Tobit Lagged

August 20, 2018

# Summary statistics

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | 2010 | 2012 | 2014 | 2016 |
| Year | 2010 | 2012 | 2014 | 2016 |
| Number of Countries | 169 | 169 | 179 | 178 |
| Eastern Mediterranean | 13.0% | 13.0% | 12.3% | 12.4% |
| Americas | 16.0% | 16.0% | 16.2% | 15.7% |
| African | 20.1% | 20.1% | 24.0% | 24.2% |
| European | 30.8% | 30.8% | 28.5% | 28.7% |
| Southeast Asia | 5.9% | 5.9% | 5.6% | 5.6% |
| Western Pacific | 14.2% | 14.2% | 13.4% | 13.5% |
| Democracy (POLITY) | 6.65 (3.08) | 6.70 (3.06) | 6.62 (3.06) | 6.58 (3.07) |
| GDP per capita (thousands) | 17.88 (19.42) | 18.26 (19.36) | 17.67 (18.99) | 18.17 (19.35) |
| Tobacco Prod. (thousands tons) | 52.95 (294.59) | 57.78 (333.08) | 53.53 (288.02) | 50.11 (269.87) |
| Smoking prevalence Female | 0.12 (0.11) | 0.12 (0.11) | 0.11 (0.11) | 0.10 (0.10) |
| Smoking prevalence Male | 0.36 (0.14) | 0.35 (0.13) | 0.34 (0.13) | 0.33 (0.13) |
| Women’s Labor | 40.06 (9.87) | 40.24 (9.91) | 40.65 (9.84) | 40.78 (9.78) |
| Women’s rights | 15.98 (12.26) | 16.71 (11.76) | 17.41 (12.35) | 18.19 (12.97) |
| Population (millions) | 38.40 (141.73) | 39.30 (144.24) | 39.19 (142.85) | 40.39 (145.71) |
| % Political Shift | 24.9% | 29.6% | 26.8% | 0.0% |
| % Political Shift (missings) | 8.9% | 10.1% | 11.7% | 100.0% |
| # of Bloomberg projects | 0.44 (1.53) | 0.54 (1.63) | 0.45 (1.48) | 0.11 (0.55) |
| USD Bloomberg projects (thousands) | 81.33 (312.06) | 68.91 (275.18) | 55.52 (202.23) | 17.42 (109.44) |
| # of Bloomberg FCTC projects | 0.13 (0.78) | 0.19 (0.45) | 0.13 (0.50) | 0.03 (0.24) |
| USD Bloomberg FCTC projects (thousands) | 31.07 (195.53) | 24.04 (76.56) | 16.31 (63.99) | 9.79 (86.75) |
| Government Ownership | 0.14 (0.34) | 0.14 (0.34) | 0.13 (0.34) | 0.13 (0.34) |
| Control of Corruption | -0.03 (1.01) | -0.03 (1.02) | -0.09 (0.99) | -0.10 (0.99) |
| Rule of Law | -0.03 (0.98) | -0.04 (0.97) | -0.07 (0.97) | -0.09 (0.97) |
| Health Exp. per capita (ppp) | 757.72 (1,048.93) | 811.57 (1,120.88) | 839.70 (1,188.66) |  |
| Years since signing (in 2012) | 10.21 (1.48) | 10.21 (1.48) | 10.08 (1.69) | 10.08 (1.69) |
| Years since ratification (in 2012) | 8.50 (1.90) | 8.50 (1.90) | 8.27 (2.18) | 8.27 (2.19) |
| # Items Implemented Art. 5 | 1.89 (2.30) | 3.63 (1.86) | 3.98 (1.69) | 4.21 (1.42) |
| # Items Implemented Art. 6 | 1.73 (2.17) | 2.85 (2.02) | 3.28 (1.98) | 4.15 (2.11) |
| # Items Implemented Art. 8 | 0.96 (1.19) | 3.53 (1.85) | 4.00 (1.82) | 4.12 (1.64) |
| # Items Implemented Art. 11 | 3.38 (4.06) | 5.82 (3.77) | 8.47 (4.99) | 9.66 (4.53) |
| # Items Implemented Art. 13 | 3.93 (5.30) | 6.49 (4.58) | 7.13 (4.37) | 7.19 (3.95) |
| # Items Implemented Art. 14 | 7.84 (10.43) | 13.93 (10.95) | 15.51 (10.72) | 16.75 (11.30) |

# Pvalues for Network effects of final model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X1 | Centroid Distance | General Trade | Tobacco Trade | GLOBALink Referrals | GLOBALink co-subscription |
| Article 5 | 0.08 | -0.07 | -0.03 | -0.04 | 0.02 |
| Article 6 | 0.57 \*\* | 0.14 | 0.19 \*\*\* | 0.06 \* | 0.08 \*\* |
| Article 8 | 1.11 \*\*\* | 0.17 \* | 0.08 | 0.06 \* | 0.05 |
| Article 11 | 1.29 \*\*\* | 0.17 | 0.04 | 0.02 | 0.09 \*\* |
| Article 13 | 0.65 \*\* | 0.01 | -0.04 | 0.01 | 0.10 \*\* |
| Article 14 | 0.00 | -0.01 | 0.09 | -0.02 | 0.05 \* |
| Standard Errors in parenthesis. Signif. codes: 0.01: ‘***’ 0.05: ’****’ 0.10 ’*’ |  |  |  |  |  |
| Note: This specification includes the lagged number of items reported. Also, it only includes members that provided a reported on 2012. |  |  |  |  |  |

# Final model

## Article 5

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Article 5 | Centroid Distance | General Trade | Tobacco Trade | GLOBALink Referrals | GLOBALink co-subscription |
| Lagged Exposure (rho) | 0.08 | -0.07 | -0.03 | -0.04 | 0.02 |
| Lagged Y (Number of Items) | 0.35 \*\*\* | 0.34 \*\*\* | 0.34 \*\*\* | 0.34 \*\*\* | 0.35 \*\*\* |
| Americas | -0.51 | -0.55 \* | -0.57 \* | -0.55 \* | -0.59 \* |
| African | 0.00 | -0.05 | -0.05 | -0.02 | -0.04 |
| European | -0.30 | -0.31 | -0.31 | -0.25 | -0.35 |
| South-East Asia | 0.23 | 0.28 | 0.24 | 0.30 | 0.23 |
| Western Pacific | -0.10 | -0.05 | -0.08 | -0.05 | -0.13 |
| Democracy (POLITY) | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| GDP per capita (ppp) | 0.07 | 0.09 | 0.08 | 0.09 | 0.07 |
| Tobacco Prod. per capita | -0.00 | -0.00 | -0.00 | -0.01 | 0.00 |
| % Female Smoke | -0.20 | -0.12 | -0.17 | -0.15 | -0.19 |
| % Male Smoke | 0.72 | 0.66 | 0.71 | 0.66 | 0.75 |
| Women’s Labor | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Women’s rights | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Government Ownership | 0.17 | 0.18 | 0.18 | 0.24 | 0.16 |
| Control of Corruption | -0.13 | -0.15 | -0.14 | -0.20 | -0.10 |
| Rule of Law | 0.02 | 0.04 | 0.03 | 0.11 | -0.01 |
| Health Exp. per capita (ppp) | 0.00 | -0.01 | -0.00 | -0.01 | 0.01 |
| Years since Sign. | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| Years since Ratif. | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| Year 2014 | -0.35 | -0.45 | -0.32 | -0.20 | -0.22 |
| Year 2016 | -0.56 | -0.36 \*\* | -0.39 \*\* | -0.41 \*\*\* | -0.42 \*\*\* |
| N | 956 | 956 | 956 | 956 | 956 |
| Standard Errors in parenthesis. Signif. codes: 0.01: ‘***’ 0.05: ’****’ 0.10 ’*’ |  |  |  |  |  |
| Note: This specification includes the lagged number of items reported. Also, it only includes members that provided a reported on 2012. |  |  |  |  |  |

## Article 6

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Article 6 | Centroid Distance | General Trade | Tobacco Trade | GLOBALink Referrals | GLOBALink co-subscription |
| Lagged Exposure (rho) | 0.57 \*\* | 0.14 | 0.19 \*\*\* | 0.06 \* | 0.08 \*\* |
| Lagged Y (Number of Items) | 0.54 \*\*\* | 0.54 \*\*\* | 0.54 \*\*\* | 0.53 \*\*\* | 0.53 \*\*\* |
| Americas | 0.95 \*\* | 0.85 \*\* | 0.94 \*\* | 0.82 \*\* | 0.69 \* |
| African | 0.41 | 0.34 | 0.50 | 0.27 | 0.21 |
| European | 0.65 | 0.88 \*\* | 0.92 \*\* | 0.77 \* | 0.66 |
| South-East Asia | 0.87 \*\* | 1.05 \*\* | 1.12 \*\*\* | 0.98 \*\* | 1.02 \*\* |
| Western Pacific | 1.24 \*\*\* | 1.27 \*\*\* | 1.26 \*\*\* | 1.25 \*\*\* | 1.23 \*\*\* |
| Democracy (POLITY) | 0.00 | 0.00 | -0.00 | 0.00 | 0.01 |
| GDP per capita (ppp) | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 |
| Tobacco Prod. per capita | -0.02 | -0.02 | -0.03 | -0.02 | -0.01 |
| % Female Smoke | 0.56 | 0.65 | 0.75 | 0.72 | 0.69 |
| % Male Smoke | -0.50 | -0.44 | -0.36 | -0.51 | -0.44 |
| Women’s Labor | -0.01 | -0.01 | -0.01 | -0.01 | -0.00 |
| Women’s rights | 0.01 \*\* | 0.02 \*\* | 0.01 \*\* | 0.01 \*\* | 0.01 \*\* |
| Government Ownership | 0.03 | 0.13 | 0.13 | 0.04 | 0.05 |
| Control of Corruption | -0.46 \*\* | -0.45 \*\* | -0.46 \*\* | -0.37 \* | -0.34 |
| Rule of Law | 0.35 | 0.33 | 0.34 | 0.24 | 0.19 |
| Health Exp. per capita (ppp) | 0.12 | 0.15 | 0.14 | 0.15 | 0.16 |
| Years since Sign. | 0.06 | 0.07 | 0.06 | 0.05 | 0.06 |
| Years since Ratif. | -0.12 \*\*\* | -0.12 \*\* | -0.11 \*\* | -0.12 \*\*\* | -0.14 \*\*\* |
| Year 2014 | -0.74 \*\* | 0.34 | 0.42 \* | -0.14 | -0.14 |
| Year 2016 | -0.48 | 0.10 | 0.05 | 0.23 | 0.27 |
| N | 956 | 956 | 956 | 956 | 956 |
| Standard Errors in parenthesis. Signif. codes: 0.01: ‘***’ 0.05: ’****’ 0.10 ’*’ |  |  |  |  |  |
| Note: This specification includes the lagged number of items reported. Also, it only includes members that provided a reported on 2012. |  |  |  |  |  |

## Article 8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Article 8 | Centroid Distance | General Trade | Tobacco Trade | GLOBALink Referrals | GLOBALink co-subscription |
| Lagged Exposure (rho) | 1.11 \*\*\* | 0.17 \* | 0.08 | 0.06 \* | 0.05 |
| Lagged Y (Number of Items) | 0.41 \*\*\* | 0.41 \*\*\* | 0.41 \*\*\* | 0.40 \*\*\* | 0.41 \*\*\* |
| Americas | -0.12 | -0.50 | -0.49 | -0.52 | -0.56 |
| African | -0.58 \* | -0.77 \*\* | -0.78 \*\* | -0.83 \*\* | -0.87 \*\* |
| European | -0.75 \*\* | -0.61 \* | -0.61 \* | -0.71 \* | -0.70 \* |
| South-East Asia | -0.10 | 0.04 | 0.08 | -0.01 | 0.02 |
| Western Pacific | 0.07 | 0.18 | 0.16 | 0.14 | 0.15 |
| Democracy (POLITY) | -0.00 | -0.01 | -0.01 | -0.01 | -0.01 |
| GDP per capita (ppp) | 0.02 | 0.04 | 0.05 | 0.04 | 0.04 |
| Tobacco Prod. per capita | -0.07 \*\* | -0.08 \*\*\* | -0.08 \*\*\* | -0.07 \*\* | -0.07 \*\* |
| % Female Smoke | 2.12 \*\* | 2.27 \*\* | 2.38 \*\* | 2.46 \*\* | 2.31 \*\* |
| % Male Smoke | 0.03 | 0.02 | -0.07 | 0.04 | -0.00 |
| Women’s Labor | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Women’s rights | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Government Ownership | -0.20 | -0.14 | -0.12 | -0.21 | -0.16 |
| Control of Corruption | -0.45 \*\* | -0.42 \*\* | -0.43 \*\* | -0.35 \* | -0.36 \* |
| Rule of Law | 0.42 \* | 0.40 \* | 0.41 \* | 0.33 | 0.33 |
| Health Exp. per capita (ppp) | -0.05 | -0.02 | -0.03 | -0.03 | -0.03 |
| Years since Sign. | -0.00 | -0.00 | -0.00 | -0.01 | -0.01 |
| Years since Ratif. | -0.07 \* | -0.06 | -0.06 | -0.07 | -0.07 \* |
| Year 2014 | -3.36 \*\*\* | -0.34 | -0.47 \*\* | -0.70 \*\*\* | -0.70 \*\*\* |
| Year 2016 | -3.80 \*\*\* | -1.45 \*\*\* | -1.16 \*\*\* | -1.05 \*\*\* | -1.06 \*\*\* |
| N | 956 | 956 | 956 | 956 | 956 |
| Standard Errors in parenthesis. Signif. codes: 0.01: ‘***’ 0.05: ’****’ 0.10 ’*’ |  |  |  |  |  |
| Note: This specification includes the lagged number of items reported. Also, it only includes members that provided a reported on 2012. |  |  |  |  |  |

## Article 11

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Article 11 | Centroid Distance | General Trade | Tobacco Trade | GLOBALink Referrals | GLOBALink co-subscription |
| Lagged Exposure (rho) | 1.29 \*\*\* | 0.17 | 0.04 | 0.02 | 0.09 \*\* |
| Lagged Y (Number of Items) | 0.63 \*\*\* | 0.65 \*\*\* | 0.65 \*\*\* | 0.65 \*\*\* | 0.65 \*\*\* |
| Americas | 1.26 | 0.35 | 0.42 | 0.39 | 0.13 |
| African | 0.24 | -0.41 | -0.43 | -0.50 | -0.66 |
| European | -0.03 | 0.43 | 0.45 | 0.37 | -0.00 |
| South-East Asia | 1.68 \* | 1.99 \*\* | 2.15 \*\* | 2.05 \*\* | 1.92 \* |
| Western Pacific | 0.85 | 0.92 | 1.05 | 1.05 | 0.84 |
| Democracy (POLITY) | -0.11 | -0.13 | -0.13 | -0.13 | -0.11 |
| GDP per capita (ppp) | -0.00 | 0.07 | 0.10 | 0.10 | 0.06 |
| Tobacco Prod. per capita | -0.13 | -0.16 \*\* | -0.16 \*\* | -0.15 \* | -0.14 \* |
| % Female Smoke | 2.52 | 2.81 | 3.02 | 2.92 | 2.85 |
| % Male Smoke | -1.38 | -1.52 | -1.65 | -1.57 | -1.33 |
| Women’s Labor | -0.01 | -0.01 | -0.01 | -0.01 | -0.00 |
| Women’s rights | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| Government Ownership | -0.05 | 0.18 | 0.19 | 0.13 | 0.01 |
| Control of Corruption | -1.04 \*\* | -0.89 \* | -0.95 \* | -0.90 \* | -0.67 |
| Rule of Law | 0.31 | 0.18 | 0.22 | 0.16 | -0.09 |
| Health Exp. per capita (ppp) | 0.40 | 0.44 | 0.41 | 0.41 | 0.46 |
| Years since Sign. | -0.03 | -0.04 | -0.04 | -0.05 | -0.07 |
| Years since Ratif. | -0.10 | -0.10 | -0.09 | -0.10 | -0.14 |
| Year 2014 | -1.70 \*\* | 2.15 \*\*\* | 1.46 \*\*\* | 1.21 \*\*\* | 1.18 \*\*\* |
| Year 2016 | -5.61 \*\*\* | -0.56 | -0.04 | 0.07 | -0.09 |
| N | 956 | 956 | 956 | 956 | 956 |
| Standard Errors in parenthesis. Signif. codes: 0.01: ‘***’ 0.05: ’****’ 0.10 ’*’ |  |  |  |  |  |
| Note: This specification includes the lagged number of items reported. Also, it only includes members that provided a reported on 2012. |  |  |  |  |  |

## Article 13

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Article 13 | Centroid Distance | General Trade | Tobacco Trade | GLOBALink Referrals | GLOBALink co-subscription |
| Lagged Exposure (rho) | 0.65 \*\* | 0.01 | -0.04 | 0.01 | 0.10 \*\* |
| Lagged Y (Number of Items) | 0.53 \*\*\* | 0.52 \*\*\* | 0.52 \*\*\* | 0.52 \*\*\* | 0.52 \*\*\* |
| Americas | -2.30 \*\* | -3.20 \*\*\* | -3.25 \*\*\* | -3.22 \*\*\* | -3.56 \*\*\* |
| African | -1.50 | -1.93 \*\* | -2.00 \*\* | -1.95 \*\* | -2.14 \*\* |
| European | -1.78 \* | -1.65 \* | -1.69 \* | -1.68 \* | -2.12 \*\* |
| South-East Asia | -0.09 | 0.11 | 0.08 | 0.07 | -0.09 |
| Western Pacific | 0.19 | 0.04 | 0.03 | 0.02 | -0.26 |
| Democracy (POLITY) | -0.09 | -0.09 | -0.09 | -0.09 | -0.07 |
| GDP per capita (ppp) | 0.18 | 0.21 | 0.22 | 0.21 | 0.17 |
| Tobacco Prod. per capita | -0.10 | -0.12 | -0.12 | -0.11 | -0.09 |
| % Female Smoke | 5.76 \* | 6.39 \*\* | 6.38 \*\* | 6.31 \*\* | 6.25 \*\* |
| % Male Smoke | -2.99 | -3.23 | -3.23 | -3.19 | -2.92 |
| Women’s Labor | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 |
| Women’s rights | 0.03 \* | 0.03 \* | 0.03 \*\* | 0.03 \* | 0.03 \* |
| Government Ownership | -0.39 | -0.18 | -0.16 | -0.21 | -0.36 |
| Control of Corruption | -0.33 | -0.32 | -0.35 | -0.29 | -0.06 |
| Rule of Law | -0.71 | -0.70 | -0.68 | -0.76 | -1.01 |
| Health Exp. per capita (ppp) | 0.19 | 0.21 | 0.20 | 0.21 | 0.27 |
| Years since Sign. | 0.09 | 0.10 | 0.10 | 0.09 | 0.06 |
| Years since Ratif. | -0.07 | -0.06 | -0.06 | -0.06 | -0.10 |
| Year 2014 | -1.93 \*\*\* | -0.51 | -0.81 | -0.60 | -0.70 \* |
| Year 2016 | -2.99 \*\*\* | -1.46 \*\*\* | -1.37 \*\*\* | -1.46 \*\*\* | -1.46 \*\*\* |
| N | 956 | 956 | 956 | 956 | 956 |
| Standard Errors in parenthesis. Signif. codes: 0.01: ‘***’ 0.05: ’****’ 0.10 ’*’ |  |  |  |  |  |
| Note: This specification includes the lagged number of items reported. Also, it only includes members that provided a reported on 2012. |  |  |  |  |  |

## Article 14

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Article 14 | Centroid Distance | General Trade | Tobacco Trade | GLOBALink Referrals | GLOBALink co-subscription |
| Lagged Exposure (rho) | 0.00 | -0.01 | 0.09 | -0.02 | 0.05 \* |
| Lagged Y (Number of Items) | 0.63 \*\*\* | 0.63 \*\*\* | 0.63 \*\*\* | 0.63 \*\*\* | 0.63 \*\*\* |
| Americas | 1.17 | 1.18 | 1.52 | 1.20 | 0.70 |
| African | 0.66 | 0.64 | 1.17 | 0.72 | 0.41 |
| European | 1.41 | 1.41 | 1.61 | 1.54 | 0.79 |
| South-East Asia | 3.61 \* | 3.64 \* | 3.60 \* | 3.85 \* | 3.42 \* |
| Western Pacific | 3.28 \* | 3.31 \* | 2.96 | 3.47 \* | 2.94 |
| Democracy (POLITY) | -0.11 | -0.11 | -0.13 | -0.11 | -0.08 |
| GDP per capita (ppp) | 0.29 | 0.30 | 0.23 | 0.35 | 0.24 |
| Tobacco Prod. per capita | -0.12 | -0.12 | -0.12 | -0.13 | -0.08 |
| % Female Smoke | 1.30 | 1.35 | 1.10 | 1.71 | 1.09 |
| % Male Smoke | 2.44 | 2.40 | 2.79 | 2.37 | 2.79 |
| Women’s Labor | -0.04 | -0.04 | -0.04 | -0.04 | -0.03 |
| Women’s rights | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| Government Ownership | -0.77 | -0.76 | -0.74 | -0.60 | -1.04 |
| Control of Corruption | -0.62 | -0.63 | -0.64 | -0.78 | -0.22 |
| Rule of Law | 0.12 | 0.12 | 0.20 | 0.31 | -0.32 |
| Health Exp. per capita (ppp) | 1.75 \*\* | 1.74 \*\* | 1.74 \*\* | 1.70 \*\* | 1.85 \*\* |
| Years since Sign. | 0.23 | 0.24 | 0.20 | 0.26 | 0.19 |
| Years since Ratif. | -0.65 \*\*\* | -0.65 \*\*\* | -0.62 \*\*\* | -0.63 \*\*\* | -0.71 \*\*\* |
| Year 2014 | -2.28 | -2.40 \* | -1.14 | -2.18 \*\*\* | -2.46 \*\*\* |
| Year 2016 | -3.71 \* | -3.60 \*\*\* | -4.29 \*\*\* | -3.62 \*\*\* | -3.72 \*\*\* |
| N | 956 | 956 | 956 | 956 | 956 |
| Standard Errors in parenthesis. Signif. codes: 0.01: ‘***’ 0.05: ’****’ 0.10 ’*’ |  |  |  |  |  |
| Note: This specification includes the lagged number of items reported. Also, it only includes members that provided a reported on 2012. |  |  |  |  |  |