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An Empirical Analysis on the Impact of the Anti-trafficking Protocol

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Abstract: The Anti-trafficking Protocol reflects the interests of the major powers. Due to the high costs of compliance, countries will strategically select certain obligations to comply, which can satisfy the major powers with smaller costs. Among the three main obligations of the Protocol – prevention, protection and prosecution, we predict that ratification leads to compliance with the prevention policy first because prevention is less costly for member states to comply with. Therefore it is the most 'efficient' form of compliance. We empirically test this hypothesis by employing panel data from 147 countries during the period of 2001-2009. As the theory predicts, the ratification of the Protocol has the strongest effect on the prevention policy of a member state compared to protection and prosecution. Our findings are robust to the method of estimation and the choice of variables.

Keywords: Anti-trafficking Protocol; ratification; efficient compliance

JEL codes: F22; F53; K33

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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 exist more than 12 million victims of human trafficking in the world, 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 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 era of globalization, the effectiveness of global anti-trafficking efforts has been rarely studied. Our paper aims at addressing this issue by examining the impact of the Anti-trafficking Protocol on domestic policies. We make two contributions to the literature. First, our study, to the best of our knowledge, is the first to assess the impact of the ratification of the Protocol on prevention, protection and prosecution policy, respectively, which can lead to different levels of compliance given their different objectives and costs of compliance. Second, we hypothesize 'efficient compliance' by connecting the theory of 'pressure' and 'costs', two important concepts in the compliance literature, and empirically prove the strategic compliance behaviors 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 a mere cheap talk but is likely to create effects on the domestic policies of member states. However, compliance is generally costly, requiring the amendment of national law and budgetary allocation for new policy programs, causing political and monetary burdens on member states (Hathaway 2007). Therefore compliance decisions are not always straightforward. Taking into account the costs of compliance, countries will be strategic and select the most efficient way to comply, which can

satisfy the major powers at the minimum possible cost. We predict that prevention policy is arguably the first candidate for 'efficient compliance' because it only requires low costs to comply while ensuring satisfaction of the major powers. In fact, 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 have great risks of having conflicts with other existing laws such as immigration law. At the same time, prevention policy including border and travelling document control can be a quick solution to crack down human trafficking flows, fulfilling the need of the major powers[1]. 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 (3P Index, Cho, Dreher and Neumayer 2011) evaluating governmental efforts in prevention, prosecution and protection policy, 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 the ratification of the Protocol has a positive, significant effect on the prevention policy of a country, but not on the other two types of policies, confirming our hypothesis of 'efficient compliance'. Additionally, our results show that the impact of ratification is stronger in developing countries where ratification has positive effects on both prevention and protection, the former having a stronger effect. Our paper continues as follows. In section 2 we present our theoretical arguments and hypotheses. Section 3 describes the methodologies of measuring anti-trafficking policy (3Ps) and ratification of the Protocol. Section 4 follows with estimation strategies. In section 5 we present the empirical results and check for robustness in section 6. In section 7 we conclude with policy implications.

[1] In section 2, we will explain more in detail about the contents and costs of compliance with prevention, protection and prosecution, respectively, and compare them.

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 lack enforcement mechanisms (Bayefsky 2001). Like other human rights treaties, the Anti-trafficking Protocol does not have an official mechanism to punish violators. This means that there is no cost imposed on non-compliers, and the lack of punishment may encourage potential violators to join the Protocol for window-dressing as argued in studies on other treaties such as the Convention against Torture (Hathaway 2002; Vreeland 2008). Indeed, human rights treaties are often criticized as an 'empty promise' or 'cheap talk', particularly in the realist tradition (Hoffmann 1956; Fisher 1981), while some others try to illuminate possible functions of human rights treaties in generating effects such as norm processing (Keck and Sikkink 1998) and recognition-building (Keohane 1984).

However, in the absence of official enforcement mechanisms 'state power' and 'state interests' can function as a quasi-enforcement tool ensuring compliance (Simmons 2009, Chapter 4). 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, human rights records of other countries are rarely of great concern to the major countries and hence no exertion of pressure, or sanction non-compliers, leading to a conclusion that human rights treaties are futile (Krasner 1993; Goldsmith and Posner 2005).

Compared to such other 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. Also, 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, the United States has great interests in reducing human trafficking originating from other countries. Apart from the United States, other developed countries also confront high

flows of human trafficking[2]. According to the UNODC Incidence Index (2006), 18 OECD member states receive very high or high inflows of human trafficking (see Appendix4). 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 is likely to be used for illegal activities. This phenomenon implies that combating human trafficking is not an empty promise but reflects 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, the American interests embodied in the development of the Protocol are evident. The Protocol is arguably a replica of the United States domestic law, the Victims of Trafficking and Violence Protection Act (TVPA 2000), (United States Senate Hearing 2004)[3] and the United States evaluates countries' compliance by providing an annual tier ranking, using this evaluation as conditionality imposed on international aid (United States Department of State, Annual Report on Trafficking in Persons 2004).

In contrast to that, 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 their own country, the problem is less noticeable (and also probably less urgent) than in receiving countries. Some sending countries even neglect the situation because of the expectation of

[2] The inflows of human trafficking to the major countries are originated worldwide (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: from China to Mexico to Nigeria. Germany, another major destination, receives trafficking victims from 51 countries (Poland, Afghanistan, the Dominican Republic, etc).

[3] Without any further need to adopt a new legislation, the United States signed the Protocol in 2000 and ratified it in 2005, much faster 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.

remittance and/or population pressure. It implies that if sending countries comply with the Protocol, it is not because of their own needs but rather because of the pressures from 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). One reason for this could be that the effects of pressure are not easily distinguishable from externalities or learning effects, which can be more eminent in the case of anti-trafficking policies fighting a transnational crime (Cho, Dreher and Neumayer 2011; Simmons and Lloyd 2010). On the other hand, 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 of prestigious international organizations (Avdeyeva 2010), while some other conditions such as resource constraints may be an obstacle. Particularly, cost constraints are arguably important in compliance decisions not only because compliance is costly (Hathaway 2007) but also because many countries – in particular, sending countries – may not have a high national priority combating human trafficking except those receiving huge flows of human trafficking (such as the United States and Western Europe). 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.

In fact, compliance with the Protocol requires new legislative adoption and policy implementation which impose not only a monetary burden on a country but also trigger domestic resistance due to potential conflict with existing law – in particular immigration law. Thus, countries will make a decision on what they should comply to and select certain obligations which they can comply at the lowest cost while satisfying the preferences of the major powers. The criteria of the most efficient compliance are arguably 'meeting the needs of the major powers at minimum costs'. The needs of the major powers include quickly cracking down human trafficking flows into the major countries and the costs consist of efforts to establish new legislation, enforce the new law with police and judiciary capacity and implement necessary

policy programs, as well as domestic resistance against 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 minimum cost.

As mentioned earlier, prevention policy is the first candidate to fulfill the criteria of 'efficient compliance', with minimum cost for the complier and the maximum satisfaction of the major powers. 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 (the Protocol, part III)[4]. Among the obligations set for prevention by the Protocol, no area requires new legislative adoption which could potentially 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. Furthermore, there is another distinctive advantage of border control. It is of great concern for the major powers. The major countries often conduct border controls to crack down on human trafficking as seen in examples of the United States and Mexican border (Reuter 2010), as well as the Spanish and North African and Italy and Libyan borders. Indeed, border controlling is one of the quickest and easiest (although not the most effective way in tackling root causes of human trafficking in the long run) to reduce flows of human trafficking. Additionally, international cooperation with other governments and international organizations can easily impress the major countries because these activities are more visible compared to domestic court proceedings for prosecution and the implementation of protection programs.

In contrast to prevention, prosecution policy is more costly to implement. To comply with obligations for prosecution, countries need to adopt the newly defined concept of human trafficking in national legislation: the criminalization of human trafficking with specific and strict penal codes and the delegation of anti-trafficking enforcement personnel including police

[4] In addition to the listed obligations, article 9 of the Protocol recommends that countries take social and economic initiatives to prevent human trafficking and alleviate the factors that make persons vulnerable. However, we exclude this obligation in our analysis for two reasons: First, the vagueness of the obligations (Fredette 2009) and second, the exclusion of this obligation in the criteria of the tier ranking (US Dept. of State, Annual Report on Trafficking in Persons, 2009).

and prosecutors (The Protocol, article 5). The criminalization of human trafficking calls for amendments to general immigration law and careful interpretation in court proceedings of related cases (Fredette 2009). Furthermore, assigning enforcement personnel exclusively for anti-trafficking tasks creates monetary burdens.

Compliance with protection policy (The Protocol, part II) is also costly, particularly triggering domestic resistance against policy adoption. Assistance programs for shelters, medical care and job training might be less costly for many countries if effectively cooperating with NGOs and other social networks and utilizing existing facilities. However, granting victims (temporal or permanent) residence would conflict with 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 take risks of illegal migration which may lead to human trafficking (Akee et al. 2010; Auriol and Mesnard 2010). Given potential dangers of increasing human trafficking inflows, protection policy may not only contradict the objectives of the other two policy dimensions, but also may not meet with the need of the major powers reducing human trafficking flows. Additionally, the major countries may not be interested in protecting victims found in other countries, although the major powers might be more concerned about protection in their own territories because of their human rights reputation.

Given a greater demand and need from major countries and a lower cost of compliance, prevention is arguably the first choice for many countries to comply and our theory predicts that the ratification of the Protocol has the strongest effect on prevention, compared to the other two criteria.

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 situations that developing countries are mostly origin countries sending victims to major countries, and therefore they need to demonstrate stronger commitments. Thus, developing countries are likely to comply with the Anti-trafficking Protocol better than the developed world. Considering the costs of compliance, developing countries are likely to select protection as the

second candidate. It 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 governmental financial burdens. More importantly, implementing protection policy may not be costly in developing countries because these countries are mainly countries of origin and therefore the majorities of human trafficking victims (except a small number of returned victims) do not reside there anymore. In other words, the pool of beneficiaries of protection programs is presumably small in developing countries. On the other hand, protection policy is likely to create conflicts with immigration law granting foreign victims residency which may induce more human trafficking flows. However, this risk is minimal in developing countries as they are mostly countries of origin rather than destination at the first place. Thus, compared to prosecution policy requiring intensive policing and judiciary proceedings, protection policy can be more efficient, in particularly in the context of developing countries where human trafficking inflows are rather trivial and target groups of protection programs are also small.

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

3. Measuring Anti-trafficking Policy 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), 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 means 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, US Department of State, 2001-2009). Additionally, the Reports on Trafficking in Persons: Global Patterns (United Nations Office on Drugs and Crime, 2006 and 2009) are used as supplementary informational source.

There are two prime reasons for employing this index for 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 be sometimes contradicting each other, in particular between protection policy aiming at ensuring the human rights of victims and prevention and prosecution policy pursuing crime prevention and criminal justice. Second, the Anti-trafficking Policy Index is coded based on the specific content to measure compliance, following the requirements of the Anti-trafficking Protocol, the international standards, while the tier-ranking is given based on compliance with the United States domestic law, the TVPA. Additionally, the 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 clearly guided coding rules and the final scores were determined by the principal investigators through the review of the coding (for the detailed coding guideline, see Cho, Dreher and Neumayer 2011). Appendix3 illustrates the measurement scale of each of the three indices, as well as the tier-ranking.

Naturally, the three dimensions of anti-trafficking policy are not independent of each other. As can be seen in Table 1 however, the three different components that make up the anti-trafficking policy 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 disaggregate sub-indices capture, are in fact substantial.

Table 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[5]	0.53	0.63	0.66	1.00

[5] 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)[6] as part of the UN Convention against Transnational Organized Crime. Instead of the Convention, we focus on the 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 and, to present, 158 parties have ratified the Convention and 142 the Protocol after opening for signature in November 2000. We code the value 1 for the year in which the country ratified the Anti-trafficking Protocol and thereafter, and 0 otherwise.

4. Estimation Strategy

We estimate pooled Time Series Cross-Section (TSCS) regressions across a large sample of 147 countries during the period 2001 – 2009[7]. Our model to be estimated has the following specification:

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

Where, $Policy_{it}$ 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 υ_t are time fixed effects and ω_{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,

[6] 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.

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

we select one year to lag the main variable of interest, following the most literature, and further lag the main variable for two-years for robustness check[8].

We estimate our model using ordered probit with time-fixed effects. 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 the analysis at the country level to account for the fact that observations from the same country in different years are not independent. In the main 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)[9]. Second, we include time-invariant (in/out)flows of human trafficking variables in order to estimate the effects of severity of human trafficking problems on policy responses. The use of two-way fixed effects in such cases will not only be collinear with time-invariant regressors, but will also generate biased estimates (Beck 2001). However, we address country-fixed effects by employing a system GMM estimation for robustness tests, which we will describe 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 on related problems (Neumayer 2005; Simmons 2009). Accordingly, the models control the effects of development by including per capita income (logged) in US dollars, year 2000 constant terms (ERS Macroeconomics Dataset). In order to avoid mulicolinearity problems between per capita income and other control variables – in particular governance indicators, we take income group dummies – high income, high middle income, low middle income and low income following the World Bank categorization. We also control for democracy using the Polity IV data (Marshall and Jaggers, 2009).

[8] 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 for robustness check.

[9] Ferrer-i-Carbonell and Paul Frijters (2004) developed is 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.

Democracies are more likely to be responsive to demands for compliance (Neumayer 2005; Cho 2010). 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 Governance Indicator, namely rule of law (related to the ability of the state to protect victims, prevent the crime and prosecute criminals involved in human trafficking) and the control of corruption (which reinforces the legitimacy of the state by controlling the corruption often associated with human trafficking). 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). Therefore, 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 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). In addition, membership of the OECD is included because club of advanced countries express particular interest in combating human trafficking and adopt anti-trafficking policy as a priority.

Facing high flows of human trafficking would also affect national policy response because the more severe the problem is, the more it becomes a state priority. By including this variable, we control for effects of having similar conditions which lead to similar policy responses (Elkins and Simmons 2005). 6-point indices on in- 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[10].

Literature suggests that the current level of compliance has a strong association with past compliance. Inclusion of a temporally lagged dependent variable, however, may result in biased, inconsistent estimations in a short panel (Nickell 1981). We thus control for these effects by employing the 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. It is considered most appropriate in the presence of endogenous regressors. Additionally, the system-GMM has another advantage controlling for country fixed effects. Results are based on the two-step estimator implemented by Roodman (2005) in Stata, including Windmeijer's (2005) finite sample correction. We apply 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. As shown in Table 6, the Hansen test and the Arellano-Bond test do not reject the GMM specifications at conventional levels of significance across the 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 the conventional level of significance. We treat the lagged dependent variable and ratification variables endogenous and all other variables strictly exogenous. The numbers of instruments[11] employed are still sufficiently smaller than the number of countries, minimizing a weak instrument problem (Roodman 2007).

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-

[10] For details on data sources see Appendix1.

[11] 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.

trafficking policies. Apart from an omitted variable bias, endogeneity could also result from the fact that ratification could also be a result, 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.

In order to address reverse-feedback problems, we further utilize an instrumental variable (IV) approach where we instrument for the potentially endogenous ratification variable. Knowing that perfectly 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 that 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 and 2004) highlight the possibility that some key government policies might diffuse among countries[12]. 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, otherwise it has no power (Bound, Jaeger and Baker 1995) and it should also 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, to the best of our knowledge, there is no empirical argument linking system-wide regional and income group ratifications with anti-trafficking policy of an individual government.

Table 4 reports our central results on the validity of our instruments. The bottom of the table lists additional statistics that speak for the strength of the instrument. 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 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

[12] 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.

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 known to be a more powerful test to deal with such a problem. This test reports the test statistic used to test the null hypothesis, testing 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 Anderson canon LR statistics for underidentification tests. The results show that our instrument is significant at the 1% level in all models, confirming the strong correlation of (regional and income) group ratifications and ratification of an individual government in the same group. In addition, the Sargan J-Statistic shows that the null of exogeneity cannot be rejected at the conventional level of significance in all our models, confirming that the instrument meets the requirement of exclusion restriction.

The IV estimation method is an instrumental variable ordered probit (oprobit IV), in which standard errors are corrected by bootstrapping[13]. Given the ordinal structure of the dependent variables, the instrumental variable ordered probit estimation is more efficient than the 2SLS (Long 1997).

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. 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 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 4. However, we could not find any significant impact of ratification on prosecution in column 7.

[13] 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.

In columns 2, 5 and 8, we control for inflows of human trafficking (effects on countries of destination), with columns 3, 6 and 9 capturing outflows (effects on countries of origin), reflecting conditions related to human trafficking flows a country faces . Controlling for these variables, we do not find any significant changes in prevention and prosecution as observed in column 1 and 7, respectively (see Table 2). However, the ratification variable looses its significance in protection, when controlling for the outflows of human trafficking. It indicates that the effect of ratification on protection is muted by the effects of human trafficking outflows. The results in Table 3 suggest that ratification of the Protocol improves government policy on anti-human trafficking with respect to prevention and, to some extent, protection.

Notice that the Anti-trafficking Protocol shows a robustly positive association with prevention across the columns in Table 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: low costs of compliance and high demand from the major powers. Countries comply with prevention policy because they can fulfill the requirements by utilizing existing resources without causing much domestic resistance. More importantly, prevention policy can arguably produce 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, enabling the country to demonstrate its commitments to the major 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 policy responses to reduce human trafficking flows. In contrast to prevention, the effects on protection are muted 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 but is rather determined based on how many victims of human trafficking a country has to deal with and therefore how serious the problem is.

On the other hand, 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 costly and therefore hard to implement.

We find that our control variables are consistent with our theoretical expectations. There is a positive relationship between institutional quality and anti-trafficking policies. An increase in the level of democracy and rule of law is associated with a subsequent improvement in government anti-trafficking policy framework. On the other hand, we find that the share of female legislators in parliaments has 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 closely related to women's well-being, supporting the 'gender representation' argument (Bartilow 2010). On the other hand, we could not find significant effects of economic development on the anti-trafficking policy frame. Taking the high income group as the reference category, belonging to any other income group neither improves nor deteriorate the level of compliance in most specifications. The insignificant effect of income is probably because economic development rather indirectly affects policy through political and institutional development than generating direct effects.

We also find strong support, for voting in line with the United States in the UN General Assembly, a proxy to political similarity with the United States, suggesting the importance of American interests and influence in the frame of the anti-trafficking policies. OECD member countries are positively associated with higher compliance with the anti-trafficking policies at least in most specifications, confirming the interests of the developed countries in fighting 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 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.

Turning to the results with the sub-sample of developing countries only, Table 3 shows that the qualitative findings hold the same as in the full-sample. Ratification has a positive effect on prevention but no effect on prosecution. For protection, as per in the full sample, controlling for outflows of human trafficking decreases the effect of ratification. Also, the other control variables behave mostly the same as in the full-sample. Based on this result, however, we cannot conclude that the impact of ratification is stronger in developing countries where the influence of and pressure from the major powers is arguably stronger.

However, looking into the findings of the instrumental variable approach in Table 4, a stronger effect of ratification in developing countries becomes evident. After controlling for the reverse-feedback effects from compliance, the effect of ratification on protection looses its statistical significance in the full sample, while, in the sub-sample of developing countries, ratification improves protection policy with the significance at the conventional level. On the other hand, ratification improves prevention policy both in the full and sub-samples, while there is no effect on prosecution in any of the samples, confirming our baseline results reported in Table 2 and 3. Based on the results of Table 4, we find that overall impact of ratification is stronger in developing countries and protection policy seems to be the second choice for the 'efficient compliance' developing countries select.

To better illustrate the magnitude of our results in ordered probit in Table 2 and 3, we compute the marginal effects (probabilities) at the mean of all variables, shown in Table 5. It is noteworthy that coefficients do not reflect marginal effects in ordered probit estimations, requiring separate calculation of marginal probabilities (Ai and Norton 2003). We follow Dreher, Gassebner and Siemers (2011) and compute estimated probabilities on prevention (full and sub-samples) and protection (sub-sample) reported in Table 3 and 4. Note that the effect of ratification on prosecution is statistically insignificant. The estimated probability of observing the prevention index values of 4 and 5 (at the mean of all variables) in the full-sample are 29.1% and 2.3%, respectively, while index values 1 and 2 occur with a predicted probability of 2.1%

and 14.8%. Upon ratification, probabilities of observing score 4 and 5 increase by 10.4% and 1.9%, respectively, while decreasing probabilities of observing the lower scores. In developing countries, probabilities of obtaining prevention score 3, 4 and 5 increase by 2.1%, 8.5% and 1.1%, while probabilities of observing the two lowest scores decrease by 3.5% and 8.1%. On the other hand, the estimated probabilities of observing the protection index values of 3, 4 and 5 are 44.8%, 17.6% and 1.5%, respectively, in developing countries, while the predicted probabilities for score 1 and 2 are 7.1% and 29%. Upon ratification, the probabilities of observing the three highest scores increase by 2.5%, 5.9% and 1%, respectively, and probabilities of observing the two lowest scores decrease by 3.4% and 6%. Comparing the magnitudes of 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 it is opposite for the two lowest scores, indicating that ratification has a stronger effect on prevention. Overall, the results show that countries increase the probability of having a score above the mean by ratifying the Protocol, regardless of whether they are developing countries.

6. Tests for Robustness

We examine the robustness of our main findings in the following way. First, we use GMM as alternative estimation technique. The system GMM estimations address potential persistent effects of past compliance, as well as country fixed effects. Table 6 presents the results of the models estimated using GMM. As can be seen, ratification of the Protocol is positive and significantly different from zero at 5 and 10% level for prevention in both full and developing countries sample (see column 1 and 7). In the GMM estimation, we do not find any significant effect of ratification on protection and prosecution.

Second, we further check for omitted variable problems by employing OLS with fixed-effects. The results are also shown in Table 7 alongside with the GMM estimations. 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, the positive effect of ratification on prevention in both full and developing country samples survives even after stringently controlling for country and time-fixed effects.

Third, we substitute the rule of law variable with the control of corruption and the income group dummies with the (log) per capital income variable. The results are identical to the main findings, showing the robustness of our results to the choice of variables. In summary, the results seem remarkably robust to sample size, specification, and testing procedure. The basic ratification variable remained unchanged in its significance levels.

6.1. Extreme Bound Analysis

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 (EBA hereafter) proposed by Leamer (1983) and Levine and Renelt (1992). We examine whether the aforementioned variables are indeed robust determinants of the anti-trafficking policies, independent of the 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) .

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 3P sub-indices, vector C includes "commonly accepted" explanatory variables which are also referred in the literature as "focus variables" (in our case, this is per capita income). 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 coefficient of respective variables, ω denotes the idiosyncratic error term. The main advantages of EBA is that it reduces the multicolinearity 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. Apart from this, EBA also significantly reduces the under-specification problems associated with typical regression models. The basic EBA test for the main variable of interest(s)

in E states that if the lower extreme bound for δ_E – i.e., the lowest value for δ_E minus two standard deviations – is negative, while the upper extreme bound for δ_E – i.e., the highest value for δ_E plus two standard deviations – is positive, the variable E is not robustly related to *y* (Levine and Renelt 1992).

Considering the criticism of McAleer et.al (1985) and Sala-i-Martin (1997) regarding stringent testing criterion, we follow a less stringent test proposed by Bjørnskov et al. (2008) and Gassebner et al. (2009), which 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. Accordingly, we report the unweighted parameter estimate of β_F and its standard error, as well as the unweighted cumulative distribution function, CDF(0). The CDF(0) indicates 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 (Sturm and de Haan 2005). We estimate the EBA using ordered probit with time effects and country-clustered standard errors.

Our EBA results on determinants of the anti-human trafficking policies are presented in Table 7, which consists of three sets, one each for prevention, protection and prosecution. As shown here, we find the ratification variable robust 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 policy, with CDF(0) being equal to one. The same is true with the rule of law, whose CDF(0) remains close to one. The control of corruption variable is significant in the sets of prevention and protection but not in prosecution[14]. 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 policy, it is not surprising that political proximity with the United States induces

[14] Therefore we include the rule of law variable in the main estimation model and the control of corruption variable as check for robustness.

better compliance. Regarding the membership of 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 policy, reflecting the level of national priority towards such a policy, as theory predicts. Overall, the EBA results provide ample support to the baseline variables chosen on theoretical grounds.

7. Conclusion

Over the past few years, the growing phenomenon of worldwide 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 come to light recently through extensive media coverage, it has only really hogged the limelight when the United Nations General Assembly adopted the Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children, in 2000. Surprisingly, even a decade after the emergence of the Anti-trafficking Protocol, there are few empirical studies assessing the effectiveness of such protocol when tackling problems associated with human trafficking. Despite much anecdotal evidence pointing towards the positive impact of such protocol, there has been little systematic empirical research that addressed this issue, or which has taken the question of causality seriously. To the best of our knowledge, this is one of the pioneer empirical studies that looks beyond theoretical frameworks.

Using data from 147 countries during the 2001–2009 period, we find positive effects of the ratification of the Protocol on prevention policy only, both in the global and developing country samples. For developing countries, ratification additionally leads to compliance with protection. Surprisingly, there is no effect leading to better compliance with prosecution, another important dimension of the anti-trafficking policies. Prevention seems to be the first choice for member states to comply with, the finding providing empirical supports to our theoretical argument of 'efficient compliance'.

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

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Table 2: Effects of Ratification on Anti-trafficking Policy, full sample, 2001-2009, ordered probit

Variables	(1) prevention	(2) prevention	(3) prevention	(4) protection	(5) protection	(6) protection	(7) prosecution	(8) prosecution	(9) prosecution
Ratification(t-1)	0.348**	0.311**	0.270**	0.276**	0.287**	0.216	0.154	0.110	0.0746
	(0.137)	(0.135)	(0.135)	(0.133)	(0.135)	(0.133)	(0.153)	(0.158)	(0.152)
Democracy	0.0317**	0.0328**	0.0287**	0.0432***	0.0482***	0.0458***	0.0280*	0.0287*	0.0224
	(0.0148)	(0.0151)	(0.0146)	(0.0135)	(0.0137)	(0.0134)	(0.0158)	(0.0165)	(0.0153)
Rule of Law	0.385***	0.306**	0.475***	0.344***	0.295**	0.438***	0.232*	0.195	0.482***
	(0.129)	(0.129)	(0.133)	(0.116)	(0.128)	(0.123)	(0.132)	(0.137)	(0.126)
Women MP in Parliament	0.00705	0.00988	0.00733	0.0151**	0.0215***	0.0173**	0.00353	0.00752	0.00298
	(0.00757)	(0.00774)	(0.00787)	(0.00725)	(0.00798)	(0.00742)	(0.00770)	(0.00828)	(0.00766)
UNGA voting	1.479**	1.541*	1.464**	1.378**	1.116	1.094*	2.785***	2.865***	2.697***
	(0.723)	(0.825)	(0.665)	(0.657)	(0.737)	(0.605)	(0.714)	(0.764)	(0.717)
Low middle income dummy	0.177	0.289	0.0314	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	0.0342	0.0373	-0.200	0.0280	0.0775	-0.154	0.325	0.428	0.0471
	(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	-0.0333	0.177	-0.192
	(0.331)	(0.343)	(0.325)	(0.275)	(0.301)	(0.266)	(0.324)	(0.345)	(0.309)
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***	
		(0.0638)			(0.0606)			(0.0712)	
Outflows of Human Trafficking			0.207***			0.156***			0.412***
			(0.0575)			(0.0597)			(0.0780)
Pseudo R2	0.146	0.157	0.167	0.157	0.179	0.173	0.130	0.157	0.205
Log Pseudo likelihood	-999.59	-920.79	-909.43	-1068.18	-971.55	-978.74	-1066.46	-969.81	-914.43
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of countries	147	133	133	147	133	133	147	133	133
No. of observations	875	819	819	874	816	816	877	818	818

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 3: Effects of Ratification on Anti-trafficking Policy, developing countries, 2001-2009, ordered probit

Variables	(1) prevention	(2) prevention	(3) prevention	(4) protection	(5) protection	(6) protection	(7) prosecution	(8) prosecution	(9) prosecution
Ratification (t-1)	0.347**	0.303**	0.248*	0.247*	0.272**	0.167	0.153	0.121	0.0691
	(0.145)	(0.143)	(0.141)	(0.137)	(0.136)	(0.137)	(0.166)	(0.175)	(0.162)
Democracy	0.0348**	0.0360**	0.0331**	0.0465***	0.0506***	0.0503***	0.0273*	0.0269	0.0225
	(0.0149)	(0.0153)	(0.0147)	(0.0135)	(0.0136)	(0.0134)	(0.0160)	(0.0166)	(0.0154)
Rule of Law	0.294**	0.204	0.328**	0.261**	0.215	0.322***	0.236	0.212	0.417***
	(0.133)	(0.135)	(0.128)	(0.123)	(0.141)	(0.125)	(0.144)	(0.152)	(0.133)
Women MP in Parliament	0.00187	0.00356	-0.00444	0.00896	0.0159*	0.00700	0.00362	0.00777	-0.00463
	(0.00881)	(0.00910)	(0.00998)	(0.00768)	(0.00855)	(0.00807)	(0.00904)	(0.00987)	(0.00896)
UNGA Voting	1.296*	1.395*	1.184*	1.255*	1.036	0.871	2.555***	2.636***	2.415***
	(0.707)	(0.804)	(0.615)	(0.655)	(0.728)	(0.593)	(0.717)	(0.760)	(0.821)
Low middle income dummy	0.0589	0.171	-0.307	0.135	0.344	-0.145	0.535	0.722**	0.0955
	(0.337)	(0.352)	(0.316)	(0.289)	(0.311)	(0.279)	(0.330)	(0.357)	(0.299)
Upper middle income dummy	-0.0531	-0.0310	-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	0.00153	0.376	0.630*	0.161	0.0375	0.294	-0.260
	(0.333)	(0.350)	(0.319)	(0.290)	(0.327)	(0.272)	(0.339)	(0.369)	(0.315)
Inflows of Human Trafficking		0.136**			0.220***			0.189**	
		(0.0656)			(0.0628)			(0.0784)	
Outflows of Human Trafficking			0.320***			0.254***			0.520***
			(0.0537)			(0.0603)			(0.0877)
Pseudo R2	0.07	0.07	0.11	-0.07	0.10	0.10	0.08	0.10	0.17
Log Pseudo likelihood	-869.79	-793.13	-762.59	-904.17	-809.56	-802.99	-964.17	-870.05	-795.61
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of countries	126	112	112	126	112	112	126	112	112
No. of observations	735	679	679	734	676	676	737	678	678

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 4: Effects of Protocol Ratification on Anti-trafficking Policy
full sample and developing countries, 2001-2009, ordered probit instrumental variable approach

Variables	(1) prevention full sample	(2) prevention developing countries	(3) protection full sample	(4) protection developing countries	(5) prosecution full sample	(6) prosecution developing countries
Ratification (t-1)	0.534*	0.578*	0.240	0.545*	-0.243	-0.263
	(0.276)	(0.297)	(0.295)	(0.306)	(0.284)	(0.374)
Democracy	0.0290***	0.0317***	0.0436***	0.0411***	0.0366***	0.0369***
	(0.00958)	(0.00947)	(0.0104)	(0.00998)	(0.0104)	(0.00981)
Rule of Law	0.380***	0.288***	0.334***	0.265***	0.204***	0.198**
	(0.0775)	(0.0725)	(0.0841)	(0.0819)	(0.0712)	(0.0843)
Women MP in Parliament	0.00567	-0.000292	0.0162***	0.00803*	0.00667	0.00575
	(0.00467)	(0.00594)	(0.00485)	(0.00487)	(0.00482)	(0.00539)
UNGA voting	1.418***	1.224***	1.564***	1.464***	2.774***	2.565***
	(0.427)	(0.423)	(0.488)	(0.505)	(0.420)	(0.441)
Low middle income dummy	0.172	0.0432	0.189	0.189	0.375**	0.413**
	(0.204)	(0.190)	(0.216)	(0.197)	(0.190)	(0.187)
Upper middle income dummy	-0.0158	-0.128	0.0655	0.0645	0.337*	0.421**
	(0.173)	(0.196)	(0.173)	(0.188)	(0.191)	(0.185)
Low income dummy	0.371*	0.227	0.415**	0.400**	-0.101	-0.0565
	(0.219)	(0.186)	(0.211)	(0.194)	(0.179)	(0.201)
OECD Membership	0.498***		0.587***		0.522***	
	(0.162)		(0.159)			
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 Statistic (p-value)	0.717	0.430	0.161	0.287	0.5962	0.8872
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
No. of countries	147	126	147	126	147	126
No. of observations	875	735	781	659	784	662
No. of replications	100	100	100	100	100	100

Notes: Robust standard errors in parentheses. Standard errors are corrected by bootstrapping. *** p<0.01, ** p<0.05, * p<0.1. Reference category for income groups: high income country group. Instruments: ratification in the same region and income group.

Table 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 Table 2 (prevention) and 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.

Table 6: Robustness Check, Effects of Protocol Ratification on Anti-trafficking Policy, GMM and Pooled OLS with Two-way Fixed Effects

	Prevention Full sample		Protection Full sample		Prosecution Full sample		Prevention Developing countries		Protection Developing countries		Prosecution Developing countries	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Variables	GMM	POLS(FE)	GMM	POLS(FE)	GMM	POLS(FE)	GMM	POLS(FE)	GMM	POLS(FE)	GMM	POLS(FE)
LDV (t-1)	0.372***		0.359***		0.737***		0.382***		0.379***		0.673***	
	(0.0671)		(0.071)		(0.058)		(0.066)		(0.078)		(0.064)	
LDV (t-2)					0.199***						0.233***	
					(0.068)						(0.062)	
Ratification (t-1)	0.212**	0.198**	0.001	0.152	0.009	0.065	0.169*	0.195*	0.113	0.147	0.082	0.144
	(0.086)	(0.085)	(0.113)	(0.098)	(0.098)	(0.098)	(0.096)	(0.101)	(0.096)	(0.113)	(0.103)	(0.111)
Democracy	0.0144*	-0.019	0.035***	-0.043	-0.004	-0.028	0.019**	-0.020	0.025***	-0.047*	-0.002	-0.032
	(0.008)	(0.024)	(0.009)	(0.027)	(0.008)	(0.022)	(0.009)	(0.024)	(0.009)	(0.028)	(0.008)	(0.022)
Rule of Law	0.196***	0.386	0.138**	0.570	0.034	0.129	0.140**	0.424	0.096	0.571	0.068	0.035
	(0.057)	(0.320)	(0.070)	(0.414)	(0.065)	(0.342)	(0.059)	(0.341)	(0.086)	(0.445)	(0.081)	(0.353)
Women MP in Parliament	0.0015	0.003	0.009**	-0.011	0.002	-0.009	-0.001	0.002	0.004	-0.010	-0.0002	-0.009
	(0.004)	(0.008)	(0.004)	(0.0010)	(0.004)	(0.010)	(0.004)	(0.009)	(0.004)	(0.011)	(0.005)	(0.011)
UNGA Voting	0.709*	0.290	0.564	-0.323	0.396	-0.033	0.628	0.195	0.635*	-0.566	0.449	-0.259
	(0.396)	(0.568)	(0.379)	(0.714)	(0.465)	(0.666)	(0.415)	(0.582)	(0.381)	(0.734)	(0.434)	(0.683)
Log income		-0.193		0.038		0.301		-0.212		0.063		0.269
		(0.187)		(0.254)		(0.238)		(0.198)		(0.266)		(0.247)
Lowe rmiddle income dummy	0.162		-0.033		0.130		-0.013		-0.0002		0.161	
	(0.150)		(0.183)		(0.161)		(0.155)		(0.204)		(0.80)	
Upper middle income dummy	0.063		-0.061		0.183		-0.064		0.049		0.150	
	(0.135)		(0.165)		(0.125)		(0.146)		(0.190)		(0.151)	
Low income dummy	0.241*		0.117		0.10		0.063		0.145		0.108	
	(0.145)		(0.165)		(0.169)		(0.144)		(0.192)		(0.207)	
OECD membership	0.164		0.204		-0.029							
	(0.127)		(0.144)		(0.088)							
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	incl.	Yes	incl.	Yes	incl.	Yes	incl.	Yes	incl.	Yes	incl.	Yes
No. of observations	807	843	642	842	604	843	620	703	620	702	566	703
No. of countries	143	142	143	142	139	142	122	121	122	121	119	121
R-squared		0.10		0.09		0.24		0.08		0.08		0.26
No. of instruments	30		33		69		29		68		71	
Arellano-Bond AR(2) test (Pr>z)	0.116		0.135		0.604		0.231		0.220		0.472	
Hansen test (Prob>chi2)	0.331		0.164		0.118		0.463		0.358		0.109	

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

Table 7: Results of EBA

Set 1: Prevention						
Variables	**Average Beta**	**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
Set 2: Prosecution						
Variables	**Average Beta**	**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
Set 3: Protection						
Variables	**Average Beta**	**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.

Appendix 1: Data Description and Sources

Variable	Description	Source
Prevention	Prevention policy measure. Scale 5 (full compliance) to 1 (no compliance).	Cho, Dreher and Neumayer (2011).
Protection	Protection policy measure. Scale 5 (full compliance) to 1 (no compliance).	Cho, Dreher and Neumayer (2011).
Prosecution	Prosecution policy measure. Scale 5 (full compliance) to 1 (no compliance).	Cho, Dreher and Neumayer (2011).
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).
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: 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
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 3: Anti-trafficking Policy Index

Source: Cho, Dreher and Neumayer (2011)

1. **Prosecution**

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 4.

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**

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

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 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 4: 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

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