

# Determinants of Anti-Trafficking Policies: Evidence from a New Index\*

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## Abstract

We develop an index measuring the three main dimensions – prosecution, protection, and prevention – of the anti-trafficking policies of the governments of up to 180 countries over the 2000–2010 period. Overall, developed countries perform better than the rest of the world; compliance with prosecution policy is highest, while governmental efforts to protect victims of human trafficking remain weakest. We employ the new indices to investigate which factors determine anti-trafficking policies. We find that compliance with anti-trafficking policies significantly decreases with corruption and is higher in countries that also respect the rights of women. We also find some tentative evidence for spatial dependence in anti-trafficking policies.

*Keywords:* Anti-trafficking policies; compliance; human rights; human trafficking

*JEL classification:* F22; O15; P41

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\*We thank Nina Breitenstein, Laura Felfeli, Ulrike Heyken, Veronika Kling, Marleen Knipping, Tabea Lakeman, and Lukas Semmler for excellent research assistance, and Scott Jobson for proofreading. For valuable comments, we are grateful to M. Rodwan Abouharb, Courtenay Conrad, Niklas Potrafke, Jan van Dijk, Krishna Vadlamannati, Wendy Wong, and seminar participants at the Annual Conference of the European Association of Law and Economics (Hamburg, 2011), 26th Meeting of the European Economic Association (Oslo 2011), Annual General Conference of the European Political Science Association (Dublin 2011), Beyond Basic Questions Workshop (Brussels 2011), the 5th Annual Conference on the Political Economy of International Organizations (Villanova 2012), the Workshop Human Trafficking, International Crime and National Security: A Human Rights Perspective (Goettingen 2012), and the University of Goettingen. We cordially acknowledge the generous funding provided by the European Commission (JLS/2009/ISEC/AG/005).

## I. 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 harms 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 US Department of State's 2010 Trafficking in Persons Report,<sup>1</sup> there are more than 12 million victims of human trafficking worldwide. Interpol<sup>2</sup> estimates that human trafficking is a multibillion-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 (see the US Department of State's 2010 Trafficking in Persons Report). For instance, according to the 2006 Global Report on Trafficking in Persons by the United Nations Office on Drugs and Crime (UNODC), trafficking victims found in the United States came from 66 countries in different regions. Germany, another major destination, receives trafficking victims from at least 51 countries, including many from outside Europe.

Given the growing significance of international human trafficking, it is no surprise that the international community has adopted several measures to combat it in the past decade, including in 2000 the UN Convention against Transnational Organized Crime and its Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children (hereafter referred to as the Convention and the Anti-Trafficking Protocol, respectively). Accordingly, social scientists have started to turn their attention towards policies enacted to combat human trafficking (e.g., Friebe and Guriev, 2006; Di Tommaso *et al.*, 2009; Avdeyeva, 2010; Bartilow, 2010; Mahmoud and Trebesch, 2010; Simmons and Lloyd, 2010; Akee *et al.*, 2011; Auriol and Mesnard, 2012; Cho, 2012; Cho and Vadlamanati, 2012; Potrafke, 2013). One of the problems scholars face is the lack of reliable data on the anti-trafficking policies of individual countries, which can be compared over time and between countries. The US Department of State reports a ranking of countries with respect to their actions in fighting

<sup>1</sup> See <http://www.state.gov/j/tip/rls/tiprpt/2010/index.htm>.

<sup>2</sup> See <http://www.interpol.int/Public/THB/>.

human trafficking. They use a scale of 1–3,<sup>3</sup> which is based on the level of compliance with the US Congress Victims of Trafficking and Violence Protection Act (TVPA) of 2000, in Public Law 106–386. However, the tier ranking has several drawbacks, which limit its reliability and relevance.<sup>4</sup> 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 these three dimensions is important. Theory and evidence indicate that a better protection policy might 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 the prosecution and prevention policies (Akee *et al.*, 2011). Thus, countries can have the same overall ranking on the index, but for very different reasons.<sup>5</sup>

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 US Department of State’s annual Trafficking in Persons Reports (2001–2011) and the 2006 and 2009 Global Reports on Trafficking in Persons by the UNODC – 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 180 countries over the 2000–2010 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. We apply the new index in an empirical analysis, the factors of which determine a country’s anti-trafficking policies.

<sup>3</sup> The tier ranking consists of tier 1, tier 2, tier 2-watchlist, and tier 3. Tier 2 and tier 2-watchlist reflect the same level of compliance (with the watchlist providing information about a country’s development relative to the previous year).

<sup>4</sup> 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 (US Government Accountability Office, 2006). It has been argued that tier ranking is largely a tool of the US government to influence other countries’ policies through “naming” and “shaming” (Simmons and Lloyd, 2010). It is determined based on the evaluation of compliance with the US domestic anti-trafficking law (TVPA) rather than international law. Its relevance for evaluating international standards is therefore limited.

<sup>5</sup> 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 UK were reportedly imprisoned and deported because of their actions related to the situations in which they were trafficked in 2008 and 2009 (see the US Department of State’s 2009 and 2010 Trafficking in Persons Reports).

Our results show that compliance with prosecution policy was highest, on average, for all years, and experienced the most significant improvement during the period. Our index suggests that governmental efforts to protect victims of human trafficking remain weaker than their efforts to criminalize traffickers and to prevent the crime of human trafficking. Thus, it seems that countries take the “justice and prevention” aspect of the crime more seriously than the human rights aspect, which regards human trafficking as a matter of protecting vulnerable individuals from exploitation.

We find that compliance with (overall) anti-trafficking policies significantly decreases with corruption and is higher in countries that also respect the rights of women. The share of women legislators in parliament, membership in international regimes, per capita GDP, and loans from the US do not affect compliance at conventional levels of significance, while the effect of democracy depends on how we estimate our regressions.

We proceed as follows. In Section II, we introduce our indices on anti-trafficking policies. In Section III, we describe the development of these policies across countries and over time. Our application on what determines anti-trafficking policies follows in Section IV, where we briefly provide our theory, method of estimation, and data. We discuss our results in Section V and conclude in Section VI.

## II. Novel Measures of Anti-Trafficking Policies

In response to the emergence of human trafficking on to the international policy arena, several potentially important international legal instruments have been introduced in the past decades, including the UN Convention and Anti-Trafficking Protocol and the Council of Europe’s 2008 Convention on Action against Trafficking in Human Beings.<sup>6</sup> Countries rapidly ratified the Anti-Trafficking Protocol. After opening for signature in November 2000, the Convention has been ratified by 166 parties and the Anti-Trafficking Protocol by 147, to date. The Anti-Trafficking Protocol, in particular, represents an important step forward, by providing an internationally recognized definition of human trafficking<sup>7</sup> for the first time, as well as introducing its

<sup>6</sup> There have been 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 UN 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); the International Labor Organization Convention 105, Abolition of Forced Labor (1957). Clearly, some of these treaties are without measurable effects in an international system without well-working enforcement mechanisms.

<sup>7</sup> 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

three important policy dimensions: (i) prosecuting (criminalizing) traffickers; (ii) protecting victims; (iii) preventing the crime of human trafficking (see the 2006 Global Report on Trafficking in Persons by the UNODC).<sup>8</sup>

Our novel and original indices are coded to reflect countries' policies in these three dimensions. We decompose each dimension into several important requirements prescribed by the Anti-Trafficking 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. In the rare cases of disagreement between the two coders (less than 10 percent), the principal investigators decided on the scores. 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 indicates no compliance.

The raw data are derived from two reports on human trafficking: the US Department of State's annual Trafficking in Persons Reports (2001–2011) and the 2006 and 2009 Global Reports on Trafficking in Persons by the UNODC. The US Department of State 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 UNODC Reports include information about criminal justice and victim protection policies in approximately 155 countries for various years.<sup>9</sup> Because the US Department of State 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 using the UNODC Reports.

The subindex on prosecution policy measures the level of government 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 the 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 anti-trafficking law; (iii) the application of other relevant laws;

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of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving 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)).

<sup>8</sup> We follow the definition of the Anti-Trafficking Protocol (2000) in distinguishing the obligations of each policy dimension.

<sup>9</sup> 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.

(iv) the stringency of penalties; (v) the level of law enforcement; (vi) the collection of crime statistics. We select these requirements based on article 5 (criminalization) of the Anti-Trafficking Protocol. A country receives the highest possible score (five) if it 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 given if the country does not have a legislative measure specifically prohibiting trafficking in persons but applies some other relevant laws to punish offenders, and these other laws are 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 coding guidelines with country examples are available in the online appendix.<sup>10</sup> A summary is given in Appendix A of the working paper version of this paper (Cho *et al.* 2012), which is also provided as online supporting information.

The second subindex (i.e., 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 Anti-Trafficking Protocol (articles 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 care; (vii) job training; (viii) assistance for rehabilitation; (vi) assistance for repatriation. Ensuring no punishment of victims receives special consideration in our evaluation<sup>11</sup> because this requirement represents a basic human right in anti-trafficking policy, recognizing victims of exploitation (see Chapter 1 of Cameron and Newman, 2008; see also the UNODC 2006 Global Report on Trafficking in Persons). The highest score of five is given to countries demonstrating very strong efforts to protect victims of trafficking. 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 our online appendix.

<sup>10</sup> See <http://www.human-trafficking-research.org/>.

<sup>11</sup> To obtain score 4 or 5, the requirement of no punishment of victims has to be satisfied.

The third dimension of anti-trafficking policies (i.e., prevention policy) evaluates the level of governmental efforts to prevent and combat human trafficking. Based on the requirements of the Anti-Trafficking Protocol provided in articles 9, 10, 11, 12, and 13, we evaluate seven areas, such as, for example, the following: 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 to combat trafficking in persons; promoting cooperation with non-governmental organizations (NGOs) and international organizations; facilitating cooperation with other governments. Again, the index ranges between one and five, with higher values reflecting stricter policies.

In addition to the three subindices, we also calculate an overall “3P” anti-trafficking policy index. This is computed as the unweighted sum of the three dimensions. Thus, the overall index ranges between 3 and 15. In order to help to gauge the reliability of the index, we calculate the Cronbach alpha. The Cronbach alpha lies between zero and one, with higher values indicating more reliable scales. In our case, the value of alpha is 0.8, a rather high value (e.g., Giles, 2002). The exclusion of any of the three subindices reduces the value of alpha, indicating that the information provided by all of them improves the overall index.<sup>12</sup> While the protection and prevention policy indices reflect the *de facto* implementation of the respective policy, the prosecution policy index represents both the adoption and enforcement of anti-trafficking law – the *de jure* and *de facto* dimensions of judicial execution against human trafficking, respectively – given that prosecution requires new legislation in accordance with the Anti-Trafficking Protocol. The exclusion of either of the *de jure* and *de facto* dimensions decreases the Cronbach alpha, indicating that both law adoption and implementation are crucial for punishing the perpetrators of human trafficking.<sup>13</sup> We also perform a polychotomous version of Mokken scale analysis, which is a cumulative scaling technique that allows us to investigate the unidimensionality of our index (e.g., Cingranelli and Richards, 1999). Unidimensionality is important because indices measuring

<sup>12</sup> Specifically, the value of alpha is 0.79 if we exclude prosecution, 0.71 when we exclude protection, and 0.69 when we exclude prevention policies. Item-test correlations, item-rest correlations, and the average interim covariance are available on request.

<sup>13</sup> In the context of judicial independence, Feld and Voigt (2003) point out that *de jure* promises might not achieve *de facto* changes. In our case, anti-trafficking is a new concept recently introduced in international and national legal systems. Thus, the adoption of a law criminalizing such activities is critical to prosecuting perpetrators, suggesting the interdependence of the *de jure* and *de facto* dimensions of the anti-trafficking prosecution policy.



more than one latent construct can imply misleading results of causal inferences (Gefen, 2003). The  $H$ -statistic calculated by the analysis supports the 3P scale; the resulting value of 0.65 indicates a strong index.<sup>14</sup> This implies that the latent variable “anti-trafficking policy” is unidimensional and we can aggregate the individual dimensions into one additive index.

Naturally, our index is not free from potential criticisms. Criticism might arise with the ordinal structure of the scores. Such ordinal scaling is required in order to rank the anti-trafficking performance of countries. However, the ordinal scores cannot capture all the detailed, country-specific information. In addition, our index does not differentiate policy requirements specifically by country types (e.g., destination, origin, and transit). This is because the Anti-Trafficking Protocol imposes the three core policy obligations on all countries, and also because many countries belong to more than one of the three groups at the same time. However, we admit that this generalization might not take into account the specific policy needs of different types of countries.<sup>15</sup>

The 3P index is available for up to 180 countries over the 2000–2010 period. In Table 1, we illustrate data availability and the global and regional average scores for selected years. As can be seen, the relevant information becomes available for more countries over time. Unsurprisingly, developed countries perform 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 have been minimal, and even decreasing, in South Asia and the Middle East in recent years. The quantile map in Figure 1 gives a first impression of the data, for 2010, which is the most recent available year.

### III. Descriptive Evidence

Table 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 2–4, 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 over the last decade (see Figure 2). 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,

<sup>14</sup> A strong scale is defined as  $H$  greater than 0.5 (Mokken, 1971). Mean scores, as well as observed and expected Guttman errors, are available on request.

<sup>15</sup> For instance, prevention policy (including border controls) is crucial for transit countries, while protection policy is less important, given that victims of human trafficking do not stay in these countries for a long time.



Table 1. *Global and regional average scores of anti-trafficking policies (2000, 2005, and 2010)*

	Prosecution			Protection			Prevention			Aggregate 3P		
	2000	2005	2010	2000	2005	2010	2000	2005	2010	2000	2005	2010
Worldwide	2.89 (81)	3.55 (159)	3.67 (181)	2.24 (78)	2.79 (156)	2.82 (181)	2.49 (78)	3.19 (159)	3.43 (182)	7.58 (74)	9.61 (156)	9.94 (180)
East Asia/Pacific	2.63 (8)	3.33 (12)	3.33 (18)	2.25 (8)	2.33 (12)	2.17 (18)	2.71 (7)	2.83 (12)	3.05 (19)	7.71 (7)	8.50 (12)	8.71 (17)
Eastern Europe/Central Asia	2.71 (17)	4.50 (24)	4.63 (24)	1.63 (16)	2.83 (23)	3.17 (24)	2.19 (16)	3.42 (24)	3.92 (24)	6.40 (15)	11.00 (23)	11.71 (24)
Latin America/Caribbean	3.44 (9)	3.48 (23)	3.96 (26)	2.22 (9)	2.78 (23)	3.31 (26)	2.50 (8)	2.96 (23)	3.54 (26)	8.13 (8)	9.22 (23)	10.81 (26)
Middle East/North Africa	2.00 (2)	2.50 (12)	2.33 (12)	1.50 (2)	1.83 (12)	1.42 (12)	2.00 (2)	2.25 (12)	2.33 (12)	5.50 (2)	6.58 (12)	6.08 (12)
Western Europe/OECD	3.30 (23)	4.02 (42)	4.19 (48)	2.50 (22)	3.31 (42)	3.27 (48)	2.91 (23)	3.64 (42)	3.77 (48)	8.67 (21)	10.98 (42)	11.23 (48)
South Asia	3.60 (5)	4.33 (6)	3.71 (7)	2.60 (5)	2.50 (6)	2.14 (7)	2.40 (5)	3.17 (6)	3.14 (7)	8.60 (5)	10.00 (6)	9.00 (7)
Sub-Saharan Africa	2.25 (16)	2.79 (38)	2.86 (44)	2.47 (15)	2.72 (36)	2.57 (44)	2.19 (16)	3.11 (38)	3.18 (44)	6.87 (15)	8.78 (36)	8.61 (44)

*Note:* Number of countries in parentheses.

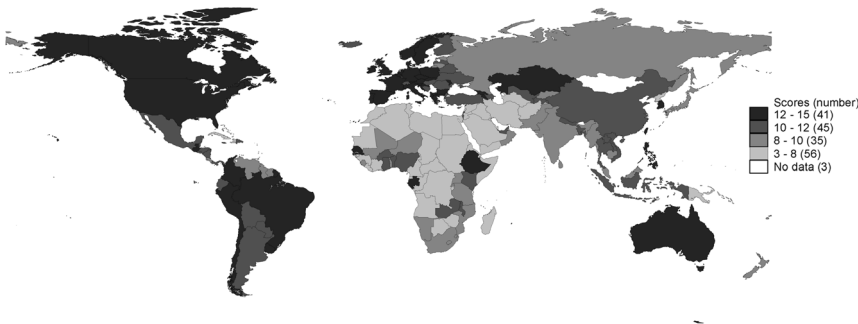


Fig. 1. Aggregate 3P (2010)

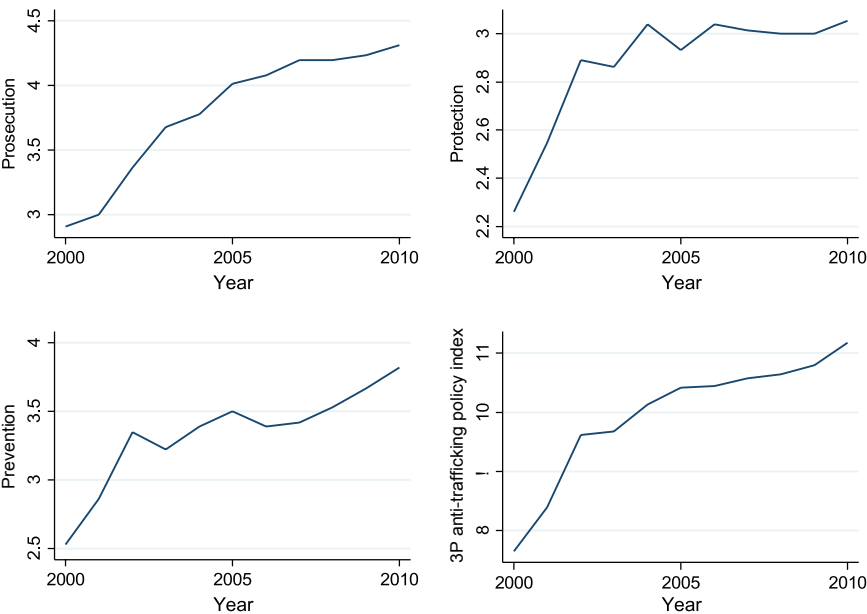


Fig. 2. Compliance with anti-trafficking policies (global sample), 2000–2010 (the un-weighted averages use balanced country samples)

the worldwide average score of 2.90 in 2000 increased to 4.26 in 2010. Meanwhile, the average prevention policy score increased from 2.53 in 2000 to 3.67 in 2010. In contrast, our index suggests that governmental efforts to protect victims of human trafficking remain weaker than their efforts to criminalize traffickers and to prevent the crime of human trafficking. The worldwide average score of protection policy is lowest for all years (e.g., 2.26 in 2000 and 2.97 in 2010), and also shows the slowest improvement over time. This descriptive outcome of our index indicates that,

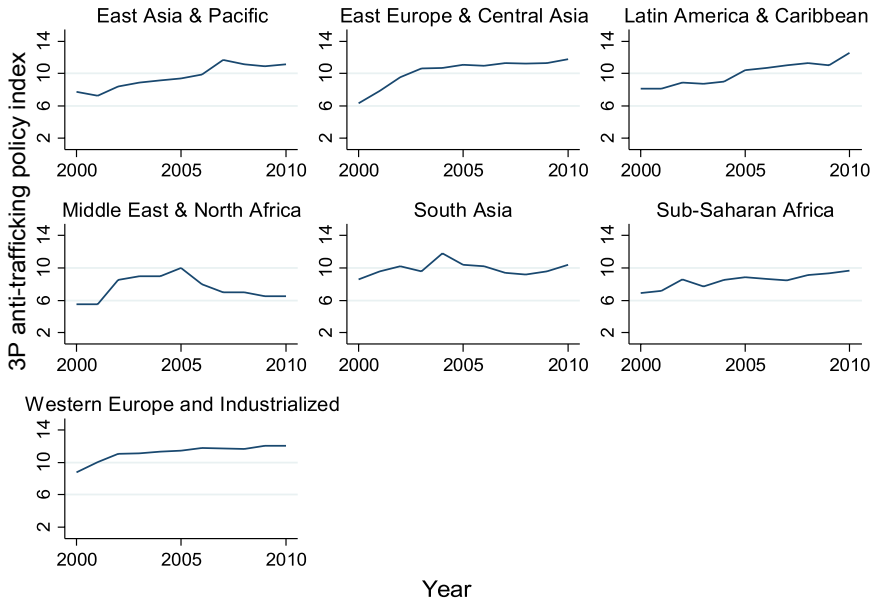


Fig. 3. Compliance with anti-trafficking policies across regions and time (the unweighted averages use balanced country samples)

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, which regards human trafficking as a matter of protecting vulnerable individuals from exploitation,<sup>16</sup> as pointed out by Simmons and Lloyd (2010).

Figure 3 shows the development of the 3P index across regions over time, while Figure 4 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 2010. It is also remarkable that the 3P index already showed high values in the group containing Western Europe and other industrialized countries in 2000, while the remaining groups approached this higher level over the 2000–2010 period. Splitting the sample by income, the index levels are particularly high for OECD countries. High-income non-OECD

<sup>16</sup> According to the Anti-Trafficking Protocol, victim protection includes assistance and legal support in order to allow victims to recover from the exploitation experienced as a consequence of having been trafficked (see part II of the Protocol). Such exploitation is against the right to individual self-determination advocated by the 1966 UN International Covenant on Civil and Political Rights.

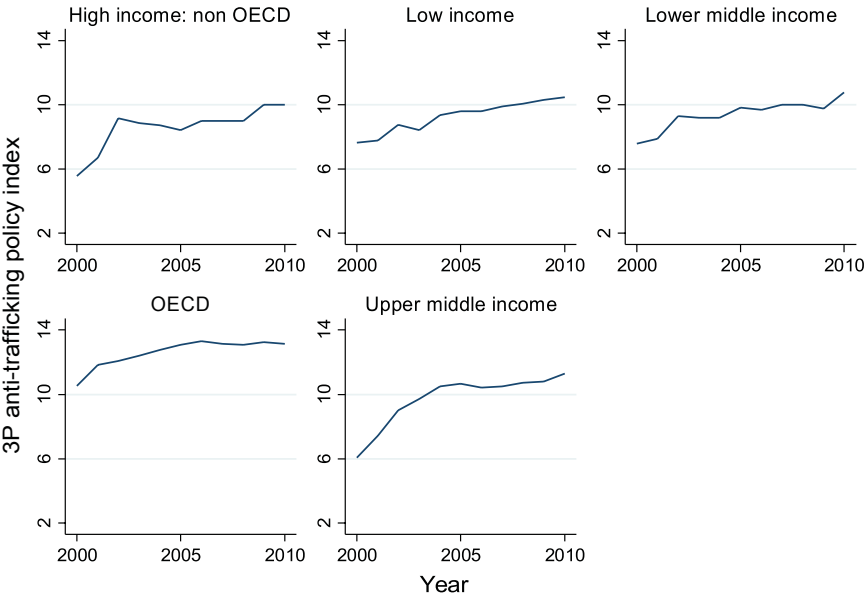


Fig. 4. Compliance with anti-trafficking policies across income groups and time (the unweighted averages refer to balanced country samples)

Table 2. Rank correlations across prosecution, protection, prevention, aggregate 3P, and the tier ranking

	Prosecution	Protection	Prevention	Aggregate 3P	Tier ranking
Prosecution	1.00				
Protection	0.51	1.00			
Prevention	0.53	0.62	1.00		
Aggregate 3P	0.85	0.83	0.82	1.00	
Tier ranking	0.53	0.62	0.63	0.69	1.00

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.

Table 2 shows that the three dimensions of the 3P anti-trafficking policy index are clearly not redundant. It reports the Spearman rank correlation coefficients across the subindices and the overall index, as well as the US Department of State's tier ranking. Not surprisingly, the three dimensions are positively correlated with each other. However, the correlations among the subindices of the 3P index are modest, ranging between 0.51 and 0.62. This suggests that the subindices are individually relevant and the disaggregation into the three dimensions captures differences in compliance

across countries with each value of the 3P index.<sup>17</sup> The table also shows the modest levels of correlation between each value of the 3P and the tier ranking. The correlation of 0.69 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 any potential biases one informational source might have.

#### IV. Application: The Determinants of Anti-Trafficking Policies

In this section, we apply the new index to reinvestigate the determinants of anti-trafficking policies. In choosing our variables of interest, we follow the specification in Bartilow (2010), whose dependent variable is the level of compliance with the US TVPA of 2000. In its annual Trafficking in Persons Reports (2001–2011), the US Department of State reports a ranking of countries with respect to their actions to fight human trafficking, on a scale of 1–3.<sup>18</sup> 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).<sup>19</sup> We recode the ranking so that higher values indicate more stringent policies. 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 2002–2010 period.<sup>20</sup> 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. Because some of the data are not available for all countries or years, the panel data are unbalanced and the number of observations depends on

<sup>17</sup> The usual threshold for regarding subdimensions as relevant is a correlation of, at most, 0.7 (McGillivray and White, 1993).

<sup>18</sup> 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, because tier 2 and tier 2-watchlist reflect the same level of compliance.

<sup>19</sup> See the US Department of State's 2010 Trafficking in Persons Report.

<sup>20</sup> Data on compliance with human trafficking policies for the years 2000–2001 are also available. However, given that values are missing for many countries in these years, we exclude them from the analysis. We exclude data for 2010 because of missing observations for some control variables.

the choice of explanatory variables. Still, following Bartilow (2010), 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:

$$y_{i,t} = \alpha + \beta_1 y_{i,t-1} + \beta_2' X_{i,t} + \eta_i + \lambda_t + \varepsilon_{i,t}. \quad (1)$$

Here,  $y_{i,t}$  represents our measures of anti-trafficking policies in country  $i$  at year  $t$ ,  $X_{i,t}$  is the vector of explanatory variables,  $\eta_i$  and  $\lambda_t$  represent country and year fixed effects, respectively, and  $\varepsilon_{i,t}$  represents the idiosyncratic error term.

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 such as ordinary least-squares (OLS) or the system generalized method of moments (GMM) estimator suggested by Arellano and Bover (1995) and Blundell and Bond (1998). Therefore, we use both ordered probit, OLS, and system GMM.

Among our variables of interest, we include an index of control of corruption. This perceptions-based index is provided by Kaufmann *et al.* (2009) and ranges from  $-1.63$  (high risk of corruption) to  $2.58$  (low risk of corruption), in the estimation sample of Table 3 (Column 1). The enforcement of policies is likely to depend on the capacity of the government and bureaucracy 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 (lagged) 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 (Dixon, 1993; Slaughter, 1995; Neumayer, 2005; Hathaway, 2007; Bjørnskov, 2010). In democratic countries, it is easier for citizens, NGOs, and the media to monitor their governments' compliance with an international treaty. Furthermore, as the democratic legalism literature suggests, democracies are more likely to comply with international legal obligations because their respect for judicial processes and constitutional constraints is carried over into the realm of international politics (Simmons, 1998).<sup>21</sup>

<sup>21</sup> In the wake of regime changes, policy reforms frequently follow a J-curve, with reforms being delayed before they surge (Hellman, 1998). When we lag democracy by one year to capture this, the results remain unchanged.

Table 3. *Anti-trafficking policies (aggregate 3P and tier ranking), 2002–2010*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable, $t-1$	2.038*** (12.41)	0.611*** (23.40)	0.754*** (32.93)	0.300*** (8.65)	0.503*** (7.05)	0.302*** (8.92)	0.513*** (7.19)
Control of corruption	0.454*** (4.59)	0.110 (1.63)	0.098 (1.24)	0.982** (2.19)	0.333** (2.22)	0.827* (1.88)	0.391*** (4.30)
Democracy	0.029*** (2.58)	0.025*** (3.42)	0.035*** (3.69)	-0.057* (1.68)	0.063*** (3.45)	-0.067* (1.97)	0.073*** (3.63)
Women legislators (percent)	0.011* (1.90)	0.009** (2.25)	0.009* (1.88)	-0.013 (0.93)	0.016* (1.82)	-0.006 (0.44)	0.008 (0.98)
Women economic rights	0.194* (1.93)	0.136** (2.44)	0.163** (2.39)	0.153* (1.76)	0.303*** (3.41)	0.141* (1.66)	0.250** (2.53)
International regime membership (log) GDP p.c.	0.122 (0.97)	0.063 (0.87)	0.092 (1.03)	0.125 (0.72)	0.086 (0.54)		
US aid (percent of GDP)	-0.069 (1.22)	0.028 (0.72)	0.018 (0.35)	0.032 (0.10)	0.028 (0.29)		
	0.003 (0.15)	0.011 (1.23)	0.010 (0.85)	-0.009 (0.53)	-0.002 (0.16)		
Method	oprobit	oprobit	OLS	OLS, fe	GMM	OLS, fe	GMM
Number of observations	924	947	947	947	988	988	988
Number of countries	144	145	145	145	145	150	150
Adj. $R^2$	0.54	0.31	0.76	0.27		0.26	
Number of instruments					60		57
Arellano–Bond test ( $Pr > z$ )					0.42		0.29
Hansen test ( $Prob > \chi^2$ )					0.62		0.67

Notes: The dependent variable is the US Department of State's 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. \*\*\*, \*\*, and \* denote significance at the 1, 5, and 10 percent levels, respectively.

According to Bartilow (2010), gender representation is important for human trafficking policies. As he argues, women are more likely to pursue policies that protect their own rights.<sup>22</sup> We measure the level of women's rights by employing two indicators: the percentage of female parliamentarians in the national parliament (taken from the World Bank's Gender Statistics database<sup>23</sup>) and the Cingranelli–Richards (CIRI) indicator of women's economic rights. We code an international regime dummy variable, using data on whether or not a country has ratified the UN Anti-Trafficking Protocol. Finally, we include a country's (log) per capita gross domestic product (GDP) and the amount of US aid inflows (as a percentage of GDP). While per capita GDP proxies for a country's level of development, US aid measures the potential pressure exerted by the US to reform policies. Indeed, the US Department of State sometimes threatens to withhold aid in the case of non-compliance with human trafficking policies (see the

<sup>22</sup> This is in line with the broader body of literature. For example, according to Chattopadhyay and Duflo (2004), the reservation of political mandates for women in India has led to policies benefiting women especially.

<sup>23</sup> See <http://data.worldbank.org/data-catalog/gender-statistics>.



US Department of State's 2004 Trafficking in Persons Report). The inclusion of the US aid measure is meant to capture any pressurizing effect that the US might exert on aid-receiving developing countries.<sup>24</sup>

## V. Results

Column 1 of Table 3 replicates the analysis of Bartilow (2010) for our sample and definition of explanatory variables. The dependent variable is the three-scale tier ranking provided by the US Department of State. Given the ordinal nature of the dependent variable, we estimate the model with ordered probit. Therefore, we omit the country fixed effects because the inclusion of 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). However, we do include a dummy for each year.

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 1 percent level of statistical significance. At the 10 percent level, a higher share of women in parliament and better women's rights on the CIRI indicator are correlated with stricter policies against human trafficking. The lagged dependent variable is significant at the 1 percent level, with the expected positive coefficient. Per capita GDP, US aid, and international regime membership are not significant at conventional levels.

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 marginally insignificant.

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 5 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 10 percent level.<sup>25</sup>

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<sup>24</sup> Appendix B in the working paper version of this paper (Cho *et al.*, 2012) shows the exact definitions of all variables with their sources, while Appendix C reports descriptive statistics.

<sup>25</sup> When we use the *xpolity* index suggested by Vreeland (2008) instead, the negative coefficient is no longer significant at conventional levels. We have also replaced the World Bank's

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). Therefore, we proceed with the system GMM estimator as developed by Arellano and Bover (1995) and Blundell and Bond (1998), and we explicitly treat the lagged dependent variable as predetermined.<sup>26</sup> The results are based on the two-step estimator implemented by Roodman (2005) in STATA, including the finite sample correction of Windmeijer (2005). 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), with control of corruption now being significant at the 5 percent level. 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 US aid), with similar results.

Quantitatively, we find that an increase in the democracy index by one point increases the 3P index by 0.07 points. In order to increase the 3P index by one point (which is the difference between, for example, Switzerland and Colombia in 2000), democracy would have to increase by about 14 points, which corresponds, for example, to the difference between the Republic of Congo and Germany in 2002. An increase in the women's rights index by one point increases the 3P index by 0.25 points (focusing on the GMM results reported in Column 7). This corresponds to the difference between Greece and Estonia, for example, in 2000. An increase in the control of corruption by one point (on the  $-1.6$  to  $2.6$  scale) increases the 3P index by almost 0.4 points. This is the difference in corruption between, for example, Afghanistan and Nicaragua in the year 2000.

In Table 4, we focus on the individual dimensions of the 3P index. We estimate the model with GMM, despite the ordinal nature of the five-scale variables. This is because controlling for country fixed effects and addressing the problem of endogeneity are arguably more important than ignoring the ordinal nature of the dependent variables, in particular when we

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control of corruption index by those from the International Country Risk Guide of the Political Risk Services (PRS) Group (<http://www.prsgroup.com/ICRG.aspx>). Its coefficient is not significant at conventional levels in Columns 4 and 6, and is significant at the 10 percent level at least in the other regressions, with a positive coefficient.

<sup>26</sup> For the difference equation, we use all available lagged levels from  $t - 1$  or earlier as instruments. We use contemporaneous first differences for the levels equation (which are the default options for predetermined variables).

Table 4. *Anti-trafficking policies (prevention, prosecution, and protection), GMM, 2002–2010*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Prevention		Prosecution			Protection		
Dependent variable, $t-1$	0.310*** (4.97)	0.302*** (4.58)	0.659*** (11.17)	0.649*** (10.89)	0.703*** (14.93)	0.712*** (17.45)	0.379*** (5.69)	0.375*** (5.49)
Dependent variable, $t-2$					0.164*** (3.25)	0.188*** (4.06)		
Control of corruption	0.259*** (3.07)	0.210*** (3.99)	-0.042 (0.63)	0.048 (1.32)	-0.043 (0.92)	0.001 (0.02)	0.209*** (2.63)	0.209*** (4.69)
Democracy	0.025*** (3.20)	0.030*** (3.04)	0.020** (2.22)	0.022** (2.38)	0.007 (0.95)	0.006 (0.95)	0.033*** (4.25)	0.039*** (5.05)
Women legislators (percent)	0.005 (1.20)	0.004 (0.73)	0.002 (0.59)	-0.000 (0.09)	-0.001 (0.29)	-0.002 (0.87)	0.011** (2.40)	0.010** (2.45)
Women economic rights	0.103** (2.45)	0.104** (2.23)	0.119*** (2.62)	0.123*** (2.60)	0.062 (1.40)	0.060 (1.51)	-0.015 (0.31)	-0.028 (0.57)
International regime membership	0.051 (0.71)		-0.014 (0.19)		0.023 (0.39)		0.015 (0.21)	
(log) GDP p.c.	-0.048 (1.06)		0.053 (1.16)		0.028 (0.87)		0.009 (0.19)	
US aid (percent of GDP)	-0.007 (1.23)		-0.002 (0.22)		0.004 (0.99)		-0.002 (0.23)	
Number of observations	950	991	950	992	879	916	949	991
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 ( $Pr > z$ )	0.25	0.27	0.04	0.02	0.83	0.57	0.55	0.47
Hansen test ( $Prob > \chi^2$ )	0.40	0.39	0.34	0.15	0.57	0.47	0.11	0.07

Notes: The dependent variables are the prevention index (Columns 1 and 2), the prosecution index (Columns 3–6), and the protection index (Columns 7 and 8). Standard errors are clustered at the country level. A dummy for each year is included. Absolute z-statistics in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels, respectively.

include the spatial lag variables. We report specifications when including regime membership, GDP per capita, and US aid, and when excluding them. Note that the Arellano–Bond test rejects the regressions focusing on the prosecution index (Columns 3 and 4). Therefore, we 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, membership in international regimes, GDP per capita, and US aid are not significant determinants of any 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 1 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 policies improve with better economic rights of women, at the 5 percent level, but not with the share of women in the legislature, while the reverse holds for protection policies.<sup>27</sup>

<sup>27</sup> However, note that the Hansen test is borderline in Columns 7 and 8.

In a final set of regressions, we investigate whether, and to what extent, anti-trafficking policies spread across countries, with the help of a spatial autoregressive model (Anselin, 1988), in which we include various spatial lag variables. We use different weights  $\omega_{ikt-1}$  linking countries, as explained in the following, thus generating different spatial lag variables, which enter jointly in the estimation models ( $k$  stands for countries other than  $i$ ). We row-standardize all weighting matrices, such that the spatial lag variables represent the weighted average of policies in other countries. All spatial lag variables are temporally lagged by one year because it is unlikely that countries could react to the policies of other countries immediately (i.e., in the same year).<sup>28</sup>

We choose our weights with a view to taking into account a variety of different potential transmission channels. 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 a distance of less than 150 miles of sea), bilateral trade, similarity in voting on issues regarded as key by the US Department of State in the UN General Assembly, and a civilizational dummy.

Transit and source countries are vulnerable to pressure from their major destination countries because the effectiveness of policies in the latter requires the ratcheting-up of policies in the former. Note that the sample including this spatial lag is thus reduced to countries that function as major transit or origin countries, because 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 effect of any externality generated by policy choices in countries  $k$ . This is because contiguous countries tend to be close substitutes as destination, transit, or origin countries. The same is true for countries that 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 they also partly cover learning and emulation effects if countries learn from or emulate those countries of geographical proximity or economic importance. Yet, we assume that learning and emulation effects are predominantly captured by the similarity of voting and the civilizational belonging of countries. Countries wishing to learn from or emulate other countries will seek those with which they

<sup>28</sup> Clearly, policies could spread over a period longer than one year. We focus on the short-term horizon and leave a more detailed exploration of the temporal dynamics of the diffusion of anti-trafficking policies for future research.

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, while countries belonging to the same civilization (e.g., Western, Islamic, African, Latin American, Sinic, or Hindu) are likely to share common values.

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 5, we use the system GMM estimator, additionally modeling the spatial lag variables as predetermined, in analogy to the temporally lagged dependent variable. Kuenova 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. In order to minimize the number of instruments in the regressions, we collapse the matrix of instruments, as suggested by Roodman (2006).

Despite this conservative research design, the results from our spatial analysis should be regarded as tentative because our research context poses a number of further challenges, which we cannot deal with in the confines of this paper. To start with, spatial econometrics in panel data give rise to complex dependence structures and estimation problems (Kapoor *et al.*, 2007; Anselin *et al.*, 2008; Yu *et al.*, 2008; Baltagi *et al.*, 2013; Debarsy and Ertur, 2010; Elhorst, 2010; Lee and Yu, 2010). We base our modeling strategy on the Monte Carlo analysis of Kuenova and Monteiro (2009), but our panel dataset is unbalanced, our dependent variable is categorical, not strictly continuous, and we use spatial lags temporally lagged by one period. Kuenova and Monteiro (2009), however, use contemporaneous spatial lag variables, so that it is unclear whether their results in favor of the system GMM estimator would carry over to our context.<sup>29</sup>

Keeping these caveats in mind, we turn to the results given in Table 5. Columns 1–4 include all spatial lags. Recall that the inclusion of the spatial lag variable, which is designed to capture pressure from the major destination countries on to their transit and origin countries, means that countries that are not major transit or origin countries are not in the sample. Hence, Columns 5–8 of Table 5 exclude this specific spatial lag variable, resulting in the full sample. Columns 1 and 5 focus on the aggregate 3P anti-trafficking policy index. None of the spatial lags is estimated to have

<sup>29</sup> We are grateful to a referee for pointing out that the existing body of spatial econometrics literature does not provide an insight into how to best estimate models with such complexities involved as ours. To the best of our knowledge, the only published paper with an analogous set-up is that by Gassebner *et al.* (2011). They use the same methods of estimation as we employ here.

Table 5. *Anti-trafficking policies (spatial lags), GMM, 2002–2010*

	(1) 3P	(2) Prevention	(3) Protection	(4) Prosecution	(5) 3P	(6) Prevention	(7) Protection	(8) Prosecution
Dependent variable, $t-1$	0.473*** (5.97)	0.348*** (5.17)	0.369*** (4.34)	0.631*** (10.50)	0.448*** (5.77)	0.332*** (4.92)	0.329*** (4.76)	0.671*** (13.22)
Dependent variable, $t-2$				0.142*** (2.60)				0.146*** (2.56)
Control of corruption	0.425*** (2.51)	0.219*** (2.67)	0.165*** (2.21)	0.034 (0.51)	0.349*** (2.85)	0.178*** (2.79)	0.163*** (3.61)	-0.003 (0.08)
Democracy	0.069*** (2.34)	0.021* (1.76)	0.030*** (2.45)	0.003 (0.36)	0.061*** (2.26)	0.023*** (2.16)	0.031*** (3.55)	-0.006 (0.63)
Women legislators (percent)	-0.003 (0.21)	-0.002 (0.35)	0.011*** (2.02)	-0.007* (1.92)	0.000 (0.01)	-0.000 (0.06)	0.012*** (2.72)	-0.006*** (2.10)
Women economic rights	0.239* (1.90)	0.097* (1.75)	0.062 (0.93)	0.113*** (2.20)	0.209*** (2.10)	0.075 (1.58)	0.056 (1.10)	0.057 (1.20)
Spatial lag, traffic link-weighted	-0.173 (1.08)	-0.197 (1.35)	-0.166 (1.27)	-0.507*** (2.60)				
Spatial lag, contiguity-weighted	0.206 (1.27)	0.134 (1.13)	-0.008 (0.06)	0.424*** (2.84)	0.157 (1.29)	0.116 (0.93)	0.000 (0.00)	0.272*** (2.79)
Spatial lag, trade-weighted	0.188 (0.71)	-0.244 (0.85)	0.343 (1.43)	-0.180 (0.69)	0.211 (0.97)	-0.252 (0.98)	0.182 (1.11)	-0.233 (1.02)
Spatial lag, voting-weighted	0.424 (1.25)	1.327*** (1.99)	1.119*** (2.17)	0.219 (0.40)	0.376 (1.18)	1.264*** (2.50)	1.022*** (2.70)	0.459 (0.87)
Spatial lag, civilization-weighted	-0.192 (1.33)	-0.127 (0.61)	-0.314 (1.36)	-0.002 (0.01)	-0.091 (0.73)	-0.173 (0.86)	-0.298 (1.45)	-0.037 (0.40)
Number of observations	809	812	812	760	982	985	985	911
Number of countries	119	119	119	117	149	149	149	146
Number of instruments	67	67	67	67	58	58	58	58
Arellano-Bond test ( $P > z$ )	0.31	0.41	0.43	0.77	0.35	0.29	0.42	0.51
Hansen test ( $\text{Prob} > \chi^2$ )	0.35	0.32	0.26	0.89	0.22	0.24	0.28	0.66

Notes: Standard errors are clustered at the country level. A dummy for each year is included. Absolute Z-statistics in parentheses; \*\*\*, \*\*, and \* denote significance at the 1, 5, and 10 percent levels, respectively.

a statistically significant effect at conventional levels. Columns 2 and 6 replicate the regressions for prevention policies, while we analyze protection (prosecution) policies in Columns 3 and 7 (Columns 4 and 8). The results show that prevention and protection policies follow those of countries with similar voting behavior in the UN General Assembly.<sup>30</sup> This most likely captures a learning or emulation effect. Arguably, countries look for cues from other countries with similar political views in their own policy design. The speed of policy diffusion is strong. A one-point tightening of policies in similar countries in the previous year raises domestic policy stringency by more than one point this year. Such strong degrees of spatial dependence are not uncommon in the early periods of policy diffusion (e.g., Perkins and Neumayer, 2010).

Prosecution policies diffuse among contiguous countries, with the relevant spatial lag statistically significant at the 1 percent level. This most likely captures an externality effect. Contiguous countries are exposed to the effect of stricter policies in neighboring countries, and thus adopt their own policies. If contiguous countries increased the strictness of their anti-trafficking policies by one point in the previous year, we estimate that the country under observation tightens its own policy by 0.3–0.4 points. In other words, the (short-run) speed of policy diffusion is less than one-half and thus diffuses more slowly than prevention and protection policies.<sup>31</sup> The traffic link-weighted spatial lag variable is statistically significant with a negative coefficient. Rather than stricter prosecution policies in destination countries resulting in stricter prosecution policies in their major transit and origin countries, it appears that they function as substitutes: the latter group of countries gets away with laxer prosecution policies, knowing that the destination countries prosecute more vigorously.<sup>32</sup>

<sup>30</sup> Note that the sum of the coefficients of the spatial lag and the lagged dependent variable exceed unity in some model specifications. 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, because diffusion might resemble an explosive process to start with, and then significantly slow down as time passes.

<sup>31</sup> One concern with spatial autoregressive models is that, despite our conservative research design, the spatial lag variables pick up the common movement of countries toward stricter policies over time. To check whether this is the case, we employed a placebo test (i.e., we generated spatial lag variables with randomly generated weights). Because none of the spatial lag variables with these random weights resulted in estimated coefficients that were significant at conventional levels, we are confident that our spatial lag variables with theoretically motivated weights are not simply picking up these common trends toward tighter policies over time.

<sup>32</sup> To test for robustness, we use the period average of trade and voting in the UN General Assembly as weights, such that any over-time variation in the spatial lag variables exclusively derives from variation in the policies of other countries, not from variation in the



## VI. 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 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: prevention, protection, and prosecution.

Unsurprisingly, we find that 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 lower, and even decreasing over recent years, in South Asia and the Middle East. Globally, compliance with prosecution policy was highest for all years and followed the steepest upward trend. The average prevention policy score also increased substantially over the 2000–2010 period. However, our index suggests that governmental efforts to protect victims of human trafficking remain weaker than their efforts to criminalize traffickers and to prevent the crime of human trafficking. This 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, which regards human trafficking as a matter of protecting vulnerable individuals from exploitation.

We have applied the new data to investigate the determinants of anti-trafficking policies empirically. The results show that compliance with (overall) anti-trafficking policies significantly decreases with corruption and is higher in countries that also respect the rights of women. The share of women legislators in parliament, membership in international regimes, per capita GDP, and loans from the US do not affect compliance at conventional levels of significance, while the effect of democracy depends on how we estimate our regressions.

We also provide preliminary evidence on the spread of anti-trafficking policies across countries. The results suggest that prevention and protection policies follow those of countries with similar voting behavior in the UN General Assembly, most likely capturing learning or emulation effects. In setting prosecution policies, countries seem to follow their contiguous neighbors; this most likely captures externality effects. Given the complex nature of spatial dependence in our model and insufficient knowledge on the appropriate method of estimation, these results remain preliminary. We

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weights. These additional regressions generate similar results, but additionally suggest that countries look towards the previous policies of politically similar countries when determining their overall anti-trafficking policies, while this spatial lag variable now becomes marginally insignificant for protection policies.

leave a more comprehensive analysis of the diffusion of anti-trafficking policies across countries for future research.

Our new indices can be used to answer a wide range of questions. Scholars might 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 have been able to do here. For example, protection policies mainly protect victims, while prosecution policies mainly target the perpetrators. The reason why countries choose to pursue one type of policy rather than another deserves closer scrutiny.

## Supporting Information

The following supporting information can be found in the online version of this article at the publisher's web site.

**Appendix A:** Anti-trafficking Policy Index Coding Guideline.

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

**Appendix C:** Descriptive Statistics (regression sample, Table 3, column 1).

Working paper version of this paper (Cho *et al.*, 2012).

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First version submitted October 2011;  
final version received September 2012.