

# Replication and extension report

Andrew Heiss and Judith Kelley

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## 1 Overview

Much of the statistical work in *Scorecard Diplomacy* is based on the models in Judith G. Kelley and Beth A. Simmons. 2015. "Politics by Number: Indicators as Social Pressure in International Relations." *American Journal of Political Science* 59, no. 1

(January): 55–70. doi:10.1111/ajps.12119. The models in the article were created using Stata, and to ensure that the R-based results for the book were comparable, we first replicated the results from the article before expanding the models for the book’s larger scope.

In the interest of transparency, this file shows the replicated results as well as the various iterations of expanded models that preceded the models that ultimately made it into the book.

## 2 Replication results

Before merging in the new funding, engagement, and NGO data, I wanted to ensure that the models from the original AJPS article were correct and that they replicated in R instead of just Stata. Beyond some minor issues (discussed in the next section) and some slight differences in R and Stata’s robust standard errors algorithms, the AJPS article is 100% reproducible.

### 2.1 AJPS table 1

Table 1:

|  | Time to Inclusion in Report |                     |                     |
|--|-----------------------------|---------------------|---------------------|
|  | Model 1.1                   | Model 1.2           | Model 1.3           |
| Total population (logged)                      | 1.172**<br>(0.076)          | 1.076<br>(0.071)    | 1.011<br>(0.056)    |
| Missing information                            | 0.736***<br>(0.037)         | 0.738***<br>(0.038) | 0.831***<br>(0.059) |
| NGO density                                    |                             | 1.086*<br>(0.048)   | 1.064<br>(0.044)    |
| Worse civil liberties                          |                             | 1.096**<br>(0.050)  | 1.103*<br>(0.056)   |
| Regional density of criminalization            |                             | 2.101<br>(1.023)    | 1.359<br>(0.639)    |
| 2000 TIP protocol ratification                 |                             | 0.944<br>(0.177)    | 1.064<br>(0.206)    |
| Trafficking intensity in countries of origin   |                             |                     | 1.100*<br>(0.059)   |
| Trafficking intensity in transit countries     |                             |                     | 1.133***<br>(0.054) |
| Trafficking intensity in destination countries |                             |                     | 1.184***<br>(0.074) |
| Number of countries                            | 179                         | 162                 | 146                 |
| Number of inclusions                           | 169                         | 161                 | 145                 |
| Observations                                   | 663                         | 493                 | 384                 |
| Log Likelihood                                 | −735.457                    | −683.319            | −607.615            |

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Robust standard errors in parentheses; values differ from published article because of differences in the robustness algorithms Stata and R use. All explanatory variables are lagged one period unless otherwise noted.

## 2.2 AJPS table 2

Table 2:

|                                | US Pressure           |                       |
|--------------------------------|-----------------------|-----------------------|
|                                | Model 2.1             | Model 2.2             |
| Worse civil liberties          | 1.720***<br>(0.094)   | 1.766***<br>(0.102)   |
| US aid (logged)                | 1.063***<br>(0.017)   | 1.069***<br>(0.017)   |
| GDP (logged)                   | 1.637***<br>(0.117)   | 1.540***<br>(0.109)   |
| Total population (logged)      | 0.607***<br>(0.050)   | 0.643***<br>(0.053)   |
| 2000 TIP protocol ratification | 2.606***<br>(0.353)   | 2.636***<br>(0.359)   |
| NGO density                    | 1.188***<br>(0.058)   | 1.194***<br>(0.059)   |
| Corruption                     | 0.568***<br>(0.081)   |                       |
| Rule of law                    |                       | 0.698**<br>(0.099)    |
| Constant                       | 0.0001***<br>(0.0001) | 0.0002***<br>(0.0002) |
| Pseudo R-squared               | 0.1641                | 0.1591                |
| Observations                   | 1,846                 | 1,846                 |
| Log Likelihood                 | -813.963              | -818.894              |

Note:

\* p<0.1; \*\* p<0.05; \*\*\* p<0.01

Logit model; odds ratios reported. Non-robust standard errors in parentheses. All explanatory variables are lagged one period.

## 2.3 AJPS table 3

Table 3:

|  | Time to Criminalization |                     |                     |                     |                     |
|--|-------------------------|---------------------|---------------------|---------------------|---------------------|
|  | Model 3.1               | Model 3.2           | Model 3.3           | Model 3.4           | Model 3.5           |
| In report                                      | 5.706***<br>(3.375)     | 3.609***<br>(1.214) | 3.897***<br>(1.285) | 2.208*<br>(1.048)   | 3.437***<br>(1.201) |
| Share of women in parliament                   | 1.019**<br>(0.008)      | 1.020**<br>(0.008)  | 1.016**<br>(0.007)  | 1.015**<br>(0.007)  | 1.016**<br>(0.008)  |
| Worse civil liberties                          | 0.888<br>(0.080)        | 0.900<br>(0.082)    | 0.867**<br>(0.052)  | 0.864**<br>(0.053)  | 0.843***<br>(0.049) |
| Regional density of criminalization            | 4.576***<br>(2.478)     | 3.110**<br>(1.596)  | 4.048***<br>(1.880) | 4.399***<br>(2.089) | 4.453***<br>(2.047) |
| 2000 TIP protocol ratification                 | 1.872**<br>(0.458)      | 1.787**<br>(0.441)  | 1.927***<br>(0.437) | 1.888***<br>(0.431) | 1.810***<br>(0.397) |
| Missing information (t-2)                      | 1.192<br>(0.143)        | 1.154<br>(0.115)    | 1.192**<br>(0.091)  | 1.202**<br>(0.092)  | 1.212**<br>(0.093)  |
| Trafficking intensity in countries of origin   | 0.956<br>(0.084)        |                     |                     |                     |                     |
| Trafficking intensity in transit countries     | 1.146<br>(0.123)        |                     |                     |                     |                     |
| Trafficking intensity in destination countries | 0.964<br>(0.104)        |                     |                     |                     |                     |
| Total population (logged)                      |                         | 0.951<br>(0.076)    |                     |                     |                     |
| NGO density                                    |                         | 1.116<br>(0.082)    |                     |                     |                     |
| GDP per capita (logged)                        |                         | 1.105<br>(0.118)    |                     |                     |                     |
| Corruption                                     |                         | 1.008<br>(0.202)    |                     |                     |                     |
| US aid (logged)                                |                         |                     | 0.978<br>(0.015)    | 0.937**<br>(0.029)  |                     |
| US aid × In report                             |                         |                     |                     | 1.057<br>(0.036)    |                     |
| US aid as share of GDP                         |                         |                     |                     |                     | 0.988<br>(0.012)    |
| US aid as share of GDP × In report             |                         |                     |                     |                     | 1.012<br>(0.013)    |
| Number of countries                            | 136                     | 149                 | 152                 | 152                 | 150                 |
| Number of criminalizations                     | 95                      | 99                  | 107                 | 107                 | 105                 |
| Observations                                   | 1,251                   | 1,307               | 1,392               | 1,392               | 1,373               |
| Log Likelihood                                 | -400.527                | -433.611            | -467.354            | -466.288            | -457.699            |

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Robust standard errors in parentheses; values differ from published article because of differences in the robustness algorithms Stata and R use. All explanatory variables are lagged one period unless otherwise noted.

## 2.4 AJPS table 4

Table 4:

|  | Time to Criminalization |                     |                     |                     |
|--|-------------------------|---------------------|---------------------|---------------------|
|  | Model 4.1               | Model 4.2           | Model 4.3           | Model 4.4           |
| Tier 1   | 4.575**<br>(2.704)      | 2.628**<br>(1.151)  | 3.420***<br>(1.344) |                     |
| Tier 2   | 2.517*<br>(1.221)       | 1.654<br>(0.564)    | 1.884*<br>(0.611)   |                     |
| Watch list                                     | 7.324***<br>(3.575)     | 4.587***<br>(1.610) | 4.870***<br>(1.625) |                     |
| Tier 3   | 10.575***<br>(5.281)    | 8.235***<br>(2.858) | 7.211***<br>(2.447) |                     |
| In report                                      |                         |                     |                     | 3.331***<br>(1.136) |
| First demotion (t-3)                           |                         |                     |                     | 2.127**<br>(0.638)  |
| First demotion (t-2)                           |                         |                     |                     | 1.676*<br>(0.476)   |
| First demotion (t-1)                           |                         |                     |                     | 1.259<br>(0.333)    |
| Share of women in parliament                   | 1.022**<br>(0.009)      | 1.022***<br>(0.009) | 1.020**<br>(0.008)  | 1.021***<br>(0.008) |
| Worse civil liberties                          | 0.795**<br>(0.075)      | 0.814**<br>(0.077)  | 0.796***<br>(0.052) | 0.820***<br>(0.048) |
| Regional density of criminalization            | 4.318***<br>(2.311)     | 3.742**<br>(2.012)  | 4.110***<br>(1.962) | 4.756***<br>(2.124) |
| 2000 TIP protocol ratification                 | 1.848**<br>(0.482)      | 1.965***<br>(0.489) | 1.859***<br>(0.420) | 1.643**<br>(0.369)  |
| Missing information                            | 1.143<br>(0.130)        | 1.044<br>(0.104)    | 1.141*<br>(0.084)   | 1.194**<br>(0.091)  |
| Trafficking intensity in countries of origin   | 1.029<br>(0.092)        |                     |                     |                     |
| Trafficking intensity in transit countries     | 1.116<br>(0.119)        |                     |                     |                     |
| Trafficking intensity in destination countries | 0.924<br>(0.098)        |                     |                     |                     |
| Total population (logged)                      |                         | 0.961<br>(0.084)    |                     |                     |
| NGO density                                    |                         | 1.082<br>(0.077)    |                     |                     |
| US aid (logged)                                |                         | 0.969<br>(0.023)    |                     |                     |
| GDP per capita (logged)                        |                         | 0.905<br>(0.108)    |                     |                     |
| Corruption                                     |                         | 1.101<br>(0.246)    |                     |                     |
| Number of countries                            | 136                     | 149                 | 152                 | 152                 |
| Number of criminalizations                     | 95                      | 99                  | 107                 | 107                 |
| Observations                                   | 1,251                   | 1,307               | 1,392               | 1,392               |
| Log Likelihood                                 | -391.505                | -422.898            | -458.845            | -464.907            |

Note:

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$   
 Robust standard errors in parentheses; values differ from published article because of differences in the robustness algorithms Stata and R use.  
 All explanatory variables are lagged one period unless otherwise noted.

## 2.5 Chapter 5 table A5.1

The current draft of the chapter uses descriptive statistics to show that countries with documented reactions to the TIP report are more likely to follow up with legislative action in the following year. This conclusion is borne out with multivariate statistical analysis. As seen in the models below, countries with a recorded non-media reaction are 77–88% more likely to criminalize human trafficking (model 5.1:  $z = 2.05$ ,  $p = 0.040$ ; model 5.2:  $z = 1.80$ ,  $p = 0.072$ ). The intensity of reactions to the report also has

an effect—for every additional type of reaction, countries are approximately 20% more likely to criminalize trafficking ( $z = 2.32$ ,  $p = 0.020$ ).

These results differ slightly from what is currently in the chapter draft because the models use cleaner and ostensibly more accurate data (the same data used for replicating the AJPS models).

Table 5:

|  | Criminalization     |                     |                     |                     |
|--|---------------------|---------------------|---------------------|---------------------|
|  | Model 5.1           | Model 5.2           | Model 5.3           | Model 5.4           |
| Reactions (no media)                                     | 1.851**<br>(0.555)  | 1.729*<br>(0.526)   |                     |                     |
| Total reactions (no media)                               |                     |                     | 1.208**<br>(0.099)  | 1.197**<br>(0.099)  |
| Share of women in parliament                             | 1.030***<br>(0.012) | 1.029**<br>(0.012)  | 1.031***<br>(0.012) | 1.030**<br>(0.012)  |
| Worse total freedom (political rights + civil liberties) | 0.901***<br>(0.031) | 0.943<br>(0.034)    | 0.904***<br>(0.031) | 0.944<br>(0.034)    |
| 2000 TIP protocol ratification                           | 1.340<br>(0.354)    | 1.371<br>(0.366)    | 1.332<br>(0.351)    | 1.365<br>(0.363)    |
| Big aid  | 0.901<br>(0.256)    | 1.274<br>(0.384)    | 0.925<br>(0.264)    | 1.307<br>(0.396)    |
| Regional density of criminalization                      |                     | 8.373***<br>(4.984) |                     | 8.527***<br>(5.054) |
| Constant   | 0.177***<br>(0.083) | 0.097***<br>(0.049) | 0.170***<br>(0.079) | 0.093***<br>(0.046) |
| Year fixed effects                                       | Yes                 | Yes                 | Yes                 | Yes                 |
| Pseudo R-squared   | 0.0673              | 0.0912              | 0.0687              | 0.0934              |
| Observations   | 689                 | 689                 | 689                 | 689                 |
| Log Likelihood   | -240.085            | -233.911            | -239.711            | -233.362            |

Note:

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

Standard errors in parentheses. All explanatory variables are lagged one period unless otherwise noted.

### 3 Replication issues

While doing this, I discovered a couple minor issues with the data and the modeling methods.

#### 3.1 Bleeding lags

In the original AJPS article, lagged variables were not calculated by country, so values at the boundaries between countries incorrectly bleed over into adjacent countries. For example, here's an excerpt from the US-Canadian border (note: not the *actual* international border), where the logged population for the US in 2011 gets put into Canada 1991:

| name   | year | logpop   | logpop_1 |
|--------|------|----------|----------|
| US     | 2010 | 19.54998 | 19.54161 |
| US     | 2011 | 19.55720 | 19.54998 |
| Canada | 1991 | NA       | 19.55720 |
| Canada | 1992 | NA       | NA       |

This doesn't cause any problems for the TIP report models in Table 1, since those models are limited to observations after 2000—the incorrect rows are dropped. However, the models for the correlates of shaming and time to criminalization *are* affected, since they include all post-1991 observations. Models 2.1, 2.2, 3.2, 3.5, 4.2, and 4.4 are all affected by this issue.

##### 3.1.1 Differences in lagging—models 2.1 and 2.2

Table 6:

|                                | US Pressure                         |                            |                                     |                            |
|--------------------------------|-------------------------------------|----------------------------|-------------------------------------|----------------------------|
|                                | Model 2.1 (original; bleeding lags) | Model 2.1 (corrected lags) | Model 2.2 (original; bleeding lags) | Model 2.2 (corrected lags) |
| Worse civil liberties          | 1.720***<br>(0.094)                 | 1.720***<br>(0.094)        | 1.766***<br>(0.102)                 | 1.766***<br>(0.102)        |
| US aid (logged)                | 1.063***<br>(0.017)                 | 1.063***<br>(0.017)        | 1.069***<br>(0.017)                 | 1.069***<br>(0.017)        |
| GDP (logged)                   | 1.637***<br>(0.117)                 | 1.637***<br>(0.117)        | 1.540***<br>(0.109)                 | 1.540***<br>(0.109)        |
| Total population (logged)      | 0.607***<br>(0.050)                 | 0.607***<br>(0.050)        | 0.643***<br>(0.053)                 | 0.643***<br>(0.053)        |
| 2000 TIP protocol ratification | 2.606***<br>(0.353)                 | 2.606***<br>(0.353)        | 2.636***<br>(0.359)                 | 2.636***<br>(0.359)        |
| NGO density                    | 1.188***<br>(0.058)                 | 1.188***<br>(0.058)        | 1.194***<br>(0.059)                 | 1.194***<br>(0.059)        |
| Corruption                     | 0.568***<br>(0.081)                 | 0.568***<br>(0.081)        |                                     |                            |
| Rule of law                    |                                     |                            | 0.698**<br>(0.099)                  | 0.698**<br>(0.099)         |
| Constant                       | 0.0001***<br>(0.0001)               | 0.0001***<br>(0.0001)      | 0.0002***<br>(0.0002)               | 0.0002***<br>(0.0002)      |
| Observations                   | 1,846                               | 1,846                      | 1,846                               | 1,846                      |

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Logit model; odds ratios reported. Non-robust standard errors in parentheses. All explanatory variables are lagged one period.

### 3.1.2 Differences in lagging—models 3.2 and 3.5

Table 7:

|                                     | Time to Criminalization             |                            |                                     |                            |
|-------------------------------------|-------------------------------------|----------------------------|-------------------------------------|----------------------------|
|                                     | Model 3.2 (original; bleeding lags) | Model 3.2 (corrected lags) | Model 3.5 (original; bleeding lags) | Model 3.5 (corrected lags) |
| In report                           | 3.609***<br>(1.214)                 | 3.609***<br>(1.214)        | 3.437***<br>(1.201)                 | 3.437***<br>(1.201)        |
| Share of women in parliament        | 1.020**<br>(0.008)                  | 1.020**<br>(0.008)         | 1.016**<br>(0.008)                  | 1.016**<br>(0.008)         |
| Worse civil liberties               | 0.900<br>(0.082)                    | 0.900<br>(0.082)           | 0.843***<br>(0.049)                 | 0.843***<br>(0.049)        |
| Regional density of criminalization | 3.110**<br>(1.596)                  | 3.110**<br>(1.596)         | 4.453***<br>(2.047)                 | 4.453***<br>(2.047)        |
| 2000 TIP protocol ratification      | 1.787**<br>(0.441)                  | 1.787**<br>(0.441)         | 1.810***<br>(0.397)                 | 1.810***<br>(0.397)        |
| Missing information (t-2)           | 1.154<br>(0.115)                    | 1.154<br>(0.115)           | 1.212**<br>(0.093)                  | 1.212**<br>(0.093)         |
| Total population (logged)           | 0.951<br>(0.076)                    | 0.951<br>(0.076)           |                                     |                            |
| NGO density                         | 1.116<br>(0.082)                    | 1.116<br>(0.082)           |                                     |                            |
| GDP per capita (logged)             | 1.105<br>(0.118)                    | 1.105<br>(0.118)           |                                     |                            |
| Corruption                          | 1.008<br>(0.202)                    | 1.008<br>(0.202)           |                                     |                            |
| US aid as share of GDP              |                                     |                            | 0.988<br>(0.012)                    | 0.988<br>(0.012)           |
| US aid as share of GDP × In report  |                                     |                            | 1.012<br>(0.013)                    | 1.012<br>(0.013)           |
| Number of countries                 | 149                                 | 149                        | 150                                 | 150                        |
| Number of criminalizations          | 99                                  | 99                         | 105                                 | 105                        |
| Observations                        | 1,307                               | 1,307                      | 1,373                               | 1,373                      |
| Log Likelihood                      | -433.611                            | -433.611                   | -457.699                            | -457.699                   |

Note:

\* p<0.1; \*\* p<0.05; \*\*\* p<0.01

Robust standard errors in parentheses; values differ from published article because of differences in the robustness algorithms Stata and R use. All explanatory variables are lagged one period unless otherwise noted.



### 3.1.3 Differences in lagging—models 4.2 and 4.4

Table 8:

|                                     | Time to Criminalization             |                            |                                     |                            |
|-------------------------------------|-------------------------------------|----------------------------|-------------------------------------|----------------------------|
|                                     | Model 4.2 (original; bleeding lags) | Model 4.2 (corrected lags) | Model 4.4 (original; bleeding lags) | Model 4.4 (corrected lags) |
| Tier 1                              | 2.628**<br>(1.151)                  | 2.628**<br>(1.151)         |                                     |                            |
| Tier 2                              | 1.654<br>(0.564)                    | 1.654<br>(0.564)           |                                     |                            |
| Watch list                          | 4.587***<br>(1.610)                 | 4.587***<br>(1.610)        |                                     |                            |
| Tier 3                              | 8.235***<br>(2.858)                 | 8.235***<br>(2.858)        |                                     |                            |
| In report                           |                                     |                            | 3.331***<br>(1.136)                 | 3.331***<br>(1.136)        |
| First demotion (t-3)                |                                     |                            | 2.127**<br>(0.638)                  | 2.127**<br>(0.638)         |
| First demotion (t-2)                |                                     |                            | 1.676*<br>(0.476)                   | 1.676*<br>(0.476)          |
| First demotion (t-1)                |                                     |                            | 1.259<br>(0.333)                    | 1.259<br>(0.333)           |
| Share of women in parliament        | 1.022***<br>(0.009)                 | 1.022***<br>(0.009)        | 1.021***<br>(0.008)                 | 1.021***<br>(0.008)        |
| Worse civil liberties               | 0.814**<br>(0.077)                  | 0.814**<br>(0.077)         | 0.820***<br>(0.048)                 | 0.820***<br>(0.048)        |
| Regional density of criminalization | 3.742**<br>(2.012)                  | 3.742**<br>(2.012)         | 4.756***<br>(2.124)                 | 4.756***<br>(2.124)        |
| 2000 TIP protocol ratification      | 1.965***<br>(0.489)                 | 1.965***<br>(0.489)        | 1.643**<br>(0.369)                  | 1.643**<br>(0.369)         |
| Missing information                 | 1.044<br>(0.104)                    | 1.044<br>(0.104)           | 1.194**<br>(0.091)                  | 1.194**<br>(0.091)         |
| Total population (logged)           | 0.961<br>(0.084)                    | 0.961<br>(0.084)           |                                     |                            |
| NGO density                         | 1.082<br>(0.077)                    | 1.082<br>(0.077)           |                                     |                            |
| US aid (logged)                     | 0.969<br>(0.023)                    | 0.969<br>(0.023)           |                                     |                            |
| GDP per capita (logged)             | 0.905<br>(0.108)                    | 0.905<br>(0.108)           |                                     |                            |
| Corruption                          | 1.101<br>(0.246)                    | 1.101<br>(0.246)           |                                     |                            |
| Number of countries                 | 149                                 | 149                        | 152                                 | 152                        |
| Number of criminalizations          | 99                                  | 99                         | 107                                 | 107                        |
| Observations                        | 1,307                               | 1,307                      | 1,392                               | 1,392                      |
| Log Likelihood                      | -422.898                            | -422.898                   | -464.907                            | -464.907                   |

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Robust standard errors in parentheses; values differ from published article because of differences in the robustness algorithms Stata and R use. All explanatory variables are lagged one period unless otherwise noted.

## 3.2 Under-the-hood improvements

By default, Stata and most other statistical packages use the Breslow approximation for handling tied event times. This is because it is the easiest to program and because it works well on older computers. However, according to Terry Therneau,<sup>1</sup> one of the main inventors of Cox modeling, it is less accurate. With gains in computing power and theoretical statistical work, the Efron approximation is more accurate and more computationally efficient, so in the extensions of the models I use it instead of Breslow. Here's an example of the (fairly minor) differences in the results:

<sup>1</sup>Personal correspondence, October 19, 2015.

### 3.2.1 Differences in tie algorithms—model 1.2

Table 9:

|                                     | Time to Inclusion in Report        |                        |
|-------------------------------------|------------------------------------|------------------------|
|                                     | Model 1.2 (original; Breslow ties) | Model 1.2 (Efron ties) |
| Total population (logged)           | 1.076<br>(0.071)                   | 1.088<br>(0.088)       |
| Missing information                 | 0.738***<br>(0.038)                | 0.669***<br>(0.043)    |
| NGO density                         | 1.086*<br>(0.048)                  | 1.118**<br>(0.064)     |
| Worse civil liberties               | 1.096**<br>(0.050)                 | 1.131**<br>(0.065)     |
| Regional density of criminalization | 2.101<br>(1.023)                   | 2.470<br>(1.421)       |
| 2000 TIP protocol ratification      | 0.944<br>(0.177)                   | 0.902<br>(0.211)       |
| Number of countries                 | 162                                | 162                    |
| Number of inclusions                | 161                                | 161                    |
| Observations                        | 493                                | 493                    |
| Log Likelihood                      | -683.319                           | -631.650               |

Note:

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

Robust standard errors in parentheses; values differ from published article because of differences in the robustness algorithms Stata and R use. All explanatory variables are lagged one period unless otherwise noted.

## 4 Extension and new findings

### 4.1 Extension strategy

The chapter tests the effect of several explanatory variables on the probability of criminalization, as stated by these propositions:

- Countries included in the report should criminalize faster (models 3.1–3.5 in AJPS)
- Countries with harsher tiers should criminalize faster (models 4.1–4.3 in AJPS)
- Demoted countries should criminalize faster (model 4.4 in AJPS)
- Countries with a documented reaction are more likely to be concerned and therefore more likely to criminalize trafficking in the following year (models 1 and 2 in Table A5.1 in chapter)
- Countries with more types of documented reactions in general have a greater intensity of interaction with the embassy and thus are more likely to criminalize trafficking in the following year (models 3 and 4 in Table A5.1 in chapter)

For the extension of the chapter, I test the following additional propositions:

- Countries with more TIP-specific funding from the US will criminalize faster
- Countries where the US is more diplomatically involved in anti-TIP discussions with senior officials (as measured by Wikileaks cables) will criminalize faster
- Countries where there are more human trafficking NGOs (as measured by our own database of TIP NGOs) will criminalize faster
- The relationship between inclusion in the report and time to criminalization will be stronger for less democratic countries

### 4.2 Variable selection process

To test the effect of these new explanatory variables on criminalization, I had to determine the most theoretically sound set of explanatory and control variables. The models in the article and the book chapter use slight variations of combinations of controls. The chapter draft, for example, tests the effect of reactions to the TIP report on criminalization and includes these variables:

- Percent of women in parliament
- Total freedom (the sum of Freedom House’s political rights and civil liberties; higher values are worse)
- 2000 TIP protocol ratification
- Big aid (1 if aid > \$100,000,000)
- Regional density of criminalization

Table 3 of the article tests the effect of scrutiny (presence of the country in the TIP report) and US aid on criminalization. It uses “Percent of women in parliament”, “Regional density of criminalization” and “2000 TIP protocol ratification” just like the chapter, but it also uses some slightly different controls:

- Worse civil liberties (just Freedom House’s civil liberties score)
- Missing information (lagged two periods)
- Total population (logged)
- NGO density
- GDP per capita (logged)
- Corruption
- Various measures of trafficking intensity

Table 4 tests the effect of different tier assignments and demotions on criminalization and keeps all the same control variables as Table 3. In both Tables 3 and 4, trafficking intensity is never used at the same time as the population + NGO density + GDP/capita + corruption controls.

Thus, for the extension, I use the following combinations of controls to test the relationship between the new explanatory variables and TIP criminalization. In every model, I include the following:

- Percent of women in parliament
- Total freedom (the sum of Freedom House’s political rights and civil liberties)
- 2000 TIP protocol ratification

- Regional density of criminalization
- Missing information (lagged two periods)

Mimicking the pattern of the AJPS articles, I also run models using measures of trafficking intensity or this set of general controls:

- Total population (logged)
- GDP per capita (logged)
- Corruption
- NGO density or number of NGOs (survey database)

In some models I also include the key explanatory variables from previous propositions, such as presence in the TIP report, tier ranking, and reactions to the report.

### 4.3 Effects of new variables on being included in the TIP report

Before looking at the determinants of criminalization, it might be useful to see if these new variables help explain the process of being included in the TIP report. According to the original article, missing information and trafficking intensity lead to inclusion in the TIP report—countries with more missing information are *less* likely to appear in the report since the State Department cannot know about the severity of trafficking, while countries with worse and more intense visible trafficking are *more* likely to be included.

The new variables add some additional nuance to the selection process, but not much. Funding from the United States (logged) appears to have a slightly negative—but statistically insignificant—effect ( $z = -0.26$ ,  $p = 0.798$ ).

More engagement from the State Department has a significant and substantive positive effect on inclusion in the report, but again, with many caveats. If we measure engagement with the proportion of *observed* TIP-related cables in the Wikileaks dump, for every percent increase in State Department back chatter on trafficking, a country is 17 times more likely to enter the report ( $z = 3.06$ ,  $p = 0.002$ ). However, if we measure engagement with the *estimated* proportion of TIP-related cables, the effect disappears entirely ( $z = 0.55$ ,  $p = 0.583$ ). Additionally, models using cable data are noticeably smaller than other models, with roughly 100 observations in only 24 countries, and the number of inclusions inexplicably exceeds the number of countries—there might be too much missing data. Also, the coefficient for the estimated number of TIP cables is ridiculously huge and most likely wrong.

Replacing the NGO density variable with our own NGO measure—the number of NGOs in each country from the database of human trafficking NGOs we used for the survey—yields a significant but probably non-substantive negative effect of being included in the report. For each additional anti-TIP NGO, a country is 1% less likely to enter the report in a given year ( $z = -3.19$ ,  $p = 0.001$ ), which is hardly a noticeable effect. Moreover, the count of NGOs is not entirely accurate—it is based on the home location of the NGO, not the location(s) where the NGO actually works. We could use data from the survey to get information about where these NGOs work, but we would have an even smaller set of data to work with.

Table 10:

|  | Time to Inclusion in Report |                     |                       |   |                     |
|--|-----------------------------|---------------------|-----------------------|---|---------------------|
|  | Model 1.3 (from AJPS)       | Model 1.4           | Model 1.5             | Model 1.6   | Model 1.7           |
| Total population (logged)                                | 1.011<br>(0.056)            | 0.935<br>(0.121)    | 0.998<br>(0.141)      | 0.971<br>(0.136)  | 1.156*<br>(0.086)   |
| Missing information                                      | 0.831***<br>(0.059)         | 0.727***<br>(0.086) | 0.786*<br>(0.114)     | 0.775*<br>(0.115)                                       | 0.909<br>(0.084)    |
| NGO density  | 1.064<br>(0.044)            | 1.099<br>(0.113)    | 1.113<br>(0.090)      | 1.081<br>(0.086)  |                     |
| Worse civil liberties                                    | 1.103*<br>(0.056)           |                     |                       |   |                     |
| Worse total freedom                                      |                             | 1.039<br>(0.044)    | 1.025<br>(0.053)      | 1.011<br>(0.049)  | 1.006<br>(0.026)    |
| Regional density of criminalization                      | 1.359<br>(0.639)            | 1.563<br>(0.994)    | 0.375<br>(0.287)      | 0.498<br>(0.333)  | 4.012**<br>(2.554)  |
| 2000 TIP protocol ratification                           | 1.064<br>(0.206)            | 1.094<br>(0.334)    | 1.265<br>(0.597)      | 1.114<br>(0.502)  | 1.209<br>(0.303)    |
| Trafficking intensity in countries of origin             | 1.100*<br>(0.059)           | 1.256*<br>(0.164)   | 1.139<br>(0.163)      | 1.187<br>(0.168)  | 1.274***<br>(0.082) |
| Trafficking intensity in transit countries               | 1.133***<br>(0.054)         | 1.066<br>(0.099)    | 1.034<br>(0.122)      | 1.006<br>(0.111)  | 1.189***<br>(0.069) |
| Trafficking intensity in destination countries           | 1.184***<br>(0.074)         | 1.123<br>(0.125)    | 1.400***<br>(0.168)   | 1.405***<br>(0.174)                                     | 1.297***<br>(0.092) |
| Total US funding for TIP (logged)                        |                             | 0.989<br>(0.041)    |                       |   |                     |
| Proportion of TIP-related cables (observed in Wikileaks) |                             |                     | 17.798***<br>(16.754) |   |                     |
| Proportion of TIP-related cables (estimated)             |                             |                     |                       | 206,068,847,578,156.000<br>(12,386,094,739,536,684.000) |                     |
| Number of NGOs (survey database)                         |                             |                     |                       |   | 0.986***<br>(0.004) |
| Number of countries                                      | 146                         | 66                  | 24                    | 24  | 127                 |
| Number of inclusions                                     | 145                         | 66                  | 42                    | 42  | 126                 |
| Observations   | 384                         | 236                 | 103                   | 103   | 290                 |
| Log Likelihood   | -607.615                    | -210.658            | -86.370               | -87.835   | -461.027            |

Note:

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

Robust standard errors in parentheses. All explanatory variables are lagged one period unless otherwise noted.

#### 4.4 The effect of TIP-specific funding on criminalization

TIP-specific funding generally has a positive effect on the time to criminalization, increasing the probability of criminalization by 3–4% for each increase in logged funding in a given year (Extension 1.1:  $z = 2.08$ ,  $p = 0.038$ ). This finding is not necessarily robust to other specifications of the model, though, and weakens or disappears when using our own measure of NGOs, including incidence data, or controlling for tier ratings and demotions.

Table 11:

|  | Time to Criminalization |                     |                     |                     |
|--|-------------------------|---------------------|---------------------|---------------------|
|  | Extension 1.0           | Extension 1.1       | Extension 1.2       | Extension 1.3       |
| Total US funding for TIP (logged)                        | 1.040**<br>(0.020)      | 1.044**<br>(0.022)  | 1.032<br>(0.023)    | 1.036*<br>(0.022)   |
| Share of women in parliament                             | 1.024***<br>(0.009)     | 1.024***<br>(0.009) | 1.027***<br>(0.010) | 1.027***<br>(0.009) |
| Worse total freedom (political rights + civil liberties) | 0.936**<br>(0.026)      | 1.000<br>(0.042)    | 1.004<br>(0.043)    | 0.969<br>(0.042)    |
| 2000 TIP protocol ratification                           | 2.370***<br>(0.567)     | 2.559***<br>(0.682) | 2.498***<br>(0.748) | 2.178***<br>(0.578) |
| Regional density of criminalization                      | 6.565***<br>(3.115)     | 4.288***<br>(2.384) | 8.063***<br>(4.324) | 5.826***<br>(3.279) |
| Missing information                                      | 1.163*<br>(0.092)       | 1.096<br>(0.115)    | 1.153<br>(0.133)    | 1.144<br>(0.154)    |
| Total population (logged)                                |                         | 0.959<br>(0.083)    | 0.917<br>(0.098)    |                     |
| GDP per capita (logged)                                  |                         | 1.069<br>(0.133)    | 0.972<br>(0.131)    |                     |
| Corruption   |                         | 1.261<br>(0.287)    | 1.200<br>(0.302)    |                     |
| NGO density  |                         | 1.151*<br>(0.093)   |                     |                     |
| Number of NGOs (survey database)                         |                         |                     | 1.023*<br>(0.012)   |                     |
| Trafficking intensity in countries of origin             |                         |                     |                     | 0.904<br>(0.098)    |
| Trafficking intensity in transit countries               |                         |                     |                     | 1.205<br>(0.138)    |
| Trafficking intensity in destination countries           |                         |                     |                     | 1.004<br>(0.117)    |
| Number of countries                                      | 149                     | 147                 | 124                 | 133                 |
| Number of inclusions                                     | 103                     | 95                  | 85                  | 91                  |
| Observations   | 1,085                   | 1,009               | 822                 | 976                 |
| Log Likelihood   | -443.518                | -408.242            | -348.230            | -380.017            |

Note:

\* p&lt;0.1; \*\* p&lt;0.05; \*\*\* p&lt;0.01

Robust standard errors in parentheses. All explanatory variables are lagged one period unless otherwise noted.

Table 12:

|  | Time to Criminalization |                     |                     |
|--|-------------------------|---------------------|---------------------|
|  | Extension 1.4           | Extension 1.5       | Extension 1.6       |
| Total US funding for TIP (logged)                        | 1.033*<br>(0.019)       | 1.035*<br>(0.019)   | 1.026<br>(0.019)    |
| In report  | 3.495***<br>(1.057)     |                     | 2.994***<br>(0.931) |
| Tier 1   |                         | 3.886***<br>(1.632) |                     |
| Tier 2   |                         | 1.782*<br>(0.596)   |                     |
| Watch list   |                         | 4.497***<br>(1.578) |                     |
| Tier 3   |                         | 7.336***<br>(2.622) |                     |
| First demotion (t-3)                                     |                         |                     | 2.061**<br>(0.701)  |
| First demotion (t-2)                                     |                         |                     | 1.811**<br>(0.543)  |
| First demotion (t-1)                                     |                         |                     | 1.209<br>(0.358)    |
| Share of women in parliament                             | 1.022***<br>(0.008)     | 1.025***<br>(0.009) | 1.025***<br>(0.009) |
| Worse total freedom (political rights + civil liberties) | 0.926***<br>(0.025)     | 0.905***<br>(0.027) | 0.918***<br>(0.025) |
| 2000 TIP protocol ratification                           | 2.238***<br>(0.533)     | 2.319***<br>(0.571) | 2.110***<br>(0.516) |
| Regional density of criminalization                      | 5.943***<br>(2.785)     | 5.108***<br>(2.498) | 6.415***<br>(2.978) |
| Missing information                                      | 1.292***<br>(0.107)     | 1.216**<br>(0.102)  | 1.260***<br>(0.107) |
| Number of countries                                      | 149                     | 149                 | 149                 |
| Number of inclusions                                     | 103                     | 103                 | 103                 |
| Observations   | 1,085                   | 1,085               | 1,085               |
| Log Likelihood   | -436.055                | -424.694            | -432.967            |

Note:

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

Robust standard errors in parentheses. All explanatory variables are lagged one period unless otherwise noted.

#### 4.5 The effect of US engagement on criminalization

State Department cable discussions about host country TIP efforts have no effect on the time to criminalization, looking at both the observed ( $z = 1.30$ ,  $p = 0.192$ ) and the estimated ( $z = -1.45$ ,  $p = 0.147$ ) number of cables.

Table 13:

|  | Time to Criminalization |                     |                    |                    |                     |                     |                    |                    |
|--|-------------------------|---------------------|--------------------|--------------------|---------------------|---------------------|--------------------|--------------------|
|  | Ext. 2.0                | Ext. 2.00           | Ext. 2.1           | Ext. 2.2           | Ext. 2.3            | Ext. 2.4            | Ext. 2.5           | Ext. 2.6           |
| Proportion of TIP-related cables (observed in Wikileaks) | 3.451<br>(3.276)        |                     | 5.401*<br>(5.386)  |                    | 4.583<br>(4.354)    |                     | 4.329<br>(4.420)   |                    |
| Proportion of TIP-related cables (estimated)             |                         | 0.762<br>(0.143)    |                    | 0.771<br>(0.128)   |                     | 0.550<br>(0.452)    |                    | 0.718<br>(0.202)   |
| Share of women in parliament                             | 1.018**<br>(0.009)      | 1.019**<br>(0.010)  | 1.021**<br>(0.010) | 1.022**<br>(0.010) | 1.023**<br>(0.012)  | 1.024**<br>(0.012)  | 1.018*<br>(0.011)  | 1.020*<br>(0.010)  |
| Worse total freedom (political rights + civil liberties) | 0.939*<br>(0.032)       | 0.937*<br>(0.031)   | 0.999<br>(0.055)   | 0.998<br>(0.055)   | 0.994<br>(0.060)    | 0.993<br>(0.060)    | 0.960<br>(0.047)   | 0.962<br>(0.047)   |
| 2000 TIP protocol ratification                           | 1.946**<br>(0.585)      | 1.958**<br>(0.583)  | 2.372**<br>(0.864) | 2.395**<br>(0.876) | 2.071*<br>(0.795)   | 2.079*<br>(0.799)   | 1.696<br>(0.545)   | 1.752*<br>(0.556)  |
| Regional density of criminalization                      | 4.246***<br>(2.174)     | 4.139***<br>(2.124) | 2.634<br>(1.697)   | 2.570<br>(1.646)   | 6.098***<br>(4.066) | 5.882***<br>(3.962) | 3.719**<br>(2.391) | 3.657**<br>(2.346) |
| Missing information                                      | 1.219**<br>(0.109)      | 1.211**<br>(0.109)  | 1.223<br>(0.157)   | 1.195<br>(0.151)   | 1.253<br>(0.174)    | 1.222<br>(0.168)    | 1.271<br>(0.194)   | 1.240<br>(0.186)   |
| Total population (logged)                                |                         |                     | 1.035<br>(0.110)   | 1.015<br>(0.105)   | 1.029<br>(0.127)    | 1.011<br>(0.123)    |                    |                    |
| GDP per capita (logged)                                  |                         |                     | 1.062<br>(0.157)   | 1.059<br>(0.154)   | 0.957<br>(0.163)    | 0.960<br>(0.161)    |                    |                    |
| Corruption   |                         |                     | 1.289<br>(0.351)   | 1.267<br>(0.344)   | 1.243<br>(0.415)    | 1.221<br>(0.403)    |                    |                    |
| NGO density  |                         |                     | 1.255**<br>(0.135) | 1.255**<br>(0.135) |                     |                     |                    |                    |
| Number of NGOs (survey database)                         |                         |                     |                    |                    | 1.019<br>(0.013)    | 1.019<br>(0.013)    |                    |                    |
| Trafficking intensity in countries of origin             |                         |                     |                    |                    |                     |                     | 0.936<br>(0.116)   | 0.921<br>(0.113)   |
| Trafficking intensity in transit countries               |                         |                     |                    |                    |                     |                     | 1.135<br>(0.153)   | 1.143<br>(0.154)   |
| Trafficking intensity in destination countries           |                         |                     |                    |                    |                     |                     | 1.091<br>(0.155)   | 1.080<br>(0.152)   |
| Number of countries                                      | 95                      | 95                  | 94                 | 94                 | 78                  | 78                  | 89                 | 89                 |
| Number of inclusions                                     | 67                      | 67                  | 60                 | 60                 | 53                  | 53                  | 61                 | 61                 |
| Observations   | 658                     | 658                 | 599                | 599                | 505                 | 505                 | 628                | 628                |
| Log Likelihood   | -266.249                | -266.599            | -235.540           | -236.280           | -199.036            | -199.449            | -238.017           | -238.562           |

Note:

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

Robust standard errors in parentheses. All explanatory variables are lagged one period unless otherwise noted.



Table 14:

|  | Time to Criminalization |                     |                      |                       |                     |                     |
|--|-------------------------|---------------------|----------------------|-----------------------|---------------------|---------------------|
|  | Extension 2.7           | Extension 2.8       | Extension 2.9        | Extension 2.10        | Extension 2.11      | Extension 2.12      |
| Proportion of TIP-related cables (observed in Wikileaks) | 2.724<br>(2.678)        |                     | 3.012<br>(3.045)     |                       | 2.461<br>(2.483)    |                     |
| Proportion of TIP-related cables (estimated)             |                         | 0.730<br>(0.177)    |                      | 0.646<br>(0.269)      |                     | 0.684<br>(0.210)    |
| In report  | 6.817***<br>(4.471)     | 6.948***<br>(4.563) |                      |                       | 5.397**<br>(3.600)  | 5.465**<br>(3.651)  |
| Tier 1   |                         |                     | 7.176***<br>(5.247)  | 7.068***<br>(5.193)   |                     |                     |
| Tier 2   |                         |                     | 3.160*<br>(2.105)    | 3.264*<br>(2.171)     |                     |                     |
| Watch list   |                         |                     | 10.207***<br>(6.664) | 10.443***<br>(6.824)  |                     |                     |
| Tier 3   |                         |                     | 14.607***<br>(9.956) | 15.307***<br>(10.456) |                     |                     |
| First demotion (t-3)                                     |                         |                     |                      |                       | 1.624<br>(0.597)    | 1.641<br>(0.601)    |
| First demotion (t-2)                                     |                         |                     |                      |                       | 1.550<br>(0.538)    | 1.584<br>(0.544)    |
| First demotion (t-1)                                     |                         |                     |                      |                       | 1.414<br>(0.491)    | 1.411<br>(0.488)    |
| Share of women in parliament                             | 1.016*<br>(0.009)       | 1.016*<br>(0.009)   | 1.023**<br>(0.010)   | 1.023**<br>(0.010)    | 1.020**<br>(0.010)  | 1.020**<br>(0.010)  |
| Worse total freedom (political rights + civil liberties) | 0.931**<br>(0.033)      | 0.929**<br>(0.033)  | 0.888***<br>(0.037)  | 0.886***<br>(0.037)   | 0.922**<br>(0.033)  | 0.920**<br>(0.033)  |
| 2000 TIP protocol ratification                           | 1.942**<br>(0.598)      | 1.953**<br>(0.596)  | 2.093**<br>(0.692)   | 2.104**<br>(0.689)    | 1.798*<br>(0.565)   | 1.806*<br>(0.561)   |
| Regional density of criminalization                      | 3.936**<br>(2.116)      | 3.834**<br>(2.069)  | 3.239**<br>(1.917)   | 3.214**<br>(1.903)    | 4.254***<br>(2.227) | 4.186***<br>(2.180) |
| Missing information                                      | 1.336***<br>(0.123)     | 1.330***<br>(0.123) | 1.283**<br>(0.125)   | 1.280**<br>(0.125)    | 1.297***<br>(0.121) | 1.291***<br>(0.121) |
| Number of countries                                      | 95                      | 95                  | 95                   | 95                    | 95                  | 95                  |
| Number of inclusions                                     | 67                      | 67                  | 67                   | 67                    | 67                  | 67                  |
| Observations   | 658                     | 658                 | 658                  | 658                   | 658                 | 658                 |
| Log Likelihood   | -260.188                | -260.347            | -250.201             | -250.378              | -258.742            | -258.820            |

Note:

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

Robust standard errors in parentheses. All explanatory variables are lagged one period unless otherwise noted.

#### 4.6 The effect of reactions + new variables on criminalization (logistic regression)

When combined with the reactions data, none of the additional variables help explain the variance in time to criminalization. US TIP funding has no effect, as expected. Observed ( $z = 1.08$ ,  $p = 0.281$ ) and estimated ( $z = -0.22$ ,  $p = 0.823$ ) State Department cables on TIP-related matters have no effect, and more human trafficking NGOs in a country does little to influence the passage of criminalization legislation ( $z = 0.24$ ,  $p = 0.809$ ).

#### 4.6.1 Table: The effect of reactions to the TIP report *and* funding, engagement, and NGO density on criminalization

Table 15:

|  | Criminalization     |                     |                     |                      |
|--|---------------------|---------------------|---------------------|----------------------|
|  | Model 5.5           | Model 5.6           | Model 5.7           | Model 5.8            |
| Total reactions (no media)                               | 1.196**<br>(0.099)  | 1.252**<br>(0.110)  | 1.266***<br>(0.110) | 1.163<br>(0.109)     |
| Share of women in parliament                             | 1.030**<br>(0.012)  | 1.030**<br>(0.014)  | 1.030**<br>(0.014)  | 1.036***<br>(0.013)  |
| Worse total freedom (political rights + civil liberties) | 0.944<br>(0.034)    | 0.911**<br>(0.040)  | 0.910**<br>(0.040)  | 0.968<br>(0.040)     |
| 2000 TIP protocol ratification                           | 1.363<br>(0.364)    | 1.042<br>(0.323)    | 1.071<br>(0.330)    | 1.299<br>(0.384)     |
| Big aid  | 1.312<br>(0.407)    | 1.267<br>(0.455)    | 1.238<br>(0.441)    | 1.364<br>(0.459)     |
| Regional density of criminalization                      | 8.469***<br>(5.018) | 4.746**<br>(3.335)  | 4.429**<br>(3.088)  | 13.218***<br>(8.491) |
| Total US funding for TIP (logged)                        | 1.000<br>(0.00000)  |                     |                     |                      |
| Proportion of TIP-related cables (observed in Wikileaks) |                     | 6.245<br>(10.619)   |                     |                      |
| Proportion of TIP-related cables (estimated)             |                     |                     | 0.520<br>(1.523)    |                      |
| Number of NGOs (survey database)                         |                     |                     |                     | 1.003<br>(0.011)     |
| Constant   | 0.094***<br>(0.048) | 0.108***<br>(0.092) | 0.111**<br>(0.095)  | 0.068***<br>(0.039)  |
| Year fixed effects                                       | Yes                 | Yes                 | Yes                 | Yes                  |
| Pseudo R-squared   | 0.093               | 0.1026              | 0.1012              | 0.1005               |
| Observations   | 687                 | 480                 | 480                 | 597                  |
| Log Likelihood   | -233.208            | -162.289            | -162.540            | -204.718             |

Note:

\* p<0.1; \*\* p<0.05; \*\*\* p<0.01  
Standard errors in parentheses. All explanatory variables are lagged one period unless otherwise noted.

#### 4.7 Effects of new variables on criminalization (old, without standardized controls)

The original article showed that a number of factors increased the probability that a country criminalized human trafficking in a given year, with inclusion in the TIP report the most potent. The proportion of women in parliament, the respect of civil liberties, the presence of criminalization in neighboring countries, and other variables also had an effect on the likelihood of criminalization.

Again, the new variables show some promise in explaining the criminalization process, but not much. US TIP funding again has some wonky math issues that I need to look into (with a hazard ratio of 1 and a standard error of 0).

While State Department chatter about TIP issues did influence the decision to include a country in the TIP report (assuming the math is right), it doesn't seem that US engagement in TIP advocacy has an effect on a country's decision to criminalize human trafficking, either measured with observed Wikileaks cables ( $z = 1.28$ ,  $p = 0.199$ ) or estimated cables ( $z = -1.54$ ,  $p = 0.123$ ).

The presence of more human trafficking NGOs does appear to influence the decision to criminalize though—for each additional NGO with headquarters in a country, the chance that that country will criminalize trafficking increases by 2% ( $z = 3.36$ ,  $p < 0.001$ ).

#### 4.7.1 Table: The effect of funding, engagement, and NGO density on criminalization

Table 16:

|  | Time to Criminalization |                     |                     |                     |                     |
|--|-------------------------|---------------------|---------------------|---------------------|---------------------|
|  | Model 3.2 (from AJPS)   | Model 3.6           | Model 3.7           | Model 3.8           | Model 3.9           |
| In report  | 3.609***<br>(1.214)     | 3.461***<br>(1.086) | 6.427***<br>(4.315) | 6.672***<br>(4.478) | 2.667***<br>(0.912) |
| Share of women in parliament                             | 1.020**<br>(0.008)      | 1.024***<br>(0.009) | 1.019**<br>(0.010)  | 1.020**<br>(0.010)  | 1.027***<br>(0.010) |
| Worse civil liberties                                    | 0.900<br>(0.082)        | 0.916<br>(0.090)    | 0.937<br>(0.124)    | 0.935<br>(0.124)    | 0.938<br>(0.098)    |
| Regional density of criminalization                      | 3.110**<br>(1.596)      | 3.944**<br>(2.210)  | 2.316<br>(1.503)    | 2.253<br>(1.449)    | 6.754***<br>(3.773) |
| 2000 TIP protocol ratification                           | 1.787**<br>(0.441)      | 1.870**<br>(0.502)  | 1.824*<br>(0.650)   | 1.852*<br>(0.657)   | 1.642*<br>(0.492)   |
| Missing information (t-2)                                | 1.154<br>(0.115)        | 1.186<br>(0.124)    | 1.276**<br>(0.154)  | 1.257*<br>(0.151)   | 1.142<br>(0.125)    |
| Total population (logged)                                | 0.951<br>(0.076)        | 0.911<br>(0.078)    | 0.960<br>(0.101)    | 0.945<br>(0.097)    | 0.882<br>(0.089)    |
| NGO density  | 1.116<br>(0.082)        | 1.101<br>(0.092)    | 1.231*<br>(0.133)   | 1.234*<br>(0.133)   |                     |
| GDP per capita (logged)                                  | 1.105<br>(0.118)        | 1.085<br>(0.129)    | 1.066<br>(0.150)    | 1.065<br>(0.148)    | 1.006<br>(0.128)    |
| Corruption   | 1.008<br>(0.202)        | 1.099               | 1.198<br>(0.336)    | 1.185<br>(0.333)    | 0.995<br>(0.243)    |
| Total US funding for TIP (logged)                        |                         | 1.039*<br>(0.021)   |                     |                     |                     |
| Proportion of TIP-related cables (observed in Wikileaks) |                         |                     | 3.695<br>(3.760)    |                     |                     |
| Proportion of TIP-related cables (estimated)             |                         |                     |                     | 0.760<br>(0.135)    |                     |
| Number of NGOs (survey database)                         |                         |                     |                     |                     | 1.020***<br>(0.006) |
| Number of countries                                      | 149                     | 147                 | 94                  | 94                  | 127                 |
| Number of criminalizations                               | 99                      | 95                  | 60                  | 60                  | 89                  |
| Observations   | 1,307                   | 1,009               | 599                 | 599                 | 1,076               |
| Log Likelihood   | -433.611                | -404.258            | -231.089            | -231.457            | -364.966            |

Note:

\* p<0.1; \*\* p<0.05; \*\*\* p<0.01  
Robust standard errors in parentheses. All explanatory variables are lagged one period unless otherwise noted.

#### 4.8 Predicting time to ratification of 2000 TIP protocol

We can use a similar set of survival models to see which factors influence a country's decision to ratify the UN's 2000 anti-TIP protocol. As seen in extensions 4.0–4.3, worse democracies are 5–10% less likely to ratify in a given year (Extension 4.1:  $z = -2.87$ ,  $p = 0.004$ ), while countries with more corruption more than 30% less likely to do so (Extension 4.1). Having more NGOs in the country also decreases the likelihood of criminalization (by 17%; Extension 4.1:  $z = -2.11$ ,  $p = 0.035$ ), but only when measured using the original variable from AJPS and not using our own database of NGOs. Human trafficking incidence generally does little to affect the decision, except for increased trafficking intensity in destination countries, which decreases the probability of ratification. Notably, peer pressure from neighboring countries has a powerful effect on the decision to ratify. The regional density of *criminalization* in neighboring countries increases the likelihood of *protocol ratification* by 3–6 times (Extension 4.0:  $z = 2.50$ ,  $p = 0.013$ ; Extension 4.1:  $z = 2.95$ ,  $p = 0.003$ ).

Scorecard diplomacy does not appear to have an effect on the decision to ratify the protocol—neither presence in the TIP report nor the assignment of any specific tier rating changes the likelihood of adopting the protocol (see Extensions 4.4–4.6). However, the initial placement on the watchlist *does* appear to have some impact, as a country is almost 70% more likely to ratify in the year following the assignment ( $z = 1.93$ ,  $p = 0.053$ ).

Table 17:

|  | Time to Ratification |                     |                    |                    |
|--|----------------------|---------------------|--------------------|--------------------|
|  | Extension 4.0        | Extension 4.1       | Extension 4.2      | Extension 4.3      |
| Share of women in parliament                             | 1.008<br>(0.009)     | 1.017<br>(0.011)    | 1.030**<br>(0.012) | 1.007<br>(0.010)   |
| Worse total freedom (political rights + civil liberties) | 0.950**<br>(0.025)   | 0.900***<br>(0.033) | 0.944<br>(0.036)   | 0.930**<br>(0.031) |
| Regional density of criminalization                      | 3.391**<br>(1.659)   | 5.892***<br>(3.542) | 3.668**<br>(2.064) | 3.382**<br>(1.893) |
| Missing information                                      | 0.887*<br>(0.055)    | 0.876*<br>(0.063)   | 0.886<br>(0.072)   | 0.889<br>(0.099)   |
| Total population (logged)                                |                      | 0.981<br>(0.054)    | 0.906<br>(0.059)   |                    |
| GDP per capita (logged)                                  |                      | 1.061<br>(0.139)    | 1.161<br>(0.168)   |                    |
| Corruption   |                      | 0.661**<br>(0.136)  | 0.605**<br>(0.143) |                    |
| NGO density  |                      | 0.842**<br>(0.069)  |                    |                    |
| Number of NGOs (survey database)                         |                      |                     | 1.002<br>(0.005)   |                    |
| Trafficking intensity in countries of origin             |                      |                     |                    | 0.996<br>(0.087)   |
| Trafficking intensity in transit countries               |                      |                     |                    | 1.059<br>(0.088)   |
| Trafficking intensity in destination countries           |                      |                     |                    | 0.865**<br>(0.064) |
| Number of countries                                      | 157                  | 157                 | 132                | 141                |
| Number of inclusions                                     | 129                  | 129                 | 108                | 117                |
| Observations   | 1,001                | 940                 | 785                | 889                |
| Log Likelihood   | -567.818             | -542.226            | -454.789           | -500.210           |

Note:

\* p&lt;0.1; \*\* p&lt;0.05; \*\*\* p&lt;0.01

Robust standard errors in parentheses. All explanatory variables are lagged one period unless otherwise noted.

Table 18:

|  | Time to Ratification |                     |                     |
|--|----------------------|---------------------|---------------------|
|  | Extension 4.4        | Extension 4.5       | Extension 4.6       |
| In report  | 1.039<br>(0.270)     |                     | 0.992<br>(0.261)    |
| Tier 1   |                      | 0.834<br>(0.293)    |                     |
| Tier 2   |                      | 0.939<br>(0.265)    |                     |
| Watch list   |                      | 1.603<br>(0.622)    |                     |
| Tier 3   |                      | 1.352<br>(0.523)    |                     |
| First demotion (t-3)                                     |                      |                     | 0.856<br>(0.361)    |
| First demotion (t-2)                                     |                      |                     | 0.747<br>(0.312)    |
| First demotion (t-1)                                     |                      |                     | 1.705*<br>(0.471)   |
| Share of women in parliament                             | 1.008<br>(0.009)     | 1.010<br>(0.009)    | 1.009<br>(0.009)    |
| Worse total freedom (political rights + civil liberties) | 0.949**<br>(0.025)   | 0.938**<br>(0.025)  | 0.947**<br>(0.026)  |
| Regional density of criminalization                      | 3.376**<br>(1.666)   | 3.665***<br>(1.843) | 3.548***<br>(1.715) |
| Missing information                                      | 0.892<br>(0.064)     | 0.887*<br>(0.064)   | 0.890<br>(0.063)    |
| Number of countries                                      | 157                  | 157                 | 157                 |
| Number of inclusions                                     | 129                  | 129                 | 129                 |
| Observations   | 1,001                | 1,001               | 1,001               |
| Log Likelihood   | -567.804             | -565.836            | -565.762            |

Note:

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

Robust standard errors in parentheses. All explanatory variables are lagged one period unless otherwise noted.

#### 4.9 The relationship between media coverage of TIP issues and presence in the TIP report

The amount of media coverage of TIP issues in a country appears to be related to that country's presence in the TIP report. On average, being in the report boosts media coverage by 50.9% (Media Coverage 2:  $t = 7.67$ ,  $p < 0.001$ ). This holds true even when controlling for the initial media coverage when a country is first added to the TIP report—coverage is still boosted by 48.6% (Media Coverage 3:  $t = 6.47$ ,  $p < 0.001$ ). If we control for the actual incidence of human trafficking, the report effect decreases slightly to 35.1% but remains significant (Media Coverage and incidence:  $t = 4.64$ ,  $p < 0.001$ ). Because the dependent variable in each of the logged coverage models is different in each case (since we include lagged coverage as an independent variable), we can interpret the “In report” coefficient as an indicator of continued growth in coverage for each additional year in the report. That is, the effect of being in the report on media coverage intensifies the longer a country is in the report.

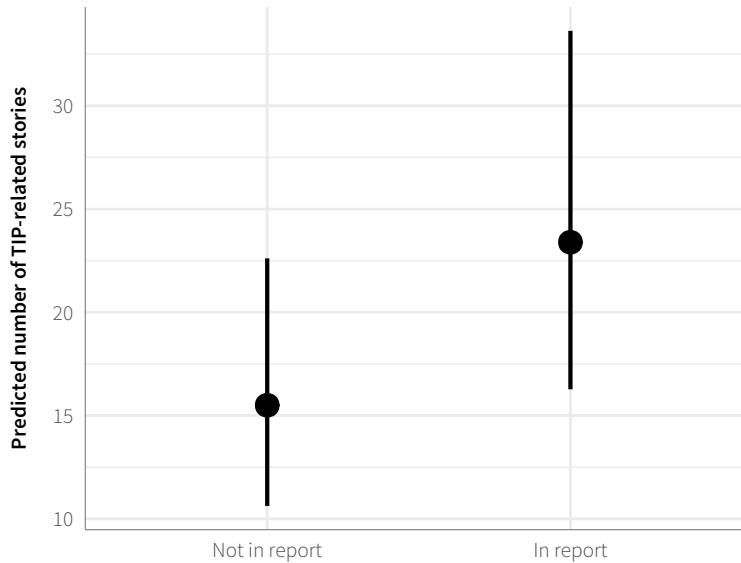
Table 19:

|  | Change in logged coverage |                            | Logged coverage            |                              |
|--|---------------------------|----------------------------|----------------------------|------------------------------|
|  | Media coverage 1          | Media coverage 2           | Media coverage 3           | Media coverage and incidence |
| First year in report                           | 0.209***<br>(0.051)       |                            | 0.030<br>(0.057)           | 0.073<br>(0.059)             |
| In report                                      |                           | 0.412***<br>(0.054)        | 0.396***<br>(0.061)        | 0.301***<br>(0.065)          |
| Coverage (lagged)                              | -0.752***<br>(0.023)      | 0.206***<br>(0.023)        | 0.208***<br>(0.023)        | 0.215***<br>(0.025)          |
| Worse civil liberties                          | 0.105***<br>(0.040)       | 0.103***<br>(0.040)        | 0.103***<br>(0.040)        | 0.119***<br>(0.040)          |
| GDP per capita (logged)                        | 0.302*<br>(0.156)         | 0.257*<br>(0.154)          | 0.262*<br>(0.154)          | 0.205<br>(0.156)             |
| 2000 TIP protocol ratification                 | 0.085*<br>(0.050)         | 0.029<br>(0.050)           | 0.033<br>(0.050)           | 0.014<br>(0.052)             |
| Population (logged)                            | 2.841***<br>(0.365)       | 2.818***<br>(0.360)        | 2.821***<br>(0.361)        | 2.891***<br>(0.360)          |
| Trafficking intensity in countries of origin   |                           |                            |                            | -1.626***<br>(0.273)         |
| Trafficking intensity in transit countries     |                           |                            |                            | 0.217*<br>(0.128)            |
| Trafficking intensity in destination countries |                           |                            |                            | -3.090***<br>(0.507)         |
| Constant                                       | -54.544***<br>(7.675)     | -53.208***<br>(7.574)      | -53.320***<br>(7.578)      | -35.524***<br>(4.610)        |
| Year fixed effects                             | Yes                       | Yes                        | Yes                        | Yes                          |
| Country fixed effects                          | Yes                       | Yes                        | Yes                        | Yes                          |
| Observations                                   | 1,748                     | 1,748                      | 1,748                      | 1,478                        |
| R <sup>2</sup>                                 | 0.496                     | 0.896                      | 0.896                      | 0.887                        |
| Adjusted R <sup>2</sup>                        | 0.435                     | 0.883                      | 0.883                      | 0.873                        |
| Residual Std. Error                            | 0.574 (df = 1558)         | 0.567 (df = 1558)          | 0.567 (df = 1557)          | 0.542 (df = 1314)            |
| F Statistic                                    | 8.115*** (df = 189; 1558) | 70.671*** (df = 189; 1558) | 70.268*** (df = 190; 1557) | 63.347*** (df = 163; 1314)   |

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

All explanatory variables are lagged one period unless otherwise noted.



## 4.10 Determinants of having a reaction

### 4.10.1 Original models

In the original analysis, assignment to more severe tier ratings increases the probability of observing a reaction in the Wikileaks cables: assignment to Tier 2 does not have a significant impact on reactions (Reaction 2:  $z = 1.81$ ,  $p = 0.070$ ), while assignment to either the Watchlist or Tier 3 increases the odds by more than five times (Reaction 2:  $z = 6.04$ ,  $p < 0.001$ ;  $z = 5.31$ ,  $p < 0.001$ ). These results tend to hold up under different specifications of the model and different measurements of US pressure (i.e. combining Watchlist and Tier 3 assignment into one variable).

Table 20:

|   | Reaction in cables (original models) |                     |                     |                     |                     |
|---|--------------------------------------|---------------------|---------------------|---------------------|---------------------|
|   | Reaction 1                           | Reaction 2          | Reaction 1          | Reaction 4          | Reaction 5          |
| Tier 2                                  | 1.245<br>(0.300)                     | 1.641*<br>(0.449)   | 1.142<br>(0.297)    | 1.167<br>(0.311)    | 2.154**<br>(0.647)  |
| Watchlist                               | 4.150***<br>(1.015)                  | 5.520***<br>(1.561) | 3.790***<br>(1.006) |                     | 5.861***<br>(1.879) |
| Tier 3                                  | 4.027***<br>(1.113)                  | 5.111***<br>(1.569) | 5.679***<br>(3.322) |                     | 4.116***<br>(1.500) |
| US aid (logged, lagged)                 |                                      | 1.055***<br>(0.020) | 1.015<br>(0.018)    | 1.011<br>(0.020)    | 1.033<br>(0.022)    |
| GDP per capita (logged, lagged)         |                                      | 1.393***<br>(0.093) |                     |                     | 1.353***<br>(0.115) |
| Population (logged, lagged)             |                                      | 1.095*<br>(0.053)   |                     |                     | 0.894<br>(0.066)    |
| Tier 3 × US aid (logged, lagged)        |                                      |                     | 0.973<br>(0.036)    |                     |                     |
| US pressure (Watchlist or Tier 3)       |                                      |                     |                     | 4.146***<br>(2.044) |                     |
| US aid (logged, lagged) × US pressure   |                                      |                     |                     | 0.996<br>(0.031)    |                     |
| Share of total trade with US (lagged)   |                                      |                     |                     |                     | 1.754<br>(0.988)    |
| Worse total freedom (lagged)            |                                      |                     |                     |                     | 1.099***<br>(0.031) |
| 2000 TIP protocol ratification (lagged) |                                      |                     |                     |                     | 2.097***<br>(0.385) |
| Human trafficking news (logged)         |                                      |                     |                     |                     | 1.723***<br>(0.190) |
| Constant                                | 0.099***<br>(0.020)                  | 0.001***<br>(0.001) | 0.085***<br>(0.024) | 0.089***<br>(0.026) | 0.001***<br>(0.002) |
| Pseudo R-squared                        | 0.0581                               | 0.0811              | 0.0588              | 0.0584              | 0.1564              |
| Year fixed effects                      | No                                   | No                  | No                  | No                  | No                  |
| Observations                            | 1,356                                | 1,320               | 1,356               | 1,356               | 1,118               |
| Log Likelihood                          | -563.201                             | -534.515            | -562.760            | -563.024            | -446.833            |

Note: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$   
Logit models; odds ratios reported. Non-robust standard errors in parentheses.

### 4.10.2 Expanded models (using standard controls)

These findings also hold when using the more standardized controls used throughout this project (i.e. share of women in parliament, worse civil liberties, regional density of criminalization, 2000 TIP protocol ratification, etc.)—being assigned to the Watchlist generally increases the odds of a reaction by  $\approx 4$  times, while assignment to Tier 3 increases those odds by  $\approx 5$  times.

The new variables measuring US engagement (Wikileaks activity), US funding for TIP activities, and the number of NGOs from our survey database do not have any significant effect on the likelihood of a reaction in the cables.

Table 21:

|  | Reaction in cables (expanded models) |                     |                     |                      |                     |                     |
|--|--------------------------------------|---------------------|---------------------|----------------------|---------------------|---------------------|
|  | New reaction 1                       | New reaction 2      | New reaction 3      | New reaction 4       | New reaction 5      | New reaction 6      |
| Tier 2   | 1.245<br>(0.300)                     | 1.202<br>(0.315)    | 1.944**<br>(0.585)  | 1.053<br>(0.585)     | 1.108<br>(0.319)    | 1.133<br>(0.326)    |
| Watchlist  | 4.150***<br>(1.015)                  | 3.604***<br>(1.029) | 5.622***<br>(1.889) | 3.198***<br>(1.889)  | 3.719***<br>(1.161) | 3.797***<br>(1.187) |
| Tier 3   | 4.027***<br>(1.113)                  | 5.252***<br>(1.905) | 6.618***<br>(2.646) | 5.169***<br>(2.646)  | 4.837***<br>(1.974) | 4.864***<br>(1.986) |
| Share of women in parliament                             |                                      | 0.982**<br>(0.009)  | 0.980**<br>(0.009)  | 0.982**<br>(0.009)   | 0.983*<br>(0.009)   | 0.984*<br>(0.009)   |
| Worse civil liberties                                    |                                      | 1.013<br>(0.027)    | 1.069*<br>(0.037)   | 1.009<br>(0.037)     | 1.044<br>(0.031)    | 1.041<br>(0.031)    |
| Regional density of criminalization                      |                                      | 0.928<br>(0.337)    | 0.972<br>(0.413)    | 0.850<br>(0.413)     | 1.085<br>(0.420)    | 1.078<br>(0.416)    |
| 2000 TIP protocol ratification                           |                                      | 1.180<br>(0.219)    | 1.257<br>(0.253)    | 1.189<br>(0.253)     | 1.071<br>(0.219)    | 1.086<br>(0.222)    |
| US aid (logged)  |                                      |                     | 1.027<br>(0.023)    |                      |                     |                     |
| GDP per capita (logged)                                  |                                      |                     | 1.264**<br>(0.128)  |                      |                     |                     |
| Total population (logged)                                |                                      |                     | 1.179***<br>(0.070) |                      |                     |                     |
| Corruption   |                                      |                     | 1.320<br>(0.255)    |                      |                     |                     |
| NGO density  |                                      |                     | 0.924<br>(0.070)    |                      |                     |                     |
| Proportion of TIP-related cables (observed in Wikileaks) |                                      |                     |                     |                      | 7.953*<br>(9.152)   |                     |
| Proportion of TIP-related cables (estimated)             |                                      |                     |                     |                      |                     | 0.925<br>(0.099)    |
| Number of NGOs (survey database)                         |                                      |                     |                     |                      |                     |                     |
| Total US funding for TIP (logged)                        |                                      |                     |                     | 1.025*<br>(0.023)    |                     |                     |
| Constant   | 0.099***<br>(0.020)                  | 0.000<br>(0.00000)  | 0.000<br>(0.00000)  | 0.00000<br>(0.00000) | 0.000<br>(0.00001)  | 0.000<br>(0.00001)  |
| Pseudo R-squared   | 0.0581                               | 0.2107              | 0.2373              | 0.1936               | 0.1987              | 0.1965              |
| Year fixed effects                                       | No                                   | Yes                 | Yes                 | Yes                  | Yes                 | Yes                 |
| Observations   | 1,356                                | 1,311               | 1,292               | 1,233                | 883                 | 883                 |
| Log Likelihood   | -563.201                             | -459.184            | -438.642            | -457.574             | -366.345            | -367.352            |

Note:

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$   
 Logit models; odds ratios reported. Non-robust standard errors in parentheses. With the exception of tier ratings, all explanatory variables are lagged one period.

#### 4.11 Updated number of human trafficking NGOs

Substituting the number of NGOs in the database used for the survey yields smaller (and seemingly more precise) effects on both the time to entering the report (explained in section 3.3 above) and the time to criminalization. In Extension 1.2, an additional NGO in a country increases the odds of criminalization in a given year by 2% ( $z = 1.85$ ,  $p = 0.064$ ), which is a smaller and more precise effect than the original NGO density variable in Extension 1.1 ( $z = 1.74$ ,  $p = 0.082$ ). Importantly, however, this effect is only significant at a  $p=0.1$  threshold. The new measure has no effect when used as a covariate for estimating the effect of US engagement. In Extensions 2.1 and 2.2, the original NGO density variable increases the odds of criminalization by roughly 25% (Extension 2.1:  $z = 2.11$ ,  $p = 0.035$ ), but that effect drops to an insignificant 2% with the updated measure (Extension 2.3:  $z = 1.54$ ,  $p = 0.124$ ). It is likely, however, that the effects are generally similar, since the two measures use different scales.



#### 4.12 The effect of democracy on criminalization

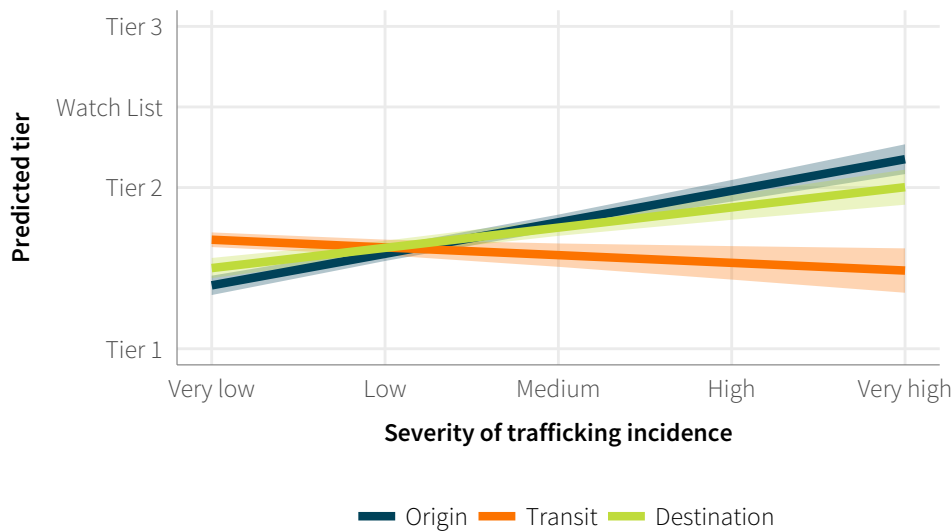
The chapter draft currently claims that the “relationship between being included in the report and time to criminalization depends on the level of democracy” and that “the models reinforce that the relationship between inclusion in the report and time to criminalization appears to be stronger for less democratic countries.” This conclusion is generally borne out in the updated results when using Freedom House’s measure of political rights and civil liberties as a stand-in for democracy.

Countries with worse freedom are around 10% more likely to enter the TIP report (Model 1.3:  $z = 1.94$ ,  $p = 0.052$ ), and in every model of criminalization, countries with worse freedom are 2–10% less likely to criminalize in a given year (Model 2.0:  $z = -1.86$ ,  $p = 0.063$ ).

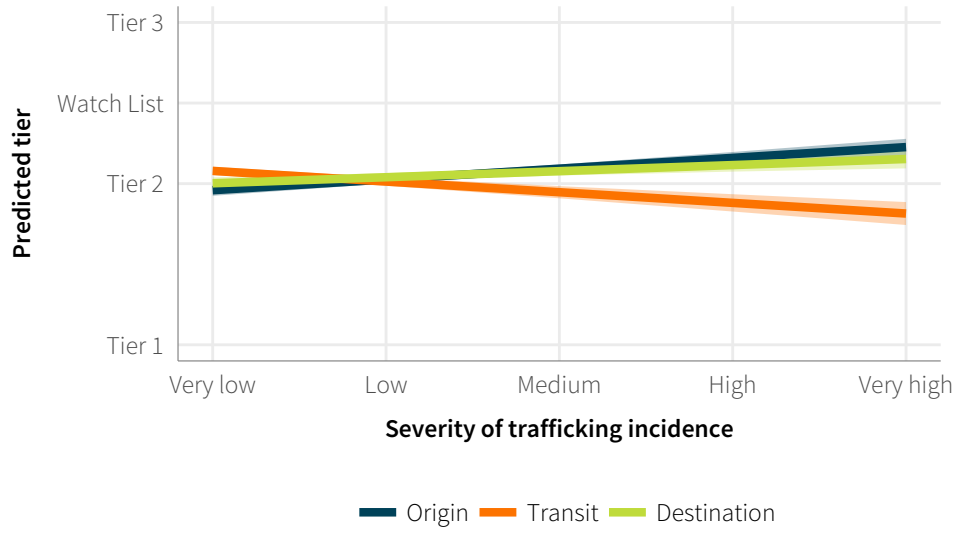
#### 4.13 Predicting tier ratings with trafficking incidence

The seriousness of trafficking in a country influences its tier rating. Countries are more likely to receive worse tier ratings when they act as either an origin or a destination country. This likely shows that the TIP report picks up on increases in the sending and receiving of trafficked people. Conversely, the report does not appear to condemn countries that see increases in transitory trafficking—these countries are more likely to receive better tier ratings as trafficking through their borders worsens.

##### 4.13.1 Predict tier using simple model



#### 4.13.2 Predict tier using full model



#### 4.13.3 Full results from all models

Table 22:

|  | Tier rating              |                           |                                   |
|--|--------------------------|---------------------------|-----------------------------------|
|  | Simple model             | Full model                | Simple with categorical intensity |
| Trafficking intensity in countries of origin   | 0.196***<br>(0.016)      | 0.067***<br>(0.009)       |                                   |
| Trafficking intensity in transit countries     | -0.048***<br>(0.019)     | -0.066***<br>(0.010)      |                                   |
| Trafficking intensity in destination countries | 0.125***<br>(0.019)      | 0.038***<br>(0.010)       |                                   |
| In TIP report                                  |                          | 2.154***<br>(0.034)       |                                   |
| Total population (logged)                      |                          | -0.050***<br>(0.009)      |                                   |
| NGO density                                    |                          | 0.033***<br>(0.009)       |                                   |
| Worse civil liberties                          |                          | 0.065***<br>(0.003)       |                                   |
| Regional density of criminalization            |                          | -0.261***<br>(0.045)      |                                   |
| 2000 TIP protocol ratification                 |                          | 0.048*<br>(0.026)         |                                   |
| Origin intensity (low)                         |                          |                           | 0.196<br>(0.132)                  |
| Origin intensity (medium)                      |                          |                           | 0.306***<br>(0.106)               |
| Origin intensity (high)                        |                          |                           | 0.437***<br>(0.115)               |
| Origin intensity (very high)                   |                          |                           | 0.546***<br>(0.127)               |
| Transit intensity (low)                        |                          |                           | -0.244***<br>(0.075)              |
| Transit intensity (medium)                     |                          |                           | -0.089<br>(0.069)                 |
| Transit intensity (high)                       |                          |                           | -0.091<br>(0.088)                 |
| Transit intensity (very high)                  |                          |                           | -0.363***<br>(0.115)              |
| Destination intensity (low)                    |                          |                           | 0.278***<br>(0.084)               |
| Destination intensity (medium)                 |                          |                           | 0.210***<br>(0.076)               |
| Destination intensity (high)                   |                          |                           | -0.018<br>(0.100)                 |
| Destination intensity (very high)              |                          |                           | 0.176<br>(0.141)                  |
| Constant                                       | 0.982***<br>(0.058)      | 0.062<br>(0.128)          | 1.539***<br>(0.109)               |
| Observations                                   | 1,670                    | 1,604                     | 724                               |
| R <sup>2</sup>                                 | 0.098                    | 0.775                     | 0.067                             |
| Adjusted R <sup>2</sup>                        | 0.096                    | 0.774                     | 0.051                             |
| Residual Std. Error                            | 0.901 (df = 1666)        | 0.438 (df = 1594)         | 0.661 (df = 711)                  |
| F Statistic                                    | 60.338*** (df = 3; 1666) | 611.392*** (df = 9; 1594) | 4.249*** (df = 12; 711)           |

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## 5 Extension conclusions

*Proposition: Countries with more TIP-specific funding from the US will criminalize faster.*

There is generally a weak relationship between US funding and time to criminalization.

*Proposition: Countries where the US is more diplomatically involved in anti-TIP discussions with senior officials (as measured by Wikileaks cables) will criminalize faster.*

There is no relationship between diplomatic involvement and time to criminalization.

*Proposition: Countries where there are more human trafficking NGOs will criminalize faster.*

More NGOs in a country leads to minor, insubstantial, and generally insignificant increases in the odds of criminalization.

*Proposition: The relationship between inclusion in the report and time to criminalization will be stronger for less democratic countries.*

Countries with worse civil rights and political liberties are more likely to enter the TIP report and less likely to criminalize trafficking.

*Proposition: The severity of trafficking in a country influences its tier rating.*

Countries are more likely to receive worse tier ratings when they act as either an origin or a destination country.

## 6 Miscellaneous analysis

In the course of writing the book, lots of little numbers needed to be calculated. Here are some of those.

### 6.1 Countries receiving most aid through IGOs

| country     | total      |
|-------------|------------|
| India       | 16,662,345 |
| Indonesia   | 14,909,683 |
| Thailand    | 14,632,904 |
| Brazil      | 12,753,001 |
| Ukraine     | 8,698,789  |
| Mexico      | 7,853,016  |
| Philippines | 6,288,313  |
| Cambodia    | 6,212,012  |
| Tanzania    | 6,148,322  |
| Uganda      | 5,791,000  |

The countries that have received most US aid through IGOs are India, Indonesia, Thailand, Brazil, and Ukraine.

### 6.2 US funding to NGOs

Grants given just to NGOs: 737

Number of countries receiving grants to NGOs: 120

Surveyed NGOs that received funding from the US: 90

Countries receiving the most grant money for NGOs:

| country                       | total      |
|-------------------------------|------------|
| Indonesia                     | 18,417,946 |
| Cambodia                      | 14,928,679 |
| Philippines                   | 12,764,782 |
| Nepal                         | 12,565,544 |
| India                         | 11,856,135 |
| Africa                        | 11,328,325 |
| Mexico                        | 10,857,275 |
| Global                        | 10,525,535 |
| East Asia and Pacific Islands | 9,087,709  |
| Haiti                         | 7,686,850  |

Although the US funding is modest, between 2001–2014, the US funded 737 NGO projects on TIP in 120 of countries. The biggest recipient countries of NGO grants have been Indonesia, Cambodia, the Philippines, Nepal, and India. In the survey of NGOs worldwide, 90 reported having received some sort of funding from the US.

### 6.3 Interactions with the US

Number of respondents *that don't work exclusively in the US*: 480

Proportion of organizations that were involved with the US somehow: 68.3%

Type of involvement with the US:

| Type of involvement                                | Responses | %     |
|--|-----------|-------|
| Direct contact (meetings)                          | 259       | 48.59 |
| We have not had any contact or funding from the US | 188       | 35.27 |
| Direct cooperation                                 | 110       | 20.64 |
| Our organization received funding                  | 101       | 18.95 |
| Other  | 72        | 13.51 |
| Don't know   | 32        | 6     |

The global survey found that many NGOs interact extensively with the US embassy or government. More than two thirds of the 480 respondents said they'd engaged in some form with the US government over the last 10-15 years. About half said they had had direct contact with US officials, and about a fifth reported some form of direct cooperation. Another fifth reported receiving direct funding from the US government to facilitate their work.

#### 6.4 Awareness of TIP report

| Heard | Freq | Percent |
|-------|------|---------|
| No    | 62   | 13      |
| Yes   | 415  | 87      |

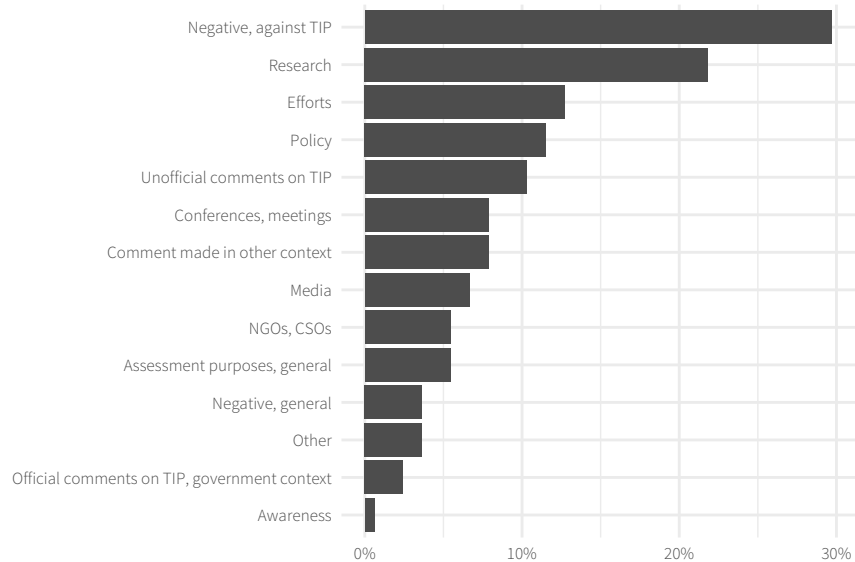
One set of questions pertained to the awareness of the TIP report as a measure of the penetration of its message. If the US TIP report is effective in gaining attention around the world, then most TIP NGOs should have at least heard of the report. Indeed, the survey found that 87% of respondents had heard of the annual report.

#### 6.5 TIP use by government officials

Proportion of organization-countries that heard the report used by government officials:

| TIP.used | Freq | Percent |
|----------|------|---------|
| No       | 265  | 56.38   |
| Yes      | 205  | 43.62   |

Reasons:



Reasons the government mentioned the report:

| Reason for mention                           | Responses | %     |
|--|-----------|-------|
| Negative, against TIP                        | 49        | 29.7  |
| Research                                     | 36        | 21.82 |
| Efforts                                      | 21        | 12.73 |
| Policy                                       | 19        | 11.52 |
| Unofficial comments on TIP                   | 17        | 10.3  |
| Conferences, meetings                        | 13        | 7.88  |
| Comment made in other context                | 13        | 7.88  |
| Media  | 11        | 6.67  |
| NGOs, CSOs                                   | 9         | 5.45  |
| Assessment purposes, general                 | 9         | 5.45  |
| Negative, general                            | 6         | 3.64  |
| Other  | 6         | 3.64  |
| Official comments on TIP, government context | 4         | 2.42  |
| Awareness                                    | 1         | 0.61  |

To explore this, NGOs were asked if they had ever heard government officials mention the report either publically or in private and were then offered a write-in question about the connection. The results showed that 43.62% of respondents had heard government officials refer to the report in any of the countries they work in.

## 6.6 US embassy activity

Which countries or embassies have been the *most* active? (top ten):

| clean          | total | prop    | prop.nice |
|----------------|-------|---------|-----------|
| United States  | 188   | 0.7015  | 70.1%     |
| None           | 16    | 0.0597  | 6.0%      |
| European Union | 14    | 0.05224 | 5.2%      |
| All            | 12    | 0.04478 | 4.5%      |
| Switzerland    | 8     | 0.02985 | 3.0%      |
| Australia      | 7     | 0.02612 | 2.6%      |
| Italy          | 7     | 0.02612 | 2.6%      |

| clean          | total | prop    | prop.nice |
|----------------|-------|---------|-----------|
| United Kingdom | 7     | 0.02612 | 2.6%      |
| Netherlands    | 6     | 0.02239 | 2.2%      |
| Norway         | 6     | 0.02239 | 2.2%      |

Total countries marked as most active: 39

Over the last 10–15 years, has the United States or its embassy been active in the fight against human trafficking in X?

| No | Yes | Don't know |
|----|-----|------------|
| 39 | 344 | 150        |

| No      | Yes    | Don't know |
|---------|--------|------------|
| 0.07317 | 0.6454 | 0.2814     |

The rate at which the US embassy was mentioned as active was far greater than that of any other embassy mentioned.

## 6.7 US embassy importance

Raw counts and percents:

| Most important actor | Somewhat important actor | Not an important actor | Don't know |
|----------------------|--------------------------|------------------------|------------|
| 139                  | 182                      | 68                     | 133        |

| Most important actor | Somewhat important actor | Not an important actor | Don't know |
|----------------------|--------------------------|------------------------|------------|
| 0.2663               | 0.3487                   | 0.1303                 | 0.2548     |

Sum of “Most important” and “Somewhat important” percents: 61.5%

Percent of countries where at least one NGO said the US was important: 82.7%

Furthermore, nearly two-thirds of NGOs said that the US had played a very important or a somewhat important role in their country. If the responses are instead broken down by country, the share of countries in which at least one NGOs attributed an important or a somewhat important role was 82.7%.

## 6.8 US embassy positivity

| Q3.25      | num | prop     | prop.nice |
|------------|-----|----------|-----------|
| Don't know | 36  | 0.1139   | 11.4%     |
| Mixed      | 64  | 0.2025   | 20.3%     |
| Negative   | 2   | 0.006329 | 0.6%      |
| Positive   | 214 | 0.6772   | 67.7%     |



Finally, if respondents indicated that the US had played an important role in their countries, the survey asked about whether the influence of the US had been positive, negative or mixed. What was most astounding was the extremely low frequency of negative replies. The vast majority was positive (214) and some were mixed (64), but only 2 said the US had played a negative role.

## 6.9 General survey details

How many countries did respondents answer about?

| Countries | Freq |
|-----------|------|
| 1         | 415  |
| 2         | 52   |
| 3         | 10   |
| 4         | 3    |

How did respondents take (or were invited to take) the survey?

| survey.method | num |
|---------------|-----|
| LinkedIn      | 3   |
| Online        | 463 |
| Phone         | 14  |

Most organizations (415) chose to fill out the survey for just one country, the primary country of their advocacy work. The survey was assembled in Qualtrics and can be obtained in its entirety from the author (or is available in online appendix). To minimize frustration that might lead respondents to quit prematurely, they were free to skip any question and could move back and forth in the survey. The survey was administered via email, with the option for respondents to have a phone survey in lieu of answering it online or having a conversation in addition to the survey. Most responses (463) were obtained directly in response to the email inquiry. 14 were conducted via phone. An invitation to participate in the survey was also posted to a LinkedIn discussion group used by anti-trafficking NGOs, which yielded 3 complete responses. Each NGO in the database received two reminder emails, including respondents who started but did not finish the survey, and were provided with a link to resume their response. Additional efforts were made to reach non-responding NGOs by phone if we had very low participation from their countries.