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The Determinants of Anti-trafficking Policies – Evidence from a New Index

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June 2012

Abstract: We develop a new index measuring governments' anti-trafficking policies for up to 180 countries over the 2000-2010 period. We assess a country's level of compliance in the three main dimensions of anti-trafficking policies – prosecution, protection and prevention. The results show that compliance with prosecution policy is highest, while governmental efforts to protect victims of human trafficking remain weakest. Overall, developed countries perform better than the rest of the world. We employ the new indices to investigate what determines 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: human trafficking, human rights, compliance, anti-trafficking policies

JEL codes: O15, F22, P41

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1. Introduction

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

Human trafficking can be seen as one of the dark sides of globalization. As advancements in technology and transportation connect countries more closely regardless of geographical distances, illicit flows of human beings have also become a global phenomenon. Anecdotal evidence suggests that traffickers recruit victims worldwide and transfer them from one country to another, often across continents (U.S. Department of State 2010). For instance, according to the UNODC (2006), trafficking victims found in the United States came from 66 countries in different regions. 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 in the past ten years, including the *United Nations Convention against Transnational Organized Crime* and its *Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children* (2000, hereinafter the “Convention” or “Protocol”). Accordingly, social scientists have started to turn their attention towards policies enacted to combat human trafficking.¹ One of the problems scholars face is the lack of reliable data on countries’ anti-trafficking policies which can be compared over time and between countries. The U.S. Department of State reports a ranking of countries with respect to their actions in fighting human trafficking. They use a scale of 1-3,² which is based on the level of compliance with the United States 2000 Victims of Trafficking and Violence Protection Act (TVPA). However, the tier ranking has several drawbacks,

¹ See Akee et al. 2010, Auriol and Mesnard 2010, Avdeyeva 2010, Bartilow 2010, Cho 2012, Cho and Vadlamannati 2012, Di Tommaso et al. 2009, Friebel and Guriev 2006, Mahmouda and Trebesch 2009, Potrafke 2011, and Simmons and Lloyd 2010.

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

which limit its reliability and relevance.³ In particular, while the tier ranking provides an aggregate score of compliance with anti-trafficking policies, it fails to recognize the different levels of compliance in the three main policy dimensions – prosecution, protection and prevention. Separating these three dimensions is important. Theory and evidence indicate that better protection policy may encourage potential victims to risk illegal migration, which could lead them to fall prey to traffickers. Human trafficking inflows might therefore increase as a consequence, contradicting the objectives of prosecution and prevention policies (Akee et al. 2010). Countries can thus have the same overall ranking on the index, but for very different reasons.⁴

We develop novel and original indices of anti-trafficking policies around the world, providing better, more detailed and disaggregated measures of the three prime policy dimensions enacted by countries. Specifically, we use raw data from two reports on human trafficking – the Annual Reports of Trafficking in Persons (United States State Department, 2001-2011) and the Reports on Trafficking in Persons: Global Patterns (United Nations Office on Drugs and Crime, 2006 and 2009) – to construct separate indices on the three policy dimensions (prosecution, protection and prevention), as well as one overall aggregate anti-trafficking policy index for up to 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 of which factors determine a country’s anti-trafficking policies.

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 prevent the crime of human trafficking. It thus 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.

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

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

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 United States 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 2, we introduce our indices on anti-trafficking policies. Section 3 describes the development of these policies across countries and over time. Our application on what determines anti-trafficking policies follows in section 4, where we briefly provide our theory, method of estimation, and data. We discuss our results in section 5. The final section concludes the paper.

2. Novel Measures of Anti-trafficking Policies

In response to the emergence of human trafficking onto the international policy arena, several potentially important international legal instruments have been introduced in the past ten years, including the *United Nations Convention against Transnational Organized Crime* and its *Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children* (2000) and the *Council of Europe Convention on Action against Trafficking in Human Beings* (2008).⁵ Countries rapidly ratified the Protocol. After opening for signature in November 2000, the Convention has been ratified by 166 parties and the Protocol by 147 to date. The Protocol in particular represents an important step forward, by providing an internationally recognized definition of human trafficking⁶ for the first time, as well as introducing its three important policy dimensions: (i) prosecuting (criminalizing) traffickers, (ii) protecting victims, and (iii) preventing the crime of human trafficking (UNODC 2006).⁷

⁵ There are several earlier versions of international treaties for human trafficking, including the International Agreement for the Suppression of the "White Slave Traffic" (1904). Several other international treaties relevant to human trafficking exist today: The International Labor Organization Convention 182, the Elimination of Worst Forms of Child Labor (1999); the United Nations Optional Protocol to the Convention on the Rights of the Child on the Sale of Children, Child Prostitution and Child Pornography (2000); the International Labor Organization Convention 29, Forced Labor (1930); and the International Labor Organization Convention 105, Abolition of Forced Labor (1957). Clearly, some of these treaties are without measurable effects in an international system without well-working enforcement mechanisms.

⁶ According to the Anti-trafficking Protocol, *trafficking in persons shall mean the recruitment, transportation, transfer, harboring or receipt of persons, by means of the threat or use of force or other forms of coercion, of 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)).

⁷ We follow the definition of the Anti-trafficking Protocol (2000) in distinguishing the obligations of each policy dimension.

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 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 case of disagreement between the two coders (less than 10%), 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 no compliance.

The raw data are derived from two reports on human trafficking, the Annual Report of Trafficking in Persons (United States State Department, 2001-2011) and the Report on Trafficking in Persons: Global Patterns (United Nations Office on Drugs and Crime, 2006 and 2009). The U.S. State Department reports provide detailed country narratives every year on the anti-trafficking efforts of up to 180 countries in the three dimensions of human trafficking listed above (an annual report covering the period one year before publication). The UN Office on Drugs and Crime reports include information about criminal justice and victim protection policies in approximately 155 countries for various years.⁸ As the State Department's reports provide systematic and comprehensive information covering a larger number of countries each year, we use these as our main source. We then check the validity of the information provided by employing the UN reports.

The sub-index on 'prosecution policy' measures the level of governments' efforts to punish and prosecute traffickers and other related offenders (such as employers of trafficking victims, law enforcement officials who collude with traffickers, and clients of 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 trafficking law, (iii) the application of other relevant laws, (iv) the stringency of penalties, (v) the level of law enforcement, and (vi) the collection of crime statistics. We select these requirements based on article 5 (criminalization) of the Protocol. Countries receive the highest possible score (five) if the country has a legislative measure specifically prohibiting trafficking in persons and the law is fully enforced. It receives a score of four if it has adopted legislative measures specifically prohibiting trafficking in persons but the law is not fully enforced. A score of three is coded if the country does not have a legislative measure specifically prohibiting trafficking in persons but applies some other relevant laws to punish offenders and this other law is at least adequately enforced. A score of

⁸ 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.

two implies that the country does not have a legislative measure specifically prohibiting trafficking in persons, but it applies some other related law to punish offenders without, however, adequately enforcing this law. If the country has a legislative measure specifically prohibiting trafficking in persons but does not enforce the law at all it also receives a score of two. The lowest possible score of one is obtained if the country does not have a legislative measure prohibiting trafficking in persons, no other law is applied, and there is no evidence of punishment for such a crime at all. The short description of the coding guideline is reproduced in Appendix A and the detailed full version with country examples is available in our online appendix.⁹

The second sub-index, ‘protection policy’, is coded analogously. It assesses the level of governmental efforts to protect and assist the victims of human trafficking. Nine prime requirements imposed by the Protocol (article 6, 7 and 8) are evaluated: (i) no punishment of victims, (ii) imposing no self-identification in order to prove their status as a victim; (iii) assistance for legal proceedings, (iv) the provision of residence permits, (v) basic services for housing, (vi) medical training, (vii) job training, (viii) assistance for rehabilitation and (vi) assistance for repatriation. Ensuring no punishment of victims receives special consideration in our evaluation¹⁰ because this requirement represents a basic human right in anti-trafficking policy, recognizing ‘victims of exploitation’ (UNODC 2006; Cameron and Newman 2008: Chapter 1). The highest score of five is given to countries demonstrating very strong efforts in protecting trafficking victims. Countries obtain a score of four (three) if they demonstrate strong (modest) efforts against trafficking in persons, and a score of two for limited efforts. A score of one is given if the country demonstrates no effort against trafficking in persons. Again, the coding guidelines are provided in Appendix A and the online appendix.

The third dimension of anti-trafficking policies, ‘prevention policy’, evaluates the level of governmental efforts to prevent and combat human trafficking. Based on the requirements of the Protocol provided in article 9, 10, 11, 12 and 13, we evaluate seven areas. Examples are the implementation of campaigns for anti-trafficking awareness; training government and military officials (including peace keepers); facilitating information exchange among relevant authorities; monitoring borders, train stations, airports, etc.; adopting national action plans for combating trafficking in persons; promoting cooperation with NGOs and international organizations; and facilitating cooperation with other governments. Again, the index ranges between one and five, with higher values reflecting stricter policies, as detailed in Appendix A.

⁹ See www.human-trafficking-research.org.

¹⁰ To obtain score 4 or 5, the requirement of no punishment of victims has to be satisfied.

In addition to the three sub-indices, we also calculate an overall “3P” anti-trafficking policy index. This is computed as the unweighted sum of the three dimensions. The overall index thus ranges between 3 and 15. In order to help gauging the reliability of the index, we calculate Cronbach’s alpha. Cronbach’s 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). Excluding any of the three sub-indices reduces the alpha, indicating that the information provided by all of them improve the overall index. While the protection and prevention policy indices reflect the de-facto implementation of the respective policy, the prosecution policy index represents both anti-trafficking law adoption and enforcement – 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 (2000). Excluding either of the de-jure and de-facto dimensions decreases Cronbach’s alpha, indicating that both law adoption and implementation are crucial to punishing human trafficking perpetrators.¹¹ We also perform a polychotomous version of Mokken Scale Analysis. Mokken Scale Analysis is a cumulative scaling technique, allowing us to investigate the unidimensionality of our index (e.g., Cingranelli and Richards 1999). Unidimensionality is important because indices measuring 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.¹² 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 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

¹¹ Feld and Voigt (2003) point out in the context of judicial independence 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 and 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.

¹² A strong scale is defined as an H greater than 0.5 (Mokken 1971).

same time. However, we admit that this generalization may not take account of specific policy needs for different types of countries.¹³

The 3P-index is available for up to 180 countries over the 2000-2010 period. We illustrate data availability and global and regional average scores for selected years in Table 1. 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 are 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 – the most recent available year).

3. 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 for the last ten years (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, 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. On the contrary, our index suggests that governmental efforts to protect victims of human trafficking remain weaker than their efforts to criminalize traffickers and prevent the crime of human trafficking. The worldwide average score of protection policy 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, 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,¹⁴ as pointed out by Simmons and Lloyd (2010).

¹³ 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.

¹⁴ According to the Anti-trafficking Protocol (2000), 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 International Covenant on Civil and Political Rights (1966).

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 showed high values in the Western Europe and other industrialized countries group in the year 2000 already, 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 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 sub-indices and the overall index, as well as the U.S. Department of State's tier-ranking. Not surprisingly, the three dimensions are positively correlated with each other. However, the correlations among the sub-indices of the 3P index are modest, ranging between 0.51 and 0.62. This suggests that the sub-indices are individually relevant and the disaggregation into the three dimensions captures differences in compliance across countries with each of the 3Ps.¹⁵ The table also shows the modest levels of correlation between each of the 3Ps 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 potential biases one informational source may have.

4. Application: The Determinants of Anti-trafficking policies

In this section we apply the new index to re-investigate the determinants of anti-trafficking policies. In choosing our variables of interest we follow the specification in Bartilow (2010). His dependent variable is the level of compliance with the United States 2000 Victims of Trafficking and Violence Protection Act (TVPA). The U.S. Department of State reports a ranking of countries with respect to their actions to fight human trafficking, on a scale of 1-

¹⁵ The usual threshold for regarding sub-dimensions as relevant is a correlation of at most 0.7 (McGillivray and White 1993).

3.¹⁶ 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).¹⁷ We recode the ranking so that higher values are deemed “better.” We use this dependent variable only in a baseline regression for comparative reasons. Our main estimations are based on our newly constructed anti-trafficking policy variables.

Our regressions are based on pooled time-series cross-section (panel) data, covering the 2002-2009 period.¹⁸ We use robust standard errors, clustered at the country level, to account for the fact that observations from the same country in different years are not independent observations. Since some of the data are not available for all countries or years, the panel data are unbalanced and the number of observations depends on the choice of explanatory variables. Still following Bartilow, we include the temporal lag of the dependent variable, which turns out to be highly significant according to all specifications. Our preferred estimation equation takes the following form:

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

where $y_{i,t}$ represents our measures of anti-trafficking policies in country i at year t , $X_{i,t}$ is the vector of explanatory variables, η_i and λ_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 like ordinary least squares (OLS) or the system GMM estimator suggested by Arellano and Bover (1995) and Blundell and Bond (1998). We therefore use both ordered probit, OLS and system GMM.

¹⁶ Bartilow (2010) uses a fourth category relying on information on how a country’s policies evolve compared to the previous year (i.e., whether the country is on the “watchlist”). We do not follow this coding, as “tier 2” and “tier 2-watchlist” reflect the same level of compliance.

¹⁷ See the Trafficking in Persons Report (2010), U.S. Department of State.

¹⁸ Data on compliance with human trafficking policies for the years 2000-01 are also available. However, given that values are missing for many countries in these years we exclude them from the analysis. We exclude data for 2010 due to missing observations for some control variables.

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 below. Enforcement of policies is likely to depend on the government and bureaucracy's capacity to enforce these policies. With rising corruption, both bureaucrats and government officials are less likely to enforce sound policies. A lower degree of corruption is thus likely to improve policies against human trafficking. We include the (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 (Bjørnskov 2010, Dixon 1993, Hathaway 2007, Neumayer 2005, Slaughter 1995). In democratic countries, it is easier for citizens, non-governmental organizations and the media to monitor governments' compliance with an international treaty. Furthermore, as the democratic legalism literature suggests, democracies are more likely to comply with international legal obligations because of their respect for judicial processes and constitutional constraints carried over into the realm of international politics (Simmons 1998).¹⁹

According to Bartilow, gender representation is important for human trafficking policies. As he argues, women are more likely to pursue policies which protect their own rights.²⁰ We measure the level of women's rights employing two indicators: The percentage of female parliamentarians in the national parliament (taken from the World Bank Gender Statistics 2010) and the Cingranelli-Richards indicator of women's economic rights. We code an International Regime dummy variable, using data on whether or not a country has ratified the United Nations Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children (2000). Finally, we include a country's (log) per capita GDP and the amount of U.S. aid inflows (as a percentage of GDP). While per capita GDP proxies for a country's level of development, U.S. aid measures the potential pressure exerted by the U.S. to reform policies. Indeed, the U.S. State Department sometimes threatens to withhold aid in case of non-compliance with human trafficking policies (U.S. Department of State, Annual Report on Trafficking in Persons 2004). The inclusion of the U.S. aid measure is meant to capture any pressurizing effect that the United States might exert on aid-receiving developing countries.

¹⁹ 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.

²⁰ This is in line with the broader literature. For example, according to Chattopadhyay and Duflo (2005), reservation of political mandates for women in India has led to policies benefiting especially women.

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

5. 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 3-scale tier ranking provided by the U.S. Department of State. Given the ordinal nature of the dependent variable, we estimate the model with ordered probit. We therefore omit the country fixed effects because including country dummies in ordered probit/logit models with a limited number of observations tends to produce inconsistent estimates – the so-called incidental parameter problem (for a summary see Lancaster 2000). We do however include a dummy for each year.

As can be seen in column 1, the quality of a country's anti-trafficking policy improves with the perceived absence of corruption and a more democratic regime, at the one percent level of statistical significance. At the ten 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 one percent level, with the expected positive coefficient. Per capita GDP, U.S. 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 five percent level, while the share of women in the legislature is no longer significant at conventional levels. Surprisingly, the coefficient of democracy reverses its sign, but is only significant at the ten percent level.²¹

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

²¹ When we use the *xpolity* index suggested in Vreeland (2007) instead, the negative coefficient is no longer significant at conventional levels. We also replaced the World Bank's control of corruption index by those from the ICRG. Its coefficient is not significant at conventional levels in columns 4 and 6, and significant at the ten percent level at least in the other regressions, with a positive coefficient.

short panel (Nickell 1981). We therefore proceed with the system GMM estimator as developed in Arellano and Bover (1995) and Blundell and Bond (1998), and explicitly treat the lagged dependent variable as predetermined.²² Results are based on the two-step estimator implemented by Roodman (2005) in Stata, including Windmeijer's (2005) finite sample correction. The Hansen test on the validity of the instruments used (amounting to a test for the exogeneity of the covariates), and the Arellano-Bond test of second order autocorrelation (which must be absent from the data in order for the estimator to be consistent), do not reject the specification at conventional levels and thus support our choice of which variables to model as exogenous.

The results from column 5 are similar to those obtained previously with ordered probit and OLS (excluding country fixed effects), with control of corruption now being significant at the five 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 U.S. 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 distance between, e.g., Switzerland and Colombia in 2000) democracy would have to increase by about 14 points, which corresponds, e.g., 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 distance between Greece and Estonia, e.g., 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 distance in corruption between, e.g., 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 is arguably more important than ignoring the ordinal nature of the dependent variables, in particular when we include the spatial lag variables below. We report specifications including regime membership, GDP per capita and U.S. aid, and excluding them. Note that the Arellano-Bond test rejects the regressions focusing on the prosecution index (columns 3 and 4). We therefore include the second lag of the dependent variable (in columns 5 and 6). This specification is not rejected at conventional levels.

²² 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).

According to the results, membership in international regimes, GDP per capita and U.S. aid are not significant determinants of either of the constituent dimensions of anti-trafficking policies at conventional levels. The results for the remaining control variables are similar compared to the overall index. The lagged dependent variable is significant at the one percent level throughout. Control of corruption improves prevention and protection policies, but not those relating to prosecution. When controlling for the second lag of the dependent variable in the prosecution regressions, the same holds for democracy. Prevention policies improve with better economic rights of women, at the five percent level, but not with the share of women in the legislature, while the reverse holds for protection policies.²³

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 $\sum_k \omega_{ikt-1} y_{kt-1}$. We use different weights ω_{ikt-1} linking countries, as explained below, 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 since it is unlikely that countries could react to the policies of other countries immediately (i.e., in the same year).²⁴

We choose our weights with a view to account for 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 less than 150 miles of sea distance), bilateral trade, similarity in voting on issues regarded as key by the United States' Department of State in the United Nations General Assembly, and a civilizational dummy.

Transit and source countries are vulnerable to pressure from their major destination countries since the effectiveness of policies in the latter requires the ratcheting-up of policies in the former. Note that the sample including this spatial lag is thus reduced to countries which function as major transit or origin countries as we assume that these countries experience pressure from destination countries. The relevant spatial lag variable is undefined for countries that do not fall into this category.

²³ Note however that the Hansen test is borderline in columns (7) and (8).

²⁴ 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.

Contiguity and bilateral trade predominantly capture externalities. A country contiguous to other countries k is likely to experience the strongest impact of any externality generated by policy choices in countries k . This is because contiguous countries tend to be close substitutes as either destination, transit or origin countries. The same is true for countries which trade a lot with each other, not least because flows of people often follow flows of goods and services. Of course, contiguity and bilateral trade do not exclusively capture externality effects, but will also partly cover learning and emulation effects if countries learn from or emulate those countries of geographical proximity or economic importance. 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 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, such as the Western, Islamic, African, Latin American, Sinic or Hindu ones, 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. Kukenova and Monteiro (2009) show that in Monte Carlo simulations, the system GMM estimator outperforms other estimators for spatial dynamic panel data models with one or more endogenous variables. In order to minimize the number of instruments in the regressions, we collapse the matrix of instruments as suggested in Roodman (2006).

Despite this conservative research design, the results from our spatial analysis should be regarded as tentative as 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 gives rise to complex dependence structures and estimation problems (Anselin et al. 2008; Baltagi et al. 2009; Debarsy and Ertur 2010; Ellhorst 2009; Kapoor et al. 2007; Lee and Yu 2010; Yu et al. 2008). We base our modeling strategy on the Monte Carlo analysis in Kukenova 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, whereas Kukenova and Monteiro (2009) use contemporaneous spatial lag variables, such that

it is unclear whether their results in favor of the system GMM estimator would carry over to our context.²⁵

Keeping these caveats in mind, we turn to the results, which are reported in table 5. Columns 1-4 include all spatial lags. Recall that including the spatial lag variable, which is designed to capture pressure from the major destination countries onto their transit and origin countries, means that countries which 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 are estimated to have 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 (4 and 8). The results show that prevention and protection policies follow those of countries with similar voting behavior in the United Nations General Assembly.²⁶ 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 one 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 the country under observation to tighten 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.²⁷ The traffic link-weighted spatial lag variable is statistically significant

²⁵ We are grateful to a referee for pointing out that the existing spatial econometrics literature does not provide insights on how to best estimate models with such complexities involved as ours. To the best of our knowledge, the only published paper with an analogous setup is Gassebner et al. (2011). They use the same methods of estimation as we employ here.

²⁶ 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 since diffusion might resemble an explosive process to start with, and then significantly slow down as time passes.

²⁷ 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: we generated spatial lag variables with randomly generated weights. Since none of the spatial lag variables with these random weights resulted in estimated coefficients that were

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 get away with laxer prosecution policies knowing that the destination countries prosecute more vigorously.²⁸

6. 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, namely 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, while our index suggests that governments' 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 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 United States do not affect compliance at conventional

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.

²⁸ To test for robustness, we use the period average of trade and voting in the UNGA 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 weights. These additional regressions generate similar results, but additionally suggest that countries look towards politically similar countries' previous policies when determining their overall anti-trafficking policies, while this spatial lag variable now becomes marginally insignificant for protection policies.

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 United Nations General Assembly, most likely capturing learning or emulation effects. In setting prosecution policies, countries seem to follow their contiguous neighbors, which 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 leave a more comprehensive analysis of the diffusion of anti-trafficking policies across countries for future research.

Our new indices can be applied to answer a wide range of questions. Scholars may wish to use the aggregate index if they are interested in overall policies, but we strongly recommend that future research analyzes the different dimensions of overall policies separately and in greater detail than we could do here. For example, protection policies mainly protect victims, while prosecution policies mainly target the perpetrators. Why countries choose to pursue one type of policy rather than the other deserves closer scrutiny.

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Figure 1. Aggregate 3Ps (2010)

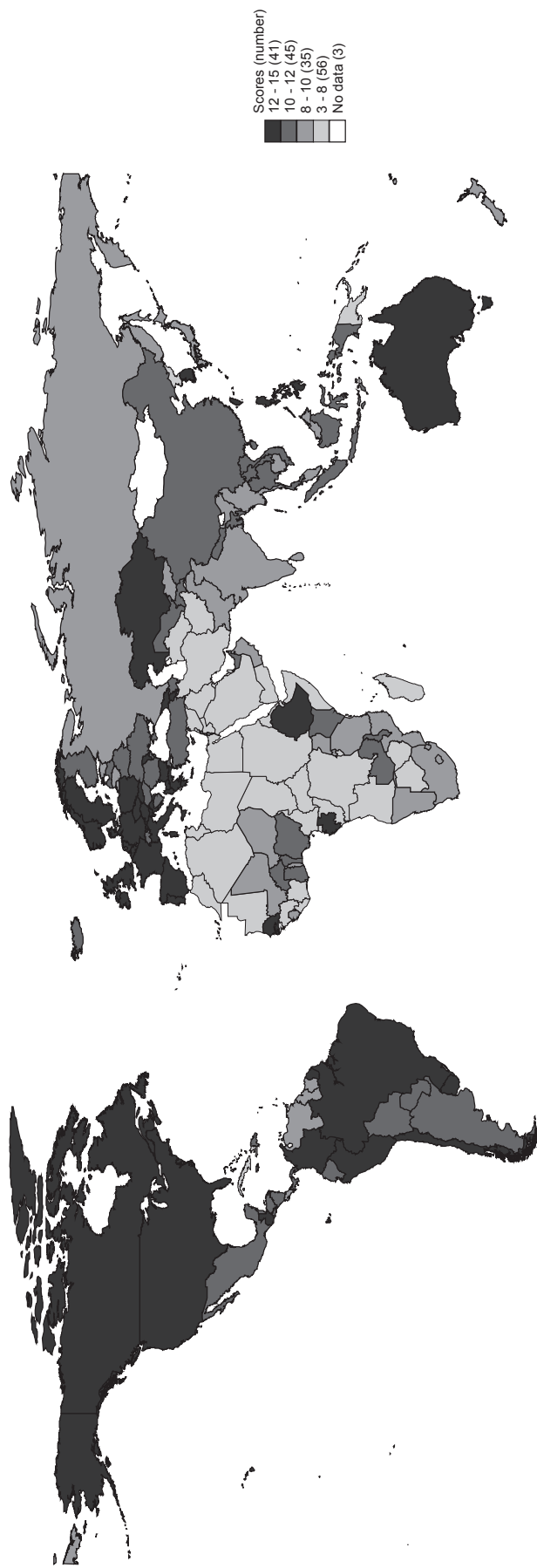
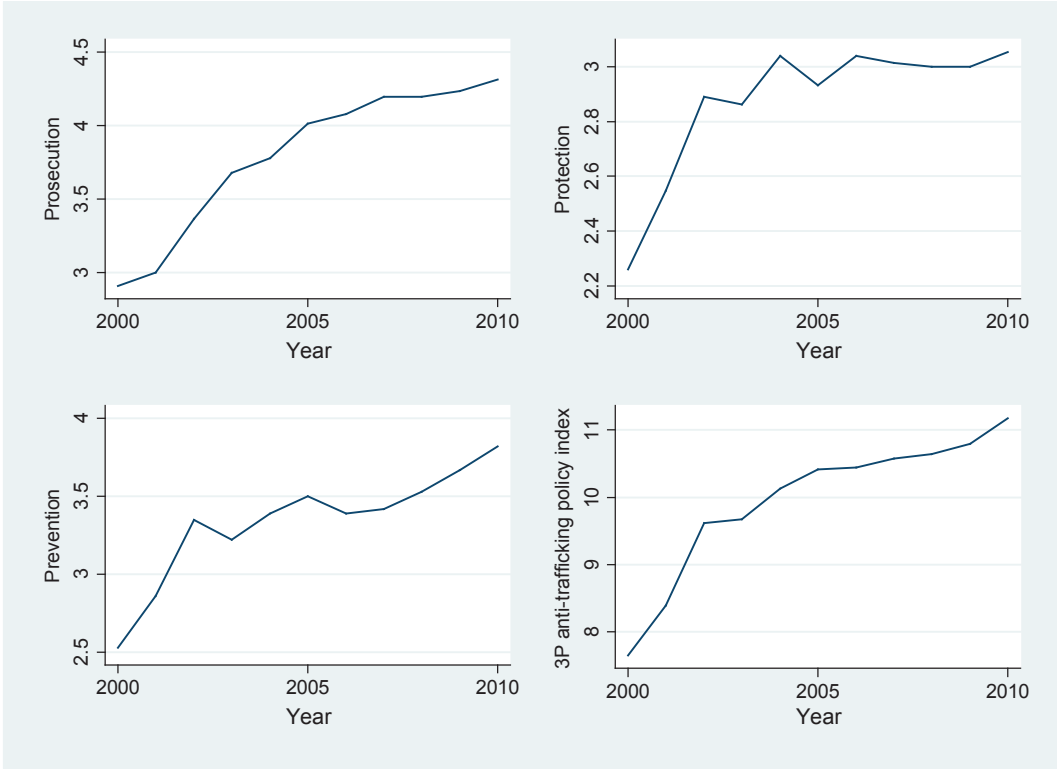
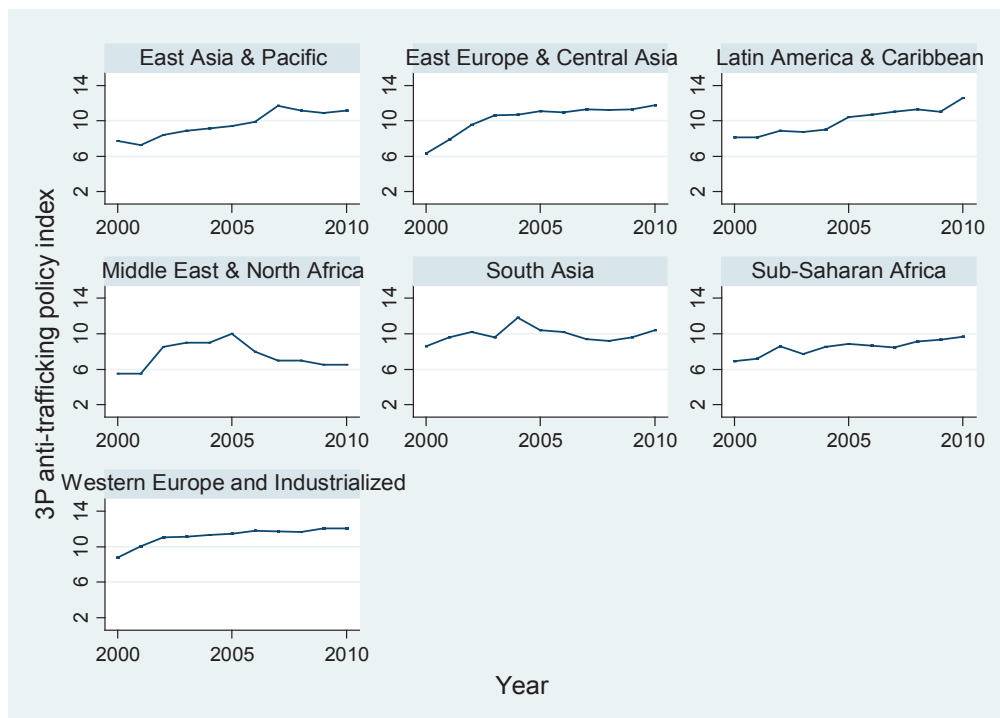


Figure 2. Compliance with anti-trafficking policies (global sample), 2000-2010



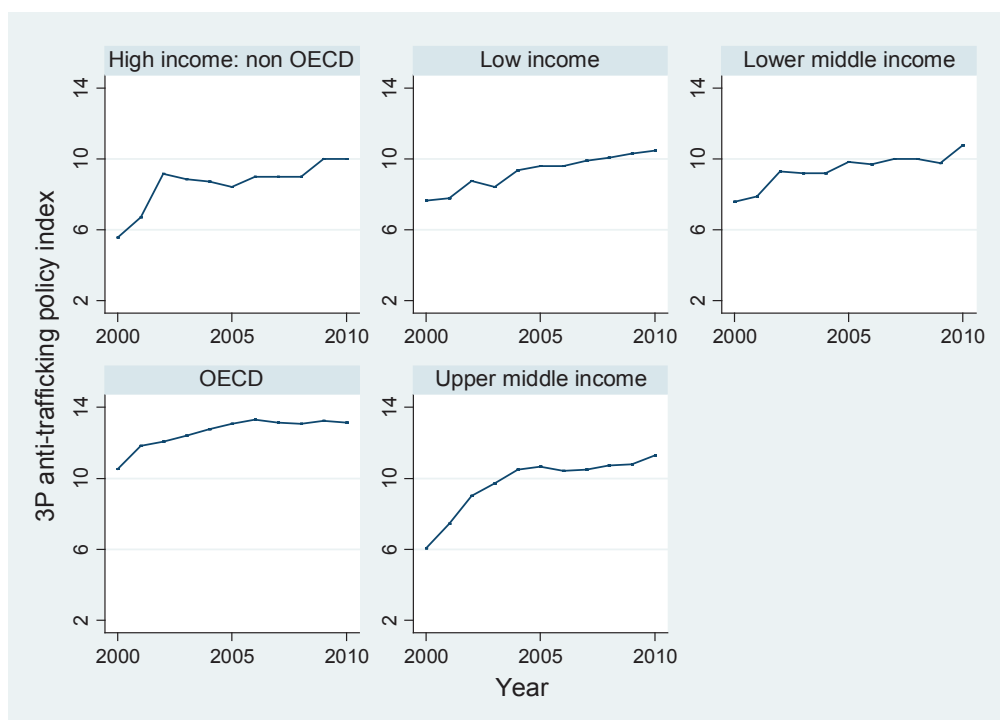
Note: The unweighted averages use balanced country samples.

Figure 3: Compliance with anti-trafficking policies across regions and time



Note: The unweighted averages use balanced country samples.

Figure 4: Compliance with anti-trafficking policies across income groups and time



Note: The unweighted averages refer to balanced country samples.

Table 1: Global and Regional Average Scores of 3Ps (2000, 2005 and 2010)

	Prosecution			Protection			Prevention			Aggregate 3Ps		
	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.

Table 2: Rank correlation across prosecution, protection, prevention and the tier-ranking

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

Table 3: Anti-Trafficking Policies (Aggregate 3Ps 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	0.122 (0.97)	0.063 (0.87)	0.092 (1.03)	0.125 (0.72)	0.086 (0.54)		
(log) GDP p.c.	-0.069 (1.22)	0.028 (0.72)	0.018 (0.35)	0.032 (0.10)	0.028 (0.29)		
US aid (percent of GDP)	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	947	988	988
Number of countries	144	145	145	145	145	150	150
Adj. R-Squared	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>chi2)					0.62		0.67

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

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>chi2)	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 1-2), the Prosecution Index (Columns 3-6), and the Protection index (columns 7-8). Standard errors are clustered at the country level. A dummy for each year is included. Absolute z-statistics in parentheses; * (**, ***) indicates significance at 10 (5, 1) percent level.

Table 5: Anti-Trafficking Policies (spatial lags), GMM, 2002-2010

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	3P	Prevention	Protection	Prosecution	3P	Prevention	Protection	Prosecution
dependent variable, t-1	0.473*** (5.97)	0.348*** (5.17)	0.369*** (4.34)	0.631*** (10.50) 0.142*** (2.60)	0.448*** (5.77)	0.332*** (4.92)	0.329*** (4.76)	0.671*** (13.22) 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 (Pr>z)	0.31	0.41	0.43	0.77	0.35	0.29	0.42	0.51
Hansen test (Prob>chi2)	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; (*, **, ***) indicates significance at 10 (5, 1) percent level.

NOT FOR PUBLICATION

Appendix A: Anti-trafficking Policy Index Coding Guideline

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

1. Prosecution

Coding Scheme

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

Score 5:

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

Score 4:

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

Score 3:

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

Score 2:

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

Score 1:

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

2. Protection

Coding Scheme

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

Score 5:

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

Score 4:

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

Score 3:

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

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

Score 2:

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

Score 1:

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

3. Prevention

Coding Scheme

In measuring government prevention policy, our primary interests are; whether the country establishes and practices comprehensive policies, programs and other measures to prevent and combat trafficking in persons.²⁹

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

²⁹ In evaluating the preventive efforts of governments, we do not include broader developmental measures, such as promotion of education and poverty reduction, in order to distinguish governmental efforts specifically addressed at fighting human trafficking.

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

Score 3:

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

Score 2:

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

Score 1:

The country demonstrates NO efforts against trafficking in persons.

Appendix B. Data Description and Sources

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

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

Variable	Observations	Mean	Std. error	Minimum	Maximum
p3	924	10.05	2.55	3	15
prosecution	924	3.79	1.17	1	5
protection	924	2.92	1.05	1	5
prevention	924	3.34	0.88	1	5
tierrank	924	-1.86	0.51	-3	-1
control of corruption	924	-0.09	1	-1.63	2.58
democracy	924	4.41	6.01	-10	10
women legislators (percent)	924	16.36	10.15	0	56.3
women economic rights	924	1.28	0.73	0	3
international regime membership	924	0.59	0.49	0	1
(log) GDP p.c.	924	7.95	1.66	4.5	11.37
US aid (percent of GDP)	924	0.75	2.32	0	44.56