nevertheless make use of counts of ratifications by all countries in the region and in the same income group a particular country belongs to (excluding that particular country's ratification itself). The idea of peer effects on the likelihood of ratification of a treaty by an individual country is not new in the political economy literature. Studies by Simmons and Elkins (2003, 2004) highlight the possibility that some key government policies might diffuse

[48] In a short panel controlling for fixed/random effects, the inclusion of a temporally lagged dependent variable may result in biased, inconsistent estimations (Nickell 1981), as we are only investigating a 10 year. Therefore, we select the system-GMM over 2SLS with two-way fixed effects here because the system-GMM has advantages in controlling for past compliance.

[49] In order to minimize the number of instruments in the regressions for efficiency, we collapse the matrix of instruments in most specifications, as suggested in Roodman (2006). We do not collapse the matrix for prosecution in both full and developing country samples, as well as protection in the developing country sample in order to satisfy the exogeneity of the instruments.

[50] As there is no function to command an instrumental variable ordered probit regression in STATA or other software programs, we manually program a command: run the first stage regression; predict the value; use the predicted value in the second stage regression; and finally correct the standard errors by bootstrapping with 100 replications. To test for exclusion restrictions of the instruments, we employ 2SLS estimations.

among countries across peer groups and worldwide[51]. The validity of the selected instrument depends on instrument relevance, with the requirement that the instrument must be sufficiently correlated with the explanatory variable in question. If this is not the case it has no power (Bound, Jaeger and Baker 1995). It also should not vary systematically with the disturbance term in the second stage equation, i.e. $\left[\omega_{it} \mid IV_{it}\right] = 0$. In other words, it must not have an independent effect on the dependent variable. As far as our instrument is concerned, ratification by other countries in the same region or income group would not be a direct determinant to an individual country's policy adoption and implementation. Peer ratification would have only indirect effects on the compliance of a country via ratification by that particular country.

Table 2.4 reports our central results regarding the validity of our instruments. The bottom part of the table lists additional statistics that speak for the strength of the instrument. The first-stage F-statistics, proposed by Bound, Jaeger and Baker (1995), suggest that the selected instrument is relevant when the first stage F-statistic on the excluded instrument is above 10. However, the Bond, Jaeger and Baker F-statistics have been criticized in the literature for not being powerful enough when measuring the degree of instrument relevance in the presence of multiple endogenous variables (Stock et al. 2002; Hahn and Hausman 2002, 2003). The Cragg-Donald first-stage F-test (Cragg and Donald 1993; Stock et al. 2002) is seen as a more powerful test to deal with such a problem. It reports the test statistic used to test the null hypothesis, i.e. whether the parameter estimate for the instrument in the first stage regression is equal to zero. A Cragg-Donald statistic above the critical value (10% maximal test size) indicates the rejection of weak instruments. Additionally, we also employ the Anderson canonical LR statistics for underidentification tests. The results show that our instrument is significant at the 1% level in all models, confirming the strong correlation between the ratification of regional and income groups, and the ratification decisions of an individual government in the same group. In addition, the Sargan J-Statistic shows that the null of exogeneity cannot be rejected at conventional levels of significance in all of our models, confirming that the instrument meets the requirement of the exclusion restriction.

[51] Neumayer and Plümper (2010), Gassebner, Gaston and Lamla (2011), de Soysa and Vadlamannati (2010), Eichengreen and Leblang (2008), Pitlik (2007), Blonigen, Davies, Waddell and Naughton (2007), Davies and Naughton (2006) have all followed a similar approach, albeit with respect to various other government policies.

## 5. Empirical Results

The results of the regression estimates used to assess the impact of the Anti-trafficking Protocol on domestic policy framework are presented in table 2.2. We start with our main variable of interest, the ratification of the Anti-trafficking Protocol, in column 1. The policy index score is a scale stretching from 1 (no compliance) to 5 (full compliance). In column 1, in line with our main hypothesis, prevention positively responds to the ratification of the Anti-trafficking Protocol at the 5% level of significance. The same holds when we substitute prevention for protection in column 5. However, we could not find any significant impact of ratification on prosecution in column 9.

In columns 2, 6 and 10, we control for inflows of human trafficking (effects on countries of destination), with columns 3, 7 and 11 capturing outflows (effects on countries of origin), reflecting conditions related to the specific human trafficking problems a country faces. Controlling for the human trafficking flows, the positive effect of ratification on prevention still holds while ratification is still insignificant to prosecution. However, the ratification variable loses its significance in protection when controlling for the outflows of human trafficking. This indicates that the effect of ratification on protection is muted by the effects of human trafficking outflows. The results in table 2.2 suggest that ratification of the Protocol improves government policy combating human trafficking with respect to prevention and, to some extent, protection.

In columns (4), (8) and (12), we control for unobserved individual heterogeneity by employing pooled OLS with two-way fixed effects[52]. Given the ordinal structure of our dependent variables, OLS with two-way fixed effects may be subject to an inefficiency problem in estimation, causing an underestimation (Long 1997). However, taking into account the importance of controlling for unobserved country characteristics, which may affect compliance, we conduct the linear estimations for further check. As can be seen, the positive effect of ratification on prevention remains, even after stringently controlling for country and time-fixed effects.

[52] Here we do not include a lagged dependent variable due to the Nickell bias (1981). We use the log income variable instead of the income group dummies because the income group dummy variables are time-invariant during the period and therefore dropped out when controlling for country fixed-effects.

**Table 2.2.** Effects of Ratification on Anti-trafficking Policy, full sample, 2001-2009, ordered probit and OLS with two-way fixed effects

| | Prevention | | | | Protection | | | | Prosecution | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) oprobit | (2) oprobit | (3) oprobit | (4) OLS FE | (5) oprobit | (6) oprobit | (7) oprobit | (8) OLS FE | (9) oprobit | (10) oprobit | (11) oprobit | (12) OLS FE |
| Ratification(t-1) | **0.348**** | **0.311**** | **0.270**** | **0.198**** | **0.276**** | **0.287**** | 0.216 | 0.152 | 0.154 | 0.110 | 0.075 | 0.065 |
| | **(0.137)** | **(0.135)** | **(0.135)** | **(0.085)** | **(0.133)** | **(0.135)** | (0.133) | (0.098) | (0.153) | (0.158) | (0.152) | (0.098) |
| Democracy | 0.032** | 0.033** | 0.0287** | -0.019 | 0.043*** | 0.048*** | 0.046*** | -0.043 | 0.028* | 0.029* | 0.022 | -0.028 |
| | (0.015) | (0.015) | (0.015) | (0.024) | (0.014) | (0.014) | (0.013) | (0.027) | (0.016) | (0.017) | (0.015) | (0.022) |
| Rule of Law | 0.385*** | 0.306** | 0.475*** | 0.386 | 0.344*** | 0.295** | 0.438*** | 0.570 | 0.232* | 0.195 | 0.482*** | 0.129 |
| | (0.129) | (0.129) | (0.133) | (0.320) | (0.116) | (0.128) | (0.123) | (0.414) | (0.132) | (0.137) | (0.126) | (0.342) |
| Women MP in Parliament | 0.007 | 0.01 | 0.007 | 0.003 | 0.015** | 0.022*** | 0.017** | -0.011 | 0.005 | 0.008 | 0.004 | -0.009 |
| | (0.008) | (0.008) | (0.008) | (0.008) | (0.007) | (0.008) | (0.007) | (0.001) | (0.008) | (0.008) | (0.008) | (0.010) |
| UNGA voting | 1.479** | 1.541* | 1.464** | 0.290 | 1.378** | 1.116 | 1.094* | -0.323 | 2.785*** | 2.865*** | 2.697*** | -0.033 |
| | (0.723) | (0.825) | (0.665) | (0.568) | (0.657) | (0.737) | (0.605) | (0.714) | (0.714) | (0.764) | (0.717) | (0.666) |
| Low middle income dummy | 0.177 | 0.289 | 0.0314 | -0.193 | 0.154 | 0.305 | 0.0434 | | 0.470 | 0.612* | 0.190 | |
| | (0.333) | (0.342) | (0.331) | | (0.277) | (0.291) | (0.279) | | (0.315) | (0.334) | (0.292) | |
| Upper middle income dummy | 0.034 | 0.037 | -0.200 | | 0.028 | 0.078 | -0.154 | | 0.325 | 0.428 | 0.047 | |
| | (0.300) | (0.303) | (0.292) | | (0.275) | (0.297) | (0.284) | | (0.293) | (0.304) | (0.302) | |
| Low income dummy | 0.378 | 0.524 | 0.302 | | 0.405 | 0.593** | 0.312 | | -0.033 | 0.177 | -0.192 | |
| | (0.331) | (0.343) | (0.325) | | (0.275) | (0.301) | (0.266) | | (0.324) | (0.345) | (0.309) | |
| (Log) income | | | | -0.193 | | | | 0.038 | | | | 0.301 |
| | | | | (0.187) | | | | (0.254) | | | | (0.238) |
| OECD membership | 0.487 | 0.418 | 0.612* | | 0.581* | 0.383 | 0.575* | | 0.563* | 0.373 | 0.769* | |
| | (0.302) | (0.337) | (0.323) | | (0.299) | (0.339) | (0.322) | | (0.295) | (0.318) | (0.420) | |
| Inflows of Human Trafficking | | 0.148** | | | | 0.211*** | | | | 0.190*** | | |
| | | (0.064) | | | | (0.061) | | | | (0.071) | | |
| Outflows of Human Trafficking | | | 0.207*** | | | | 0.156*** | | | | 0.412*** | |
| | | | (0.058) | | | | (0.060) | | | | (0.078) | |
| Country fixed effects | No | No | No | Yes | No | No | No | Yes | No | No | No | Yes |
| Time fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| (Pseudo) R2 | 0.146 | 0.157 | 0.167 | 0.10 | 0.157 | 0.179 | 0.173 | 0.09 | 0.130 | 0.157 | 0.205 | 0.24 |
| Log Pseudo likelihood | -999.59 | -920.79 | -909.43 | | -1,068.18 | -971.55 | -978.74 | | -1,066.46 | -969.81 | -914.43 | |
| No. of countries | 147 | 133 | 133 | 142 | 147 | 133 | 133 | 142 | 147 | 133 | 133 | 142 |
| No. of observations | 875 | 819 | 819 | 843 | 874 | 816 | 816 | 842 | 877 | 818 | 818 | 843 |

**Notes:** Standard errors clustered at country level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Reference category for income groups: high income country group.

Notice that the Anti-trafficking Protocol shows a robustly positive association with prevention across the columns in table 2.2, signifying that member states, as expected, comply with the Protocol but strategically select an area to comply with. Prevention seems to be the most strategic choice of compliance, arguably due to two reasons. Countries comply with prevention policy because they can fulfill the obligations by utilizing existing resources without causing much domestic resistance. More importantly, prevention policy arguably produces an immediate solution to reducing flows of human trafficking through border controls and other relevant activities that satisfy the needs of the major powers. Additionally, the implementation of prevention policy, including border controls and international cooperation, is visible to other countries, thus enabling the country to demonstrate its commitment to the major global powers. Controlling for domestic conditions related to human trafficking does not alter the significant effect of ratification on prevention, suggesting that compliance with prevention cannot be fully explained by the domestic need to reduce human trafficking flows.

In contrast to prevention, the effects on protection are muted when controlling for human trafficking flows. It implies that protection may not be the first policy choice a country selects based on the 'efficient compliance' argument, instead being determined based on how many victims of human trafficking a country has to deal with, and therefore, how serious the problem is. Also, the impact of ratification disappears when controlling for country fixed effects, implying that compliance with protection may be driven by time-invariant country characteristics.

Turning to prosecution policy, the index for prosecution employed here includes legislative measures and the implementation of them to prohibit human trafficking. This effectively means that the enforceability of the law in terms of investigations, arrests, prosecutions, convictions and punishment of such offenders comes into the picture. Our finding that ratification of the Protocol does not affect prosecution is in line with our theoretical arguments that compliance with prosecution is not only costly, but also requires lengthy processes to realize. Therefore it is hard to implement.

We find that our control variables are consistent with our theoretical expectations[53]. There is a positive relationship between institutional quality and anti-trafficking policies. An

[53] In the OLS estimations, the coefficients of the control variables are widely insignificant, possibly due to inefficiency problems.

increase in the level of democracy and the rule of law is associated with a subsequent improvement in government anti-trafficking policies[54]. The share of female legislators in parliament turns out to have a positive effect on protecting victims – the majority of victims being females - but no effect on preventing the crime and punishing human traffickers. This confirms that women's political empowerment enhances anti-trafficking protection policy, supporting the 'gender representation' argument (Bartilow 2010). On the other hand, we do not find significant effects of economic development on anti-trafficking policy. Taking the high income group as the reference category, belonging to any other income group neither improves nor deteriorates the level of compliance in most specifications[55]. No income effect can be interpreted either, implying that economic development indirectly affects policy decisions through political and institutional development, rather than generating any direct effects.

We also find strong support for voting in line with the United States in the UN General Assembly, a proxy for political similarity with the United States. This suggests that holding common political views with the United States leads to better compliance with anti-trafficking policies, a strong U.S. interest. However, international aid from the United States is widely insignificant in all specifications, probably because this measure undermines U.S. influence in non-aid recipient countries. Therefore, we do not include this variable in the final reporting and rely on the UNGA voting variable as a proxy for U.S. influence. OECD member countries are positively associated with higher compliance with anti-trafficking policies in most specifications, confirming that the interests of developed countries are prioritized in the fight against human trafficking. Finally, we find a robustly positive association of in-/outflows of human trafficking on anti-trafficking policy. Both retain a positive sign and remain statistically significant at the 1-5% levels. This finding can be interpreted as a positive linkage between the seriousness of the problem and national policy priority. Summing up, our main results on the ratification of the Anti-trafficking Protocol show a net positive effect on government prevention policy, despite the inclusion of several highly significant controls, including the in-/outflows of human trafficking.

[54] The same holds for control of corruption, but mostly without statistical significance. Thus, we present results with the rule of law in table 2.2.

[55] When we substitute the income group dummies with the (log) per capita income variable, the results are identical. The results are not shown in the paper but can be obtained from the authors upon request.

**Table 2.3.** Effects of Ratification on Anti-trafficking Policy, developing countries, 2001-2009, ordered probit and OLS with two-way fixed effects

| | Prevention | | | | Protection | | | | Prosecution | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) oprobit | (2) oprobit | (3) oprobit | (4) OLS FE | (5) oprobit | (6) oprobit | (7) oprobit | (8) OLS FE | (9) oprobit | (10) oprobit | (11) oprobit | (12) OLS FE |
| Ratification (t-1) | **0.347**** | **0.303**** | **0.248*** | **0.195*** | **0.247*** | **0.272**** | 0.167 | 0.147 | 0.153 | 0.121 | 0.069 | 0.144 |
| | **(0.145)** | **(0.143)** | **(0.141)** | **(0.101)** | **(0.137)** | **(0.136)** | (0.137) | (0.113) | (0.166) | (0.175) | (0.162) | (0.111) |
| Democracy | 0.035** | 0.036** | 0.033** | -0.020 | 0.047*** | 0.051*** | 0.050*** | -0.047* | 0.0273* | 0.027 | 0.023 | -0.032 |
| | (0.015) | (0.015) | (0.015) | (0.024) | (0.014) | (0.014) | (0.013) | (0.028) | (0.0160) | (0.017) | (0.015) | (0.022) |
| Rule of Law | 0.294** | 0.204 | 0.328** | 0.424 | 0.261** | 0.215 | 0.322*** | 0.571 | 0.236 | 0.212 | 0.417*** | 0.035 |
| | (0.133) | (0.135) | (0.128) | (0.341) | (0.123) | (0.141) | (0.125) | (0.445) | (0.144) | (0.152) | (0.133) | (0.353) |
| Women MP in Parliament | 0.002 | 0.004 | -0.004 | 0.002 | 0.009 | 0.016* | 0.007 | -0.010 | 0.004 | 0.008 | -0.005 | -0.009 |
| | (0.009) | (0.009) | (0.010) | (0.009) | (0.008) | (0.009) | (0.008) | (0.011) | (0.009) | (0.010) | (0.009) | (0.011) |
| UNGA Voting | 1.296* | 1.395* | 1.184* | 0.195 | 1.255* | 1.036 | 0.871 | -0.566 | 2.555*** | 2.636*** | 2.415*** | -0.259 |
| | (0.707) | (0.804) | (0.615) | (0.582) | (0.655) | (0.728) | (0.593) | (0.734) | (0.717) | (0.760) | (0.821) | (0.683) |
| Low middle income dummy | 0.059 | 0.171 | -0.307 | | 0.135 | 0.344 | -0.145 | | 0.535 | 0.722** | 0.096 | |
| | (0.337) | (0.352) | (0.316) | | (0.289) | (0.311) | (0.279) | | (0.330) | (0.357) | (0.299) | |
| Upper middle income dummy | -0.053 | -0.031 | -0.433 | | 0.108 | 0.228 | -0.188 | | 0.433 | 0.594* | 0.108 | |
| | (0.321) | (0.330) | (0.293) | | (0.299) | (0.329) | (0.306) | | (0.316) | (0.335) | (0.313) | |
| Low income dummy | 0.245 | 0.389 | 0.002 | | 0.376 | 0.630* | 0.161 | | 0.038 | 0.294 | -0.260 | |
| | (0.333) | (0.350) | (0.319) | | (0.290) | (0.327) | (0.272) | | (0.339) | (0.369) | (0.315) | |
| (Log) Income | | | | -0.212 | | | | 0.063 | | | | 0.269 |
| | | | | (0.198) | | | | (0.266) | | | | (0.247) |
| Inflows of Human Trafficking | | 0.136** | | | | 0.220*** | | | | 0.189** | | |
| | | (0.066) | | | | (0.063) | | | | (0.078) | | |
| Outflows of Human Trafficking | | | 0.320*** | | | | 0.254*** | | | | 0.520*** | |
| | | | (0.054) | | | | (0.060) | | | | (0.088) | |
| Country fixed-effects | No | No | No | Yes | No | No | No | Yes | No | No | No | Yes |
| Time fixed-effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| (Pseudo) R2 | 0.07 | 0.07 | 0.11 | 0.08 | -0.07 | 0.10 | 0.10 | 0.08 | 0.08 | 0.10 | 0.17 | 0.26 |
| Log Pseudo likelihood | -869.79 | -793.13 | -762.59 | | -904.17 | -809.56 | -802.99 | | -964.17 | -870.05 | -795.61 | |
| No. of countries | 126 | 112 | 112 | 121 | 126 | 112 | 112 | 121 | 126 | 112 | 112 | 121 |
| No. of observations | 735 | 679 | 679 | 703 | 734 | 676 | 676 | 702 | 737 | 678 | 678 | 703 |

**Notes:** Standard errors clustered at country level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Reference category for income groups: high income country group.

**Table 2.4.** Effects of Protocol Ratification on Anti-trafficking Policy, 2001-2009, instrumental variable approach and system-GMM

| | Prevention | | | | Protection | | | | Prosecution | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Full sample | | Developing countries | | Full sample | | Developing countries | | Full sample | | Developing countries | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| | Oprobit IV | GMM | Oprobit IV | GMM | Oprobit IV | GMM | Oprobit IV | GMM | Oporbit IV | GMM | Oprobit IV | GMM |
| Ratification (t-1) | **0.534*** | **0.212**** | **0.578*** | **0.169*** | 0.240 | 0.001 | **0.545*** | 0.113 | -0.243 | 0.009 | -0.263 | 0.082 |
| | **(0.276)** | **(0.086)** | **(0.297)** | **(0.096)** | (0.295) | (0.113) | **(0.306)** | (0.096) | (0.284) | (0.098) | (0.374) | (0.103) |
| LDV (t-1) | | 0.372*** | | 0.382*** | | 0.359*** | | 0.379*** | | 0.737*** | | 0.673*** |
| | | (0.067) | | (0.066) | | (0.071) | | (0.078) | | (0.058) | | (0.064) |
| LDV (t-2) | | | | | | | | | | 0.199*** | | 0.233*** |
| | | | | | | | | | | (0.068) | | (0.062) |
| Democracy | 0.029*** | 0.014* | 0.032*** | 0.019** | 0.0436*** | 0.035*** | 0.0411*** | 0.025*** | 0.037*** | -0.004 | 0.037*** | -0.002 |
| | (0.010) | (0.008) | (0.009) | (0.009) | (0.010) | (0.009) | (0.010) | (0.009) | (0.010) | (0.008) | (0.010) | (0.008) |
| Rule of Law | 0.380*** | 0.196*** | 0.288*** | 0.140** | 0.334*** | 0.138** | 0.265*** | 0.096 | 0.204*** | 0.034 | 0.198** | 0.068 |
| | (0.078) | (0.057) | (0.073) | (0.059) | (0.084) | (0.070) | (0.082) | (0.086) | (0.071) | (0.065) | (0.084) | (0.081) |
| Women MP in Parliament | 0.006 | 0.002 | -0.0003 | -0.001 | 0.016*** | 0.009** | 0.008* | 0.004 | 0.007 | 0.002 | 0.00575 | -0.0002 |
| | (0.005) | (0.004) | (0.006) | (0.004) | (0.005) | (0.004) | (0.005) | (0.004) | (0.005) | (0.004) | (0.005) | (0.005) |
| UNGA voting | 1.418*** | 0.709* | 1.224*** | 0.628 | 1.564*** | 0.564 | 1.464*** | 0.635* | 2.774*** | 0.396 | 2.565*** | 0.449 |
| | (0.427) | (0.396) | (0.423) | (0.415) | (0.488) | (0.379) | (0.505) | (0.381) | (0.420) | (0.465) | (0.441) | (0.434) |
| Low middle income | 0.172 | 0.162 | 0.043 | -0.013 | 0.189 | -0.033 | 0.189 | -0.0002 | 0.375** | 0.130 | 0.413** | 0.161 |
| | (0.204) | (0.150) | (0.190) | (0.155) | (0.216) | (0.183) | (0.197) | (0.204) | (0.190) | (0.161) | (0.187) | (0.80) |
| Upper middle income | -0.016 | 0.063 | -0.128 | -0.064 | 0.066 | -0.061 | 0.065 | 0.049 | 0.337* | 0.183 | 0.421** | 0.150 |
| | (0.173) | (0.135) | (0.196) | (0.146) | (0.173) | (0.165) | (0.188) | (0.190) | (0.191) | (0.125) | (0.185) | (0.151) |
| Low income | 0.371* | 0.241* | 0.227 | 0.063 | 0.415** | 0.117 | 0.400** | 0.145 | -0.101 | 0.10 | -0.057 | 0.108 |
| | (0.219) | (0.145) | (0.186) | (0.144) | (0.211) | (0.165) | (0.194) | (0.192) | (0.179) | (0.169) | (0.201) | (0.207) |
| OECD Membership | 0.498*** | 0.164 | | | 0.587*** | 0.204 | | | 0.522*** | -0.029 | | |
| | (0.162) | (0.127) | | | (0.159) | (0.144) | | | | (0.088) | | |
| Country fixed effects | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes |
| Time fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Pseudo R2 | 0.142 | | 0.06 | | 0.152 | | 0.076 | | 0.135 | | 0.073 | |
| Cragg-Donald F-statistic | 45.21*** | | 36.45*** | | 30.48*** | | 26.83*** | | 29.59*** | | 26.05*** | |
| Anderson Canon LR Statistic | 98.11*** | | 79.99*** | | 69.61*** | | 61.43*** | | 67.71 | | 59.77*** | |
| Sargan/Hansen Statistic (p-value) | 0.717 | 0.331 | 0.430 | 0.463 | 0.161 | 0.164 | 0.287 | 0.358 | 0.596 | 0.118 | 0.887 | 0.109 |
| No. of instruments | | 30 | | 29 | | 33 | | 68 | | 69 | | 71 |
| Arellano-Bond AR(2) test (Pr>z) | | 0.116 | | 0.231 | | 0.135 | | 0.22 | | 0.604 | | 0.472 |
| No. of countries/observations | 147/875 | 143/807 | 126/735 | 122/620 | 147/781 | 143/642 | 126/659 | 122/620 | 147/784 | 139/604 | 126/662 | 119/566 |
| No. of replications | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | |

**Notes:** Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Reference category for income groups: high income country group.

Turning to the results with the sub-sample of developing countries only, table 2.3 shows that the qualitative findings stay the same as in the full sample. Ratification has a positive effect on prevention but no effect on prosecution. For protection, as witnessed in the full sample controlling for outflows of human trafficking and country fixed effects decreases the effect of ratification. Also, the other control variables behave mostly the same as in the full sample. Based on this result, we cannot however conclude that the impact of ratification is stronger in developing countries, where the influence of and pressure from the major powers is arguably greater.

After controlling for potential reverse-feedback, persistent effects of past compliance, as well as unobserved individual heterogeneity by the system-GMM estimations, the positive impact of ratification on prevention is robustly found (table 2.4). As can be seen, ratification of the Protocol is positive and significantly different from zero at the 5% and 10% level for prevention both in the full and developing country samples (see columns 2 and 4). However, we do not find any significant effect of ratification on protection and prosecution. In contrast to that, the positive effect of ratification on protection becomes noticeable in developing countries, when looking at the findings of the ordered probit instrumental variable approach. While ratification does not have any effect in the full sample (column 5), it improves protection policy in the sub-sample of developing countries (column 7). The results of the ordered probit IV estimations also confirm our baseline results reported in tables 2.2 and 2.3 that ratification improves prevention policy both in the full and sub-samples, while there is no effect on prosecution in any of the samples. Controlling for potential reverse causality by the ordered probit IV, we find some evidence that the overall impact of ratification might be stronger in developing countries as those countries demonstrate additional commitments in protection policy. However, the findings are not supported by the GMM estimations and therefore require a caution in interpretation[56].

To better illustrate the magnitude of our results in ordered probit in tables 2.2 and 2.3, we compute the marginal effects (probabilities) at the mean of all variables, shown in table 2.5. It is noteworthy that coefficients do not reflect marginal effects in ordered probit estimations, requiring separate calculation of marginal probabilities (Wooldridge 2002).

[56] Another way to investigate whether protection policy can be a second candidate for compliance would be to examine whether compliance with prevention can lead to compliance with protection, leaving a room for future research. The authors thank Axel Dreher for this comment.

**Table 2.5.** Marginal Effects of Protocol Ratification on Anti-trafficking Policy, full sample and developing countries, 2001-2009, ordered probit

Marginal Effects – Prevention, full sample

| **Prevention scale** | **1** | **2** | **3** | **4** | **5** | **E[Y]** |
|---|---|---|---|---|---|---|
| Sample frequency | 0.047 | 0.176 | 0.442 | 0.272 | 0.063 | 3.128 |
| Probability at means | 0.021 | 0.148 | 0.517 | 0.291 | 0.023 | 3.146 |
| Marginal effects | -0.018 | -0.070 | -0.035 | 0.104 | 0.019 | 0.248 |
| *p-value* | 0.029 | 0.013 | 0.039 | 0.012 | 0.029 | 0.011 |

Marginal Effects – Prevention, developing countries

| **Prevention scale** | **1** | **2** | **3** | **4** | **5** | **E[Y]** |
|---|---|---|---|---|---|---|
| Sample frequency | 0.048 | 0.179 | 0.477 | 0.245 | 0.050 | 3.070 |
| Probability at means | 0.050 | 0.232 | 0.521 | 0.184 | 0.012 | 2.877 |
| Marginal effects | -0.035 | -0.081 | 0.021 | 0.085 | 0.011 | 0.260 |
| *p-value* | 0.064 | 0.021 | 0.322 | 0.01 | 0.024 | 0.018 |

Marginal Effects – Protection, developing countries

| **Protection scale** | **1** | **2** | **3** | **4** | **5** | **E[Y]** |
|---|---|---|---|---|---|---|
| Sample frequency | 0.119 | 0.285 | 0.358 | 0.183 | 0.055 | 2.770 |
| Probability at means | 0.071 | 0.290 | 0.448 | 0.176 | 0.015 | 2.775 |
| Marginal effects | -0.034 | -0.060 | 0.025 | 0.059 | 0.010 | 0.206 |
| *p-value* | 0.073 | 0.073 | 0.136 | 0.066 | 0.085 | 0.064 |

**Notes:** The tables report the marginal effects corresponding to column 1 in table 2.2 (prevention) and columns 1 and 5 in table 2.3 (prevention and protection). The row 'probability at mean' yields the probability for observing a given index value according to the estimated model. The values reported for the ratification of the Protocol are the estimated probabilities and the p-values denote the level of significance for marginal effects.

We follow Dreher et al. (2011) and compute estimated probabilities on prevention (full and sub-samples) and protection (sub-sample of developing countries)[57], reported in tables 2.2 and 2.3. Note that the effect of ratification on prosecution is statistically insignificant in any of the two samples. The predicted mean value of prevention policy is 3.146 in the full sample. Upon ratification, the probabilities of observing score 4 and 5 increase by 10.4% and 1.9% respectively, with decreasing the probability of observing lower scores in all countries. In developing countries only, the predicted mean value is 2.877. The probabilities of obtaining prevention policy score 3, 4 and 5 increase by 2.1%, 8.5% and 1.1% respectively and the probabilities of observing the two lowest scores decrease by 3.5% and 8.1%. Turning to protection policy in developing countries, the predicted mean value of protection is 2.775. Upon ratification, the probabilities of observing the three highest scores increase by 2.5%, 5.9% and 1% respectively, and the probabilities of observing the two lowest scores decrease by 3.4%

[57] As there is some evidence that ratification has a positive effect on protection in developing countries, we estimate the marginal effects here. However, the interpretation requires a caution.

and 6%. Overall, the results show that countries increase their probability of having a policy score above the mean by ratifying the Protocol, regardless of whether or not they are developing countries. Comparing the magnitudes of the marginal effects between prevention and protection in developing countries, the marginal effects on prevention are greater than those on protection for the two highest scores, while the opposite is true for the two lowest scores, indicating that ratification has a stronger effect on prevention.

### 6. Tests for Robustness: EBA Analysis

We examine the robustness of our main finding with different choices of control variables. With the current lack of empirical studies on anti-trafficking policy, one of the main challenges in empirical analysis is coming up with a reliable model. We overcome this problem by employing (variants of) the extreme bounds analysis (hereinafter EBA) proposed by Leamer (1983) and Levine and Renelt (1992). We examine whether the aforementioned variables are indeed robust determinants of anti-trafficking policies, i.e. independent of additional variables that are included. The EBA is also a neutral way of coping with the problem of selecting variables for an empirical model, especially when the literature is inconclusive. In order to perform EBA estimations, we shall use the approach developed by Levine and Renelt (1992) and Sala-i-Martin (1997).

In order to perform EBA, the following equation is estimated:

$$y_{it} = \delta_C C + \delta_E E + \delta_Z Z + \omega \qquad (2)$$

Where *y* indicates the three dimensions of anti-trafficking policies respectively, vector C includes "commonly accepted" explanatory variables which are also referred to in the literature as "focus variables" (in our case, this is per capita income[58]). This variable is always included in our estimations here. The vector E contains the "variable(s) of interest" that one would like to examine (in our case, the ratification variable). The vector Z takes three possible control variables at a time (Levine and Renelt 1992; Folster and Henrekson 2001). These are the variables in which there is no consensus in the literature. However, according to the broader literature, they are related to the dependent variable. While δ denotes the coefficient of the respective variables, ω denotes the idiosyncratic error term. The main advantages of

[58] We use the (log) per capita income instead of the four income group dummies because EBA estimations reduce the multicollinearity problem (see the discussion on the multicollinearty between the income and institutional quality variables in section 4).

EBA is that it reduces the multicollinearity problem as it only allows for three variables at a time from vector Z, along with variable of interest in vector E, to perform estimations.

Considering the criticism of McAleer et al. (1985) and Sala-i-Martin (1997) regarding stringent testing criterion, we reports the percentage of the regressions in which the coefficient of the variable in vector E is statistically different from zero at the 5% level (i.e. % sign column). Moreover, we follow Sala-i-Martin's (1997) recommended procedure and analyze the entire distribution, reporting the unweighted parameter estimate of $\beta_F$ and its standard error, as well as the unweighted cumulative distribution function, CDF(0). We estimate the EBA using ordered probit with time fixed effects and country-clustered standard errors.

Our EBA results on the determinants of anti-human trafficking policies are presented in table 2.6, which consists of three sets, one each for prevention, protection and prosecution. As shown here, we find the ratification variable robust (the threshold to consider a variable robust is 0.9) to explaining prevention and protection policies. Among the control variables, the democracy variable in all three sets is a robust determinant of anti-human trafficking policies, with CDF(0) being equal to one. The same is true for rule of law, whose CDF(0) remains close to one. Control of the corruption variable is significant in the sets of the prevention and protection regressions, but not in the prosecution regressions. The results also show that greater female participation in the parliament induces a higher level of anti-trafficking policies.

We also find that the levels of compliance robustly improve for countries voting in line with the United States in the UN General Assembly. Given the United States' interests in anti- trafficking policies, it is not surprising that political proximity with the United States leads to better compliance. Regarding membership in the advanced countries' club, we find that being associated with the OECD exerts a strong positive impact on all three forms of anti-trafficking policies. Finally, facing high flows of human trafficking is a robust determinant of anti-trafficking policies. Overall, the EBA results provide ample support to the baseline variables chosen on theoretical grounds, and our main findings are not altered by different sets of control variables included.

**Table 2.6.** Robustness Check: Results of EBA

| Variables | Average Beta | Set 1: Prevention Average Standard Error | % Sign | CDF-U | Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|
| Ratification of Protocol (t-1) | 0.294 | 0.124 | 0.685 | 0.960 | -0.256 | 0.682 |
| Democracy | 0.047 | 0.012 | 1.000 | 0.999 | 0.000 | 0.090 |
| Rule of Law | 0.420 | 0.168 | 0.685 | 0.927 | -0.597 | 0.049 |
| Control of Corruption | 0.467 | 0.184 | 0.728 | 0.953 | -0.591 | 0.454 |
| Women MPs in Parliament | 0.021 | 0.007 | 0.978 | 0.997 | -0.002 | 0.047 |
| UNGA Voting | 1.953 | 0.670 | 0.957 | 0.995 | -0.079 | 4.459 |
| OECD Membership dummy | 1.124 | 0.284 | 1.000 | 0.999 | 0.000 | 2.316 |
| Inflows of Human Trafficking | 0.177 | 0.059 | 0.946 | 0.994 | -0.031 | 0.373 |
| Outflows of Human Trafficking | 0.146 | 0.054 | 0.793 | 0.973 | -0.072 | 0.347 |
| **Variables** | **Average Beta** | **Set 2: Prosecution Average Standard Error** | **% Sign** | **CDF-U** | **Lower Bound** | **Upper Bound** |
| Ratification of Protocol (t-1) | 0.175 | 0.142 | 0.174 | 0.846 | -0.439 | 0.649 |
| Democracy | 0.045 | 0.015 | 0.978 | 0.996 | -0.002 | 0.092 |
| Rule of Law | 0.436 | 0.180 | 0.620 | 0.964 | -0.177 | 1.383 |
| Control of Corruption | 0.089 | 0.175 | 0.315 | 0.847 | -1.061 | 0.957 |
| Women MPs in Parliament | 0.016 | 0.008 | 0.446 | 0.960 | -0.008 | 0.045 |
| UNGA Voting | 2.962 | 0.674 | 1 | 0.999 | 0 | 5.309 |
| OECD Membership dummy | 0.971 | 0.304 | 0.967 | 0.996 | -0.048 | 2.450 |
| Inflows of Human Trafficking | 0.177 | 0.067 | 0.924 | 0.990 | -0.041 | 0.373 |
| Outflows of Human Trafficking | 0.371 | 0.072 | 1 | 0.999 | 0 | 0.607 |
| **Variables** | **Average Beta** | **Set 3: Protection Average Standard Error** | **% Sign** | **CDF-U** | **Lower Bound** | **Upper Bound** |
| Ratification of Protocol (t-1) | 0.341 | 0.129 | 0.772 | 0.971 | -0.221 | 0.789 |
| Democracy | 0.054 | 0.012 | 1.000 | 0.999 | 0.000 | 0.095 |
| Rule of Law | 0.432 | 0.158 | 0.707 | 0.955 | -0.465 | 1.073 |
| Control of Corruption | 0.396 | 0.165 | 0.685 | 0.930 | -0.624 | 1.19 |
| Women MPs in Parliament | 0.027 | 0.007 | 1.000 | 0.999 | 0.000 | 0.053 |
| UNGA Voting | 1.857 | 0.665 | 0.869 | 0.991 | -0.415 | 4.179 |
| OECD Membership dummy | 0.981 | 0.291 | 1.000 | 0.998 | -0.012 | 2.055 |
| Inflows of Human Trafficking | 0.204 | 0.055 | 1.000 | 0.999 | 0.000 | 0.381 |
| Outflows of Human Trafficking | 0.094 | 0.054 | 0.424 | 0.911 | -0.106 | 0.424 |

Notes: Results based on 276 regression combinations for all three sets respectively, using ordered probit time-specific fixed effects. The base variable is (log) per capital income. 'Average Beta' and 'Average Standard Error' report the unweighted average coefficient and standard error, respectively. '% Sign.' refers to the percentage of regressions in which the respective variable is significant at least at the 5% level. 'CDF-U' is the unweighted CDF as detailed in the text. The threshold to consider a variable robust is 0.9. 'Lower Bound' and 'upper Bound' give the lowest and highest value of point estimate minus / plus two standard deviations.

## 7. Conclusion

Over the past few years, the growing worldwide phenomenon of human trafficking has baffled many policy experts working on this problem. Some perceive it as a challenge to national security, while others see it as damaging prospect for the human rights reputation of a country. Although the problems associated with human trafficking have recently come to light through extensive media coverage, it has only really come to the fore since the year 2000, when the United Nations General Assembly adopted the Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children. Surprisingly, even a decade after the emergence of the Anti-trafficking Protocol, there are few systematic empirical studies assessing the effectiveness of such a protocol when tackling problems associated with human trafficking, particularly any which have taken the question of causality seriously. To the best of our knowledge, this is one of the pioneer empirical studies that go beyond theoretical frameworks.

Using panel data from 147 countries during the 2001–2009 period, our empirical results exhibit strategic compliance behaviors of countries, as is predicted by the theory. Prevention seems to be the first choice for member states to comply with, providing empirical support to our theoretical argument of 'efficient compliance'. For developing countries, we find some evidence that ratification may also improve compliance with protection policy. However, the finding is not robustly confirmed by different estimation methods. Interestingly, there is no effect leading to better compliance with prosecution, another important dimension of anti-trafficking policies.

Our results vindicate those (such as the UN and other international agencies and NGOs) who highlight the importance of such protocol in countering human trafficking issues. Future research may wish to look in to the organizational advantages of those ratifying countries which are in the best position to counter human trafficking problems, as well as the implications their motives could have for overall socio-economic development.

# Chapter 3.

# Integrating Equality

## - Globalization, Women's Rights, and Human Trafficking

### 1. Introduction

The 21st century epitomizes as the era of globalization, witnessing massive exchanges of economic activities, human movements and information flows across borders. Accordingly, globalization affects different dimensions of life, including women's standing and welfare. This paper investigates whether globalization could be a driving force in improving women's rights and if so, which type of globalization can be beneficial to women.

In an attempt to empirically investigate this question, much of the literature focuses on the effects of economic integration on women's economic activities. These studies look into the impact of globalization on women from the perspective of traditional trade theory, comparative advantage and competition, thus analyzing whether economic integration could create more employment opportunities for women and increase their wages.

This focus on economic integration and women's employment raises the question of how certain types of economic reform affect particular forms of women's rights and welfare. It is not surprising to observe very different outcomes across countries, depending on their economic and industrial structures. In other words, this approach focusing on economic globalization and female employment can provide the answer to the question of whether certain economic reforms could create an economic structure favorable to labor activities typically provided by women, and in addition, if such increases in demand could push up the price of female labor. However, it does not answer an arguably more fundamental question, that being whether globalization can eventually reduce the causes of gender discrimination, improve women's fundamental rights and generally empower women.

To address this issue, one should look beyond the impact of globalization on women's economic activities – wages and employment – and examine whether globalization can enhance 'women's status' or 'women's rights', which allow women better access to resources and ensure their standing in legal and social institutions without discrimination (Morrisson and Jütting 2005). Surprisingly, most of the present literature has neglected the difference

between women's rights and the subsequent outcomes, merely investigating the impact of globalization on certain economic activities of women. To the best of my knowledge, there are only a few existing studies empirically addressing the causal relation between women's fundamental rights and globalization. Among them, Neumayer and de Soysa (2007, 2011) and Richards and Gelleny (2007) show that economic globalization – trade openness and/or FDI – positively affects women's economic and/or social rights. However, these studies limit globalization to economic integration, which tends to be more closely associated to the outcomes of women's economic activities rather than the fundamental rights of women, and do not take into account the impact of another important dimension of globalization, social globalization. Social globalization – defined as information flows, personal contacts and cultural sharing across countries (Dreher 2006) – can arguably be seen as more important in determining respect for, and attitudes towards women because it can promote the spread of ideas, norms and civil actions worldwide by facilitating contact and communication across people in different countries. In this respect, a recent study by Potrafke and Ursprung (2010) is encouraging, maintaining that both social and economic dimensions of globalization are positively associated with women's institutional rights. However, their study investigates the impact of economic and social globalization separately, not taking into account that there might be overlapping effects between the two. In other words, it could be possible that the positive effects of economic globalization have been detected because of the underlying effects of social globalization which accompany them[59]. In fact, despite positive correlation, economic and social globalization represents different dimensions of international exchanges, with potentially very different goals. While economic globalization mainly reflects the flows of goods and services for the interests of capital, social globalization connects people and enables them to exchange ideas and information, furthermore pursuing solidarity in shared causes (e.g. human rights and gender equality).

My paper focuses on the potential effects of social globalization on women's rights because exposure to diverse cultures, ideas and people can lead to increased openness to different thoughts and mannerisms, therefore facilitating acceptance towards social changes (Rosenau 2003). It means that people living in countries with a high level of social globalization are more likely to express and respect opinions different from tradition and conventional thinking, as well as demonstrating increased cohesion in shared causes for change. In this respect, social globalization could lead to societal tolerance and acceptance for

[59] Additionally, their study is limited to cross-sectional data in developing countries, not capturing variations in women's rights over time worldwide.

progress in women's rights and their alternative roles. As shown in appendix 3.E, social globalization enhances the level of civil liberty – defined as the freedom of expression and civil association – enabling social reform which can be transmitted into the betterment of women's rights[60]. Such positive effects of social globalization would affect overall human rights practices, however, the impact can arguably be stronger for women. This is because women would not lose but rather benefit through changes challenging the established male-dominated societal structures social globalization may bring.

My investigation makes the following contributions to the current literature. First, this paper addresses and empirically investigates the importance of social globalization on women's rights and singles out the effects of social globalization separately from those of economic globalization. Second, my analysis includes not only economic and social rights of female citizens in a country, but is extended to examine whether the impact of social globalization, if any, can also reach marginalized foreign women living in other countries. Here, human trafficking is proxied as an indicator of how a country tolerates abuse and exploitation of foreign women. This proxy is suitable as human trafficking is a form of extreme exploitation, usually for sexual and labor purposes, and the vast majority of victims are foreign women (UNODC 2006). This paper argues that if globalization can promote respect for women's rights, making them norms across countries, then such an improvement should benefit not only local women, but also foreign women living in another country. Addressing human trafficking in relation to the impact of globalization on women's rights is a new approach and, to the best of my knowledge, this paper is the first study dealing with this issue.

For the empirical investigation on women's economic and social rights, I make use of the Cingranelli-Richards (CIRI) Women's Rights Index. Through a cross-country analysis of 150 countries during the 1981-2008 period, I find that: 1) social globalization, measured by information flows and personal contacts across borders (KOF Index, Dreher 2006), increases women's economic and social rights; and 2) the impact of economic globalization – trade and FDI – on women's rights disappears when controlling for social globalization. For the analysis on human trafficking, the UNODC human trafficking measurement (2006), as well as data coded from the United States Reports on Trafficking in Persons (2001-2010) are utilized. The empirical finding shows that, despite the positive linkage between globalization and

[60] On the other hand, there is no significant effect of economic globalization on civil liberty. Furthermore, neither social nor economic globalization affects the level of the rule of law, another potential candidate for transmission. It seems that globalization influences women's rights via changes in civil actions rather than law itself.

women's rights, globalization does not have any positive effect on foreign women's rights, proxied with human trafficking. In this analysis, I take into account potential reverse causality problems by employing an instrumental variable approach and the robustness of the choice of control variables is scrutinized using extreme bound analysis (EBA).

This paper continues as follows. Section 2 addresses the linkages between globalization and women's rights and presents the main hypotheses. Section 3 describes the data on women's rights and globalization, as well as human trafficking. Section 4 discusses the estimation strategy including endogeneity concerns, followed by the empirical findings in section 5 and tests for robustness in section 6. In section 7, this paper concludes with policy implications and suggestions for further research.

## 2. Hypotheses

The hypotheses on linkages between globalization and women's rights are constructed on the basis of the previous literature. My hypotheses comprise of economic and social dimensions of globalization and various types of women's fundamental rights.

### 2.1. Economic Globalization and Women's Rights

A considerable amount of literature has contributed to the question *whether economic globalization improves women's economic rights in the form of employment and wages.* Proponents of globalization argue that trade and FDI positively affect women's employment opportunities in developing countries, due to their comparative advantages. In other words, developing countries have a comparative advantage in labor-intensive goods, thus demand for female labor would increase in order to keep price competitiveness in international trade as female wages are generally lower. Indeed, many empirical studies find a positive association between export-oriented manufacturing and women's increased share in paid employment (Chow 2003; Fontana and Wood 2000; Seguino 1997).

However, an increase in female labor force participation does not always lead to economic empowerment as long as such demand for female labor is based on women's acceptance of poor payment and exploitative working conditions. Although Stolper-Samuelson-type trade theory predicts that an increase in demand for female labor will eventually lead to higher female wages and working conditions, empirical evidence does not necessarily support this theoretical prediction as long as there is an abundance of unemployed workers available in those developing countries. The literature clearly suggests contradicting

results. On the one hand, globalization may benefit women in general by reducing gender differences in employment and wages if accompanied with subsequent economic growth due to the relatively flexible accommodation of females into the labor forces of integrated economies (Tzannatos 1999). On the other hand, export-led growth, based on ever-growing competition and price cuts, may increase the divide between the winners and losers of globalization, which could negatively affect women's welfare given women's vulnerability in society (Berik 2000). Furthermore, even if economic globalization decreases gender differences in labor markets, such a reduction may not necessarily indicate women's empowerment because it may be the case that gender gaps were narrowed due to the disproportional deterioration of (a previously high level of) male wages and working conditions (Berik 2000). While disagreeing on the potential impact of economic integration, both arguments seem to unanimously conclude that additional efforts such as the promotion of female education and reduction of feminized poverty are required in order for economic integration to generate a positive impact on women's empowerment.

Building on such arguments, I predict that economic globalization itself is not a driving force in improving women's economic rights because the interests of global capital are not necessarily to empower women but rather to utilize their labor forces in order to maximize competition. In fact, the positive impact of economic globalization suggested by the literature might have come from the underlying impact of other accompanying factors such as social globalization which is positively correlated with economic globalization.

In this paper, an inclusive term, women's economic rights, is used. Neither female wages nor employment reflect the overall economic empowerment of women as it is often the case that female labor force participation increases due to low wages and vice versa. Thus, I utilize a composite measurement of women's rights, that being access to economic resources – including women's pay, employment and entrepreneurship – in order to estimate the overall effect on women's economic status, as Neumayer and de Soysa (2007, 2011) and Richards and Gelleny (2007) propose (I will discuss this measurement in more detail in section 3).

Moreover, I expect that economic globalization will not improve women's social rights ensuring gender equality in family and other private spheres, as well as access to education and health. As mentioned above, a potential increase in female participation in economic activities is generated by capitalists' need for cheaper labor, which does not necessarily lead to an improvement in women's fundamental rights, especially if a women's role is merely seen as a provider of cheap labor or a supplement to male labor. This type of

globalization may set women's role in the society as inferior to the male role and therefore women's rights beyond the scope of employment would not be improved. Furthermore, as critics of globalization point out, the impact of economic integration can be disproportionally disadvantageous to marginalized groups such as women, as well as increasing poverty and inequality (Moghadam 2007). For instance, ever-increasing competition and market-oriented reform would lead to cuts in social programs and such a reduction would damage women's well-being more than men (Sen 2001). With this argument, I predict that economic globalization does not increase women's rights in the cultural, social and institutional dimensions as these rights are not directly related to the interests or needs of the market.

***H1. Ceteris paribus, economic globalization does not increase women's economic and social rights***

### 2.2. Social Globalization and Women's Rights

A commonly accepted definition of globalization includes not only economic, but also political, cultural, social and technological interactions across countries (Dreher et al. 2008). In other words, globalization also represents the spread of ideas, information, values and people, going beyond the flow of goods, capital and services or market exchanges.

While critics of a Washington Consensus type of globalization argue that neo-liberal economic integration may exacerbate poverty and inequality by intensifying competition (Cagatay and Ertürk 2004), scholars focusing on global diffusion of norms suggest that social globalization should be a mechanism for promoting norms, values of democracy, human rights and 'learning processes' through information exchanges and personal interactions (Chow 2003; Dreher et al. 2011; Elkins and Simmons 2005).

Social globalization provides more opportunities for people to communicate and form networks each other and therefore increases freedom of expression and civil association making social progress and changes more feasible, as mentioned earlier. This linkage suggests a possible mechanism for transmitting the effects from social globalization to women's rights. For instance, advanced telecommunications can enable advocates of women's rights to cooperate and form civil associations together to pursue common agendas, as seen through the recent public campaigns against the execution of an Iranian woman by stoning for committing adultery. This is achieved through actively utilizing online discussions and petitions which are

organized by international human rights and women's rights groups[61]. Also, with the development of the internet and other telecommunication technologies, news about abuse and unequal treatment of women can spread quickly and provoke public attention in other countries, which can place international pressure on countries where gender inequality is high. Moreover, increases in information exchanges can create opportunities for people to learn about positive representations and roles women carry out in more developed countries, generating 'learning effects' (Simmons and Elkins 2004).

Besides interaction through communication devices, social globalization also promotes direct personal contact among people from different countries in the form of immigration and tourism. Personal interaction among different people can have a positive impact on tolerance towards different lifestyles and increase acceptance of different gender roles, sexuality, religions and ethnic backgrounds (Rosenau 2003). This has the potential to enable changes in women's role in society. Furthermore, social globalization tends to decrease cultural gaps across countries because people are now more exposed to different cultures. As women's rights are deeply grounded in culture and value systems (Cho 2010 see chapter 4; Dollar and Gatti 1999; Simmons 2009), cultural exposure to, and proximity with other diverse cultures (in particular Western cultures as they are the dominant drivers of globalization and tend to respect women's rights more than others), can have a positive impact in reducing discriminatory cultural practices against women.

Social globalization can therefore create change in the perceptions and attitudes towards women and their role, the key determinant in shaping the fundamental rights of women. The impact of social globalization is arguably stronger than that of economic globalization because it reflects the spread of ideas, as well as networks and collaboration of people, rather than the interests of capital. Regarding this potential impact social globalization can have on women's rights, I predict that social globalization is capable of benefitting both women's economic and social rights. In particular, social globalization will have a positive impact on women's social rights, granting equality in family matters, self-governance and access to resources (e.g. education and health) because these rights directly reflect societal perceptions and attitudes towards women.

***H2: Ceteris paribus, social globalization increases women's economic and social rights.***

[61] July 2nd, 2010, Guardian. http://www.guardian.co.uk/world/2010/jul/02/iranian-woman-stoning-death-penalty

### 2.3. Globalization and Rights of Marginalized / Foreign Women

One important question this paper contributes to the literature is whether globalization can be further beneficial to women without a legal standing in a country. Human rights protection is basically a matter for sovereign nations and their own citizens (Poe, Tate and Keith 1999), even in the era of globalization. When countries protect the rights of citizens of another country, it is mainly due to pressure and intervention from the country where the citizens hold their nationality. While countries may have interests in empowering their own female citizens, they do not necessarily have much incentive to ensure the rights of foreign women, particularly those without a legal standing in the country. In this paper, I try to find out whether globalization – economic and social – can reverse this trend and have a positive impact in this area, regardless of citizenship.

It is in fact a tricky question as although globalization may improve domestic women's rights, this empowerment may not have the same impact on foreign women and it may even generate a negative impact. For instance, let's assume that a country improves women's rights and domestic women no longer want to work in exploitative sex industries as prostitutes because they can find other opportunities. However, if there is still a need for these services domestically (as men continue to demand them), it may lead to the illegal immigration of women from poorer countries who are more likely to tolerate exploitative situations. In fact, when analyzing the statistics regarding international trafficking of women for the purpose of sexual exploitation, the major destinations are mostly developed countries such as Germany, the United States and the Netherlands, where women generally enjoy high levels of rights (UNODC 2006).

Having said that, flows and exchanges of goods and services, usually accompanying human movements, may facilitate such illicit human transactions which can be used to fulfill the demand for cheap (and exploitative) sexual and labor services trafficking victims can provide (Mahmoud and Trebesch 2009). Moreover, if economic globalization can provide more employment opportunities for domestic women, as seen in many developing countries, the domestic supply of jobs likely to be of exploitative nature – such as prostitution and domestic servant work – would decline. The lack of such supply may induce more human trafficking flows as victims of human trafficking could be forced into doing such work. On the other hand, if globalization – in particular social globalization –improves general respect for women, it could also lead to the assurance of foreign women's rights, reducing exploitation against them. By proxying the rights of and respect for foreign women with

inflows of international human trafficking – the majority of victims being marginalized foreign women exploited in the sex industry – I construct two further hypotheses:

***H3. Ceteris paribus, economic globalization increases human trafficking.***

***H4. Ceteris paribus, social globalization reduces human trafficking.***

## 3. Measuring Globalization and Women's Rights

### 3.1. Globalization

In this paper, economic globalization captures two actual economic flows: trade openness (the ratio of imports and exports to GDP) and foreign direct investment (accumulated stock of FDI normalized by GDP)[62]. FDI stocks are taken instead of flows because stocks reflect the long-term influence of multinational corporations in a country. Trade openness and FDI are the most commonly used indicators of economic globalization (Berik et al. 2004; Braunstein and Brenner 2007; Fontana and Wood 2000; Neumayer and de Soysa 2007, 2011: Oostendorp 2009; Seguino 1997; de Soysa and Vadlamannati 2010, among many others).

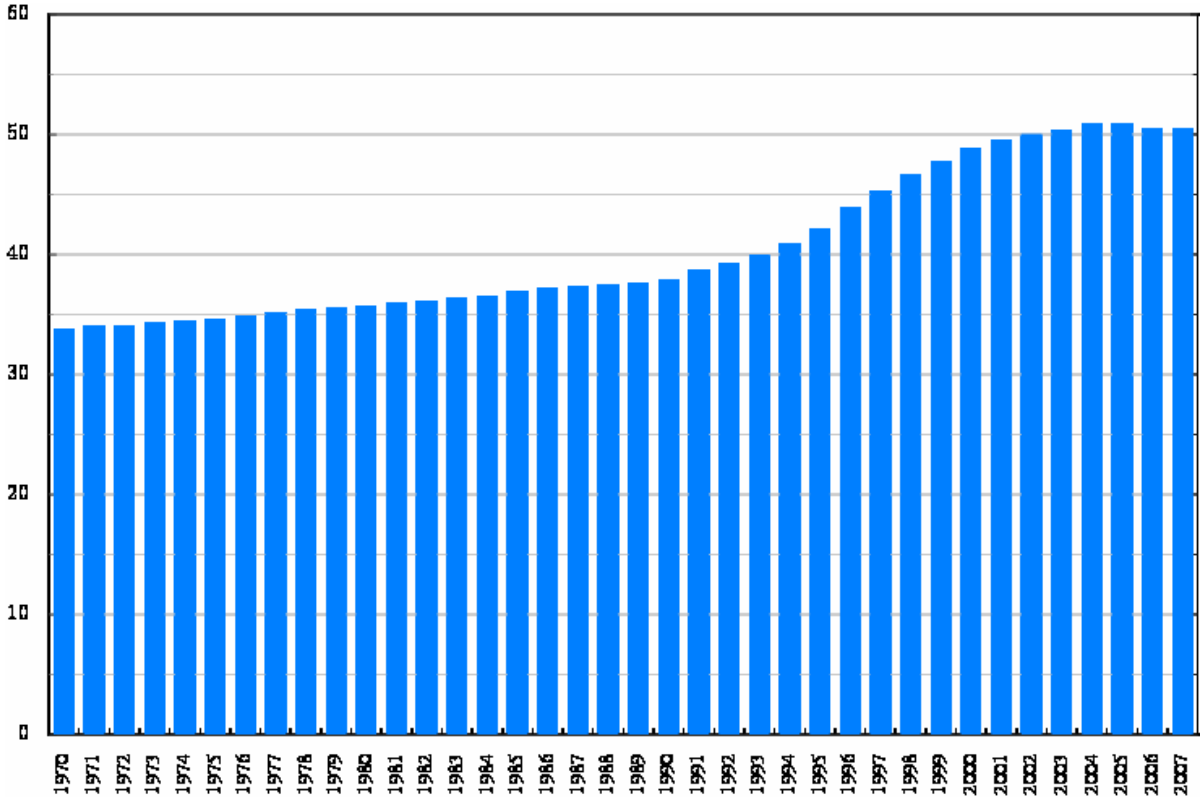
For the purpose of defining social globalization, this paper follows the KOF Index (Dreher 2006)[63]. The KOF Index classifies social globalization in three sub-dimensions: personal contacts, information flows and cultural proximity. The 'personal contacts' dimension captures direct interaction among people across countries. It includes international telecom traffic, international letters sent and received, arrival/departure of international tourists, government and workers' transfer received and paid (as a percentage of GDP) and stocks of foreign population living in a country. The first two indicators measure direct communications among people living in different countries, while the latter three indicate the degree of face-to-face interaction with foreigners. The 'information flows' dimension is intended to proxy potential flows of ideas and images. This dimension includes the number of internet users, cable television subscribers, and the number of radios and daily newspapers traded. These indicators measure (potential) the degree of news and information exchanges

[62] I employ the two indicators of economic globalization instead of the KOF Economic Globalization Index because there is no convincing theoretical linkage suggesting a direct effect of restrictions on trade and capital flows on women's rights. If there is any effect, it should be an indirect effect via trade and FDI. Also, by using an individual indicator, problems caused by aggregate measurements can be avoided.

[63] The KOF Index covers up to 186 countries from 1970-2008 in a time series manner and index scores are adjusted to sample sizes every year in order to ensure comparability over time. The author thanks Axel Dreher for clarifying this issue.

and the spread of ideas, images and norms. The last dimension is 'cultural proximity', capturing familiarity with the global mainstream culture, i.e. the United States and the West. It includes the number of McDonald's outlets and IKEA stores, as well as the amount of books imported and exported (as a percentage of GDP). Given the fact that books are generally cultural goods, book trade proxies cultural exchanges, while newspaper trade stands for information exchanges. Cultural proximity basically measures a country's closeness to western culture, taking the argument of Rosendorf (2000) regarding the American domination of cultural globalization.

**Figure 3. 1:** Trends of Social Globalization in the World , KOF Globalization Index




*Source: Dreher (2006) KOF Globalization Index*

In this paper, I make use of each sub-dimension of the Social Globalization Index instead of employing the overall index in order to capture the specific aspects each dimension reflects, and also to avoid problems caused by aggregate measurements. A more detailed description of the KOF Social Globalization Index can be found in appendix 3.C.

### 3.2. Women's Rights

There is no common consensus as to the most effective and representative indicators of women's economic rights. Female labor force participation rates, one of the commonly used indicators, often neglect the fact that an increase in female labor force participation does not necessarily lead to women's economic empowerment because high participation can be accompanied with low pay and poor working conditions, especially for women in developing countries (Cagatay and Ertürk 2004; Seguino 1997). Besides this, another available indicator, female earned income share relative to total income, suggested by the UNDP Gender-related Development Indicator (GDI), has critical problems to be used. The GDI is a gender-sensitive development indicator rather than a tool to measure a gender gap (Klasen 2006). It estimates female income share by multiplying female wage bills in non-agricultural sectors with female labor force participation rates. This approach not only neglects the income earned by women working in agricultural and informal sectors, a significant portion of female employment in developing countries, but also fails to measure gender inequality in labor markets (Stanton 2007).

Given that the currently available indictors of female employment and income have these distinctive drawbacks, therefore only partially reflecting women's economic power, I choose a composite index including different dimensions of women's economic empowerment. The Cingranelli and Richards (CIRI) Index on women's economic rights measures legal guarantee and actual practice in ensuring equal payment, employment, promotion and choice of occupation. The detailed components of the women's economic rights the CIRI Index includes are listed in appendix 3.D.

Women's social rights include social institutional factors, tradition, cultural practices and attitudes attributing to the root causes of gender discrimination (Branisa, Klasen and Ziegler 2009(a); Morrison and Jütting 2005; Potrafke and Ursprung 2010). I employ the CIRI Index on women's social rights because this index measures women's legal standing and related practices in family and private matters, as well as a fundamental foundation shaping women's well-being and opportunity – education[64]. Appendix 3.D. presents the detailed components of the women's social rights the CIRI Index includes.

[64] The OECD Social Institutions and Gender Index (SIGI, 2009) also measures women's institutional rights. However, the CIRI Index is utilized in this paper because the SIGI Index is available only in developing countries and does not provide time-variations in its measurements.

Both indices have an ordinal score ranging from 0 to 3: score 0 indicating no women's rights in the relevant dimension; 1 some women's rights guaranteed under law but not enforced in practice; 2 some rights guaranteed under law and enforced in practice but still allowing a low level of discrimination against women; and 3 full or nearly full rights guaranteed by law and enforced in practice (Cingranelli and Richards 2008).

### 3. 2. 1. Human Trafficking

Human trafficking inflows into a country are a proxy for the respect for foreign women without a legal standing which exists in that said country. This is a good indicator of the degree to which a country tolerates exploitation and abuse of undocumented foreign women. It is a good indicator for this purpose because human trafficking is an extreme form of abuse and violence against those vulnerable in society, the vast majority of victims being foreign women (Dutch National Rapporteur 2010; German Federal Criminal Police Office 2008; UNODC 2006). Therefore, this proxy indicates whether women's rights can be ensured regardless of citizenship and for those most marginalized in society.

As human trafficking is a clandestine, criminal activity, with those being trafficked and involved in such activities being part of 'hidden populations' (Tyldum and Brunovskis 2005), reliable and comparable data reflecting the comprehensive magnitude of the problem is very difficult, if not impossible, to obtain (Kangaspunta 2003). Among the currently available informational sources, the Incidence Reporting Index developed by the UNODC (2006) is one of the most reliable indicators, aggregating numbers of incidence reporting from 113 major institutes during the data collection period of 1996-2003. The Index covers 161 countries and has an ordinal scale ranging from 0 to 5, with score 0 indicating no (reported) inflow of human trafficking and 5 a very high inflow (see appendix 2.C. for more details). This index is relatively comprehensive and comparable across countries but it is not free from drawbacks. First, it aggregates information collected during the period and therefore time-variations of human trafficking are not captured. Second, given the geographical distribution of informational sources, the data collection can be subject to regional bias, namely an overestimation of incidences in Western countries and an underestimation in other regions.[65] In order to overcome these problems, I employ another dataset coded from the United States Trafficking in Persons Reports (2001-2009). Country narratives of the reports categorize

[65] The geographical distributions of the informational source institutions are Western Europe (29%); North America (18%); Asia (11%); Africa (5%); Central and Eastern Europe (5%); Latin America (4%); Oceania (4%); and the CIS (2%), in addition to 22% of institutions categorized as international.

countries of destination if at least 100 cases of human trafficking inflows have been discovered in the past year. I construct a binary variable that is equal to 1 if a country is a destination in a given year and 0 otherwise, following Akee et al. (2010(a), 2010(b)). While Akee et al. focus on cross-sectional information collected in 2002, the data used in the paper is extended, covering the period from 2000 to 2008[66] in order to capture the time-dimensions in the analysis. Therefore, this binary panel data supplements the UNODC Index with cross-sectional, but more detailed ordinal scores.

### 4. Estimation Strategies

For the analysis on women's economic and social rights, I estimate pooled time-series cross-section (panel data) regressions. The panel data cover a maximum of 150 countries during the 1981-2008 period. The basic equation to test the hypotheses is specified as:

$$\text{Rights}_{it} = \alpha_1 + \beta_2 \text{Rights}_{it-1} + \theta_3 \text{Globalization}_{it} + \varphi_4 Z_{it} + \mu_i + \nu_t + u_{it} \quad (1)$$

where $Rights_{it}$ represents the measure of women's economic and social rights (CIRI Index) respectively, for country i in year t. $Globalization_{it}$ is the main variable(s) of interest: trade openness[67] and foreign direct investment[68] for economic globalization and information flows, personal contacts and cultural proximity for social globalization[69]. Z is a vector containing control variables. $\mu_i$ represents country fixed effects and $\nu_t$ time fixed effects. $u_{it}$ is the idiosyncratic error term. This model also includes the lagged dependent variable, $Rights_{it-1}$, as women's rights reflect culturally rooted practice and persist over time. Including a lagged dependent variable has another advantage, that being it fixes problems associated with autocorrelation and model dynamic effects of X variables on Y (Beck and Katz 1995). The dependent variable has an ordinal structure ranging from 0 to 3, therefore I estimate the model with ordered probit following the previous literature.

Consequently, country fixed effects cannot be controlled for due to the incidental parameter problem (Lancaster 2000; Wooldridge 2002). Instead, this model includes several time-invariant variables in vector $\mu_i$ which reflect country characteristics and influence women's rights in that country – namely, regional and religion dummy variables. Regional effects are controlled for because there are significant regional differences in regard to social

66 The United States Annual Reports are based on information collected in the previous year, thus the annual reports of 2001-2009 cover the 2000-2008 period.
67 The sum of exports and imports normalized by GDP.
68 Given the distribution of FDI (stock), I take a log form and, furthermore, normalize log FDI (stock) by GDP.
69 See table 3.1. for correlation across the five indicators.

institutions and practices dealing with women's rights (Morrison and Jütting 2005). The percentage of the total population which is Muslim in a country is also included because women's rights are closely associated with religion (Dollar and Gatti 1999) and Islamic practice is known to be negatively related to women's rights (Donno and Russett 2004; Ross 2008). In addition to that, unobserved individual heterogeneity is addressed in the linear estimations with two-way fixed effects by using the two-stage least squares technique, which will be described in section 4.2[70]. Standard errors are clustered at the country level to account for the fact that observations from the same country in different years are not independent observations.

The vector of control variables ($Z_{it}$) includes other potential determinants of women's rights suggested by the previous literature on the subject. I follow the studies of Neumayer and de Soysa (2007, 2011), Oostendorp (2009) and Kucera and Milberg (2000), who all focus on causal factors of women's rights and gender discrimination. Accordingly, the model includes the level of economic development, (logged) per capita income, with data taken from the World Development Indicator (2009), as well as political development and democracy, taken from the Polity IV data (Marshall and Jaggers 2009).

Additionally, this model includes the level of civil liberty (data taken from the Freedom House 2009) because freedom of expression and civil association can be a driving force of social change, including an improvement in women's rights. As seen in appendix 3.E., social globalization enhances civil liberty by providing more opportunities for civil associations and communications and civil liberty is therefore suggested as a transmission mechanism from social globalization to women's rights. I estimate the model both with and without the civil liberty variable in order to find out whether social globalization generates additional effects on women's rights when controlling for civil liberty. If so, one could conclude that social globalization creates additional effects on women's rights beyond its positive impact on the human rights of all citizens (which are also positively associated with women's rights).

Turning to the estimation with human trafficking, the model takes the following form:

$$HumanTrafficking_i = \alpha_1 + \theta_2\, Globalization_i + \varphi_3\, Z_i + u_i \qquad (2)$$

$$HumanTrafficking_{it} = \beta_1 + \rho_2\, Globalization_{it} + \omega_3\, Z_{it} + \mu_i + \nu_t + u_{it} \qquad (2')$$

70 In addition, conditional logit estimations with two-way fixed effects are employed. See the discussions on the results in section 5.

In equation (2), $HumanTrafficking_i$ reflects the incidence levels of human trafficking inflows, taken from the UNODC Incidence Reporting Index, and $Globalization_i$ is the main variable(s) of interest. Taking into account the fact that the UNODC Index is cross-sectional, reflecting the level of human trafficking flows during the 1996 - 2003 period, I use values from the prior period[71] in order to avoid reverse-feedback effects. Z is a vector containing control variables and $u_i$ is the error term. As the dependent variable has an ordinal structure ranging from 0 to 5 (0 being no reported inflows of human trafficking and 5 being very high flows), I employ an ordered probit estimation and cluster standard errors at the country level. Additionally, by using panel data coded from the United States Trafficking in Persons Annual Report, I am able to conduct a panel analysis covering the years 2000-2008. The specification is shown in equation (2´). $HumanTrafficking_{it}$ is a dummy variable, with 1 indicating a country that had more than 100 cases of human trafficking inflows and 0 otherwise. $Globalization_{it}$ represents the main variable(s) of interest. Z is a vector containing control variables. $\mu_i$ represents (time-invariant) unobserved individual heterogeneity and $\nu_t$ captures time-fixed effects. $u_i$ is the idiosyncratic error term. Given the dependent variable is a dummy, I employ probit estimations and cluster standard errors at the country level. Additionally, probit random effects estimations are conducted in order to control for unobserved heterogeneous effects[72].

For the selection of control variables, I follow the literature focusing on pull factors of human trafficking (Akee et al. 2010 (a) and (b); Mahmoud and Trebesch 2010; Cameron and Newman 2008). First, the model includes (logged) per capita income as income levels are seen as a dominant pull factor of human trafficking. As human trafficking is largely operated by organized criminal groups, the level of (control of) corruption that affects the level of organized criminal activities, taken from the World Bank Governance Indicator (Kaufmann et al. 2009), is also controlled for. (Domestic) women's rights – both social and economic rights – are included because human trafficking is a gender-based problem, with women making up the majority of victims (UNODC 2006). (Logged) population sizes are also controlled for because incidences reported in the UNOCD database are not normalized by population sizes

[71] First, I take the average values from the 1981-1995 period, starting from the same year as the specification (1), and then the values only in 1995, the year prior to the collection of the human trafficking data. The author thanks Eric Neumayer for suggesting the latter approach.

[72] Again, a conditional logit estimation with two-way fixed effects is additionally employed. I discuss the results in section 5.

(UNODC 2006), therefore the index may penalize countries with large populations. Additionally, the model controls for regional and religion effects[73].

### 4.1. Endogeneity Concern

This section addresses whether the main model – equation (1) – is subject to reverse feedback effects, i.e. improvements in women's economic and social rights are causes of global integration rather than outcomes. Arguably, greater women's rights might also lead to higher levels of globalization. For example, the active participation of women in society may increase information and personal exchanges across countries because there will be a larger pool of internet users, travelers etc. Table 3.2 shows the results of the Granger causality tests which were conducted to address this issue. According to Granger (1969), a variable x is Granger-causing a variable y if past values of x helps to explain y, once the past influence of y has been accounted for. I follow Dreher and Siemers (2009) and Dreher et al. (2010) to account for Granger causality in a panel setting as:

$$y_{it} = \sum^{\rho}_{j=1} \psi_j \; y_{it-1} + \sum^{\rho}_{j=1} \xi_j \; x_{it-1} + \delta_i + \zeta_t + \omega_{it} \qquad (3)$$

Where i=1,….,N and t=1,….T. The parameters are denoted by $\psi_{it}$ and $\xi_{it}$ for country *i* during year *t*, the maximum lag length is represented by *p*. $y_{it}$ represents each of the globalization indicators for country i during the year t, while $x_{it}$ represents women's social and economic rights respectively. While $\delta_i$ represents unobserved individual effects, $\zeta_t$ is the unobserved time effects. $\omega_{it}$ denotes the idiosyncratic error term[74]. As the time period of the panel is 28 years, this is sufficiently long for the tests. The optimal number of lags to be included is determined by using Ng and Perron's (1995) sequential t-test on the highest order lag coefficient, with a lag length of one being appropriate. I employ two-way fixed effects least square estimations, where the dependent variables are the five indicators of economic and social globalization, clustering standard errors at the country level. When the dependent variables are women's rights, ordered probit estimations with clustered standard errors are employed. To test whether x Granger-causes y in equation 3, I check for the joint significance using an F-test on $\xi_{it}$. The results are shown in table 3.2. The null hypothesis to be tested is that x does not Granger-cause y. The first and third columns indicate that two variables of

[73] Data sources and descriptive statistics are presented in appendix 3.A. and 3.B.

[74] As the Granger causality tests rely on the assumption that the series are stationary, I test the null hypothesis that all series are non-stationary by employing the unit root test proposed by Maddala and Wu (1999) for (unbalanced) panel data. Based on the p-values of the individual unit root tests, the overall Maddala and Wu test statistic is calculated. The hypothesis of a unit root is rejected at the 1% level.

social globalization are Granger-caused by women's rights: *information flows* by women's economic rights and *personal contact* by both women's economic and social rights (p-values 0.0273, 0.0815, 0.0211 respectively). *Trade, FDI* and *Cultural Proximity* are not Granger-caused by women's rights. On the other hand, the second and fourth columns show that all of the three social globalization indicators Granger-cause women's rights, as one fails to reject $H_0$, while the Granger causal effects of economic globalization are somewhat mixed, i.e. there is no evidence suggesting that trade Granger-causes women's social rights.

The results essentially indicate that Granger causality runs from globalization to women's rights, except for *information flows* (to women's economic rights) and *personal contact* (to both economic and social rights), in which reverse effects are also detected. In order to address the endogeneity of these two variables, an instrumental variable (IV) approach is employed. The estimation methods are a two-stage least square technique with two-way fixed effects (2SLS) and an instrumental variable ordered probit (oprobit IV). For oprobit IV, I conduct OLS with two-way fixed effects for the first stage regressions because the dependent variables (social globalization indicators) are continuous variables, ranging from 1 to 100. For the second stage, I run ordered probit regressions and correct standard errors by bootstrapping [75]. Given the ordinal structure of the dependent variables, the instrumental variable ordered probit estimation is more efficient than 2SLS (Long 1997), while 2SLS estimations have the advantages of controlling for unobserved individual heterogeneity. Thus, I employ both methods and compare the results.

Knowing that it is difficult to find a single instrument with a high explanatory power for globalization but no direct effect on women's rights, I combine the three variables which seem to be most relevant as the instruments. First is the level of restrictions to trade and capital flows. It is closely associated with *information flows* and *personal contacts* because such restrictions are obstacles to receiving information, as well as human flows (particularly foreign employees working on foreign operations) from other countries. Restrictions to trade and capital flows would not have a direct link to women's rights, but an indirect one via globalization instrumented here, satisfying the exclusion restriction criteria.

[75] As there is no function to command an instrumental variable ordered probit regression in STATA or other software programs, I manually program a command: run the first stage regression; predict the value; use the predicted value in the second stage regression; and finally correct the standard errors by bootstrapping with 100 replications. As this model employs OLS with two-way fixed effects for the first stage regressions, it does not include time-invariant control variables during the period, *share of Muslim in population*, and *OECD membership* in the IV estimations.

**Table 3.1.** Correlation Matrix.

| | Trade | FDI | Information flows | Personal contact | Cultural proximity |
|---|---|---|---|---|---|
| Trade | 1.0000 | | | | |
| FDI | 0.1117 | 1.0000 | | | |
| Information flows | 0.3625 | 0.5295 | 1.0000 | | |
| Personal contact | 0.4873 | 0.3056 | 0.7192 | 1.0000 | |
| Cultural proximity | 0.0908 | 0.5584 | 0.6856 | 0.5720 | 1.0000 |

**Table 3.2.** Granger Causality Test

| | {wecon}Not Granger causes{glo} | {wecon}Not Granger-caused by{glo} | { wosoc}Not Granger causes{glo} | {wosoc}Not Granger-caused by{glo} |
|---|---|---|---|---|
| | Women's Economic Rights | | Women's Social Rights | |
| Trade | 0.7693 | 0.0035 | 0.2497 | 0.2361 |
| FDI | 0.1481 | 0.0003 | 0.4173 | 0.0007 |
| Information flows | 0.0273 | 0.0000 | 0.4036 | 0.0000 |
| Personal contact | 0.0815 | 0.0000 | 0.0211 | 0.0015 |
| Cultural proximity | 0.1788 | 0.0000 | 0.6052 | 0.0000 |

Note: The table reports p-values for Granger causality tests using one lag. The null-hypothesis is that variable A does not Granger-cause B. The first and third columns indicate whether women's rights Granger-cause globalization, while vice versa for the second and fourth columns.

Another instrument is the number of McDonald's outlets in a country, which reflects cultural openness to the global mainstream culture, a strong indicator of social globalization[76]. Having more McDonald's outlets in a country would not directly improve women's rights however. The other instrument is 'voting in line with G-7 countries in the UN General Assembly on key issues', suggested by Dreher and Sturm (2010)[77]. The justification for the selection of this instrument is that countries sharing political similarities with the major powers are likely to exchange information and people with those countries which are also major senders of information and human flows. However, this instrument is arguably not a direct determinant of women's rights.

Table 3.5 shows the validity of the instruments in terms of relevance and exclusion criteria. First, instrument relevance determines whether the selected instrument has a strong explanatory power on the endogenous explanatory variable of interest. The conventional first-stage F-statistics, proposed by Bound, Jaeger and Baker (1995), suggest that the selected instrument is relevant when the first stage F-statistic on the excluded instrument is above 10. However, the Bound, Jaeger and Baker F-statistics have been criticized in the literature for not being powerful enough in measuring the degree of instrument relevance in the presence of multiple endogenous variables (Stock et al. 2002, Hahn and Hausman 2002, 2003). The Cragg-Donald's first-stage F-test (Cragg and Donald 1993; Stock et al. 2002) is known to be a more powerful test to deal with such a problem. This test reports the statistic used to test the null hypothesis, i.e. whether the parameter estimate for the instrument in the first stage regression is equal to zero. A Cragg-Donald's statistic above the critical value (10% maximal test size) indicates the rejection of weak instruments. Additionally, I also employ the Anderson canonical LR statistics for underidentification tests. The results in table 3.5 show that the instruments are strongly correlated with the instrumented endogenous variables, *information flows* and *personal contacts*, at conventional levels of significance in all specifications.

Second, the selected IV should not vary systematically with the disturbance term in the second stage equation, i.e. $\left[\omega_{it} \mid IV_{it}\right] = 0$ . In other words, the instruments cannot have independent effects on the dependent variable and can only explain y through a linkage with

[76] The number of McDonald's outlets is part of cultural proximity, which turns out to have no explanatory power for women's rights in the empirical testing shown in section 5. In the process of running IV regressions, when we include the number of McDonald's outlets variable in the first stage regression, we exclude the cultural proximity variable in the second stage.

[77] I take the voting behavior index based on the definition of Thacker (1999), who codes votes in agreement with the United States as 1, votes in disagreement as 0, and abstentions as 0.5.

the endogenous independent variable. To test for the exclusion restrictions of the instruments, I employ the Sargan-Hansen test, which shows that the null-hypothesis of exogeneity cannot be rejected at conventional levels of significance.

Turning to the issue of human trafficking, to the best of my knowledge, there is no literature suggesting causal effects running from human trafficking to globalization. However, the model is designed to statistically minimize any suspicion of reverse-causality. For the cross-sectional estimations, I take the values of all the independent variables from the period prior to that in which the values consisting of the dependent variables were collected (as described above). For the panel analysis on human trafficking, I check for potential endogeneity by employing the Wald test of exogeneity to maximum likelihood variants. The Wald test is used to test whether the x variable, assumed to be endogenous, is really endogenous – i.e. the correlation parameter rho is statistically different to zero in IV regressions[78] (Wooldridge 2002). The results show that one fails to reject the null hypothesis of exogeneity at conventional levels of significance in all of the specifications.

## 5. Empirical Findings

Table 3.3 shows the results for women's economic rights by employing ordered probit estimations[79], based on more than 3,000 observations from 146 countries in the last 28 years[80]. In the estimations, the model includes the independent variables of interest with different combinations. First, the model includes the economic globalization variables only and a social globalization variable is then subsequently added. Columns (1)-(5) in table 3.3 report the results without the civil liberty variable, while columns (6)-(10) show the results with the

[78] First, all the economic and social globalization indicators are assumed to be endogenous and are instrumented as follows: *Trade* and *information flows* (i.e. exchange of media-related goods) are instrumented with *restrictions to trade and capital flows*, because restrictions affect the volume of the exchanges of goods and services but do not directly influence human trafficking. *FDI, personal contact* and *cultural proximity* are instrumented with *voting in line with the G-7in the United Nations General Assembly*, because these three indicators reflect the degree to which a country is linked to the developed world and voting in line with G-7 is arguably not a direct determinant of illegal human flows.

[79] In addition, I employ Newey-West (1987) estimations, correcting for autocorrelation and heteroscedasticity in the error terms. The results of the Newey-West estimations do not alter the main findings. The results are not shown here but can be obtained from the author upon request.

[80] Furthermore, I make use of conditional logit estimations, controlling for country fixed-effects. The results do not support the main findings. However, the sample sizes are reduced to a third (989 for women's economic rights and 1,060 for women's social rights) and the contradicting results are driven by this reduction in the sample sizes, given that ordered probit estimations with the reduced samples also result in the same conclusion as that of the conditional logit estimations.

variable. Columns (5) and (10) show the results including all three social globalization variables[81].

*Trade openness* positively affects women's economic rights at conventional levels of significance without controlling for social globalization, while the effect of FDI is largely insignificant. However, the positive effect of trade disappears when we control for *information flows* and *personal contact*. While these two indicators of social globalization have positive, significant effects on women's economic rights, cultural proximity is found to be insignificant. When all the three social globalization indicators are included alongside with the two economic globalization indicators, the positive effect of *information flows* and *personal contact* remain (column 5)[82], despite the high multi-collinearity between the two variables (r = 0.72). This indicates the strong impact of social globalization. None of the two economic globalization variables turn out to be significant in these specifications.

The control variables behave mostly as expected. The lagged dependent variable has a high explanatory power and is significant at the 1% level, regardless of the choice of variables, confirming the habituated and cultural nature of women's rights. While economic development – income – does not generate a significant effect, political development – democracy and civil liberty – positively affects women's economic rights. It is quite probable that economic development is not a direct determinant of women's rights, but rather has an indirect effect via institutional development. Having a higher proportion of Muslims in a country decreases women's economic rights but the effect is insignificant. Finally, being a member of the developed countries' club, the OECD, is positively associated with women's economic rights.

As expected, civil liberty demonstrates a strong effect on women's economic rights. As shown in appendix 3.E, social globalization – informational, personal and cultural exposure to other countries – promotes civil liberty and it is then transferred into improving women's rights. This linkage is not a surprise because having more informational exchange and contact with different people tends to enhance the freedom and diversity of citizens' expressions, networks, and mannerisms, which can promote social reform and change – such as an improvement in women's standing. It seems that civil liberty – standing for civil

[81] However, including all the three variables is not the best specification given the high correlation amongst them (see table 3.1).
[82] The personal contact variable loses its significance when controlling for civil liberty (column 10), however it is probably because of the high multi-collinearities across the three social globalization variables, as well as between the civil liberty and democracy variables (r= 0.84).

association and the freedom of expression – is a direct linkage to the enhancement of women's rights compared to other institutional development, given that democracy loses its statistical significance when both variables are included. More interestingly, even after controlling for civil liberty, which can be a transmission mechanism from social globalization to women's rights, the two indicators of social globalization still have significant, positive effects on women's economic rights. It implies that the effects of social globalization are stronger for women, going beyond the overall improvement in the civil liberty of all citizens, probably because women would mostly gain benefits from social changes rather than losing, compared to men who would experience a mixture of positive and negative effects from social globalization, potentially challenging the existing male-dominated social structures.

Turning to the impact on women's social rights (shown in table 3.4), the main findings are mostly in line with those for women's economic rights. Social globalization, particularly through *information flows* and *personal contact*, improves the level of women's social rights, while economic globalization is largely insignificant. However, when controlling for civil liberty, *personal contact* loses its statistical significance (column 9). Additionally, the inclusion of all of the three social globalization variables results in losing the statistical significance of the coefficient of the personal contact variable (columns 5 and 10). On the contrary, information flows persistently demonstrate a positive impact on women's social rights, despite high multi-collinearity across the social globalization indicators. Similar to women's economic rights, cultural proximity does not result in any significant effects on women's social rights.

The lagged dependent variable is significant and positive at the 1% level, while the income level does not have any significant effect. In contrast to the findings on women's economic rights, the *Muslim* variable is negative and significant for women's social rights. The OECD membership is again positively linked to women's social rights at conventional levels of significance.

Political development strongly affects women's social rights, differing from the lack of any effect on economic development. Similar to the impact on women's economic rights, civil liberty also increases women's social rights and increased information flows create further effects on women's social rights after controlling for civil liberty.

**Table 3. 3.** Women's Economic Rights, 1981-2008, 146 countries, ordered probit

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| Trade | **0.002**** | 0.001 | 0.0002 | **0.002**** | -0.0002 | 0.002* | 0.001 | 0.0003 | **0.002*** | 0.0005 |
| | **(0.001)** | (0.001) | (0.001) | **(0.001)** | (0.001) | (0.001) | (0.001) | (0.001) | **(0.001)** | (0.001) |
| FDI (stock) | -0.517 | -0.638 | -0.404 | -0.538 | -0.490 | -0.495 | -0.607 | -0.414 | -0.485 | -0.475 |
| | (0.599) | (0.604) | (0.673) | (0.597) | (0.666) | (0.616) | (0.621) | (0.678) | (0.611) | (0.670) |
| Information flows | | **0.009**** | | | **0.008*** | | **0.008**** | | | **0.007*** |
| | | **(0.004)** | | | **(0.004)** | | **(0.003)** | | | **(0.004)** |
| Personal contact | | | **0.009**** | | **0.008**** | | | **0.007*** | | 0.006 |
| | | | **(0.004)** | | **(0.004)** | | | **(0.004)** | | (0.004) |
| Cultural proximity | | | | 0.0005 | -0.001 | | | | -0.0003 | -0.001 |
| | | | | (0.002) | (0.002) | | | | (0.002) | (0.002) |
| Civl Liberty | | | | | | 0.149*** | 0.139*** | 0.128*** | 0.149*** | 0.126*** |
| | | | | | | (0.037) | (0.036) | (0.040) | (0.037) | (0.039) |
| Lagged dependent variable | 1.928*** | 1.919*** | 1.909*** | 1.927*** | 1.902*** | 1.905*** | 1.899*** | 1.893*** | 1.905*** | 1.888*** |
| | (0.094) | (0.094) | (0.095) | (0.094) | (0.094) | (0.092) | (0.093) | (0.093) | (0.093) | (0.093) |
| Democracy | 0.013** | 0.012** | 0.011* | 0.013** | 0.011* | -0.011 | -0.01 | -0.009 | -0.011 | -0.009 |
| | (0.006) | (0.006) | (0.006) | (0.006) | (0.006) | (0.008) | (0.008) | (0.008) | (0.008) | (0.008) |
| (log) Income | 0.111** | 0.048 | 0.015 | 0.107** | -0.021 | 0.066 | 0.014 | -3.00e-05 | 0.0682 | -0.030 |
| | (0.045) | (0.059) | (0.057) | (0.048) | (0.064) | (0.046) | (0.059) | (0.058) | (0.050) | (0.066) |
| Muslim | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| OECD | 0.735*** | 0.630*** | 0.761*** | 0.723*** | 0.695*** | 0.711*** | 0.621*** | 0.733*** | 0.719*** | 0.686*** |
| | (0.160) | (0.156) | (0.155) | (0.174) | (0.151) | (0.161) | (0.160) | (0.156) | (0.174) | (0.154) |
| Regional dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Time dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 3,078 | 3,061 | 3,035 | 3,077 | 3,035 | 3,051 | 3,034 | 3,008 | 3,050 | 3,008 |
| Countries | 146 | 145 | 144 | 146 | 144 | 145 | 144 | 143 | 145 | 143 |
| (pseudo) R-sq | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 |

Note: Parentheses are standard errors. The standard errors are clustered at the country level. */***/*** indicates significance at 10/5/1% level.

**Table 3. 4.** Women's Social Rights, 1981-2008, 146 countries, ordered probit

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| Trade | 0.001 | 0.001 | 0.0001 | 0.001 | -0.0001 | 0.001 | 0.001 | 0.0002 | 0.001 | -0.0001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| FDI (stock) | -0.076 | -0.228 | -0.017 | -0.163 | -0.185 | -0.061 | -0.210 | -0.011 | -0.135 | -0.166 |
| | (0.588) | (0.589) | (0.625) | (0.595) | (0.625) | (0.591) | (0.592) | (0.626) | (0.597) | (0.625) |
| Information flows | | **0.008**** | | | **0.007*** | | **0.008**** | | | **0.006*** |
| | | **(0.003)** | | | **(0.004)** | | **(0.003)** | | | **(0.004)** |
| Personal contact | | | **0.007*** | | 0.005 | | | 0.006 | | 0.005 |
| | | | **(0.004)** | | (0.004) | | | (0.004) | | (0.004) |
| Cultural proximity | | | | 0.003 | 0.002 | | | | 0.002 | 0.001 |
| | | | | (0.002) | (0.002) | | | | (0.002) | (0.002) |
| Civil Liberty | | | | | | 0.085** | 0.075** | 0.069* | 0.081** | 0.065* |
| | | | | | | (0.035) | (0.034) | (0.037) | (0.035) | (0.036) |
| Lagged dependent variable | 2.018*** | 2.013*** | 2.012*** | 2.012*** | 2.003*** | 1.999*** | 1.996*** | 1.997*** | 1.994*** | 1.989*** |
| | (0.089) | (0.089) | (0.089) | (0.089) | (0.088) | (0.090) | (0.090) | (0.089) | (0.089) | (0.089) |
| Democracy | 0.014** | 0.013** | 0.013** | 0.014** | 0.013** | 0.0001 | 0.001 | 0.002 | 0.001 | 0.002 |
| | (0.006) | (0.006) | (0.006) | (0.006) | (0.006) | (0.008) | (0.008) | (0.008) | (0.008) | (0.008) |
| (log) Income | 0.035 | -0.023 | -0.032 | 0.013 | -0.080 | 0.010 | -0.042 | -0.042 | -0.008 | -0.087 |
| | (0.044) | (0.057) | (0.059) | (0.048) | (0.064) | (0.045) | (0.057) | (0.060) | (0.048) | (0.649) |
| Muslim | -0.003** | -0.002* | -0.003** | -0.002** | -0.002* | -0.002** | -0.002** | -0.002** | -0.002** | -0.002* |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.0001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| OECD | 0.899*** | 0.809*** | 0.924*** | 0.840*** | 0.814*** | 0.893*** | 0.809*** | 0.916*** | 0.844*** | 0.815*** |
| | (0.169) | (0.165) | (0.165) | (0.182) | (0.168) | (0.163) | (0.161) | (0.159) | (0.177) | (0.164) |
| Regional dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Time dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| observations | 2,606 | 2,592 | 2,569 | 2,605 | 2,569 | 2,582 | 2,568 | 2,545 | 2,581 | 2,545 |
| countries | 145 | 144 | 143 | 145 | 143 | 144 | 143 | 143 | 144 | 142 |
| (peudo) R-sq | 0.57 | 0.57 | 0.57 | 0.56 | 0.57 | 0.56 | 0.56 | 0.57 | 0.56 | 0.57 |

Note: Parentheses are standard errors. The standard errors are clustered at the country level. */***/*** indicates significance at 10/5/1% level.

As shown in table 3.5, the reverse-causality effect is addressed by instrumenting the endogenous variables and also controlling for country fixed effects through linear estimations. For women's economic rights, I instrument *information flows* and *personal contact* with the three instrumental variables (*restrictions to trade and capital flows*; *the number of McDonald's outlets*; *and voting in line with the G7*) and for women's social rights, *personal contact* is instrumented, as suggested by the Granger-causality tests. By employing instrumental variable ordered probit and two-stage least squares regressions with two-way fixed effects, I find that personal contact increases women's economic rights and the effect is significant at the 5% level. However, the positive effects of *information flows* on women's economic rights and *personal contact* on women's social rights are not confirmed. Taking endogeneity into account, the personal contact component of social globalization positively affects women's economic rights, in addition to the positive impact of information flows on women's social rights.

To highlight the significant effects of social globalization in a quantitative manner, I estimate the marginal effect (probability). The results in table 3.7 show that increasing *personal contact* by one standard deviation increases the probability of achieving higher women's economic rights – score 2 and 3 – by 6% and 0.01% respectively, while decreasing the probability to be at the bottom level of women's economic rights, score 0 and 1, by 0.2% and 6.4% respectively. A one standard deviation increase in *information flows* increases the probability of having a higher level of women's social rights – score 2 and 3 – by 4.7% and 0.02% respectively[83], while decreasing the probability to be score 0 and 1 by 0.7% and 4.7%. It seems that the marginal effects of social globalization are sizeable in determining either *relatively* high women's rights (score 2) or *relatively* low women's rights (score 1).

Finally, table 3. 6 shows the results for human trafficking, a proxy of respect for marginalized foreign women. Columns (1)-(6) present the results of the ordered probit estimations using the UNODC Human Trafficking Inflow Index, while columns (7)-(12) present the results of the probit estimations, controlling in a panel setting by using the dummy variable of whether a country is a destination of human trafficking in a given year. Independent variables in columns(1)-(3) take the average values from the period 1981-1995 and those in columns (4)-(6) take the value of the year 1995. The estimations shown in columns (10)-(12) control for random effects, while those in columns (7)-(9) do not.

[83] The marginal probability for score 3 of women's social rights is statistically insignificant (p-value 0.116).

The results suggest that social globalization (personal contact) tends to increase human trafficking inflows into a country, while other indicators of globalization do not have any significant effect[84]. This result seems to support a positive linkage between human trafficking and migration, which apparently increases person-to-person contact among different nationalities, as suggested in the literature (Mahmoud and Trebesch 2010). This result indicates that while social globalization is beneficial to domestic women's rights and status, it does not increase respect for foreign women without a legal standing in a country. In fact, globalization can even be detrimental to them as seen in the case of personal contacts. This argument can be supported with the finding that the level of women's rights in a country is unanimously insignificant to human trafficking inflows. When the model includes the women's economic rights variables in the estimation, instead of women's social rights, the result remains the same. On the other hand, international exchanges of goods, services and capital turn out to be insignificant to human trafficking inflows.

In regards to control variables, higher controls on corruption reduce human trafficking inflows, while a higher level of income induces more human trafficking. The population size also increases human trafficking inflows, as expected. The results are consistent when employing different datasets on human trafficking flows as well as different estimation techniques, with the only exception being some minor changes in the significance levels of the control variables. Table 3.7 shows the marginal effects (probabilities) of *personal contact* on human trafficking. Through an increase of one standard deviation in personal contact, the probability of a country having 'a medium level of flows', 'high flows' and 'very high flows' – i.e. score 3, 4 and 5 – increase by 25.5%, 15% and 2.1% respectively (although the effect for score 5 is not significant at conventional levels). At the same time, the probability of having low, very low or no (reported) flows – score 2, 1 and 0 – decrease by 15%, 19% and 8.5%.

[84] Additionally, the coefficient of cultural proximity turns out to be significant and positive when taking the 1995 values (see column 6).

**Table 3.5.** Women's Economic and Social Rights, 1981-2008, 145 countries, instrumental variable approach

| | Women's Economic Rights | | | | Women's Economic Rights | | | | Women's Social Rights | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2SLS | | Oprobit IV | | 2SLS | | Oprobit IV | | 2SLS | | Oprobit IV | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Trade | 0.001 | 0.001 | 0.005 | 0.0002 | -0.001 | -0.001 | 0.0002 | -0.00004 | -0.0001 | -0.00007 | -0.0001 | -0.0002 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.054) |
| FDI (stock) | 0.489 | 0.465 | -0.0005 | -0.270 | -0.496 | -0.494 | -1.479 | -1.227 | -0.333 | -0.326 | -1.649 | -1.421 |
| | (0.336) | (0.348) | (0.001) | (0.712) | (0.509) | (0.505) | (1.045) | (0.990) | (0.540) | (0.534) | (1.226) | (1.297) |
| Information flows | -0.017 | -0.016 | 0.0024 | 0.026 | | | | | | | | |
| | (0.011) | (0.011) | (0.024) | (0.021) | | | | | | | | |
| Personal contact | | | | | **0.040**** | **0.040**** | **0.082**** | **0.080**** | 0.010 | 0.010 | 0.068 | 0.063 |
| | | | | | **(0.016)** | **(0.016)** | **(0.037)** | **(0.032)** | (0.02) | (0.02) | (0.052) | (0.054) |
| Civil liberty | | 0.008 | | 0.130** | | 0.0005 | | 0.119*** | | -0.003 | | 0.078 |
| | | (0.016) | | (0.042) | | (0.159) | | (0.438) | | (0.016) | | (0.422) |
| LDV | 0.425*** | 0.424*** | 1.956*** | 1.937*** | 0.419*** | 0.419*** | 1.935*** | 1.908*** | 0.496*** | 0.496*** | 2.233*** | 2.213*** |
| | (0.019) | (0.019) | (0.079) | (0.074) | (0.020) | (0.021) | (0.080) | (0.076) | (0.021) | (0.021) | (0.075) | (0.076) |
| Democracy | -0.003 | -0.004 | 0.024*** | 0.002*** | 0.0004 | 0.0004 | 0.035*** | 0.013 | 0.002 | 0.003 | 0.0437*** | 0.0296*** |
| | (0.003) | (0.003) | (0.005) | (0.008) | (0.003) | (0.004) | (0.007) | (0.010) | (0.004) | (0.004) | (0.009) | (0.011) |
| (log) Income | 0.115* | 0.111 | 0.054 | 0.0001 | -0.129* | -0.130** | -0.027 | -0.059 | 0.067 | 0.067 | -0.098 | -0.105 |
| | (0.069) | (0.071) | (0.144) | (0.133) | (0.066) | (0.065) | (0.121) | (0.098) | (0.068) | (0.067) | (0.157) | (0.162) |
| Country FE | Yes | Yes | No | No | Yes | Yes | No | No | Yes | Yes | No | No |
| Time effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 2,566 | 2,565 | 2566 | 2565 | 2,268 | 2,267 | 2294 | 2293 | 1,932 | 1,931 | 1929 | 1928 |
| Countries | 144 | 144 | 144 | 144 | 143 | 143 | 144 | 143 | 143 | 143 | 143 | 143 |
| R-sq. | 0.65 | 0.65 | 0.46 | 0.46 | 0.65 | 0.65 | 0.47 | 0.48 | 0.81 | 0.81 | 0.56 | 0.56 |
| Cragg-Donald F-stat | 18.42** | 17.75*** | | | 21.44*** | 21.92*** | | | 15.90*** | 16.32*** | | |
| Anderson canon. LR | 38.57*** | 37.21*** | | | 66.60*** | 68.01*** | | | 50.04*** | 51.35*** | | |
| Sargan stat. (p-value) | 0.53 | 0.54 | | | 0.802 | 0.795 | | | 0.741 | 0.748 | | |
| Replication | | | 100 | 100 | | | 100 | 100 | | | 100 | 100 |

Note: Instruments are voting in line with G-7 countries in the UN General Assembly on key issues, the number of McDonald's outlets and restrictions to trade and capital flows. Instrumented endogenous variables are *information flows* (columns 1-4) and *personal contact* (columns 5-12). The standard errors are clustered at the country level for the 2SLS estimations and for the ordered probit IV estimations robust standard errors are corrected by bootstrapping. Parentheses are standard errors. */***/*** indicates significance at 10/5/1% level.

**Table 3.6.** Human Trafficking, 1981-1995 (cross-sectional) and 2000-2008 (panel), 150 countries

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | oprobit | oprobit | oprobit | oprobit | oprobit | oprobit | probit | probit | probit | probit RE | probit RE | probit RE |
| Trade | -0.003 | -0.011 | -0.003 | 0.001 | -0.005 | 0.001 | -0.004 | -0.005 | -0.004 | -0.007 | -0.008 | -0.004 |
| | (0.006) | (0.007) | (0.006) | (0.005) | (0.005) | (0.004) | (0.004) | (0.004) | (0.004) | (0.006) | (0.007) | (0.006) |
| FDI (stock) | 2.232 | 2.143 | 1.836 | 1.139 | 0.362 | 1.247 | 2.676 | 3.048 | 2.408 | 5.145 | 5.010 | 3.812 |
| | (2.546) | (2.581) | (2.464) | (3.263) | (3.163) | (3.288) | (2.805) | (2.825) | (2.493) | (5.099) | (5.008) | (4.67) |
| Information flows | -0.007 | | | -0.005 | | | -0.005 | | | -0.001 | | |
| | (0.012) | | | (0.012) | | | (0.014) | | | (0.023) | | |
| Personal contact | | **0.051*** ** | | | **0.049*** ** | | | **0.028** ** | | | **0.0379*** | |
| | | **(0.014)** | | | **(0.014)** | | | **(0.012)** | | | **(0.0211)** | |
| Cultural proximity | | | 0.007 | | | **0.0154** ** | | | 0.0103 | | | 0.013 |
| | | | (0.007) | | | **(0.007)** | | | (0.007) | | | (0.014) |
| Women's social rights | 0.245 | 0.150 | 0.227 | 0.197 | 0.128 | 0.162 | -0.107 | -0.095 | -0.087 | -0.001 | -0.036 | 0.036 |
| | (0.244) | (0.250) | (0.244) | (0.214) | (0.209) | (0.212) | (0.138) | (0.142) | (0.139) | (0.206) | (0.206) | (0.204) |
| Control of corruption | -0.469** | -0.638*** | -0.521** | -0.732*** | -0.861*** | -0.872*** | 0.376 | 0.121 | 0.259 | 0.888* | 0.604 | 0.842* |
| | (0.207) | (0.203) | (0.205) | (0.206) | (0.211) | (0.213) | (0.232) | (0.244) | (0.225) | (0.454) | (0.460) | (0.460) |
| (log) Population | 0.259* | 0.455*** | 0.274** | 0.358*** | 0.565*** | 0.336** | -0.101 | -0.012 | -0.125 | -0.167 | -0.034 | -0.127 |
| | (0.138) | (0.159) | (0.139) | (0.136) | (0.156) | (0.140) | (0.116) | (0.119) | (0.113) | (0.230) | (0.239) | (0.213) |
| (log)Income | 0.739*** | 0.262 | 0.650*** | 0.715*** | 0.259 | 0.549*** | 0.521** | 0.312 | 0.426** | 0.726** | 0.454 | 0.640** |
| | (0.172) | (0.175) | (0.135) | (0.200) | (0.197) | (0.159) | (0.210) | (0.213) | (0.192) | (0.350) | (0.340) | (0.313) |
| Period covered | 1981-1995 | 1981-1995 | 1981-1995 | 1995 | 1995 | 1995 | 2000-2008 | 2000-2008 | 2000-2008 | 2000-2008 | 2000-2008 | 2000-2008 |
| Time dummies | No | No | No | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes |
| Regional dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Religion dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| observations (countries) | 122 | 121 | 123 | 116 | 115 | 116 | 537(149) | 532(148) | 540 (150) | 537(149) | 532(148) | 540(150) |
| (peudo) R-sq. | 0.22 | 0.25 | 0.23 | 0.24 | 0.27 | 0.26 | 0.25 | 0.26 | 0.24 | | | |
| Chi-stat. | | | | | | | | | | 100.07*** | 88.74*** | 96.19*** |

Note: Parentheses are standard errors. The standard errors are clustered at the country level. */***/*** indicates significance at 10/5/1% level.

**Table 3. 7.** Marginal Effects

**Women's Economic Rights**

| Index value | 0 | 1 | 2 | 3 | E[Y] |
|---|---|---|---|---|---|
| Sample frequency | 0.069 | 0.572 | 0.326 | 0.033 | 1.322 |
| Probability at means | 0.004 | 0.719 | 0.277 | 0.0002 | 1.273 |
| Personal contact | -0.0001 | -0.003 | 0.003 | 0.0001 | 0.003 |
| p-value | 0.04 | 0.019 | 0.019 | 0.093 | 0.019 |

**Women's Social Rights**

| Index value | 0 | 1 | 2 | 3 | E[Y] |
|---|---|---|---|---|---|
| Sample frequency | 0.162 | 0.534 | 0.213 | 0.091 | 1.232 |
| Probability at means | 0.013 | 0.815 | 0.172 | 0.0003 | 1.159 |
| Information flows | -0.0003 | -0.002 | 0.002 | 0.0001 | 0.002 |
| p-value | 0.027 | 0.02 | 0.02 | 0. 116 | 0.02 |

**Human Trafficking**

| Index value | 0 | 1 | 2 | 3 | 4 | 5 | E[Y] |
|---|---|---|---|---|---|---|---|
| Sample frq. | 0.124 | 0.165 | 0.174 | 0.331 | 0.132 | 0.074 | 2.40 |
| Prob. at means | 0.034 | 0.128 | 0.229 | 0.523 | 0.080 | 0.006 | 2.50 |
| Personal contact | -0.004 | -0.009 | -0.007 | 0.012 | 0.007 | 0.001 | 0.045 |
| p-value | 0.011 | 0.003 | 0.004 | 0.007 | 0.001 | 0.174 | 0.00 |

Note: The table reports the marginal effects corresponding to tables 3.3, 3.4 and 3.6. The row 'sample frequency' reports the observed frequency in the sample, while 'probability at means' yields the probability for observing a given index value according to the estimated model.

### 6. Robustness of Findings

I examine the robustness of the main findings by employing variants of the extreme bounds analysis (EBA), proposed by Leamer (1983), Levine and Renelt (1992) and Sala-i-Martin (1997). In order to perform EBA, the following equation is estimated.

$$y_{it} = \delta_C C + \delta_E E + \delta_Z Z + \omega \qquad (4)$$

where *y* indicates women's economic and social rights respectively, as well as human trafficking flows, and vector C includes 'commonly accepted' explanatory variables which are also referred to in the literature as 'focus variables'. In this case, this is (logged) income and it is always included in the estimations here. The vector E contains the 'variable(s) of interest' that one would like to examine (in this case the globalization variables). The vector *Z* contains up to three possible additional explanatory variables. These are the variables in which there is no consensus in the literature, however according to the broader literature they are related to the dependent variable (Levine and Renelt 1992; Folster and Henrekson 2001). While $\delta$ denotes the coefficient of the respective variables, $\omega$ denotes the idiosyncratic error term.

The main advantage of the EBA is that it minimizes the problem of multicollinearity as it only allows for three variables at a time from vector Z, along with the variable of interest in vector E, to perform estimations. However, it can also lead to biased results due to misspecification or reduction in observations. With this in mind, I use the results of the EBA only to check whether the main findings still hold under different specifications.

Following Sala-i-Martin (1997), I report not only the extreme bounds, but also the percentage of the regressions (i.e. % sign column) in which the coefficient of the variable *F* is statistically different from zero at the five percent level. Still following Sala-i-Martin's (1997), I also report the unweighted parameter estimate of $\beta_F$ and its standard error, as well as the unweighted cumulative distribution function, CDF(0)[85] and use a CDF(0) value of 0.90 as the threshold above which one can consider variables to be robust. Ordered probit estimations are employed for set 1 and 2 and probit is used for set 3[86]. Table 3.8 shows the results of the EBA.

[85] The CDF(0) shows the larger portion of the area under the density function either above or below zero, i.e. whether this happens to be CDF(0) or 1-CDF(0). Thus the CDF(0) always lies between 0.5 and 1.0.

[86] Time-fixed effects are controlled for in all estimations. Regional dummies are also included in each specification but are not reported here. Robust standard errors are employed and clustered at the country level.

**Table 3.8.** Results of EBA

| Set 1: Women's Economic Rights | | | | | | |
|---|---|---|---|---|---|---|
| **Variables** | **Average Beta** | **Average Std. errors** | **% of Sign** | **CDF-U** | **Lower Bound** | **Upper Bound** |
| Trade | 0.002 | 0.001 | 0.487 | 0.921 | -0.004 | 0.008 |
| FDI | -0.306 | 0.852 | 0.001 | 0.696 | -3.468 | 3.154 |
| Personal Contact | 0.008 | 0.005 | 0.296 | 0.911 | -0.012 | 0.027 |
| Information flows | 0.017 | 0.006 | 0.997 | 0.997 | -0.003 | 0.040 |
| Cultural proximity | 0.006 | 0.003 | 0.547 | 0.940 | -0.006 | 0.018 |
| LDV | 1.910 | 0.093 | 1.000 | 1.000 | 0.000 | 2.268 |
| Civil Liberty | 0.217 | 0.093 | 1.000 | 0.999 | 0.000 | 0.468 |
| Democracy | 0.091 | 0.011 | 0.818 | 0.931 | -0.043 | 0.078 |
| Muslim | -0.007 | 0.002 | 0.947 | 0.994 | -0.017 | 0.001 |
| OECD | 0.822 | 0.209 | 1.000 | 0.999 | -0.001 | 2.075 |
| **Set 2: Women's Social Rights** | | | | | | |
| **Variables** | **Average Beta** | **Average Std. errors** | **% of Sign** | **CDF-U** | **Lower Bound** | **Upper Bound** |
| Trade | 0.001 | 0.002 | 0.064 | 0.734 | -0.007 | 0.007 |
| FDI | 0.188 | 0.998 | 0.000 | 0.690 | -3.847 | 4.457 |
| Personal Contact | 0.003 | 0.005 | 0.024 | 0.753 | -0.018 | 0.026 |
| Information Flows | 0.021 | 0.006 | 0.999 | 0.999 | -0.001 | 0.043 |
| Cultural proximity | 0.011 | 0.003 | 0.911 | 0.993 | -0.003 | 0.025 |
| LDV | 2.160 | 0.083 | 1.000 | 1.000 | 0.000 | 2.420 |
| Civil Liberty | 0.262 | 0.049 | 0.996 | 0.999 | -0.012 | 0.494 |
| Democracy | 0.043 | 0.012 | 0.841 | 0.974 | -0.043 | 0.099 |
| Muslim | -0.010 | 0.002 | 0.966 | 0.997 | -0.022 | 0.001 |
| OECD | 1.342 | 0.241 | 1.000 | 0.999 | 0.000 | 3.252 |
| **Set 3: Human Trafficking** | | | | | | |
| **Variables** | **Average Beta** | **Average Std. errors** | **% of Sign** | **CDF-U** | **Lower Bound** | **Upper Bound** |
| Trade | -0.001 | 0.002 | 0.013 | 0.733 | -0.012 | 0.007 |
| FDI | 1.438 | 2.043 | 0 | 0.751 | -5.680 | 8.744 |
| Personal Contact | 0.011 | 0.009 | 0.120 | 0.846 | 0.018 | 0.054 |
| Information Flows | -0.028 | 0.011 | 0.807 | 0.982 | -0.070 | 0.017 |
| Cultural Proximity | 0.003 | 0.006 | 0 | 0.699 | -0.018 | 0.023 |
| Women's econ | -0.174 | 0.121 | 0.220 | 0.882 | -0.638 | 0.315 |
| Women's social | -0.124 | 0.119 | 0.040 | 0.823 | -0.577 | 0.370 |
| Control corruption | 0.285 | 0.184 | 0.240 | 0.896 | -0.445 | 1.062 |
| (log) population | 0.052 | 0.066 | 0.013 | 0.763 | -0.189 | 0.340 |
| Catholic | -0.004 | 0.003 | 0.148 | 0.858 | -0.018 | 0.009 |
| OECD | 0.475 | 0.384 | 0.050 | 0.875 | -1.372 | 1.701 |

Note: Results are based on 696 (women's economic and social rights) and 833 (human trafficking) regressions, respectively. Time-fixed effects are included. Regional dummies are included in the regressions but not reported. For set 1 and 2 ordered probit estimations are used and for set 3, probit estimations. Robust standard errors are applied and clustered at the country level for set 1 and 2. 'Average beta' and 'Average std. errors' report the unweighted average coefficient and standard error, respectively. '% of sign' refers to the percentage of regressions in which the respective variable is significant at least the 5% level. 'CDF-U' is the unweighted CDF as detailed in section 6. The threshold to consider a variable robust is 0.90. 'Lower bound' and 'Upper bound' give the lowest and highest value of point estimate minus/plus two standard deviations.

For set 3, the dependent variable is a dummy, that being whether a country belongs is considered a destination in the given year.

Set 1 and 2 correspond to the estimations on women's economic and social rights and the results are consistent with the main results in section 5. *Personal contact* increases women's economic rights and *information flows* increase women's social rights. In addition, all of the control variables have significant effects with an expected sign. In contrast to this, the findings in set 3 do not confirm the detrimental effect of personal contact on human trafficking, calling for a cautious interpretation of the main result.

## 7. Conclusion

In this paper, I have analyzed how different dimensions of globalization affect various aspects of women's status and rights. As the theory predicts, it is social globalization that improves women's rights and empower women, both in the economic and social dimensions. Economic globalization – trade and FDI – has no impact on women's empowerment when controlling for the effects of social globalization. Although generally disregarded in the previous literature, the positive impact of social globalization seems to be logical given that improving women's rights in society is closely related to changes in perceptions, attitudes and ideas. The main findings suggest that information flows – exchanges of ideas and images – are beneficial to women's social rights, while personal contact – direct communication amongst people in different countries – enhances women's economic status. How (and why) the different aspects of social globalization affect different dimensions of women's rights is still an open question, leaving room for further research. Finally, this analysis suggests that the beneficial effect of social globalization on local women's rights is not necessarily passed on to marginalized foreign women, which has been proxied by human trafficking inflows in this paper. As one can see, globalization does not reduce human trafficking inflows or the associated exploitation of women without a legal standing in a country, even increasing its incidence in some cases. It seems that the impact of globalization on women's rights is still limited, with its effects not yet having complete global penetration for cosmopolitan citizens.

**Chapter 4.**

# International Human Rights Treaty to Change Social Patterns - The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)

## 1. Introduction

Gender equality is a fundamental part of the rights of human beings, affecting the well-being of both men and women (Bjørnskov et al. 2007) and the general development of a society (Abu-Ghaida and Klasen 2004; Klasen and Lamanna 2009). Accordingly, various international human rights regimes[87] advocate women's rights. Moreover, the international community stresses the importance of gender equality and women's empowerment in achieving development goals (the UN Millennium Development Goals).

Among the existing international efforts to ensure gender equality, the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW 1981) provides the prime legal framework. In particular, CEDAW addresses gender inequality as a problem deeply rooted in many local cultures (Simmons 2009) and creates a legal framework to tackle such culturally ingrained problems. CEDAW also emphasizes the importance of the social dimension of women's rights because a women's social environment (e.g. family) is arguably the first place where discrimination is experienced. In addition, discriminatory actions in this environment are difficult to change because it is often perceived as a part of the culture or tradition. In fact, the adoption of CEDAW signifies the emergence of women's social rights in the international legal framework, which have been neglected in pre-existing human rights treaties (Brandt et al. 1995/6).

Despite its importance, the impact of CEDAW has rarely been studied. In the current literature, there are very few empirical studies examining the impact of CEDAW on human rights in general (Haftner-Burton and Tsutsui 2005), not to mention women's rights specifically (Den Boer 2008). However, these studies do not specifically address the issue of whether CEDAW can be effective in improving women's social rights, the newly adopted core mandate of the convention. Furthermore, the studies are limited to investigating whether the ratification of CEDAW can create any impact, neglecting potentially important

[87] The Preamble to the Charter of the UN 1945; the Universal Declaration of Human Rights 1948; the International Covenant on Economic, Social and Cultural Rights 1966; and the International Covenant on Civil and Political Rights 1966.

institutional factors which ensure the effectiveness of CEDAW. In fact, while the role of international regimes is often criticized (Boockmann and Dreher 2011; Haftner-Burton and Tsutsui 2005), recent literature also suggests that an international human rights regime may function well under a democratic institution (Neumayer 2005).

Among the existing studies, Simmons (2009) investigates this very relevant question regarding institutional conditions and how they ensure the effectiveness of CEDAW. She suggests that CEDAW can be effective under transitional regimes because of lock-in effects of international norms. Her finding is meaningful, proposing certain domestic conditions as a requirement to realize the objectives of CEDAW. That being said, she does not take into account the institutional attitudes of democracy towards the process of adopting international norms and only distinguishes regimes by stability (either being transitional or stable). This approach neglects the differences between democracy and autocracy.

In fact, the attitudes of democratically elected leaders towards an international legal system which advocates fundamental rights of their citizens are different from those of autocratic leaders (Hathaway 2007; Slaughter 1995). In other words, in democratic countries, elected executives have more incentive to comply with international human rights treaties as far as the human rights of their citizens are concerned (Bjørnskov 2010(b)), while in autocratic countries, the ratification of a human rights treaty could be merely a window dressing gesture, which does not create any impact and could even produce negative effects (Vreeland 2008). The example of the amendment of the family law in South Korea shows good anecdotal evidence. During the dictatorship in the 1970s and 80s, South Korean women's groups tried to repeal the unequal family law (Article 809) against marriages between members of the same agnatic lineage descendants (same clan marriage). Their efforts were futile under the dictatorship, even after the country ratified CEDAW in 1984. However, in 1997, after a democratic government took over power, the Constitutional Court ruled that the law was unconstitutional as it violated rights to free marriage and equality, supporting the core principles of CEDAW (McPhedran et al. 2000).

Given the importance of democracy, Simmons' finding – no impact in stable regimes – may have been caused by a trade-off between the positive effects in a stable democracy and the negative effects in a stable autocracy. In this paper, I argue that democracy is a critical institutional condition to enhance the effectiveness of CEDAW, empirically testing whether CEDAW will be more effective in a more democratic country. In doing so, this investigation makes a contribution to the literature by identifying causal relationship – a common problem

in the compliance literature. Controlling for unobserved individual heterogeneity and reverse causality, I show that commitments to CEDAW have a causal effect on women's standing in society, if promoted by a democratic government.

In this paper, I make use of panel data for 126 countries from 1981-2007 and test the impact of CEDAW on women's social, political and economic rights respectively. Through the analysis, I find CEDAW and democracy have a positive interaction effect by improving women's social rights, a core objective of CEDAW which has been recently introduced into the international human rights legal framework. However, the joint effect of CEDAW and democracy does not seem to create any significant impact on women's political and economic rights, nor does CEDAW or democracy alone affect any dimension of women's rights.

This paper will continue as follows. In section 2, I discuss the main hypotheses. Section 3 describes the method used to measure commitment to CEDAW. Section 4 presents the research design and estimation method, followed by the empirical results in section 5 and robustness checks in section 6. Section 7 concludes the paper with policy implications.

## 2. CEDAW, Women's Social Rights and Democracy

### 2.1. CEDAW and Women's Social Rights

The Convention on the Elimination of Discrimination against Women (CEDAW, 1981) was adopted by the United Nations General Assembly in 1979 and entered into force in 1981 after it was ratified by 20 member states[88]. Integrating all pre-existing treaties on women's rights, CEDAW was created as a single and comprehensive international legal instrument in the field (the CEDAW Committee 1995). The main feature of CEDAW is its comprehensive approach to achieving gender equality in 'all dimensions' of life and eliminating 'all forms' of discrimination (article 1)[89].

Its comprehensive measures on women's rights also include the introduction of gender equality in social and private spheres, creating a new norm for women's social rights in the international legal framework. The introduction of women's social rights through CEDAW

[88] This is the requirement prescribed by the Vienna Convention on the Law of Treaties (United Nations, 1969).

89 CEDAW consist of six parts (30 articles) and addresses the obligations of member states to improve women's rights in social, political, economic, civil and legal dimensions. Part I (article 1-6) states the principles of the Convention, including the definition of discrimination. Part II (article 7-9) deals with women's rights in political and public life, Part III (article 10-14) with developmental issues in gender equality such as education, employment, health, economic and social benefits as well as the standings of women in rural areas, and Part IV (article 15-16) with women's legal status and equality in family life and marriage. Additionally, Part V (article 17-22) and Part VI regulate monitoring and administrative procedures.

adds a new dimension to the already existing legal framework advocating women's political and economic rights[90]. Prior to CEDAW, an equal standing for women in social and private life (e.g. family) was not ensured, probably due to the sensitivity of these issues to local cultures (Simmons 2004).

In the CEDAW scheme, the emphasis on women's social rights is evident. In particular, article 5 calls for changes in social patterns and cultural practice discriminating against women. This declaration is ground-breaking in the sense that social and cultural patterns are known to be inherited and habituated, thus being previously regarded as unchangeable by international law (Brandt et al. 1995/6). Article 5 reads, "*to modify the social and cultural patterns of conduct of men and women, with a view to achieving the elimination of prejudices and customary and all other practices which are based on the idea of the inferiority or the superiority of either of the sexes or on stereotyped roles for men and women*". The importance of social changes towards gender equality is re-addressed in article 16. It advocates gender equality in culturally sensitive issues such as marriage and family relations – i.e. women's reproductive rights, equal rights in sharing parental authority and guardianship, the choice of family name and inheritance. Article 16 is deemed by the Committee on the Elimination of Discrimination against Women (hereinafter CEDAW Committee) as one of the two core provisions of the convention, together with article 2 advocating women's rights as constitutional rights (CEDAW Committee, 1998).

The adoption of women's social rights by CEDAW is important because it is the first time that an international treaty tackles discriminatory social patterns and cultural practice, a root cause of gender inequality, rather than focusing on the outcome of gender discrimination in political and economic life (Simmons 2004). If CEDAW can be a mechanism to generate and process norms related to women's rights as scholars of the normative approaches suggest (Simmons 1998), one can expect that the emergence of CEDAW would lead to improving women's social rights.

However, whether such adoption of women's social rights by CEDAW can be translated into domestic legislation and enforcement - creating meaningful effects on women's standing in society - is still an open question. This is because CEDAW, similar to other human rights treaties, does not have a direct measure to enforce compliance and punish

[90] The Convention on the Political Rights of Women (1952), the Convention on the Nationality of Married Women (1957) and the Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriages (1962) advocated women's rights in specific areas such as voting rights, political representation, the preservation of nationality and the prevention of forced marriage.

violators of the convention (Bayefsky 2001). In other words, ratification of CEDAW does not automatically lead to the integration of the convention into domestic law and therefore compliance with CEDAW in practice is still dependent on the individual decisions of member states (Clark 1991). In the section below, I look at the domestic conditions under which member states are likely to comply with CEDAW. By doing this one can see how CEDAW can function as an effective tool in promoting its key, newly adopted norm of women's social rights.

### 2.2. Joint Efforts of CEDAW and Democracy

The role of institutions has recently been emphasized in a wide range of empirical studies, regarding growth (Acemoglu et al. 2001; Hall and Jones 1999; Grimm and Klasen 2009), aid (Burnside and Dollar 2000; Dalgaard et al. 2004) and human rights (Hafner-Burton and Tsutsui 2005; Keith 1999; Poe et al. 1999; von Stein 2008). In particular, some of the human rights literature suggests that democracy is a determinant of human rights practices in a country, while human rights treaties do not necessarily improve the human rights records of a country (Hafner-Burton and Tsutsui 2005; Keith1999)[91].

Indeed, many studies criticize that human rights treaties are merely 'cheap talk' because they serve the purposes of the major power (Krasner 1993) or the need for international coordination (Chayes and Chayes 1995), rather than the stated mandates of human rights protection. Furthermore, human rights treaties are weak regimes which may not be implemented in practice because of the lack of a strong enforcement mechanism (Downs et al. 1996). In some cases, countries only ratify such treaties for 'window-dressing' purposes, even encouraging potential violators to join the treaty (Hathaway 2002; Vreeland 2008). Alongside the skeptical evaluation on human rights treaties, several empirical studies – including Hafner-Burton and Tsutsui (2005) and Keith (1999) – show results that indicate human rights treaties do not have any positive effect on a country's human rights practice. These studies suggest that it is democracy which determines the level of human rights records in a country rather than being a signatory to a human rights treaty. However, their approach neglects institutional conditions which can create favorable environments for implementing the mandates of human rights treaties. In other words, these studies do not address a very relevant question, that being whether democracy can be a driving force in enhancing the effectiveness of a human rights treaty.

[91] Hafter-Burton and Tsutsui analyze the effects of six universal human rights treaties including CEDAW and Keith the International Covenant on Civil and Political Rights (ICCP).

Indeed, regime type is crucial to the overall effectiveness of international human rights treaties because the realization of the mandates is arguably subject to political interactions among stakeholders – institutions, civil society and state actors (Moravcsik 1997). Many studies suggest that democracies tend to comply with the obligations of human rights treaties better than others because they are governed by rule and law, thus being more likely to observe the norms recognized by international judicial processes (Dixon 1993; Slaughter 1995). In democratic countries, constituents of political leaders would expect respect for law and order, thus democratically elected leaders arguably have more incentive to respond to the expectations and demands of their citizens (Bjørnskov 2010(b); Boix and Posner 1998; Hathaway 2007).

Specifically in the case of CEDAW, the mandates of CEDAW have to be adopted into domestic legal systems in order to make the convention effective in practice. The need for domestic adoption is stated in article 2 of the convention, urging countries to integrate women's rights into their national constitutions. Without amending national law and reforming domestic policies, ratification of CEDAW would not result in any meaningful improvements in women's standing and rights in a country (Clark 1991). With this in mind, democracy can play an important role in transferring ratification of CEDAW into domestic law for two reasons. First, in terms of rules, democracies tend to have greater aptitude to respect international law and its obligations than autocracies, as explained above. Thus, upon ratification, it is more likely for democracies to conduct legislative reform accordingly. Moreover, ratification of CEDAW often results in civil actions and litigations demanding for the reform of discriminatory law as the situation in Japan in the 1980s exemplifies (Simmons 2009). Such citizens' actions are arguably stronger in democracies and therefore governments' performance in complying with the convention is subject to more civil monitoring (Keck and Sikkink 1998; Koh 1998).

Keeping these arguments for democracy in mind, it seems logical to hypothesize that the ratification of CEDAW by a democratic country is more likely to lead to domestic legal adoption and implementation of the objectives CEDAW advocates.

### 3. Measuring Commitment to CEDAW: Reservations

In measuring commitment to human rights treaties, most studies (Hathaway 2002; Keith 1999; Neumayer 2005; Simmons 2009) use a dummy variable, indicating whether the country ratified the treaty in a given year. Alternatively, some other studies (Hafner-Burton and

Tsutsui 2005) employ the number of years after ratification[92]. However, when measuring the level of commitment to CEDAW, neither holding the membership nor the number of years a country has been part of the convention correctly reflects commitments due to the large number of reservations to the convention (Wotipka and Ramirez 2008). The realization of CEDAW has been constrained by a large number of reservations, which means that a significant number of member states are not necessarily obligated to recognize several core objectives.

At present, 62 out of the 186 members have reservations related to at least one article of CEDAW, with the total number of reservations equaling 148 (excluding the general reservation declared by Mauritania). Among the 148 reservations, 108 are substantial reservations related to the principles of women's rights and its measurement, with the other 40 related to dispute settlements regulated in article 29. This is significant compared to other human rights treaties under the United Nations. For instance, the International Convention on the Elimination of All Forms of Racial Discrimination (CERD 1966), ratified by 173 parties, currently has 80 reservations from 52 parties, consisting of 22 reservations related to dispute settlement and 58 related to the content of racial discrimination and its measurement.

The biggest cause for concern is the fact that more than one-fifth of CEDAW members have reservations related to at least one of the two core articles declared by the CEDAW Committee – articles 2 (Policy Measure) and 16 (Marriage and Family Life)[93] (see appendix 4.C for the detailed content of the two articles and appendix 4.D for the list of countries with reservations to the two articles). Reservations related to the core provisions are especially controversial, given that these reservations highlight the negligence of member states in regards to the key principles of the convention. Article 16, which advocates women's rights in private and social dimensions, currently has the most reservations (other than article 29 on Dispute Settlement), with 33 parties either partially or completely reserved to it. Article 2, which prescribes women's rights as constitutional, is reserved by 19 parties. 14 parties have reservations related to both article 2 and 16. Altogether, more than 20% of the members of

[92] One of the problems with this method is the assumption that commitments to CEDAW increase linearly every year, which may not be true. If commitments are stronger in the initial stages, possibly due to a sudden increase in public awareness or the requirement of reporting in the first year, they would have a concave shape. Also, the development of commitments could be convex if they arise after a certain threshold period.

[93] In principle, CEDAW does not permit reservations which are incompatible with the objectives and purpose of the convention, as stated in article 28. This means the impermissibility principle of the Vienna Convention on the Law of Treaties (1969) has been adopted. However, this does not further regulate which articles are specifically impermissible (Clark 1991).

CEDAW have reservations related to at least one of the two core articles[94]. Furthermore, this reservation practice by member states has been persistent and does not show substantial improvement over time. Although there have been 61 withdrawals of reservations since 1981, only 10 withdrawals were related to the partial or complete removal of reservations to article 2 or 16.

One salient feature worth noting is the large number of reservations by Muslim countries[95]. Muslim countries have made a wide range of reservations based on conflicts with Islamic Law (Sharia) since the convention's adoption (Brandt and Kaplan 1995/6; Clark 1991). More than half of the countries with reservations to article 2 and/or 16 are Muslim-majority countries: 12 out of 19 countries for article 2, 18 out of 33 for article 16 and 11 out of 14 for both. This implies that Muslim-majority countries, which make up about 20% of CEDAW member states, are responsible for more than 50% of reservations related to the core articles.

Given the seriousness of reservations related to the prime obligations of CEDAW, the magnitude of reservations by member states has to be taken into account when measuring commitment to the convention. Landman (2005) shows that reservations to CEDAW are highly correlated to the human rights practices of a country, with democracies that have better human rights records having less serious reservations to CEDAW[96]. His finding indicates that countries with more serious reservations to the convention are less likely to implement the convention successfully[97]. Furthermore Neumayer (2007) shows that having a larger Muslim population increases the number of reservations to CEDAW, probably because of conflicts with the Islamic law, further indicating that domestic conditions unfavorable to women tend to increase reservations.

With the importance of reservations in mind, I employ a measurement counting the magnitude of reservations as a proxy to the level of commitment to the convention. When looking at the seriousness of reservations, Landman (2005) proposes the following method in

[94] Other notable reservations are: article 9 on Nationality reserved by 19 parties; article 7 on Political and Public Life by 7 parties; and article 15 on Law by 13 parties.
[95] For instance, Mauritania has reservations to any part of the convention which is against Islamic Law, and Qatar, which ratified the Convention in 2009, has reservations to seven articles (including article 2 and 16). Other countries with more than 5 reservations are Bahrain, Malaysia, Micronesia, Morocco, Niger, Syria, the United Arab Emirates and the United Kingdom. Among them, six countries are Muslim-majority countries (the United Kingdom and Micronesia are not).
[96] On the other hand, Neumayer (2007) shows that political constraints tend to increase the number of reservations of human rights treaties in general.
[97] I do acknowledge that there is a potential reverse-causality problem in this relationship and refer to this issue in section 5.

measuring commitment to CEDAW: a scaling method, weighted by the reservations made by a country. He suggests penalizing reservations related to article 2 (Policy Measure), 7 (Political and Public Life), 11 (Employment), 15 (Law) and 16 (Marriage and Family Life), with a special weight on article 2. This is a sophisticated method, differentiating countries' level of commitment based on the seriousness of their reservations. However, he does not provide further justification for the articles he selects and why reservations to these articles have a more significant effect on progress in women's rights. For instance, while placing importance on employment (article 11), education (article 10) does not receive special consideration, despite being one of the United Nations Millennium Development Goals and an area where gender equality is important in achieving equal employment opportunities (Klasen and Lamanna 2009; Abu-Ghaida and Klasen 2004). Moreover, it is not explained why a reservation related to article 2 receives a higher penalty than that of one to article 16, the other core article.

In this paper, I modify Landman's method and propose a new weighting scale. This scale gives special weights to the two core articles (article 2 and 16), based on the following justifications. First of all, they are assigned critical importance by the CEDAW Committee, who monitor and supervise the implementation of the convention. Additionally, the choice of article 2 is in line with Landman's proposal. Furthermore, the importance of article 16 is re-stated by article 5, which calls for changes in social and cultural patterns against gender discrimination. The measurement scale works as follows:

Score 0: Non-signatory
Score 1: Signed but not ratified
Score 2: Ratified but with reservations to article 2 and/or 16 (including general reservations based on conflicts with religious or domestic law)
Score 3: Ratified but with reservations to articles other than 2 and 16
Score 4: Full ratification without reservations

In addition to reservations, there is another dimension which may capture the level of commitment to CEDAW. The number of country reports submitted to the CEDAW Committee [98] shows a persistent effort by member states to implement the convention. Reporting is a good indicator of commitment because the obligation to submit reports is not always carried out by all members due to the lack of punishment associated with non-

[98] Den Boer (2008) uses this method to measure commitment to CEDAW.

compliance. Also, looking at the number of country reports would provide a comparison with the four-point scale on reservations, alleviating potential subjectivity of measurement. Furthermore, this measurement complements the scale weighted by reservations because the number of reports has accumulated over time, reflecting ex-post efforts made by countries. Reservations on the other hand are initially ex-ante efforts which countries declared upon entering the convention and may gradually be withdrawn. Nevertheless, this method only reflects upon a limited scope of commitment because these reports address progress in areas where member states have not made reservations. With this in mind, I use the number of country reports as an alternative proxy for the commitment to CEDAW when testing for robustness.

## 4. Research Design

In this paper, I estimate pooled Time Series Cross-Section (TSCS) regressions across a large sample of 126 countries during the 1981-2007[99] period. The main equation to be estimated takes the following form.

$$\text{Women's Rights}_{i,t} = \alpha + \beta\ \text{Commitments}_{i,t} + \text{Commitments}_{i,t} \times \text{Democracy}_{i,t} + \theta\ \text{Women's Rights}_{i,t-1} + \varphi\ X'_{i,t} + \mu_i + \gamma_t + u_{i,t} \qquad (1)$$

, where subscript i indicates countries and t years.

The dependent variable, *Women's Rights* $_{i,t}$, represents the level of women's social, political and economic rights respectively, measured by the CIRI Women's Rights Index[100] (the detailed factors of each of the three women's rights the CIRI Index captures can be found in appendix 4.E). The CIRI Women's Rights Index is coded from the annual Country Reports on Human Rights Practice published by the Department of State of the United States[101] and has an ordinal structure with a scale 0, 1, 2 and 3: where 0 indicates no respect for women's rights and 3 the (nearly) full guarantee of women's rights. I use the CIRI Index as it offers

[99] The panel data are mostly balanced and some missing values are imputed by taking neighboring values, excluding missing values from former Soviet and Eastern-bloc countries during 1981-1990.

[100] *Women's Social Rights* in the CIRI Index cover article 5 (Sex Role Stereotyping and Prejudice), 9 (Nationality), 10 (Education), 12 (Health), 13 (Economic and Social Benefits), 16 (Marriage and Family life). *Women's Economic Rights* are relevant to article 10 (Education), 11(Employment) and 13 (Economic and Social benefits), and *Women's Political Rights* to article 1 (discrimination), 3 (Guarantee of Basic Human Rights and Fundamental Freedoms), 7 (political and public life) and 8 (representation).

[101] There is some concern about the political bias the United States Human Rights Reports may have. Some argue that allies of the United States tend to be favored and opponent countries are criticized in the reports. Thus, some studies use Amnesty International reports on human rights practices as an alternative or supplementary method. However, empirical results are nearly identical across the two informational sources (Neumayer 2005).

several advantages. First, scores from the CIRI Women's Rights Index are determined based on the legal protection of women's rights and how a country exercises this in reality (Cingranelli and Richards 2008). Thus it is a relevant measurement to evaluate whether the women's rights CEDAW advocates are integrated in domestic legislation and actual practice[102]. Furthermore, the CIRI Index is the only available time series data covering a wide range of issues on women's rights, in particular social rights, which are difficult to measure, given that they are caused by institutional and cultural factors, rather than being an outcome of them (Branisa et al. 2009(b)). Additionally, this index is widely used to monitor the progress of women's rights, including utilization by the United Nations (UNIFEM 2008). On the other hand, as the CIRI Index is a composite index, it may lack some important information on women's rights through aggregation. Therefore we additionally employ more specific measurements on women's social rights: sharing parental authority, women's rights to inheritance and the practice of polygamy by using the OECD Gender, Institutions and Development Database (GID Database, Branisa et al. 2009(b)). The data measure the levels of legislation and practice in granting the type of rights mentioned above to women in non-OECD countries, giving scores ranging from 0 to 1; 0 being equal rights and 1 no rights for women (or polygamy fully acknowledged). A drawback of these measurements is that the data is only available for one year (2000) and therefore unable to be used for a time series analysis. Thus, we use the GID measurements when testing for robustness on women's social rights.

The main variable of interest is *Commitment* $_{i,t}$. It has a five-point scale weighted by the ratification of, and reservations to CEDAW. The values range from 0 to 4, as described in section 3. The data on countries' reservations and ratification are taken from the United Nations Treaty Collection. In addition, I employ an alternative measurement of commitment to CEDAW, i.e. the number of country reports submitted to the Committee. The other main variable of interest is the interaction term between *Commitment* $_{i,t}$ and *Democracy* $_{i,t}$. This interaction term is included to test the hypothesis that CEDAW can be more effective if committed to by a more democratic country.

Among the control variables, a one year-lagged dependent variable, *Women's Rights* $_{i, t-1}$, is included in the estimation. Lagged dependent variables are known to have great explanatory power for the current level of women's rights (Dreher et al. 2010; Hathaway 2002;

[102] Ratification of CEDAW itself is not part of evaluation of the CIRI Women's Rights Index, therefore estimating effects of CEDAW on women's rights measured by the CIRI Index is not a tautology. I would like to thank Stephan Klasen for making this point clear.

Hafner-Burton and Tsutsui 2005; Keith 1999; Neumayer 2005). This is probably due to the practice being deeply embodied in cultures and societies, therefore only changing slowly over time. In addition to its high explanatory power, there is another advantage of including a lagged dependent variable; it corrects for possible autocorrelation (Beck and Katz 1995). A disadvantage is that the lagged dependent variable may incorrectly reduce the explanatory power of independent variables by absorbing a great deal of the variation in the dependent variable (Achen 2000). Taking the advantages and disadvantages of the inclusion of a lagged dependent variable into consideration, I estimate the model with three types of lagged dependent variables and compare the results: with the one-year lagged dependent variable; the initial level of the dependent variable (the level of women's rights in 1981); and no lagged dependent variable. This model allows us to reduce a potential inconsistency problem in the estimation which can be caused by including a lagged dependent variable in a panel setting, a so-called Nickell bias (Nickell 1981). In fact, this bias is minimized because the period of time (T) in the panel – 27 years – is sufficiently long and goes to infinity in the statistical sense (Beck and Katz 1995).

The vector of control variables ($X'_{i,t}$) includes other potential determinants of women's rights. First, this model includes a measure of democracy using the Polity IV data (Marshall and Jaggers 2009) because democracy has a positive association in ensuring citizens' basic rights (Cingranelli and Richards 1999; Hafner-Burton and Tsutsui 2005). The democracy score ranges from +10 (full democracy) to -10 (full autocracy). The number of human rights based NGOs is taken as a proxy for the depth of the civil society in a country, as civil society can be an active player in advocating human rights. Instead of taking the number of international NGOs used by Neumayer (2005) and Hafner-Burton and Tsutsui (2005), I take the number of human rights NGOs, normalized by the logarithm of a country's population, following Boockmann and Dreher (2011). Focusing specifically on human rights NGOs better serves the purpose of the paper[103], given the diverse range of agendas international NGOs work on. Regime durability[104] (the number of years the most recent regime has been in power) is taken from the Polity IV data. Regime durability is important because stable regimes can more firmly implement relevant policy measures towards gender equality. In addition, we account for the existence of conflicts by including two measures from the ICGR political risk indicators. External and internal conflicts can be determinants of

103 The number of women's organizations might be a better indicator but such time series cross country data is currently unavailable. Also, the number of women's organization is subject to a greater potential for endogeneity.
104 Given the distribution of the variable, we take a logarithm form of regime durability.

the level of women's rights in two conflicting ways: conflicts and civil unrest can violate the human rights of women; on the other hand, the standing of women in society can arguably be elevated during crises and changes in social structures. Population size is also included because it might be more difficult to change discriminatory practices in countries with large populations. This is due to the increased difficulty of reaching a social consensus amongst the vast majority of citizens. Furthermore, per capita income is included as economic development tends to improve women's standing and welfare. Trade openness – the percentage of exports plus imports as a total of GDP – is controlled for because open economies may provide more economic opportunities for women (de Soysa and Neumayer 2007)[105]. Population size, per capita income[106] and trade openness are taken from the World Bank datasets. Descriptive statistics and data sources are presented in appendix 4.A and 4.B.

Additionally, there might be country-specific characteristics ($\mu_i$) which are omitted in the model but affect the level of women's rights. If a country with better women's rights records is likely to commit to CEDAW, controlling for unobserved individual heterogeneity is critical in estimating ratification effects[107]. Country fixed effects are controlled for here by employing pooled OLS estimations with two-way fixed effects. In the ordered probit estimations, reflecting the ordinal dependent variables of the model, country fixed effects are, however, excluded because such inclusion would result in a biased estimation when including country-fixed effects. This is due to the incidental parameter problem; having country-dummy variables causes an inconsistency problem in this type of non-linear estimation (Lancaster 2000; Wooldridge 2002). On the other hand, employing a linear estimation with country fixed-effects may produce results with a value for the dependent variable which is over the range of the given ordinal structure, increasing the variation in the error term. Indeed, an omitted variable problem arises in many studies on human rights because most human rights measurements have ordinal structures: for instance, the CIRI Index, the Freedom House Civil and Political Rights Index and the Political Terror Scale. In prior studies, Hafner-Burton and Tsutsui (2005) and Keith (1999) employed ordered probit estimations without fixed effects, exacerbating a potential omitted variable problem. Hathaway (2002) manually included country-dummies, causing an incidental parameter problem. Some other studies use OLS with fixed effects (Cingranelli and Richards 1999; Keith 1999; Poe, Tate and Keith 1999), trading

[105] de Soysa and Vadlamannati (2010) also show that globalization improves human rights in general. On the other hand, some other studies suggest that globalization exacerbates inequality in a country (Dreher and Gaston 2008).

[106] Population size and per capita income take a logarithmic form, given the conventionally assumed function of decreasing marginal effects.

[107] The author thanks Eric Neumayer for this point.

the advantage of controlling for country-fixed effects for the disadvantage of applying a linear estimation to a non-linear model. In this paper, following Neumayer (2005), I employ the ordered probit method for the main testing method, using the linear ordinary least squares with country-fixed effects as a supplementary method. Having done this, I then compare the two results. Additionally, in the ordered probit estimations, several important time-invariant country characteristics such as religion and regional dummies are included in order to capture country-specific effects as much as possible. Religion can be a particularly important determinant of women's rights (Dollar and Gatthi 1999). In addition, this model controls for time-fixed effects ($\gamma_t$,). A potential heteroscedasticity problem is also taken into account by employing robust standard errors ($u_{i,t}$ ).

### 4.1. Endogeneity Concern: Instrumental Variable Approach

It is quite possible that the key explanatory variable, commitment to CEDAW, is endogenous to having better women's rights records. In other words, it is possible that if a woman's standing is higher in a particular country, ratification of CEDAW with fewer reservations is more likely. If so, the main variable of interest may not be a determining cause of the level of women's rights, but rather a consequence.

To tackle a potential reverse feedback problem, an instrumental variable (IV) method is applied, which involves employing variables exogenous to the dependent variables but correlated to the main variable of interest. The choice of instrumental variable is the commitment to other human rights treaties, measured by ratification and reservations related to the chosen treaties. The selected treaties are the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (Torture Convention, CAT 1984) and the Convention on the Prevention and Punishment of the Crime of Genocide (Genocide Convention, GPPCG 1948)[108]. The justification for this selection is that, if a country commits to one human rights treaty, it is likely to commit to another. It does not exclude a possibility that commitments to these human rights treaties are positively correlated to women's rights because having a high human rights record in general is likely to be associated with a high level of women's rights. However, commitments to these human rights treaties against torture and genocide are not a direct determinant of women's rights but only indirectly explain women's rights, fulfilling the exclusion restrictions.

[108] As both *Commitments* and the interaction variables have to be treated as two endogenous variables, two exogenous instruments are used for overidentifying.

Statistically, the result of the first-stage F-test[109] (see column 6 in tables 4.1-4.3) shows that the instruments are significant at the 1% level, confirming the strong correlation of commitment to CEDAW and the other two treaties. In addition, Hansen J-statistics show that the null of exogeneity cannot be rejected at the conventional level of significance in all of the models (column 6 in tables 4.1-4.3). Additional results of the first-stage regressions testing for explanatory power of the instruments and the exclusion restrictions are shown in appendix 4.F, further confirming the validity of the choice of instruments.

In conducting the IV estimations, I employ both ordered probit IV and two- stage linear square (2SLS) regressions. The former captures the ordinal structure of the model, while the latter controls for unobserved individual heterogeneity. For the ordered probit IV estimation, as there is no technical function in STATA (or other similar software programs) to command IV regressions, I manually program and run the regressions. First, I regress the two endogenous variables – *Commitments* $_{i,t}$ and the interaction term – on the two instruments and the other control variables by using the ordered probit (the first stage regression), then predict the values of the two endogenous variables and regress the dependent variables (women's social, political and economic rights respectively) by using OLS. The final step is then to adjust standard errors (the second stage regression).

### 5. Estimation Results

Figure 4.1 and 4.2 demonstrate positive association between progress in women's social rights and commitments to CEDAW (measured by ratification and reservations) over the past three decades. In this section, I empirically investigate whether this positive association is not merely a time-trend or coincidence but that there is a causal relationship between the two phenomena.

Columns (1)-(4) in tables 4.1-4.3 report the results of the ordered probit regressions and linear estimations with fixed-effects on women's social, political and economic rights respectively. Columns (1)-(2) in each table show the results without an interaction term between commitment and democracy, and columns (3)-(4) include the interaction term. In the ordered probit estimations, *Commitment* $_{i,t,}$ (the main variable of interest) has positive and significant effects on women's social and political rights, while having no significant impact

[109] The first-stage F-test reports the test statistic used to test the null hypothesis, i.e. the parameter estimate for the instruments in the first stage regression is equal to zero (Stock et al. 2002).

on women's economic rights. However, these positive effects lose their statistical significance if controlling for country-fixed effects by OLS, and therefore require cautious interpretation.

**Figure 4. 1**

Time Trend of Commitments to CEDAW

- Measured by the weighted scales of ratification and reservations

(126 countries, 1981-2007)

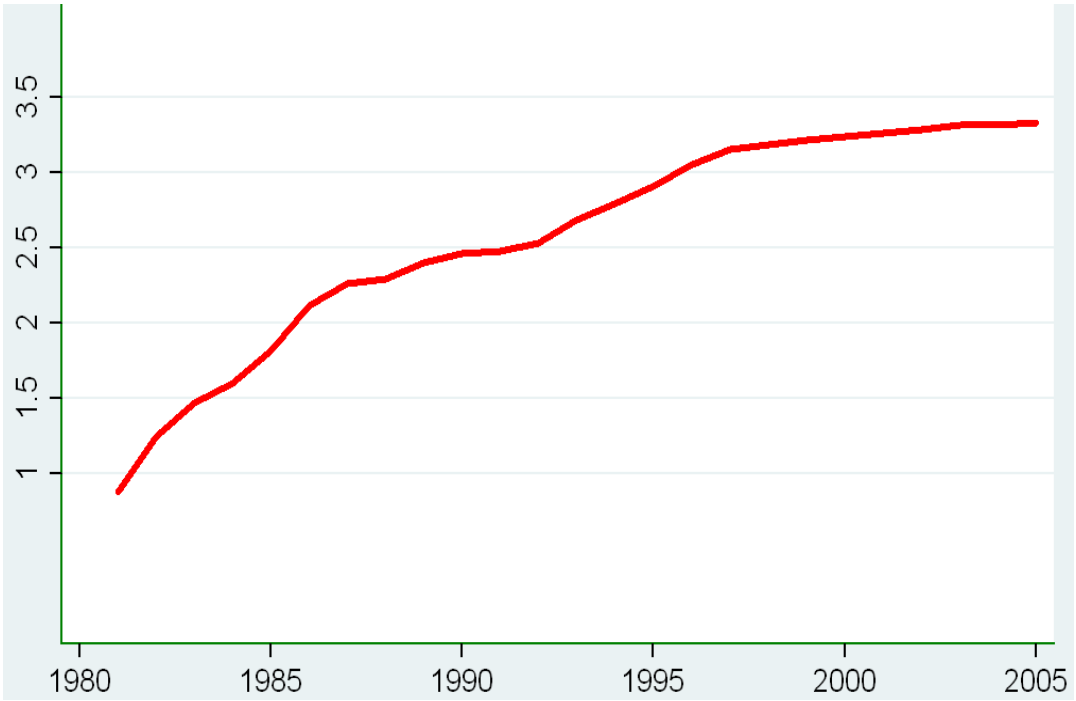
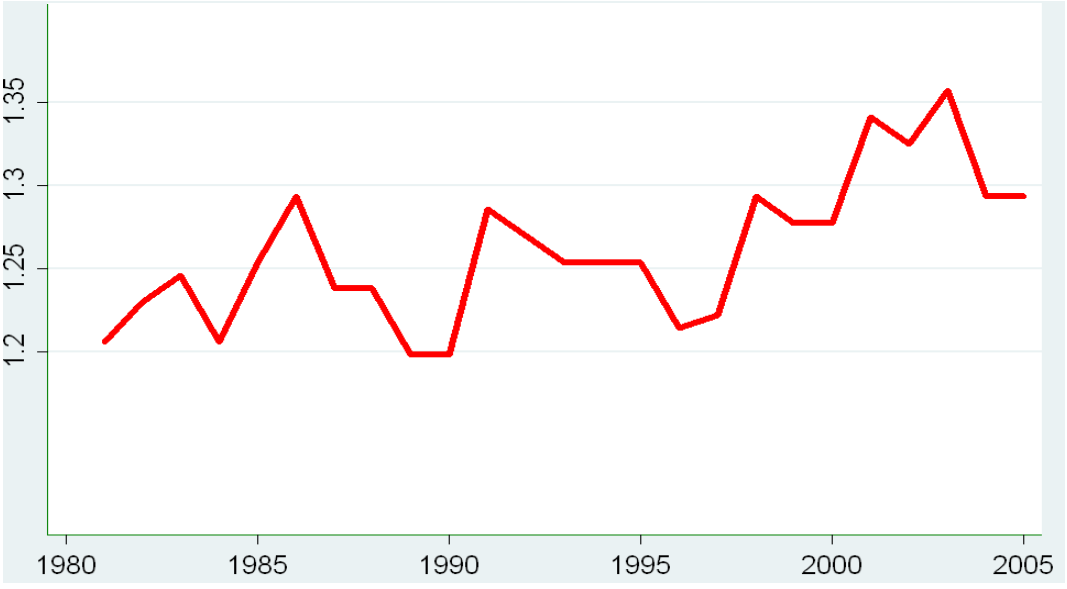



**Figure 4. 2**

Time Trend of Women's Social Rights

- Measured by the CIRI Women's Rights Index (126 countries, 1981-2007)



The interaction term between *Commitment* $_{i,t}$ and *Democracy* $_{i,t}$ has a positive effect on women's social rights at the 5% level, but not on the other dimensions of women's rights. This finding is identical both in ordered probit and OLS with fixed effect estimations. Interpretation of an interaction term is complicated in a non-linear model, because the marginal effect depends not only on the coefficient of the interaction term, but also on independent variables consisting of the interaction term (Ai and Norton 2003). To better understand the interaction effect, a graphical demonstration showing how the marginal effect (probability) of commitments varies in different levels of democracy serves this purpose well (Greene 2010). Figure 4.3 shows the development of the marginal effect of commitment at various levels of democracy[110]. Basically, the marginal effect has an upward trend with the level of democracy. This implies that CEDAW becomes more effective in enhancing women's social rights when a member state has a higher level of democracy. The marginal effect gains statistical significance after the level of democracy reaches Polity score 1, meaning that the positive effect is realized in countries with a level of democracy higher than this score. In other words, CEDAW promotes women's social rights in countries whose political institutions are closer to democracy than autocracy. Quantitatively, ceteris paribus, CEDAW and democracy in conjunction improve the level of women's social rights by 1.43%[111] when increasing the level of democracy by one standard deviation.

The lagged dependent variable demonstrates the highest explanatory power in explaining the current levels of women's social, political and economic rights, irrespective of the choice of variables and estimation method. This finding supports the argument that women's rights are a habituated practice, thus requiring a long time for changes to be seen. As explained in section 4, I test the model with three different choices of variables – a one-year lagged, the initial level (1981) and no lagged dependent variable. However, the results are qualitatively identical across all three models, suggesting that the inclusion of a lagged-dependent variable does not cause inconsistent estimations. With this in mind, I focus on the model with a one-year lagged dependent variable, taking into account that the level of women's rights from the previous year predominantly explains the current level[112].

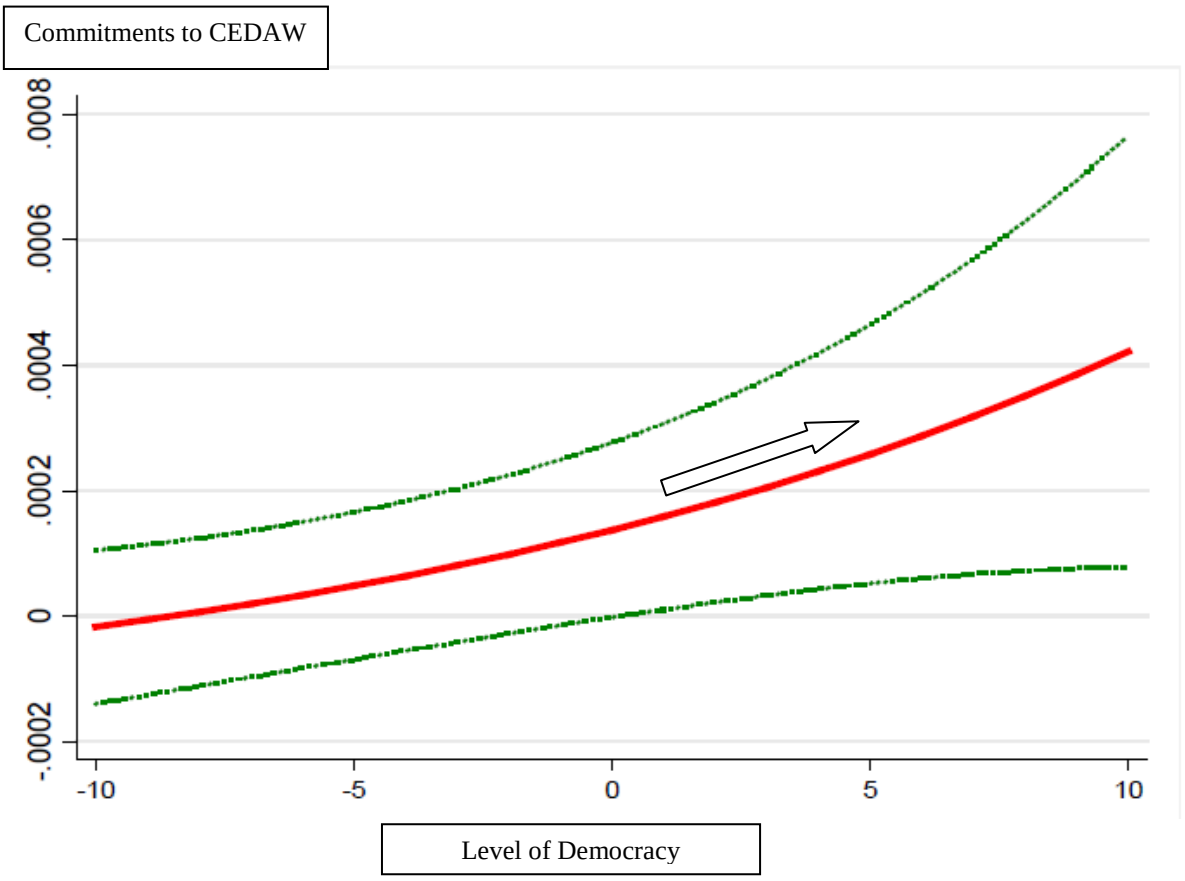
[110] The graph shows the marginal effect when the score for women's social rights is at its highest level (3). This is because the marginal effect of an interaction term is best captured at the highest order of the dependent variable in an ordered probit model (Wooldridge 2002).
[111] The magnitude is calculated by the OLS estimation, as the coefficient in ordered probit does not correctly reflect the magnitude of the marginal effect.
[112] The results of the models with the initial level of women's rights and no lagged dependent variables are not shown in this paper. The results can be obtained from the author upon request however.

**Figure 4.3**

Commitments to CEDAW and Democracy,

Marginal Effect (Probability) on Women's Social Rights

ordered probit, 126 countries, 1981-2007




Note: 95% level of confidence interval

Among other control variables, the effect of the number of human rights NGOs (per capita) is mostly positive and significant, a finding which is in line with the studies of Hafner-Burton and Tsutsui (2005) and Neumayer (2005). The impact is particularly pronounced in the women's political rights dimension. The result suggests that the participation of civil society is an important factor in promoting women's rights. Additionally, the positive effect of regime durability is partially detected in women's social rights, implying that political stability, regardless of regime type, can also improve women's rights. Smaller countries generally perform better in improving women's rights, probably because they have less complications in reducing discriminatory practices compared to countries with large populations. Interestingly, the negative effect of population size is most pronounced in women's social rights. In addition to larger countries' disadvantages in implementing reforms,

it could be possible that countries with high fertility rates – an indicator of an unequal society as far as women's rights are concerned – are more reluctant to change culturally rooted practices regarding women's social rights[113]. Conflicts are for the most part insignificant, suggesting internal and external risks can either be an opportunity or detrimental factor to a woman's standing in society, depending on other circumstances. The effects of per capita income are insignificant throughout all three dimensions of women's rights. This indicates that the economic development of a country may not directly lead to better women's rights, instead having an indirect affect on women's status through other political or social factors. Furthermore, the effect of democracy itself is widely insignificant, implying that it does not automatically translate into a higher standing for women but may only be effective through a joint effect with CEDAW, as discussed above. To look at it in another way, elected leaders in many countries are predominantly male and gender policy is not necessarily their policy priority, despite half of the voters being female in most electoral democracies. This finding indicates that actions such as CEDAW, which specifically address women's issues, are needed in order to make sure that electoral democracies endorse female citizens' rights.

The findings so far suggest that the implementation of CEDAW in conjunction with democracy can enhance women's social rights, even after controlling for unobserved individual heterogeneity. However, before coming to this conclusion, one needs to address a potential reverse-causality problem. Columns (5)-(6) in tables 4.1-4.3 present the results of the instrumental variable (IV) estimations with exogenous variables, commitments to the Torture Convention (CAT) and the Genocide Convention (GPPCG). The positive, significant effect of the interaction term on women's social rights, found in the main testing method, is re-confirmed both by the ordered probit IV and 2SLS. However, the impact of the interaction term is widely insignificant in the other dimensions of women's rights, which is identical to the findings of the main testing method. The positive effect of $Commitment_{i,t}$ on women's social and political rights, partially detected in the main testing method, are not robust across different estimation techniques, in particular when taking reverse causality and omitted variable problems into account. Only the joint effect of CEDAW and democracy on women's social rights remains significant throughout different choices of variables and estimations. Among the other control variables, the one-year lagged dependent variable maintains its high explanatory power. The positive impact of human rights NGOs is also confirmed by the IV

[113] The author would like to thank Stephan Klasen for raising this point. This issue deserves further investigation to be proven.

**Table 4.1**

Commitments to CEDAW and Women's Social Rights, 126 countries, 1981-2007

| | (1) Ordered probit | (2) OLS FE | (3) Ordered probit | (4) OLS FE | (5) Ordered probit IV | (6) 2SLS |
|---|---|---|---|---|---|---|
| Commitment | 0.06 | 0.003 | 0.05 | 0.003 | 0.06 | 0.03 |
| | (2.57)*** | (0.34) | (2.34)** | (0.33) | (0.77) | (0.75) |
| Commitment*Democracy | | | 0.006 | 0.002 | 0.26 | 0.002 |
| | | | (2.21)** | (2.03)** | (2.90)*** | (2.32)** |
| Democracy | 0.009 | -0.0002 | -0.005 | -0.006 | 0.002 | -0.01 |
| | (1.51) | (-0.08) | (-0.67) | (-1.42) | (1.23) | (-1.65) |
| Women's Social Rights | 1.98 | 0.56 | 1.98 | 0.55 | 0.71 | 0.54 |
| (t-1) | (28.71)*** | (24.85)*** | (28.62)*** | (24.70)*** | (37.87)*** | (23.61)*** |
| Human Rights NGO (pc) | 0.04 | 0.009 | 0.04 | 0.004 | 0.005 | 0.01 |
| | (3.74)*** | (0.63) | (3.90)*** | (0.30) | (1.16) | (0.92) |
| External Conflict | 0.007 | -0.003 | 0.004 | -0.004 | -0.005 | -0.007 |
| | (0.42) | (0.59) | (0.25) | (0.30) | (-0.87) | (-1.08) |
| Internal Conflict | 0.01 | 0.005 | 0.01 | 0.005 | 0.002 | 0.005 |
| | (0.66) | (1.24) | (0.72) | (1.20) | (0.35) | (0.85) |
| (log) Regime Durability | 0.05 | 0.005 | 0.05 | 0.005 | 0.01 | 0.005 |
| | (2.93)*** | (0.88) | (2.91)*** | (0.76) | (2.62)** | (0.76) |
| (log) GDP pc | -0.07 | 0.13 | -0.08 | 0.13 | -0.01 | 0.19 |
| | (-0.75) | (1.19) | (-0.85) | (1.23) | (-0.41) | (1.68) |
| Trade Openness | 0.00003 | -0.00001 | 0.0001 | -0.00006 | 0.0003 | -0.0003 |
| | (0.04) | (-0.02) | (0.14´) | (-0.13) | (1.34) | (-0.54) |
| (log) Population Size | -0.21 | -0.90 | -0.21 | -0.85 | -0.02 | -0.84 |
| | (-3.55)*** | (-3.40)*** | (-3.42)*** | (-3.19)*** | (-0.84) | (-2.97)*** |
| Country-fixed Effects | Region and religion | Yes | Region and religion | Yes | Region and religion | Yes |
| Time Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 3,165 | 3,165 | 3,165 | 3,165 | 2,815 | 2,815 |
| Pseudo $R^2$ / $R^2$ (within) | 0.59 | 0.33 | 0.59 | 0.34 | 0.80 | 0.82 |
| Log-likelihood | -1,585.14 | | -1,582.89 | | | |
| Keibergen Paap LM-stat. | | | | | | 79.09*** |
| Cragg-Donald F-stat. | | | | | | 51.36*** |
| Hansen J Stat.(P value) | | | | | | 0.88 |

* Notes: The dependent variable is Women's Social Rights (CIRI Index). Robust standard errors are applied. t- and z-statistics in parenthesis. For the ordered probit IV, the first stage regression is conducted by ordered probit and the second stage by linear estimation using the predicted values. Standard errors are corrected. Instruments: *commitments to the Torture* and *commitments to the Genocide Conventions*. **significance at 5% level, *** significance at 1% level (two-tailed)

**Table 4.2**

Commitments to CEDAW and Women's Political Rights, 126 countries, 1981-2007

| | (1) Ordered probit | (2) OLS FE | (3) Ordered probit | (4) OLS FE | (5) Ordered probit IV | (6) 2SLS |
|---|---|---|---|---|---|---|
| Commitment | 0.08 | 0.01 | 0.08 | 0.014 | 0.013 | 0.019 |
| | (3.08)*** | (1.56) | (3.06)*** | (1.57) | (0.24) | (0.41) |
| Commitment*Democracy | | | 0.002 | -0.001 | -0.03 | -0.001 |
| | | | (0.62) | (-1.38) | (-0.48) | (-1.81) |
| Democracy | 0.004 | -0.0004 | -0.0002 | 0.003 | 0.002 | 0.002 |
| | (0.60) | (-0.14) | (-0.02) | (0.79) | (1.23) | (0.53) |
| Women's Political Rights | 2.60 | 0.67 | 2.60 | 0.67 | 0.80 | 0.63 |
| (t-1) | (27.99)*** | (27.18)*** | (27.98)*** | (26.44)*** | (45.95)*** | (26.12)*** |
| Human Rights NGO (pc) | 0.05 | 0.02 | 0.05 | 0.03 | 0.01 | 0.02 |
| | (3.60)*** | (1.78) | (3.62)*** | (2.02)** | (2.67)*** | (2.14)** |
| External Conflict | 0.004 | 0.0001 | 0.003 | 0.001 | 0.002 | 0.0003 |
| | (0.16) | (0.03) | (0.13) | (0.11) | (0.39) | (0.07) |
| Internal Conflict | 0.039 | 0.003 | 0.04 | 0.003 | 0.006 | 0.004 |
| | (2.06)** | (0.73) | (2.08)** | (0.76) | (1.66) | (1.05) |
| (log) Regime Durability | 0.03 | 0.01 | 0.03 | 0.01 | 0.002 | 0.005 |
| | (1.50) | (1.19) | (1.48) | (1.24) | (0.53) | (0.73) |
| (log) GDP pc | -0.05 | -0.04 | -0.06 | -0.04 | -0.03 | -0.06 |
| | (0.53) | (-0.40) | (-0.56) | (-0.42) | (-1.37) | (-0.71) |
| Trade Openness | -0.0002 | 0.001 | -0.0002 | 0.001 | 0.0001 | 0.001 |
| | (-0.23) | (1.69) | (-0.21) | (1.78) | (0.32) | (2.24)** |
| (log) Population Size | -0.06 | 0.55 | -0.06 | 0.51 | -0.002 | 0.56 |
| | (-0.86) | (2.96)*** | (-0.81) | (2-80)*** | (-0.09) | (2.86)*** |
| Country-fixed Effects | Region and religion | Yes | Region and religion | Yes | Region and religion | Yes |
| Time Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 3,165 | 3,165 | 3,165 | 3,165 | 2,815 | 2,815 |
| Pseudo $R^2$ / $R^2$ (within) | 0.69 | 0.56 | 0.69 | 0.56 | 0.82 | 0.84 |
| Log-likelihood | -938.87 | | -938.70 | | | |
| Keibergen Paap LM-stat. | | | | | | 79.26*** |
| Cragg-Donald F-stat | | | | | | 51.53*** |
| Hansen J Stat./P value | | | | | | 0.21 |

* Notes: The dependent variable is Women's Political Rights (CIRI Index). Robust standard errors are applied. t- and z-statistics in parenthesis. For the ordered probit IV, the first stage regression is conducted by ordered probit and the second stage by linear estimation using the predicted values. Standard errors are corrected. Instruments: *commitments to the Torture* and *commitments to the Genocide Conventions*. ** significance at 5% level, *** significance at 1% level (two-tailed)

**Table 4.3**

Commitments to CEDAW and Women's Economic Rights, 126 countries, 1981-2007

| | (1) Ordered probit | (2) OLS FE | (3) Ordered probit | (4) OLS FE | (5) Ordered probit IV | (6) 2SLS |
|---|---|---|---|---|---|---|
| Commitment | 0.02 | 0.003 | 0.016 | 0.002 | 0.01 | 0.06 |
| | (0.79) | (0.22) | (0.76) | (0.21) | (0.12) | (1.87) |
| Commitment*Democracy | | | 0.0006 | 0.0005 | -0.07 | 0.001 |
| | | | (0.25) | (0.46) | (-0.75) | (0.68) |
| Democracy | 0.009 | -0.004 | 0.008 | -0.005 | 0.004 | -0.005 |
| | (1.72) | (-1.32) | (0.98) | (-1.27) | (2.04)** | (-1.13) |
| Women's Economic Rights | 1.82 | 0.44 | 1.82 | 0.44 | 0.62 | 0.42 |
| (t-1) | (29.40)*** | (15.05)*** | (29.41)*** | (15.07)*** | (31.14)*** | (18.68)*** |
| Human Rights NGO (pc) | 0.05 | 0.02 | 0.05 | 0.02 | 0.01 | 0.02 |
| | (4.86)*** | (1.53) | (4.85)*** | (1.42) | (3.55)*** | (1.10) |
| External Conflict | 0.01 | -0.004 | 0.01 | -0.004 | 0.003 | -0.01 |
| | (0.63) | (-0.76) | (0.61) | (-0.79) | (0.56) | (-1.58) |
| Internal Conflict | 0.008 | 0.002 | 0.008 | 0.002 | 0.002 | -0.002 |
| | (0.50) | (0.37) | (0.51) | (0.36) | (0.51) | (-0.30) |
| (log) Regime Durability | 0.02 | -0.01 | 0.02 | -0.01 | 0.01 | -0.02 |
| | (1.59) | (-2.27)** | (1.59) | (-2.30) | (1.24) | (2.70) |
| (log) GDP pc | 0.07 | 0.16 | 0.07 | 0.16 | 0.05 | 0.25 |
| | (0.86) | (1.32) | (0.83) | (1.33) | (1.48) | (2.03)** |
| Trade Openness | 0.0006 | 0.001 | 0.0006 | 0.001 | 0.0002 | 0.001 |
| | (0.70) | (1.35) | (0.71) | (1.33) | (0.54) | (1.17) |
| (log) Population Size | -0.25 | -0.18 | -0.25 | -0.16 | -0.07 | -0.09 |
| | (-4.24)*** | (-0.56) | (-4.22)*** | (-0.52) | (-3.14)*** | (-0.30) |
| Country-fixed Effects | Region and religion | Yes | Region and religion | Yes | Region and religion | Yes |
| Time Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 3,165 | 3,165 | 3,165 | 3,279 | 2,815 | 2,815 |
| Pseudo $R^2$ / $R^2$ (within) | 0.48 | 0.22 | 0.48 | 0.22 | 0.65 | 0.69 |
| Log-likelihood | -1607.14 | | -1607.11 | | | |
| Keibergen Paap LM-stat. | | | | | | 79.31*** |
| Cragg-Donald F-stat. | | | | | | 51.33*** |
| Hansen J Stat./P value | | | | | | 0.39 |

* Notes: The dependent variable is Women's Economic Rights (CIRI Index). Robust standard errors are applied. t- and z-statistics in parenthesis. For the ordered probit IV, the first stage regression is conducted by ordered probit and the second stage by linear estimation using the predicted values. Standard errors are corrected. Instruments: *commitments to the Torture* and *commitments to the Genocide Conventions*. ** significance at 5% level, *** significance at 1% level (two-tailed)

estimation, suggesting that the participation of civil society has an influence on women's political representation.

In summary, commitment to CEDAW improves women's social rights, the new norm introduced by CEDAW, if implemented by more democratic institutions. On the other hand, the impact of CEDAW is insignificant for women's political and economic rights, 'old norms' already advocated in the pre-existing treaties (Clark 1991). The marginal effect of the joint efforts on women's social rights is not great – about 1.43% – but it should not be interpreted as trivial. As one can see from the high explanatory power of previous women's rights records, the level of women's rights is habituated in cultural practice and therefore changes only occur in the long term. Therefore, the positive effect of this joint effort should be regarded as a meaningful move towards improving the social rights of female citizens.

## 6. Robustness Check

In order to ensure the robustness of the findings, I employ two additional strategies. First, the CIRI Index tends to aggregate information on broad issues regarding women's social, political and economic rights, thus it may not capture variations in specific issues across countries. To overcome the problem of generalization, I use the GID dataset, which measures women's rights in sharing parental authority and inheritance, as well as the level of polygamy. These are all critical issues in relation to the social rights of women. The utilization of these variables provides additional information as to whether CEDAW can be effective in specific aspects of the social dimension of women's rights. Table 4.4 shows the results of a cross-sectional analysis. As the lowest value of the dependent variables – 0 – indicates full equal rights (or no pologamy), a negative value for the coefficient suggests a positive effect. In this analysis (table 4.4), the interaction effects of CEDAW in conjunction with democracy are positive for ensuring women's rights in inheritance and reducing polygamy. This positive effect is also found in sharing parental authority by ordered probit but not confirmed by the IV estimation, taking reverse-causality into account. Alongside the results of the main testing method presented in section 5, CEDAW alone does not have an effect on any of these rights.

We also have an alternative measurement of commitment to CEDAW, namely the accumulated number of country reports submitted to the CEDAW Committee. The justification for this measurement is explained in section 3. This method provides a different angle on measuring commitment by counting ex-post efforts, gradually accumulated after ratification, thus enabling a comparison with ex-ante efforts (namely reservations and their

**Table 4.4**

Commitments to CEDAW and Women's Social Rights, Cross-sectional analysis, 88 developing countries, 1981-2000

| | Parental Authority | | Polygamy | | Inheritance | |
|---|---|---|---|---|---|---|
| | Ordered probit | IV | Ordered probit | IV | OLS | IV |
| Commitment | -0.2 | -0.11 | -0.24 | -0.04 | -0.04 | -0.05 |
| | (-0.85) | (-0.40) | (-2.06)** | (-1.29) | (-1.43) | (-1.48) |
| Commitment*Democracy | -0.05 | -0.006 | -0.09 | -0.02 | -0.02 | -0.02 |
| | (-2.31)** | (-0.43) | (-5.01)*** | (-3.98)*** | (-3.23)*** | (-3.14)*** |
| Democracy | 0.03 | -0.006 | 0.11 | 0.02 | 0.02 | 0.01 |
| | (0.53) | (-0.43) | (2.40)** | (1.48) | (1.33) | (1.10) |
| Human Rights NGO (pc) | -0.01 | -0.004 | 0.01 | 0.004 | 0.02 | 0.02 |
| | (-0.20) | (-0.31) | (0.17) | (0.25) | (1.80) | (2.12)** |
| External Conflict | -0.09 | -0.02 | -0.07 | -0.01 | -0.03 | -0.02 |
| | (-0.78) | (-0.79) | (-0.65) | (-0.46) | (-1.23) | (-0.95) |
| Internal Conflict | -0.18 | -0.03 | -0.11 | -0.02 | -0.02 | -0.02 |
| | (-1.58) | (-1.14) | (-0.92) | (-0.64) | (0.96) | (-0.93) |
| (log) Regime Durability | 0.27 | 0.06 | 0.28 | 0.08 | 0.06 | 0.06 |
| | (2.24)** | (1.97) | (2.46)** | (2.34)** | (2.39)** | (2.45)** |
| (log) GDP pc | 0.03 | -0.01 | -0.20 | -0.06 | -0.04 | -0.04 |
| | (0.15) | (-0.24) | (-1.22) | (-1.35) | (-0.91) | (-1.06) |
| Trade Openness | -0.004 | -0.001 | 0.001 | -0.0002 | -0.001 | -0.001 |
| | (-1.11) | (-1.38) | (0.33) | (-0.29) | (-1.42) | (-1.94) |
| (log) Population Size | -0.18 | -0.04 | -0.18 | -0.05 | -0.07 | -0.08 |
| | (-1.29) | (-1.20) | (-1.24) | (-1.47) | (-3.05)*** | (-3.44)*** |
| Muslim (dummy) | 1.26 | 0.34 | 0.69 | 0.17 | 0.18 | 0.16 |
| | (3.34)*** | (3.57)*** | (2.02)** | (1.82) | (2.57)*** | (2.09)** |
| Observations | 1,672 | 1,672 | 1,672 | 1,672 | 1,653 | 1,653 |
| Number of Countries | 88 | 88 | 88 | 88 | 87 | 87 |
| Pseudo $R^2$/ $R^2$ | 0.29 | 0.46 | 0.25 | 0.40 | 0.47 | 0.47 |
| Log-likelihood | -1,277.60 | | -1,354.49 | | | |

Notes: The values of the dependent variables are ranged between 0 and 1, 0 being equal rights (or no polygamy allowed) and 1 no equal rights (or polygamy fully allowed), measured in the year of 2000. Each independent variable is the mean value during the period of 1981-1999. t- and z-statistics are in parenthesis. Standard errors are adjusted for clusters of countries. Instruments: *commitments to the Torture* and *commitments to the Genocide Conventions*. ** significance at 5% level, ***significance at 1% level (two-tailed)

**Table 4.5**

Commitments to CEDAW and Women's, Country reports, Pooled OLS with Two-way Fixed Effects, 126 countries, 1981-2007

| | Women's Social Rights | Women's Political Rights | Women's Economic Rights |
|---|---|---|---|
| Commitment (reports) | -0.004 | -0.001 | 0.02 |
| | (-0.27) | (-0.11) | (0.96) |
| Commitment*Democracy | 0.004 | -0.00003 | 0.002 |
| | (2.61)** | (-0.03) | (1.04) |
| Democracy | -0.003 | -0.0005 | -0.005 |
| | (-0.94) | (-0.15) | (1.57) |
| Women's Rights (t-1) | 0.55 | 0.67 | 0.43 |
| | (24.57)*** | (26.63)*** | (15.09)*** |
| Human Rights NGO (pc) | -0.003 | 0.02 | 0.015 |
| | (-0.20) | (1.69) | (0.91) |
| External Conflict | -0.001 | -0.00001 | -0.003 |
| | (-0.25) | (-0.00) | (-0.58) |
| Internal Conflict | 0.005 | 0.003 | 0.002 |
| | (1.20) | (0.62) | (0.38) |
| (log) Regime Durability | 0.003 | 0.008 | -0.0143 |
| | (0.55) | (1.12) | (-2.50)** |
| (log) GDP pc | 0.14 | -0.043 | 0.16 |
| | (1.43) | (-0.42) | (1.3) |
| Trade Openness | -0.00003 | 0.0005 | 0.0006 |
| | (-0.07) | (1.60) | (1.26) |
| (log) population | -0.65 | 0.55 | 0.004 |
| | (-2.37)** | (2.90)*** | (0.01) |
| Country-fixed effects | Yes | Yes | Yes |
| Time Effects | Yes | Yes | Yes |
| Observations | 3,165 | 3,165 | 3,165 |
| $R^2$ | 0.34 | 0.56 | 0.22 |

* Notes: The dependent variable is Women's Economic Rights (CIRI Index). Robust standard errors are applied. t- and z-statistics in parenthesis. ** significance at 5% level, *** significance at 1% level (two-tailed)

gradual withdrawal). By employing pooled OLS with two-way fixed effects, the interaction term between *Commitment* $_{i,t}$ and *Democracy* $_{i,t}$ positively affects women's social rights at the 5% level of significance (table 4.5). The interaction term has no significant effect on women's political and economic rights. Commitments in terms of the number of country reports alone do not have any significant effect on any dimension of women's rights.

## 7. Conclusion

Women's rights are culturally habituated practices, thus economic and/or political development of a country may not automatically result in the enhancement of women's standing in society. Women's social rights are particularly sensitive issues in many cultures; consequently, advocating such rights was often muted in the international community. CEDAW is the first international mechanism promoting the norm of women's social rights. Surprisingly, even after three decades since the creation of CEDAW, its impact has not been sufficiently analyzed in empirical studies. To the best of my knowledge, this is one of the pioneer empirical studies that closely examine CEDAW, especially as a promoter of women's social rights and the role of democracy in realizing the convention's objectives.

Using panel data from 126 countries during the period 1981-2007, I find that the combined effect of CEDAW and democracy is positive and significant for women's social rights, yet neither CEDAW nor democracy alone creates any significant effect. These findings remain consistent regardless of the choice of control variables and estimation techniques. Controlling for unobserved individual heterogeneity does not alter the main finding. Potential reverse feedback effects are also thoroughly checked by an instrumental variable approach, making the main results robust to this problem.

The findings draw several policy implications. Firstly, in order to improve women's rights, we need the joint efforts of both an international legal framework that shapes the norms for, and objectives of women's fundamental rights, as well as a democratic institution which can translate the objectives into domestic policy and practice. Secondly, international law can be an effective tool in developing and promoting a norm related to sensitive issues such as women's social rights. Without the internationally recognized norm that has been set by CEDAW, such rights would face more domestic resistance and it would be much more difficult to promote them in many countries. Finally, the gradual changes in women's social rights through the combination of CEDAW and democracy are inspiring, especially given the fact that women's rights are habituated practices that are extremely difficult to alter in the

short term. Cultural practices and patterns are more or less time-invariant and women's rights today are still heavily connected to women's rights of the past. Thus, one may not necessarily notice important changes related to women's rights in their life time. However, the positive and significant effect of the joint efforts between CEDAW and democracy over the 27 year-period demonstrates that it is possible to promote such changes intra-generationally and suggest that there is a feasible way of realizing these improvements.

## Bibliography


Abu-Ghaida, Dina and Stephan Klasen, 2004, The Costs of Missing the Millenium Development Goal on Gender Equity. *World Development* 32:1075-1107.

Acemoglu, Daron, Simon Johnson and James Robinson, 2001, The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review*: 1369-1401.

Achen, Christopher H, 2000, Why Lagged Dependent Variables Can Suppress the Explanatory Power of Other Independent Variables. paper presented at the Annual Meeting of the American Political Science Association, UCLA, July 2-22, 2000

Ai, Chunrong and Edward Norton, 2003, Interaction Terms in Logit and Probit Models. *Economics Letters* 80: 123-129.

Akee, Randall, Arjun Bedi, Arnab K. Basu and Nancy H. Chau, 2010(a), Transnational Trafficking, Law Enforcement and Victim Protection: A Middleman's Perspective, mimeo, Department of Economics, Cornell University.

Akee, Randall, Arnab K. Basu and Nancy H. Chau and Melanie Khamis, 2010(b), Ethnic Fragmentation, Conflict, Displaced Persons and Human Trafficking: An Empirical Analysis, IZA Discussion Paper Series. No. 5142.

Arellano, Manuel and Bond, Stephen, 1991, Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *Review of Economic Studies* 58(2): 277-297

Arellano, Manuel and Olympia Bover, 1995, Another look at the instrumental variable estimation of error-components models, *Journal of Econometrics* 68: 29-51.

Auriol, Emmanuelle and Alice Mesnard, 2010, Fighting Human Smuggling: Legalization or Repression?. Presented at the European Development Research Network Conference (Nov. 2010. Paris. France).

Avdeyeva, Olga, 2010, Trafficking in Persons: Why Do States Comply with International Treaties?, paper presented at the 51st International Studies Association Annual Convention, San Francisco, February, New Orleans, LA.

Bartilow, Horace, 2010, Gender Representation and International Compliance Against Human Trafficking, mimeo.

Bayefsky, Anne. 2001. *The UN Human Rights Treaty System: Universality at the Crossroads.* The Hague, the Netherlands: Kluwer Law International.

Beck, Nathaniel, 2001, Time-Series Cross-Section Data: What Have We Learned in the Past Few Years?. *Annual Review of Political Science* 4 (1): 271-293.

Beck, Nathaniel and Jonathan N. Katz, 1995, What to do (and not to do) with Time-Series Cross- Section Data. *American Political Science Review* 89(3): 634-647.

Belser, Patrick, 2005, Forced Labour and Human Trafficking: Estimating the Profits, Working Paper (Declaration/WP/42/2005). International Labour Office. Geneva.

Bennett, D. Scott and Allan C. Stam. 2010. Contiguity Data set. http://eugenesoftware.org/

Berik, Günsel, 2000, Mature Export-led Growth and Gender Wage Inequality in Taiwan. *Feminist Economics* 6(3): 1-26.

Bjørnskov, Christian, 2010(a), Do Elites Benefit from Democracy and Foreign Aid in Developing Countries?, *Journal of Development Economics* 92(2): 115-124.

Bjørnskov, Christian, 2010(b), How does Social Trust Lead to Better Governance? *Public Choice* 144:323-346.

Bjørnskov, Christian, Axel Dreher and Justina Fischer, 2007, On Gender Inequality and Lift Satisfaction: Does Discrimination Matter? KOF Working Paper 161, ETH Zurich.

Blonigen, Bruce A., Ronald B. Davies, Helen T. Naughton and Glen R. Waddell, 2007, FDI in Space: Spatial Autoregressive relationships in Foreign Direct Investment. *European Economic Review* 51: 1303–1325.

Blundell, Richard and Stephen Bond, 1998, Initial conditions and moment restrictions in dynamic panel data models, *Journal of Econometrics* 87: 115-43.

Bound, John, David Jaeger and Regina Baker, 1995, Problems with Instrumental Variables Estimation When the Correlation between the Instruments and the Endogenous Explanatory Variable is Weak. *Journal of the American Statistical Association* 90: 443-450.

Boix, Carles and Daniel N. Posner, 1998, Social Capital: Explaining its Origins and Effects on Government Performance. *British Journal of Political Science* 28: 686-695

Boockmann, Bernhard and Axel Dreher, 2011, Do Human Rights Offenders Oppose Human Rights Resolutions in the United Nations? *Public Choice* 146: 443–467

Bowsher, Clive G., 2002, On Testing Overidentifying Restrictions in Dynamic Panel Data Models, *Economics Letters* 77, 2: 211-220.

Brandt, Michele and Jeffrey Kaplan, 1995/6, The Tension between Women's Rights and Religious Rights: Reservations to CEDEAW by Egypt, Bangladesh and Tunisia. *Journal of Law and Religion* 12(1): 105-142.

Branisa, Boris, Stephan Klasen and Maria Ziegler, 2009 (a), Why We should All Care about Social Institutions Related to Gender Inequality. Courant Research Centre: Poverty, Equity and Growth - Discussion Papers 15. Georg-August University of Goettingen. Germany.

Branisa, Boris, Stephan Klasen and Maria Ziegler, 2009 (b), The Construction of the Social Institutions and Gender Index (SIGI). Ibero-America-Institute Discussion Paper No. 184. Georg-August University of Goettingen.

Braunstein, Elissa and Mark Brenner, 2007, Foreign Direct Investment and Gendered Wages in Urban China. *Feminist Economics* 13(3-4): 213-237.

Burnside, Craig and David Dollar, 2000, Aid, Policies and Growth. *American Economic Review* 90 (4): 847-868.

Cağatay, Nilüfer and Korkuk Ertürk, 2004, Gender and Globalization: A Macroeconomic Perspective. International Labour Office Working Paper 19: Geneva.

Cameron, Sally and Edward Newman, 2008, Trafficking in Humans: Structural Factors, in *Trafficking in Humans: Social, Cultural and Political Dimensions*, edited by Sally Cameron and Edward Newman. United Nations University Press.

Chattopadhyay and Duflo, 2004, Women as Policy Makers: Evidence from a Randomized policy experiment in India, *Econometrica* 72 (5): 1409–1443.

Chayes, Adam and Antonia Chayes, 1995, *The New Sovereignty: Compliance with International Regulatory Agreements*. Cambridge, Mass: Harvard University Press.

Chow, Easter N-L, 2003, Gender Matters – Studying Globalization and Social Change in the 21st Century. *International Sociology*, 18, 3, 443-460.

Cingranelli, David and David Richards, 1999, Respect for Human Rights after the End of the Cold War. *Journal of Peace Research* 36:511-34.

Cingranelli, David and David Richards, 2008, The Cingranelli-Richards (CIRI) Human Rights Data Project Coding Manual, http://ciri.binghamton.edu/.

Clark, Belinda, 1991, The Vienna Convention Reservations Regime and the Convention on Discrimination against Women. *American Journal of International Law* 85(2): 281-321.

Committee on the Elimination of Discrimination against Women, 1995, Report: Progress Achieved in the Implementation of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW/A/CONF.177/7).

Committee on the Elimination of Discrimination against Women, 1998, Report of the Committee on the Elimination of Discrimination against Women (A/53/38/Rev.1).

Council of Europe, 2008, Convention on Action against Trafficking in Human Beings. Brussels.

Cragg, John and Stephen Donald, 1993, Testing Identifiability and Specification in Instrumental Variable Models. *Econometric Theory* 9: 222-240.

Dalgaard, Carl-Johann, Henrik Hansen and Finn Tarp, 2004, On the Empirics of Foreign Aid and Growth. *Economic Journal* 114: 191-216.

Davies, Ronald and Helen Naughton, 2006, Cooperation in Environmental Policy: A Spatial Approach. University of Oregon Economics Department.

Den Boer, Andrea, 2008, Evaluating CEDAW's Impact on Women's Empowerment. paper presented at the International Studies Association Conference. San Francisco. CA, March, 2008.

de Soysa, Indra and Eric Neumayer, 2007, Globalization, Women's Economic Rights and Forced Labour. *World Economy* 30 (10): 1510-1535

de Soysa, Indra and Krishna Chaitanya Vadlamannati, 2010, Does Being Bound Together Liberate or Suffocate? The Effects of Economic, Social, and Political Globalization on Human Rights, 1981–2005, *Kyklos* (forthcoming).

Di Tommaso, Maria L., Isilda Shima, Steinar Strøm and Francesca Bettio, 2009, As Bad as it gets: Well-being Deprivation of Sexually Exploited Trafficked Women, *European Journal of Political Economy* 25: 143-162.

Dixon, William, 1993, Democracy and the Management of International Conflict, *Journal of Conflict Resolution* 37 (1): 42-68.

Dollar, David and Roberta Gatti, 1999, Gender Inequality, Income and Growth: Are Good Times Good for Women. World Bank Policy Research Report on Gender and Development Working Paper, No. 1.

Donno, Daniela and Bruce Russett, 2004, Islam, Authoritarianism and Female Empowerment: What are the Linkages?. *World Politics* 56(4): 582-607.

Downs, George, David Rocke and Peter Barsoom, 1996, Is the Good News about Compliance Good News for Cooperation?, *International Organization* 50: 379-406

Dreher, Axel, 2006, Does Globalization Affect Growth? Empirical Evidence from a new Index. *Applied Economics* 38, 10: 1091-1110.

Dreher, Axel and Noel Gaston. 2008. Has Globalization Increased Inequality? *Review of International Economics* 16, 3: 516-536.

Dreher, Axel, Noel Gaston and Pim Martens, 2008, *Measuring Globalization – Gauging its Consequences*, New York: Springer.

Dreher, Axel, Martin Gassebner and Lars-H.R. Siemers, 2010, Does Terror Threaten Human Rights? Evidence from Panel Data, *Journal of Law and Economics* 53 (1): 65-93.

Dreher, Axel, Martin Gassebner and Lars-H.R. Siemers, 2011, Globalization, Economic Freedom and Human Rights. *Journal of Conflict Resolution* (forthcoming).

Dreher, Axel and Lars-H.R. Siemers, 2009, The Nexus Between Corruption and Capital Account Restrictions, *Public Choice* 140, 1-2: 245–265.

Dreher Axel, and Jan-Egbert Sturm, 2010, Do the IMF and the World Bank Influence Voting in the UN General Assembly? *Public Choice* (forthcoming).

Dutch National Rapporteur, 2010, The Eighth Report of the Dutch National Rapporteur on Trafficking in Human Beings. Den Haag.

Eichengreen Barry and Leblang, David, 2008, Democracy and Globalization. *Economics & Politics* 20(3): 289-334.

Elkins, Zachary and Beth Simmons, 2005, On Waves, Clusters, and Diffusion: A Conceptual Framework, *The Annals of American Academy. AAPSS* 598: 33-51.

Encyclopedia Britannica Book, 2001, Share of Muslim and Catholic.

ERS International Macroeconomics Data Set, 2010, http://www.ers.usda.gov/Data/

European Union, 2010, http://europa.eu/abc/european_countries/index_en.htm

Freedom House, 2010, Freedom of the Press, http://www.freedomhouse.org/

Ferrer-i-Carbonell, Ada and Paul Frijters, 2004, How Important is Methodology for the Estimates of the Determinants of Happiness?. *Economic Journal* 114(497): 641-659.

Fisher Roger, 1981, *Improving Compliance with International Law*. Charlottesville: University of Virginia Press.

Folster, Stefan and Magnus Henrekson, 2001, Growth Effects of Government Expenditure and Taxation in Rich Countries. *European Economic Review* 45 (8): 1501-1520.

Fontana, Marzia and Adrian Wood, 2000, Modeling the Effect of Trade on Women, at Work and at Home. *World Development*, 28, 7, 1173-1190.

Fredette, Kalen, 2009, Revisiting the U.N. Protocol on Human Trafficking: Striking Balance for More Effective Legislation. *Cardozo Journal of International and Comparative Law*, 17:101.

Freedom House, 2009, Civil Liberty Index.

Friebel, Guido and Sergei Guriev, 2006, Smuggling Humans: A Theory of Debt-Financed Migration, *Journal of the European Economic Association* 4(6):1085-1111

Gassebner, Martin, Gaston, Noel and Lamla, Michael, 2011, The Inverse Domino Effect: Are Economic Reforms Contagious? *International Economic Review*, forthcoming.

Gauri, Varun, 2011, The Cost of Complying with Human Rights Treaties: The Convention on the Rights of the Child and Basic Immunization, *Review of International Organizations* 6(1): 33-56.

German Federal Criminal Police Office, 2008, Situation Report Trafficking in Human Beings in 2008. Berlin.

Goldsmith, Jack L. and Eric Posner, 2005, *The Limits of International Law*. New York: Oxford University Press.

Granger, Clive W. J, 1969, Investigating Causal Relations by Econometric Models and Cross-spectral methods. *Econometrica* 37: 424–438.

Greene, William, 2010, Testing Hypotheses about Interaction Terms in Nonlinear Models. *Economic Letters* 107 (2): 291-296

Greenhill, Brian, Layna Mosley and Aseem Prakash, 2009, Trade-based Diffusion of Labor Rights: A Panel Study, 1986-2002, *American Political Science Review* 103(4):669-690.

Grimm, Michael and Stephan Klasen, 2009, Endogenous Institutional Change and Economic Development: A Micro-Level Analysis of Transmission Channels. Courant Research Centre: Poverty, Equity and Growth Discussion Papers 14.

Haftner-Burton, Emily and Kiyoteru Tsutsui, 2005, Human Rights in a Globalizing World: The Paradox of Empty Promises. *American Journal of Sociology* 111:1373-1411.

Hahn, Jinyoung and Jerry Hausman. 2002. A New Specification Test for the Validity of Instrumental Variables, *Econometrica* 70: 163-189.

Hahn, Jinyoung and Jeryy Hausman, 2003, Weak Instruments: Diagnosis and Cures in Empirical Econometrics, *American Economic Review* 93: 118-125.

Hall, Robert and Charles Jones, 1999, Why Do Some Countries Produce So Much More Output Per Worker Than Others?, *The Quarterly Journal of Economics* 114: 83-116

Hathaway, Oona, 2002, Do Human Rights Treaties Make a Difference?, *The Yale Law Journal* Vol. 111. No. 8: 1935-2042

Hathaway, Oona, 2007, Why do Countries Commit to Human Rights Treaties?, *Journal of Conflict Resolution* 51 (4): 588-621.

Hoffmann, Stanley, 1956, The Role of International Organization: Limits and Possibilities. *International Organization* 10(3):357-72.

International Organization for Migration (IOM), 2000-2010, The Counter Trafficking Module **(**CTM**)** Database. Geneva.

Interpol, 2009, http://www.interpol.int/Public/THB/

International Country Risk Guide, 2009, http://www.prsgroup.com/, PRS Group.

Kangaspunta, Kristiina, 2003, Mapping the Inhuman Trade: Preliminary Findings of the Database on Trafficking in Human Beings, *Forum on Crime and Society* 3(1 and 2): 81-103.

Kaufmann, Daniel, Kraay, Aart and Massimo Mastruzzi, 2009, Governance Matters VIII: Aggregate and Individual Governance Indicators 1996-2008, Policy Research Working Paper Series 4978, The World Bank, Washington DC.

Keck, Margaret and Kathryn Sikkink, 1998, *Activists Beyond Borders: Advocacy Networks in International Politics*, Ithaca, NY. Cornell University Press.

Keith, Linda. 1999. The United Nations International Covenant on Civil and Political Rights: Does It Make a Difference in Human Rights Behavior? *Journal of Peace Research* 36:95-118.

Keohane, Robert, 1984, *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton, NJ. Princeton University Press.

Kilby, Christopher, 2009, Donor Influence in International Financial Institutions: Deciphering What Alignment Measures Measure. Paper presented at the Political Economy of International Organizations Meeting. Geneva, 2009.

Klasen, Stephan, 2006, UNDP's Gender-related Measures: Some Conceptual Problems and Possible Solutions. *Journal of Human Development* 7(2):243-274.

Klasen, Stephan and Francesca Lamanna, 2009, The Impact of Gender Inequality in Education and Employment on Economic Growth: New Evidence for a Panel of Countries. *Feminist Economics* 15(3):91-132.

Koh, Harold, 1998, How is International Human Rights Law Enforced? *Indiana Law Journal* 74:1396-1417.

Krasner, Steffen, 1993, Sovereignty, Regimes and Human Rights in *Regime Theory and International Relations* edited by V. Rittberger and P. Mayer, Oxford: Clarendon Press.

Kucera, David and William Milberg, 2000, Gender Segregation and Gender Bias in Manufacturing Trade Expansion: Revisiting the 'Wood Asymmetry'. *World Development* 28 (7): 1191-1210.

Kukenova, Michael & Monteiro, Jose-Antonio, 2009, Spatial Dynamic Panel Model and System GMM: a Monte Carlo investigation, mimeo.

Lancaster, Tony, 2000, The Incidental Parameter Problem Since 1948, *Journal of Econometrics* 95: 391-413.

Landman, Todd, 2005, *Protecting Human Rights: A Comparative Study.* Georgetown University Press, Washington D.C.

Leamer, Edward E., 1983, Let`s Take the Con Out of Econometrics, *American Economic Review* 73(1): 31-43.

Levine, Ross and David Renelt, 1992, A Sensitivity Analysis of Cross-Country Growth Regressions, *American Economic Review*, 82(4): 942-63.

Long, Scott, 1997, *Regression Models for Categorical and Limited Dependent Variables*. London: Sage.

Maddala, G.S and Shaowon Wu, 1999, A Comparative Study of Unit Root Tests with Panel Data and new Simple Test. *Oxford Bulletin of Economic and Statistics* 61: 631-652.

Mahmoud, Toman O. and Christoph Trebesch, 2010, The Economics of Human Trafficking and Labor Migration: Micro-evidence from Eastern Europe, *Journal of Comparative Economics* 38(2): 173-188.

Marshall, Monty G. and Keith Jaggers, 2009, Polity IV Project: Political Regime Characteristics and Transitions, 1800-2009, Polity IV.

McAleer, Michael, Adrian Pagan, and Paul Volker, 1985, What will Take the Con Out of Econometrics. *American Economic Review* 75: 293–307.

McGillivray, Mark and Howard White, 1993, Measuring Development? The UNDP's Human Development Index, *Journal of International Development* 5(2): 183-192.

McPhedran, Marilou, Susan Bazilli, Moana Erickson and Andrew Byrnes, 2000, The First CEDAW Impact Study. Centre for Feminist Research and the International Women's Right Project. Toronto.

Moghadam, Valentine M., 2007, Globalization, States and Social Rights: Negotiating Women's Economic Citizenship in the Maghreb. mimeo. Purdue University.

Moravcsik, Andrew, 1997, Taking Preferences Seriously: A Liberal Theory of International Politics. *International Organization* 51: 513-553

Morrison, Christian and Johannes P. Jütting, 2005, Women's Discrimination in Developing Countries: A New Dataset for Better Policies. *World Development* 33(7): 1065-1081.

Neumayer, Eric, 2005, Do International Human Rights Treaties Improve Respect for Human Rights?, *Journal of Conflict Resolution*, 49: 925-953.

Neumayer, Eric, 2007, Qualified Ratification: Explaining Reservations to International Human Rights Treaties. *Journal of Legal Studies* 36 (2). 397-430.

Neumayer, Eric and Indra de Soysa, 2007, Globalization, Women's Economic Rights and Forced Labour. *World Economy* 30(10): 1510-1535

Neumayer, Eric and Indra de Soysa, 2011, Globalization and the Empowerment of Women: An Analysis of Spatial Dependence via Trade and Foreign Direct Investment. World Development (forthcoming).

Neumayer, Eric and Thomas Plümper, 2010, Spatial Effects in Dyadic Data, *International Organization* 61(1): 145-166.

Newey, Whitney and Kenneth West, 1987, A Simple Positive Semi-Definite, Heteroskedasticity and Autocorrelation Consistent Covariance Matrix. *Econometrica* 55: 703–708.

Ng, Serena and Pierre Perron, 1995, Unit Root Test in ARMA Models with Data-dependent Methods for the Selection of the Truncation Lag. *Journal of the American Statistics Association* 90: 268-281.

Nickell, Stephen J., 1981, Biases in Dynamic Models with Fixed Effects, *Econometrica* 49: 1417-1426.

OECD, 2010, Aid Statistics, http://www.oecd.org/statisticsdata/

OECD, 2009, Social Institutions and Gender Index.

Oostendorp, Remco H, 2009, Globalization and the Gender Wage Gap, World Bank Economic Review, *Oxford University Press*, 23:141-161

Perkins, Richard and Eric Neumayer, 2010, Geographic Variations in the Early Diffusion of Corporate Voluntary Standards: Comparing ISO14001 and the Global Compact, *Environment and Planning A*, 42 (2): 347-365

Pitlik, Hans, 2007, A Race to Liberalization? Diffusion of Economic Policy Reform among OECD-Economies, *Public Choice* 132: 159–178.

Plümper, Thomas and Eric Neumayer, 2010, Model Specification in the Analysis of Spatial Dependence, *European Journal of Political Research* 49: 418-442.

Poe, Steve, C. Neil Tate and Linda Keith, 1999, Repression of the Human Right to Personal Integrity Revisited: A Global Cross-National Study Covering the Years 1976-1993. *International Studies Quarterly* 43:291-313.

Potrafke, Niklas and Heinrich W. Ursprung, 2010, Globalization and Gender Equality in Developing Countries. University of Konstanz.

PRS Group. 2010. ICRG Political Risk Index.

Reuter, 2010, http://www.reuters.com/article/idUSTRE66I4NQ20100719

Richards, David and Ronald Gelleny, 2007, Women's Status and Economic Globalization. *International Studies Quarterly* 51:855-876.

Roodman, David, 2005, xtabond2: Stata Module to Extend xtabond Dynamic Panel Data Estimator. Center for Global Development, Washington, D.C.

Roodman, David, 2006, How to Do xtabond2: An Introduction to "Difference" and "System" GMM.

Roodman, David, 2007, A Note on the Theme of Too Many Instruments. Center for Global Development, Washington, D.C.

Rosenau, James N., 2003, *Distant Proximities: Dynamics beyond Globalization*. Princeton: Princeton University Press.

Rosendorf, Neal M., 2000, Social and Cultural Globalization: Concepts, History and America's Role. In *Governance in a Globalizing World*, edited by J.S. Nye and J.D. Donahue, 109-34. Washington DC: Brookings Institution Press.

Ross, Michael, 2008, Oil, Islam and Women. *American Political Science Review* 102(1): 107-123.

Russett, Bruce M., John R. Oneal, and Michaelene Cox, 2000, Clash of Civilizations, or Realism and Liberalism déjà vu? Some Evidence. *Journal of Peace Research* 37(5): 583–608.

Sala-i-Martin, Xavier, 1997, I just Ran Four Million Regressions, *American Economic Review*, 87(2): 178-183.

Sala-i-Martin, Xavier, Gernot Doppelhofer and Ronald I. Miller, 2004, Determinants of long-term growth: A Bayesian averaging of classical estimates (BACE) approach, *American Economic Review* 94 (4): 813–835.

Seguino, Stephanie, 1997, Gender Wage Inequality and Export-Led Growth in South Korea. *Journal of Development Studies*, 34, 2, 102-132.

Sen, Amartya, 2001, Many Faces of Gender Inequality. *Frontline* 18(22):4-14.

Simmons, Beth, 1998, Compliance with International Agreements, *Annual Review of Political Science* 1:75-93

Simmons, Beth, 2004, Women's Equality: Education, Work and Reproduction in International Law Compliance and Human Rights. paper presented at the Annual Meeting of the International Studies Association, Montreal, Canada, March, 2004.

Simmons, Beth, 2009, *Mobilizing for Human Rights: International Law in Domestic Politics*, New York: Cambridge University Press.

Simmons, Beth and Zachary Elkins, 2003. Globalization and Policy Diffusion: Explaining Three Decades of Liberalization, In *Governance in a Global Economy: Political Authority in Transition*, edited by Miles Kahler and David Lake Princeton: Princeton University Press.

Simmons, Beth and Zachary Elkins, 2004, The Globalization of Liberalization: Policy Diffusion in the International Political Economy. *American Political Science Review.* 98(1): 171-189.

Simmons, Beth and Paulette Lloyd, 2010, Subjective Frames and Rational Choice: Transnational Crime and the Case of Human Trafficking, mimeo. Government Department, Harvard University.

Slaughter, Anne-Marie, 1995, International Law in a World of Liberal States, *European Journal of International Law* 6:503-38.

Stanton, Elisabeth, 2007, Engendering Human Development: A Critique of the UNDP's Gender-related Development Index. University of Massachusetts Amherst Working Paper Series No. 131.

Stock, James, Jonathan Wright, and Motohiro Yogo. 2002. A Survey of Weak Instruments and Weak Identification in Generalized Method of Moments. *Journal of Business and Economic Statistics* 20: 518-52

Sturm, Jan-Egbert and Jakob de Haan, 2001, How Robust is Sala-i-Martin's Robustness Analysis, University of Groningen, mimeo.

Tzannatos, Zafiris, 1999, Women and Labor Market Changes in the Global Economy: Growth Helps, Inequalities Hurt and Public Policy Matters. *World Development* 27(3): 551-569.

Thacker, Strom, 1999, The High Politics of IMF Lending. *World Politics* 52: 38-75.

Tyldum, Guri and Anette Brunovskis, 2005, Describing the Unobserved: Methodological Challenges in *Empirical Studies on Human Trafficking in Data and Research on Human Trafficking: A Global Survey*, edited by Frank Laczko, International Organizations for Migration, Geneva.

UNIFEM, 2008, Who Answers to Women: Gender and Accountability. In Progress of the World's Women 2008/2009. New York: United Nations Development Fund for Women.

United Nations, 1945, Preamble to the Charter of the UN.

United Nations, 1948, Convention on the Prevention and Punishment of the Crime of Genocides.

United Nations, 1948, Universal Declaration of Human Rights.

United Nations, 1953, Convention on the Political Rights of Women.

United Nations, 1957, Convention on the Nationality of Married Women.

United Nations, 1962, Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriages.

United Nations, 1966, International Covenant on Civil and Political Rights.

United Nations, 1966, International Covenant on Economic, Social and Cultural Rights.

United Nations, 1966, International Convention on the Elimination of All Forms of Racial Discrimination.

United Nations, 1969, Vienna Convention on the Law of Treaties.

United Nations, 1981, International Convention on the Elimination of All Forms of Discrimination against Women.

United Nations, 1984, Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment.

United Nations, 2000, Convention against Transnational Organized Crime and its Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children, New York.

United Nations, 2010, Commodity Trade Statistics Database (COMTRADE).

United Nations, Millennium Development Goals, http://www.un.org/millenniumgoals/

United Nations, Treaty Collection, http://treaties.un.org/

United Nations Office on Drugs and Crime, 2006, Trafficking in Persons Global Pattern. Vienna.

United Nations Office on Drugs and Crime, 2009, Global Report on Trafficking in Persons. Vienna.

United Nations Office on Drugs and Crime, 2010 Signatories to the United Nations Convention against Transnational Crime and its Protocols, http://www.unodc.org/

United States Congress, 2000, The Victims of Trafficking and Violence Protection Act of 2000, in Public Law 106-386, Washington D.C: United States Congress.

United States Department of State, 2001-2010, Annual Reports on Trafficking in Persons, Washington D.C.

United States, Government Accountability Office (GAO), 2006, Human Trafficking: Better Data, Strategy, and Reporting Needed to Enhance U.S. Anti-trafficking Efforts Abroad.

*In Report to the Chairman, Committee on the Judiciary and the Chairman, Committee on International Relations, House of Representative*, Washington DC.

United States Senate, 2004, Hearing of the U.S. Senate Committee on Foreign Relations, Law Enforcement Treaties. Testimony of Samuel M. Witten, Deputy Legal Advisor, U.S. Department of State. The 108th Congress, 2nd Session (June 17th 2004). Washington D.C.

Voeten, Erik and Adis Merdzanovic, 2009, United Nations General Assembly Voting Data. hdl:1902.1/12379 UNF:3:Hpf6qOkDdzzvXF9m66yLTg==

Von Stein, Jana, 2008, Making Promises, Keeping Promises: Democracy, Ratification and Compliance in International Human Rights Law, mimeo, University of Michigan.

Vreeland, James R, 2008, Political Institutions and Human Rights: Why Dictatorships enter into the United Nations Convention against Torture, *International Organization* 62 (1):65-101.

Washington, Ebonya, 2006, Female Socialization: How Daughters Affect Their Legislator Fathers' Voting on Women's Issues, NBER Working Paper No. 11924.

Winer, Jonathan M., 2004, Cops across Borders: The Evolution of Transatlantic Law Enforcement and Judicial Cooperation. Paper presented at the Council on Foreign Relations. Washington D.C.

Windmeijer, Frank, 2005, A Finite Sample Correction for the Variance of Linear Efficient Two-step GMM Estimators, *Journal of Econometrics* 126: 25-51.

Wooldridge, Jeffrey, 2002, *Econometric Analysis of Cross Section and Panel Data*, MIT Press.

World Bank Gender Statistics, 2010, http://data.worldbank.org/data-catalog/gender-statistics

World Development Indicator, 2009, http://data.worldbank.org/indicator/

Wotipka, Christine Min and Francisco O. Ramirez, 2008, World Society and Human Rights: An Event History Analysis of the Convention on the Elimination of All Forms of Discrimination against Women, in *The Global Diffusion of Markets and Democracy*, edited by Beth Simmons, Frank Dobbin and Geoffrey Garrett, Cambridge University Press.

# Appendices

## Appendix 1.A: Anti-trafficking Policy Index Coding Guideline

(The full-version is available in the online appendix at www.human-trafficing-research.org)

1. Prosecution

Coding Scheme

In measuring government prosecution policy, our primary interests are: 1) whether the country has legislative and other measures to establish criminal offences for trafficking in persons, in line with the definition provided by the Anti-trafficking Protocol; and 2) whether such legislative and other measures are appropriately and effectively enforced.

Score 5:

The country has a legislative measure specifically prohibiting trafficking in persons and; the law is fully enforced in the form of investigations, prosecutions, convictions and punishment of such offenders. Generally, the country should maintain a stringent level of penalty (either more than five years imprisonment or punishment equivalent to other related crimes such as rape or labor exploitation).

Score 4:

The country has a legislative measure specifically prohibiting trafficking in persons; BUT the law is not fully enforced in the form of investigations, prosecutions, convictions and punishment of such offenders.

Score 3:

The country does NOT have a legislative measure specifically prohibiting trafficking in persons; but applies some other relevant laws (such as laws against rape, slavery, exploitation, abuse or human rights violation) to punish offenders of such crimes; and the law is fully or adequately enforced in the form of investigations, prosecutions, convictions and punishment of such offenders.

Score 2:

The country does NOT have a legislative measure specifically prohibiting trafficking in persons; BUT applies some other related law to punish offenders of such crimes; the law is not adequately enforced in the form of investigations, prosecutions, convictions and punishment of such offenders. If the country has a legislative measure specifically prohibiting trafficking in persons but does not enforce the law at all (or there is no evidence that the country has conducted prosecution or conviction of such offenders), it also receives score 2.

Score 1:

The country does NOT have a legislative measure prohibiting trafficking in persons and no other law is applied; and there is no evidence of punishment for such a crime at all.

2. Protection

Coding Scheme

In measuring government protection policy, our primary interests are: whether the country protects the human rights of victims of trafficking; identifies them; and provides for the physical, psychological and social recovery of victims of trafficking by legislative and other measures.

Score 5:

The country does not punish victims of trafficking for acts related to the situations being trafficked; does not impose the self-identification of victims; and exerts STRONG efforts to give victims information on, and assistance for, relevant court and administrative proceedings, as well as support for the physical, psychological and social recovery of victims such as housing (shelter), medical assistance, job training, (temporal) residence permit, and other assistance for rehabilitation and repatriation.

Score 4:

The country does not punish victims of trafficking for acts related to the situations being trafficked; does not impose the self-identification of victims; and exerts MODERATE efforts to give victims information on, and assistance for, relevant court and administrative proceedings, as well as support for the physical, psychological and social recovery of victims such as housing (shelter), medical assistance, job training, (temporal) residence permit, and other assistance for rehabilitation and repatriation.

Score 3:

The country does not punish victims of trafficking for acts related to the situations being trafficked; does not impose the self-identification of victims; and exerts LIMITED efforts to give victims information on, and assistance for, relevant court and administrative proceedings, as well as support for the physical, psychological and social recovery of victims such as housing (shelter), medical assistance, job training, (temporal) residence permit, and other assistance for rehabilitation and repatriation. Or, if the country fails to ensure that victims of trafficking are never punished for acts related to the trafficking itself or the consequences of

being trafficking BUT exerts STRONG/Moderate efforts in protecting victims, the country qualifies for score 3.

Score 2:

The country fails to ensure that victims of trafficking are punished for acts related to the trafficking itself or to the consequences of being trafficked; and there is limited assistance and support for court proceedings and the recovery of victims. Or, the country does not punish victims of trafficking in persons for acts related to the situations being trafficked; however, does not provide any assistance or support for recovery, rehabilitation and repatriation.

Score 1:

The country punishes victims of trafficking in persons for acts related to the situations being trafficked; and does not provide any assistance and support.

3. Prevention

Coding Scheme

In measuring government protection policy, our primary interests are; whether the country establishes and practices comprehensive policies, programs and other measures to prevent and combat trafficking in persons.[114]

Score 5:

The country demonstrates VERY STRONG efforts preventing trafficking in persons, such as implementing public and media campaigns for anti-trafficking awareness; training government and military officials (including peace keepers); facilitating information exchange among relevant authorities; monitoring borders, train stations, airports, etc.; adopting national action plans for combating trafficking in persons; promoting cooperation with NGOs and international organizations in the country; and facilitating bilateral and/or multilateral cooperation with other governments.

Score 4:

The country demonstrates STRONG efforts against trafficking in persons, such as implementing public and media campaigns for anti-trafficking awareness; training government and military officials (including peace keepers); facilitating information exchange among relevant authorities; monitoring borders, train stations, airports, etc.; adopting national action plans for combating trafficking in persons; promoting cooperation with NGOs and

[114] In evaluating the preventive efforts of governments, we do not include broader developmental measures, such as promotion of education and poverty reduction, in order to distinguish governmental efforts specifically addressed at fighting human trafficking.

international organizations in the country; and facilitating bilateral and/or multilateral cooperation with other governments.

Score 3:

The country demonstrates MODEST efforts against trafficking in persons, such as implementing public and media campaigns for anti-trafficking awareness; training government and military officials (including peace keepers); facilitating information exchange among relevant authorities; monitoring borders, train stations, airports, etc.; adopting national action plans for combating trafficking in persons; promoting cooperation with NGOs and international organizations in the country; and facilitating bilateral and/or multilateral cooperation with other governments.

Score 2:

The country demonstrates LIMITED efforts against trafficking in persons, such as implementing public and media campaigns for anti-trafficking awareness; training government and military officials (including peace keepers); facilitating information exchange among relevant authorities; monitoring borders, train stations, airports, etc.; adopting national action plans for combating trafficking in persons; promoting cooperation with NGOs and international organizations in the country; and facilitating bilateral and/or multilateral cooperation with other governments.

Score 1:

The country demonstrates NO efforts against trafficking in persons.

**Appendix 1.B.** Data Description and Sources

| Variable | Description | Source |
|---|---|---|
| Prosecution | Prosecution policy measure. Scale 5 (full compliance) to 1 (no compliance). | own calculations |
| Protection | Protection policy measure. Scale 5 (full compliance) to 1 (no compliance). | own calculations |
| Prevention | Prevention policy measure. Scale 5 (full compliance) to 1 (no compliance). | own calculations |
| Aggregate 3Ps | Sum of prevention, protection and prosecution scores. Scale 15 to 3. | own calculations |
| Tier-ranking | Compliance with US anti-trafficking law. Scale 1 (full compliance) to 3 (no compliance). | United States Department of State (2001-2010) |
| Control of Corruption | Around -1.63 to 2.58, with higher values corresponding to better outcomes | Kaufmann, Kraay and Mastruzzi (2009) |
| Democracy | Measure of democracy. +10 (full democracy) to -10 (full autocracy). | Polity IV data (Marshall and Jaggers, 2009) |
| Women Legislators | Share of female legislators in parliament. | World Bank Gender Statistics http://data.worldbank.org/indicator/ |
| Women's Economic and Social Rights | Score 3 (nearly fully guaranteed) to score 0 (no rights). | Cingranelli-Richards Human Rights Dataset (2008) |
| Workers' Rights | Score 2 (fully granted) to 0 (severely restricted). | Cingranelli-Richards Human Rights Dataset (2008) |
| Intl. regime membership | Code 1 if the country is a member of the Anti-trafficking Protocol in a given year. Otherwise, 0. | http://www.unodc.org/ |
| US aid | Share of bilateral aid from the US (% of GDP). | OECD Aid Statistics |
| (log) GDP pc | Per capita income in 2000 constant prices. | ERS International Macroeconomic Data Set |
| UNGA Voting | Bilateral similarities in voting behaviors on key votes in the UN General Assembly. | Voeten and Merdzanovic (2008), Kilby (2009) |
| Bilateral Trade Flows | Amounts of bilateral trade flows between two countries. | UN Commodity trade statistics database (COMTRADE, 2010) |
| Contiguity dummy | Code 1 if two countries share a land border or are separated by less than 150 miles of sea distance; otherwise, 0. | www.eugenesoftware.org/ (Bennett and Stam 2010) |
| Common Civilization dummy | Code 1 if two countries share a common civilization (Western, Islamic, Africa, Latin American, Sinic or Hindu); otherwise 0. | Russett, Oneal, and Cox (2000) |
| Traffic-linkage | Severity of bilateral human trafficking flows in destination country from origin or transit countries: From 9 (high flows) to 0 (no flows). | UNODC (2006) |
| Rule of Law | Around -2.5 to 2.5, with higher values corresponding to better outcomes. | Kaufmann, Kraay and Mastruzzi (2009) |
| Law and Order | Assessment on legal system and observance of low. Score 2 to 6, with higher values corresponding to better outcomes. | International Country Risk Guide. PRS Group (2009) |
| KOF Globalization Index | Economic, social and political globalization. Score 1-100, with a higher value corresponding to higher globalization. | Dreher et al. (2008) http://globalization.kof.ethz.ch/ |
| Media Freedom | Freedom of the Press Index . Score 0 (best) to 100 (worst). | Freedom house (2009) |
| EU membership | Dummy variable. Code 1 if a country is a member of the EU in the year, otherwise, 0. | http://europa.eu/about-eu/member-countries/index_en.htm/ |
| Remittance | Inflows of remittance (% of GDP). | World Development Indicator |

**Appendix 1.C.** Descriptive Statistics

| Variables | Observations | Mean | Std. Errors | Minimum | Maximum |
|---|---|---|---|---|---|
| Prosecution | 918 | 3.80 | 1.17 | 1.00 | 5.00 |
| Protection | 918 | 2.92 | 1.06 | 1.00 | 5.00 |
| Prevention | 918 | 3.35 | 0.88 | 1.00 | 5.00 |
| Aggregate 3Ps | 918 | 10.07 | 3.00 | 3.00 | 15.00 |
| Tier-ranking | 918 | 1.86 | 1.00 | 1.00 | 3.00 |
| Control of Corruption | 918 | -0.10 | 1.00 | -1.63 | 2.58 |
| Democracy | 918 | 4.50 | 5.93 | -10.00 | 10.00 |
| Women legislators (%) | 918 | 16.46 | 10.10 | 0.00 | 56.30 |
| Women's economic rights | 918 | 1.28 | 0.73 | 0.00 | 3.00 |
| Intl. regime membership | 918 | 0.59 | 0.49 | 0.00 | 1.00 |
| (log) GDP pc | 918 | 7.94 | 1.65 | 4.50 | 11.37 |
| US aid (% of GDP) | 918 | 0.75 | 2.32 | 0.00 | 44.56 |

**Appendix 2.A.** Data Description and Sources

| Variable | Description | Source |
|---|---|---|
| Prevention | Prevention policy measure. Scale 5 (full compliance) to 1 (no compliance). | Cho, Dreher and Neumayer (2011, see chapter 1) |
| Protection | Protection policy measure. Scale 5 (full compliance) to 1 (no compliance). | Cho, Dreher and Neumayer (2011, see chapter 1). |
| Prosecution | Prosecution policy measure. Scale 5 (full compliance) to 1 (no compliance). | Cho, Dreher and Neumayer (2011, see chapter 1). |
| Ratification of Protocol | Code 1 if the country is a member of the Protocol in a given year. Otherwise, 0. | http://www.unodc.org/ |
| Per capita GDP (log) | Per capita income in 2000 constant prices. | ERS International Macroeconomic Data Set |
| Women MPs in Parliament | Share of female legislators in parliament. | World Bank Gender Statistics. |
| Democracy | Measure of democracy. +10 (full democracy) to -10 (full autocracy). | Marshall and Jaggers, (2009). |
| Rule of Law | Around -2.5 to 2.5, with higher values corresponding to better outcomes. | Kaufmann, Kraay and Mastruzzi (2009) |
| Control of Corruption | Around -2.5 to 2.5, with higher values corresponding to better outcomes. | Kaufmann, Kraay and Mastruzzi (2009) |
| UNGA Voting | Voting in line with USA (%), definition according to Thacker. | Dreher and Sturm (2010). |
| US Aid | Share of bilateral aid from the US (% of GDP). | OECD Aid Statistics |
| OECD Membership | Code 1 if the country is a member of the OECD in a given year. Otherwise, 0. | http://www.oecd.org/ |
| Outflows of Human Trafficking | Very high (5) to no (reported) outflow (0) of human trafficking. | UNODC (2006). |
| Inflows of Human Trafficking | Very high (5) to no (reported) inflow (0) of human trafficking. | UNODC (2006). |

**Appendix 2.B.** Descriptive Statistics

| Variable | Observation | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Prevention | 875 | 3.13 | 0.93 | 1 | 5 |
| Protection | 872 | 2.77 | 1.05 | 1 | 5 |
| Prosecution | 873 | 3.53 | 1.24 | 1 | 5 |
| Ratification of Protocol | 875 | 0.52 | 0.50 | 0 | 1 |
| Per capita GDP (log) | 843 | 7.73 | 1.60 | 4.50 | 11.37 |
| Women MPs in Parliament | 875 | 15.88 | 10.11 | 0 | 56.30 |
| Democracy | 875 | 3.67 | 6.28 | -10 | 10 |
| Rule of Law | 875 | -0.23 | 0.95 | -2.65 | 2.04 |
| Control of Corruption | 875 | -0.18 | 0.97 | -1.98 | 2.58 |
| UNGA Voting | 875 | 0.60 | 0.13 | 0.41 | 0.86 |
| US Aid | 875 | 0.75 | 2.32 | 0 | 44.56 |
| OECD Membership dummy | 875 | 0.16 | 0.37 | 0 | 1 |
| Outflows of Human Trafficking | 819 | 2.65 | 1.50 | 0 | 5 |
| Inflows of Human Trafficking | 819 | 2.27 | 1.39 | 0 | 5 |

**Appendix 2.C.** List of Countries of Origin and Destination

*Source: UNODC Incidence Index on Flows of Human Trafficking (2006)*

## Incidence of Reporting of Origin Countries

| Very High | High | Medium | Low | Very Low |
|---|---|---|---|---|
| Albania, Belarus, Bulgaria, China, Lithuania, Nigeria, Republic of Moldova, Romania, Russian Federation, Thailand, Ukraine | Armenia, Bangladesh, Benin, Brazil, Cambodia, Colombia, Czech Republic, Dominican Republic, Estonia, Georgia, Ghana, Guatemala, Hungary, India, Kazakhstan, Lao People's Democratic Republic, Latvia, Mexico, Morocco, Myanmar, Nepal, Pakistan, Philippines, Poland, Slovakia, Uzbekistan, Viet Nam | Afghanistan, Algeria, Angola, Azerbaijan, Bosnia and Herzegovina, Burkina Faso, Cameroon, Congo (Republic of), Cote d'Ivoire, Croatia, Cuba, North Korea, Ecuador, El Salvador, Ethiopia, Haiti, Honduras, Hong Kong, Indonesia, Kenya, Kosovo, Kyrgyzstan, Liberia, Malawi, Malaysia, Mali, Mozambique, Niger, Peru, Senegal, Serbia &Montenegro, Sierra Leone, Singapore, Slovenia, South Africa, Sri Lanka, Macedonia, Taiwan, Tajikistan, Togo, Turkey, Uganda, Tanzania, Venezuela, Zambia | Argentina, Bhutan, Botswana, Burundi, Canada, Cape Verde, Congo (Democratic People of), Djibouti, Equatorial Guinea, Eritrea, Gabon, Gambia, Guinea, Iran, Iraq, Jordan, Lebanon, Lesotho, Madagascar, Maldives, Nicaragua, Panama, Rwanda, South Korea, Somalia, Sudan, Swaziland, Tunisia, United States of America, Zimbabwe | Brunei, Chad, Chile, Costa Rica, Egypt, Fiji, Jamaica, Macao, Netherlands, Paraguay, Syria, Uruguay, Yemen |

Note: Countries with no (reported) flows are not listed here.

**Incidence of Reporting of Destination Countries**

| Very High | High | Medium | Low | Very Low |
|---|---|---|---|---|
| Belgium, Germany, Greece, Israel, Italy, Japan, Netherlands, Thailand, Turkey, USA | Australia, Austria, Bosnia &Herzegovina, Cambodia, Canada, China, Hong Kong, Taiwan, Cyprus, Czech Republic, Denmark, France, India, Kosovo, Pakistan, Poland, Saudi Arabia, Spain, Switzerland, UAE, UK | Albania, Argentina, Bahrain, Benin, Bulgaria, Burkina Faso, Cameroon, Cote d'Ivoire, Croatia, Curacao, Dominican Rep, El Salvador, Equatorial Guinea, Estonia, Finland, Gabon, Chan, Guatemala, Hungary, Iceland, Ira, Kazakhstan, Kenya, Kuwait, Latvia, Lebanon, Lithuania, Macao, Malaysia, Mexico, Myanmar, New Zealand, Nigeria, Norway, Panama, Philippines, Portugal, Qatar, South Korea, Russia, Serbia and Montenegro, Singapore, South Africa, Sweden, Syria, Macedonia, Togo, Ukraine, Venezuela, Viet Nam | Aruba, Bangladesh, Belize, Brunei, Congo (Republic of), Costa Rica, Ecuador, Egypt, Haiti, Indonesia, Iraq, Ireland, Kyrgyzstan, Lao, Libya, Luxembourg, Mali, Niger, Oman, Paraguay, Romania, Slovenia, Sri Lanka, Uganda, Tanzania, Uzbekistan, Yemen | Algeria, Bhutan, Brazil, Burundi, Chad, Chile, Congo (Dem. Rep.), Djibouti, Dominica, Ethiopia, Fiji, Gambia, Georgia, Honduras, Jamaica, Liberia, Malawi, Maldives, Morocco, Mozambique, Moldova, Senegal, Sierra Leone, Slovakia, Sudan, Tajikistan, Trinidad and Tobago, Zambia, Zimbabwe |

Note: Countries with no (reported) flows are not listed here.

Distribution of Ranking *(Source: UNODC, 2006, p.118)*

| Number of Sources | Index Ranking | Total Number of Countries |
|---|---|---|
| 0* | 0 (No) | 24 |
| 1 | 1 (Very low) | 29 |
| 2-3 | 2 (Low) | 27 |
| 4-10 | 3 (Medium) | 50 |
| 11-24 | 4 (High) | 21 |
| 25-40 | 5 (Very high) | 10 |

* The Index does not explicitly specify ranking for countries with no inflow of human trafficking.

## **Appendix 3.A.** Data Source

| Variables | Data Sources |
|---|---|
| Women's Economic Rights | Cingranelli-Richards Human Rights Dataset (2008) |
| Women's Social Rights | Cingranelli-Richards Human Rights Dataset (2008) |
| Human Trafficking Index | UNODC Incidence Reporting Index (2006) |
| Trade | World Development Indicator (2008) |
| FDI (stock) | World Development Indicator (2008) |
| Information flows | Dreher (2006) |
| Personal contact | Dreher (2006) |
| Cultural proximity | Dreher (2006) |
| Restrictions to trade and capital | Dreher (2006) |
| Number of McDonald | Dreher (2006) |
| UN Voting in line with G7 (Thacker definition) | Dreher and Sturm (2010) |
| Democracy | Marshall and Jaggers, 2009 |
| Law and Order | ICRG Political Risk Rating, PRS Group (2010) |
| Civil Liberty | Freedom House (2009) |
| Income | World Development Indicator (2008) |
| Population size | World Development Indicator (2008) |
| Control of corruption | Kaufmann, Kraay and Mastruzzi (2009) |
| Share of Muslim in population | Encyclopedia Britannica Book of the Year 2001 |
| Share of Catholic in population | Encyclopedia Britannica Book of the Year 2001 |
| OECD membership | http://www.oecd.org |
| Regional dummies | World Bank Classification |

## **Appendix 3.B.** Descriptive Summaries of Data

| Variable | Observation | Mean | Std. Dev. | Minimum | Maximum |
|---|---|---|---|---|---|
| Women's Economic Rights (index) | 3078 | 1.32 | 0.65 | 0 | 3 |
| Women's Social Rights (index) | 2729 | 1.24 | 0.84 | 0 | 3 |
| Human Trafficking (index) | 1105 | 2.33 | 1.48 | 0 | 5 |
| Human Trafficking (dummy) | 884 | 0.71 | 0.46 | 0 | 1 |
| Trade (% of GDP) | 3078 | 74.67 | 40.72 | 6.32 | 438.09 |
| (log) FDI (stock/GDP) | 3078 | 0.33 | 0.08 | 0 | 0.52 |
| Information flows (index) | 3061 | 51.59 | 23.51 | 1 | 98.29 |
| Personal contact (index) | 3035 | 45.28 | 21.27 | 8.30 | 94.59 |
| Cultural proximity (index) | 3077 | 29.50 | 29.77 | 1 | 97.24 |
| Restrictions to trade/capital | 2767 | 52.39 | 23.48 | 5.44 | 97.11 |
| Number of McDonald | 2579 | 184.10 | 1106.47 | 0 | 13862 |
| UN Voting in line with G7 (index) | 2871 | 0.52 | 0.15 | 0 | 0.86 |
| Democracy (index) | 3078 | 2.78 | 7.03 | -10 | 10 |
| Law and Order | 2475 | 3.66 | 1.47 | 0 | 6 |
| Civil Liberty | 1864 | 4.84 | 1.67 | 1 | 7 |
| (log) Income | 3078 | 7.48 | 1.59 | 4.38 | 11.25 |
| (log)Population size | 3078 | 16.23 | 1.47 | 12.68 | 21.00 |
| Control of corruption (index) | 1347 | -0.06 | 1.00 | -1.76 | 2.58 |
| Share of Muslim in population (%) | 3078 | 24.58 | 35.95 | 0 | 99.93 |
| Share of Catholic in population (%) | 3078 | 30.81 | 35.46 | 0 | 96.90 |
| OECD membership (dummy) | 3078 | 0.20 | 0.40 | 0 | 1 |

**Appendix 3.C.** KOF Social Globalization Index

1. Personal Contact (33%)

Telephone Traffic (26%)

Transfers (percent of GDP) (3%)

International Tourism (26%)

Foreign Population (percent of total population) (20%)

International letters (per capita) (25%)

2. Information Flows (36%)

Internet Users (per 1000 people) (36%)

Television (per 1000 people) (36%)

Trade in Newspapers (percent of GDP) (28%)

3. Cultural Proximity (31%)

Number of McDonald's Restaurants (per capita) (43%)

Number of Ikea (per capita) (44%)

Trade in books (percent of GDP) (12%)

*Source: Dreher, Axel. 2006. Does Globalization Affect Growth? Empirical Evidence from a new Index. Applied Economics 38, 10: 1091-1110.*

**Appendix 3.D.** Women's Economic and Social Rights (CIRI Index)

1. Women's Economic Rights

- Equal pay for equal work
- Free choice of profession or employment without the need to obtain a husband or male relative's consent
- The right to gainful employment without the need to obtain a husband or male relative's consent
- Equality in hiring and promotion practices
- Job security (maternity leave, unemployment benefits, no arbitrary firing or layoffs, etc.)
- Non-discrimination by employers
- The right to be free from sexual harassment in the workplace
- The right to work at night
- The right to work in occupations classified as dangerous
- The right to work in the military and police force

2. Women's Social Rights

- The right to equal inheritance
- The right to enter into marriage on a basis of equality with men
- The right to travel abroad
- The right to obtain a passport
- The right to confer citizenship to children or a husband
- The right to initiate a divorce
- The right to own, acquire, manage, and retain property brought into marriage
- The right to participate in social, cultural, and community activities
- The right to an education
- The freedom to choose a residence/domicile
- Freedom from female genital mutilation of children and of adults without their consent
- Freedom from forced sterilization

*Source: Cingranelli-Richards Human Rights Dataset (2008)*

**Appendix 3.E.** Transmission Mechanism: Globalization and Civil Liberty

| | Civil Liberty | |
|---|---|---|
| | Ordered probit (1981-2008) | |
| Economic globalization | 0.005 | -0.003 |
| | (0.006) | (0.008) |
| Social globalization | 0.017* | 0.03*** |
| | (0.009) | (0.009) |
| Democracy | | 0.187*** |
| | | (0.025) |
| (log) Income | 0.312*** | 0.264*** |
| | (0.091) | (0.101) |
| OECD | 1.25*** | 0.088 |
| | (0.448) | (0.426) |
| Muslim | -0.005 | 0.0003 |
| | (0.003) | (0.003) |
| Country fixed-effects | Regional dummies | Regional dummies |
| Time effects | Yes | Yes |
| Observations | 3363 | 3204 |
| Countries | 137 | 130 |
| (peudo) R-sq | 0.28 | 0.40 |

Note: Parentheses are standard errors. The standard errors are clustered at the country level. */***/*** indicates significance at 10/5/1% level.

**Appendix 4.A.** Descriptive Statistics

| Variable | Observations | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Women's Social Rights, index | 3,042 | 1.26 | 0.85 | 0 | 3 |
| Women's Political Rights, index | 3,042 | 1.73 | 0.67 | 0 | 3 |
| Women's Economic Rights, index | 3,042 | 1.34 | 0.66 | 0 | 3 |
| Sharing Parental Authority | 1,691 | 0.42 | 0.41 | 0 | 1 |
| Inheritance | 1,672 | 0.35 | 0.34 | 0 | 1 |
| Early Marriage | 1,691 | 0.43 | 0.41 | 0 | 1 |
| Commitment to CEDAW, scale | 3,042 | 2.63 | 1.55 | 0 | 4 |
| Commitment to the Torture Convention (CAT), scale | 2,834 | 2.02 | 1.89 | 0 | 4 |
| Commitments to the Genocide Convention (CPPG), scale | 3,310 | 2.62 | 1.72 | 0 | 4 |
| CEDAW Reports, number of submission | 3,402 | 1.17 | 1.43 | 0 | 7 |
| Democracy, Polity IV index | 3,402 | 2.49 | 7.16 | -10 | 10 |
| Human Rights NGO (normalized by log populations) | 3,402 | 8.16 | 4.09 | 0 | 19 |
| (log) Regime Durability | 3,279 | 2.28 | 1.82 | 0 | 5.29 |
| External Conflict, index | 3,402 | 9.53 | 2.24 | 0 | 12 |
| Internal Conflict, index | 3,402 | 8.80 | 2.59 | 0 | 12 |
| (log) GDP p.c. | 3,402 | 3.59 | 0.57 | 2.26 | 4.73 |
| Trade (% of GDP) | 3,402 | 75.74 | 46.92 | 0.42 | 473 |
| (log) Population size | 3,402 | 7.05 | 0.65 | 5.40 | 9.12 |

**Appendix 4.B.** Data Source

| Variable | Definition | Source |
|---|---|---|
| Women's Rights | Women's social, political and economic rights, respectively – score 3 (nearly full guaranteed) to score 0 (no rights) | Cingranelli and Richards Human Rights Index (2008) |
| Commitment to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) | Scales weighted by the ratification and reservations<br>0: no signature, 1: signed but not ratified<br>2: ratified with significant reservations<br>3: ratified with some other reservations<br>4: full ratification | United Nations Treaty Collection<br>http://treaties.un.org/ |
| Commitment to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment of Punishment (CAT) | Scales weighted by the ratification and reservations<br>0: no ratification, 1: ratified with more than four reservations<br>2: ratified with 2-3 reservations<br>3: ratified with one reservation<br>4: full ratification | United Nations Treaty Collection<br>http://treaties.un.org/ |
| Commitments to the Convention on the Prevention and Punishment of the Crime of Genocide (CPPG) | Scales weighted by the ratification and reservations<br>0: no ratification, 1: ratified with 3-4 reservations<br>2: ratified with two reservations<br>3: ratified with one reservation<br>4: full ratification | United Nations Treaty Collection<br>http://treaties.un.org/ |
| CEDAW Reports | The accumulated number of country-reports on progress on women's rights submitted to the Committee | CEDAW website<br>http://www.un.org/womenwatch/daw/cedaw/reports.htm |
| Democracy | Polity IV Index of democracy – score 10 (full democracy) to score -10 (total autocracy) | Marshall and Jaggers (2009) |
| NGO | The number of human rights NGO operating in a country , normalized by the (log) population size | Union of Internaitonal Associations (2000) |
| Regime Durability | The number of years since the most recent regime change | Marshall and Jaggers (2009) |
| External Conflict | The risk to the incumbent government from foreign action (war, cross-border conflict, and foreign pressure) – score 4 (very low risk) to score 0 (very high risk) | ICRG Political Risk Rating, PRS Group (2010) |
| Internal Conflict | Political violence in the country and its actual or potential impact on governance (civil war, coup threat, terrorism, political violence and civil disorder) – score 4 (very low risk) to score 0 (very high risk) | ICRG Political Risk Rating, PRS Group (2010) |
| GDP per capita | Per capita income (purchasing power parity term, logarithm) | World Bank, World Development Indicator (2010) |
| Trade Openness | % of the sum of exports and imports in GDP | World Bank, World Development Indicators (2010) |
| Population size | The total number of the population (logarithm) | World Bank, World Development Indicators (2010) |

**Appendix 4.C.** Content of Article 2 and 16 of CEDAW

***Article 2***

States Parties condemn discrimination against women in all its forms, agree to pursue by all appropriate means and without delay a policy of eliminating discrimination against women and, to this end, undertake:

(a) To embody the principle of the equality of men and women in their national constitutions or other appropriate legislation if not yet incorporated therein and to ensure, through law and other appropriate means, the practical realization of this principle;

(b) To adopt appropriate legislative and other measures, including sanctions where appropriate, prohibiting all discrimination against women;

(c) To establish legal protection of the rights of women on an equal basis with men and to ensure through competent national tribunals and other public institutions the effective protection of women against any act of discrimination;

(d) To refrain from engaging in any act or practice of discrimination against women and to ensure that public authorities and institutions shall act in conformity with this obligation;

(e) To take all appropriate measures to eliminate discrimination against women by any person, organization or enterprise;

(f) To take all appropriate measures, including legislation, to modify or abolish existing laws, regulations, customs and practices which constitute discrimination against women;

(g) To repeal all national penal provisions which constitute discrimination against women.

***Article 16***

1. States Parties shall take all appropriate measures to eliminate discrimination against women in all matters relating to marriage and family relations and in particular shall ensure, on a basis of equality of men and women:

(a) The same right to enter into marriage;

(b) The same right freely to choose a spouse and to enter into marriage only with their free and full consent;

(c) The same rights and responsibilities during marriage and at its dissolution;

(d) The same rights and responsibilities as parents, irrespective of their marital status, in matters relating to their children; in all cases the interests of the children shall be paramount;

(e) The same rights to decide freely and responsibly on the number and spacing of their children and to have access to the information, education and means to enable them to exercise these rights;

(f) The same rights and responsibilities with regard to guardianship, wardship, trusteeship and adoption of children, or similar institutions where these concepts exist in national legislation; in all cases the interests of the children shall be paramount;

(g) The same personal rights as husband and wife, including the right to choose a family name, a profession and an occupation;

(h) The same rights for both spouses in respect of the ownership, acquisition, management, administration, enjoyment and disposition of property, whether free of charge or for a valuable consideration.

2. The betrothal and the marriage of a child shall have no legal effect, and all necessary action, including legislation, shall be taken to specify a minimum age for marriage and to make the registration of marriages in an official registry compulsory.

**Appendix 4.D.** List of Countries with Reservations to Article 2 and 16

**Countries with Reservation to Article 2**

*Algeria**
Bahamas*
*Bahrain**
*Bangladesh*
Democratic People's Republic of Korea
*Egypt**
*Iraq**
Lesotho
*Libyan Arab Jamahiriya**
*Mauritania**
Micronesia*
*Morocco**
New Zealand (Cook Islands)
*Niger**
*Qatar**
Singapore*
*Syrian Arab Republic**
*United Arab Emirates**
United Kingdom (19 countries)

* Countries with reservations to both article 2 and 16 (14 countries)
Note: Muslim-majority countries are in *italic*

**Countries with Reservation to Article 16**

*Algeria*
Bahamas
*Bahrain*
*Egypt*
France
India
*Iraq*
Ireland
Israel
Jamaica
*Jordan*
*Kuwait*
*Lebanon*
*Libyan Arab Jamahiriya*
Luxembourg
*Malaysia*
*Maldives*
Malta
*Mauritania*
Micronesia
Monaco
*Morocco*
*Niger*
*Oman*
*Qatar*
Republic of Korea
Singapore
Switzerland
*Syrian Arab Republic*
Thailand
*Tunisia*
*United Arab Emirates*
United Kingdom
(33 countries)

Note: Muslim-majority countries are in *italic*

**Appendix 4.E.** CIRI Index: Women's Social, Political and Economic Rights

*Source: Cingranelli, David and David Richards (2008), Short Variable Descriptions for the Indicators in the Cingranelli-Richards Human Rights Dataset*

Women's Social Rights

• The right to equal inheritance
• The right to enter into marriage on a basis of equality with men
• The right to travel abroad
• The right to obtain a passport
• The right to confer citizenship to children or a husband
• The right to initiate a divorce
• The right to own, acquire, manage, and retain property brought into marriage
• The right to participate in social, cultural, and community activities
• The right to an education
• The freedom to choose a residence/domicile
• Freedom from female genital mutilation of children and of adults without their consent
• Freedom from forced sterilization

Women's Political Rights

• The right to vote
• The right to run for political office
• The right to hold elected and appointed government positions
• The right to join political parties
• The right to petition government officials

Women's Economic Rights

• Equal pay for equal work
• Free choice of profession or employment without the need to obtain a husband or male relative's consent
• The right to gainful employment without the need to obtain a husband or male relative's consent
• Equality in hiring and promotion practices
• Job security (maternity leave, unemployment benefits, no arbitrary firing or layoffs, etc...)
• Non-discrimination by employers
• The right to be free from sexual harassment in the workplace
• The right to work at night
• The right to work in occupations classified as dangerous
• The right to work in the military and the police force

**Appendix 4.F.** Validity of Instruments

F.1. First Stage Regression: Explanatory Power of Instruments, ordered probit

| Dependent variable | Commitment to CEDAW |
|---|---|
| Commitment to the Torture Convention | 0.21 |
| | (8.98)*** |
| Commitment to the Genocide Convention | 0.12 |
| | (5.34)*** |
| Other control variables | Yes |
| Country-fixed Effects | Region and religion dummies |
| Time Effects | Yes |
| Observations | 2,815 |
| Pseudo $R^2$ | 0.45 |
| Log-likelihood | -962.82 |

Notes: z-statistics in parenthesis. Robust standard errors are applied. ** significance at 5% level, ***significance at 1% level (two-tailed)

F. 2. Exclusion Restrictions, ordered probit

| Dependent variables | Women's Social Rights | Women's Political Rights | Women's Economic Rights |
|---|---|---|---|
| Commitment to the Torture | 0.01 | 0.05 | -0.01 |
| Convention | (0.55) | (1.29) | (-0.65) |
| Commitment to the | 0.02 | -0.001 | -0.004 |
| Genocide Convention | (1.41) | (-0.02) | (-0.21) |
| Other control variables | Yes | Yes | Yes |
| Country-fixed Effects | Region and religion | Region and religion | Region and religion |
| Time Effects | Yes | Yes | Yes |
| Observations | 2,815 | 2,815 | 2,815 |
| Pseudo $R^2$ | 0.59 | 0.70 | 0.49 |
| Log-likelihood | -1,416.15 | -811.79 | -1,416.16 |

Notes: z-statistics in parenthesis. Robust standard errors are applied. ** significance at 5% level, ***significance at 1% level (two-tailed)