Appendix

Table 7: Overview of variables used (grey: dependent variables)

|  |  |  |
| --- | --- | --- |
| Variable | Description | Source |
| TEXT\_PERCENTCHANGED | Percentage of text changed of a given project description between first and second draft of the network development plan by the TSOs | Own calculation based on both drafts ([ÜNB (Übertragungsnetzbetreiber), 2012a](#_ENREF_27), [ÜNB (Übertragungsnetzbetreiber), 2012b](#_ENREF_28)) |
| LEVENSHTEIN | Number of edits necessary to match text #1 with text #2 | Own calculation based on both drafts ([ÜNB (Übertragungsnetzbetreiber), 2012a](#_ENREF_27), [ÜNB (Übertragungsnetzbetreiber), 2012b](#_ENREF_28)), stata procedure strdist |
| FNA\_APPROVAL | Did the FNA approve of a grid measure yes (1) / no (0) | ([Bundesnetzagentur, 2012](#_ENREF_4)) |
| NO\_SUBMISSIONS\_TSO | Overall number of submissions against a given grid project, submitted to the consultation of the TSOs. | Own calculation, machine-coding of submissions to the consultation of the TSOs |
| NO\_SUBMISSIONS\_TSO\_CIT | Number of submissions against a given grid project, submitted to the consultation of the TSOs by citizens | Own calculation, hand-coding of submissions to the consultation of the TSOs |
| NO\_SUBMISSIONS\_TSO\_CI | ...by citizen´s initiatives |  |
| NO\_SUBMISSIONS\_TSO\_COMP | ...by companies |  |
| NO\_SUBMISSIONS\_TSO\_IA | ...by industry associations |  |
| NO\_SUBMISSIONS\_TSO\_EA | ...by envirionmental associations |  |
| NO\_SUBMISSIONS\_TSO\_LOCAL | ... by local governments or administrations |  |
| NO\_SUBMISSIONS\_TSO\_LAND | ...by Länder governments or administrations |  |
| NO\_SUBMISSIONS\_TSO\_FED | ...by the federal government or federal administrative units |  |
| NO\_SUBMISSIONS\_TSO\_SCI | ...by scientific actors |  |
| NO\_SUBMISSIONS\_TSO\_PART | ...by parties |  |
| NO\_SUBMISSIONS\_TSO\_KREIS | ...by Landkreise (administrative districts) |  |
| NO\_SUBMISSIONS\_TSO\_JUR | Number of submissions against a given grid project, submitted to the consultation of the TSOs containing legal arguments | Own calculation, machine-coding of submissions to the consultation of the TSOs |
| NO\_SUBMISSIONS\_TSO\_POL | ...containing political arguments |  |
| NO\_SUBMISSIONS\_TSO\_TEC | ...containing technical arguments |  |
| NO\_SUBMISSIONS\_TSO\_ECON | ...containing economic arguments |  |
| NO\_SUBMISSIONS\_TSO\_ECOL | ...containing ecological arguments |  |
| NO\_SUBMISSIONS\_TSO\_MED | ...containing medical arguments |  |
| NO\_SUBMISSIONS\_FNA | Overall number of submissions against a given grid project, submitted to the consultation of the FNA. | Own calculation, machine-coding of submissions to the consultation of the FNA. |
| ... | The same differentiation into actor types and arguments as above applies |  |
| AMPRION | Grid project planned by Amprion (1/0) | ([ÜNB (Übertragungsnetzbetreiber), 2012a](#_ENREF_27)) |
| TENNET | Grid project planned by Tennet (1/0) |  |
| 50Hertz | Grid project planned by 50Hertz (1/0) |  |
| LENGTH | Length of grid project in km |  |
| NEW | New grid project (1) or expansion of existing power line (0). |  |

Table 8: Table 4 using multilevel models instead of TSO dummies.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|  |  |  |  |  |  |  |  |
| Number of | 0.11 | 0.20 | -0.47 | 1.44 | -0.62 | 0.11 | 0.99 |
| submissions total | (0.222) | (1.485) | (1.270) | (2.773) | (2.495) | (1.269) | (2.594) |
| Subm. with legal |  | -0.24 |  |  |  |  |  |
| arguments |  | (3.821) |  |  |  |  |  |
| Subm. with political |  |  | 2.03 |  |  |  |  |
| arguments |  |  | (4.347) |  |  |  |  |
| Subm. with technical |  |  |  | -2.17 |  |  |  |
| arguments |  |  |  | (4.501) |  |  |  |
| Subm. with economic |  |  |  |  | 1.38 |  |  |
| arguments |  |  |  |  | (4.677) |  |  |
| Subm. with ecologic |  |  |  |  |  | 0.02 |  |
| arguments |  |  |  |  |  | (3.529) |  |
| Subm. with medical |  |  |  |  |  |  | -2.37 |
| arguments |  |  |  |  |  |  | (6.949) |
| New construction | 4.80 | 4.71 | 4.96 | 4.02 | 4.27 | 4.81 | 5.18 |
|  | (23.338) | (23.378) | (23.289) | (23.299) | (23.388) | (23.357) | (23.369) |
| Length | -0.09\*\* | -0.09\*\* | -0.09\*\* | -0.10\*\* | -0.09\* | -0.09\* | -0.10\* |
|  | (0.044) | (0.046) | (0.045) | (0.049) | (0.049) | (0.048) | (0.055) |
|  |  |  |  |  |  |  |  |
| Observations | 36 | 36 | 36 | 36 | 36 | 36 | 36 |
| sd(withinTSOs) | 43.4 | 43.4 | 43.4 | 43.2 | 43.4 | 43.4 | 43.4 |
| sd(betweenTSOs) | 26.9 | 27 | 26.4 | 27.7 | 26.6 | 26.9 | 26.7 |

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 9: Table 4 using actor type instead of type of arguments.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|  |  |  |  |  |  |  |  |  |
| Number of submissions total | 0.13 | -0.52 | -0.66 | 0.30 | 0.14 | -1.16 | -0.23 | 0.13 |
|  | (0.234) | (5.726) | (1.064) | (1.285) | (0.235) | (1.728) | (1.216) | (0.238) |
| Subm. by citizens |  | 0.79 |  |  |  |  |  |  |
|  |  | (6.948) |  |  |  |  |  |  |
| Subm. by citizen´s initiatives |  |  | 23.62 |  |  |  |  |  |
|  |  |  | (30.957) |  |  |  |  |  |
| Subm. by companies |  |  |  | -11.30 |  |  |  |  |
|  |  |  |  | (88.100) |  |  |  |  |
| Subm. by industry associations |  |  |  |  | -20.17 |  |  |  |
|  |  |  |  |  | (25.692) |  |  |  |
| Subm. by env. associations |  |  |  |  |  | 15.70 |  |  |
|  |  |  |  |  |  | (20.798) |  |  |
| Subm. by local governments |  |  |  |  |  |  | 9.16 |  |
|  |  |  |  |  |  |  | (29.847) |  |
| Subm. by Länder governments |  |  |  |  |  |  |  | 5.20 |
|  |  |  |  |  |  |  |  | (13.313) |
| New construction | -5.47 | -5.57 | -5.60 | -5.53 | -5.85 | -1.78 | -7.12 | -5.35 |
|  | (25.666) | (26.128) | (25.854) | (26.117) | (25.842) | (26.317) | (26.627) | (26.052) |
| Length | -0.10\*\* | -0.09 | -0.10\*\* | -0.10\* | -0.07 | -0.09\* | -0.12 | -0.11\* |
|  | (0.046) | (0.063) | (0.047) | (0.055) | (0.056) | (0.050) | (0.072) | (0.057) |
| Amprion | 11.20 | 11.73 | 11.59 | 11.22 | 11.07 | 7.70 | 10.10 | 11.32 |
|  | (30.724) | (31.598) | (30.952) | (31.259) | (30.930) | (31.300) | (31.421) | (31.185) |
| Tennet | 5.21 | 5.07 | 5.93 | 4.98 | 3.61 | 3.92 | 6.58 | 5.86 |
|  | (31.800) | (32.381) | (32.045) | (32.407) | (32.078) | (32.084) | (32.614) | (32.318) |
| 50Hertz | 78.29\*\* | 78.89\*\* | 80.01\*\* | 78.56\*\* | 79.32\*\* | 75.89\*\* | 78.81\*\* | 75.82\*\* |
|  | (33.524) | (34.505) | (33.843) | (34.174) | (33.773) | (33.925) | (34.102) | (34.607) |
|  |  |  |  |  |  |  |  |  |
| Observations | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 |
| Adjusted R² | 0.28 | 0.26 | 0.27 | 0.26 | 0.27 | 0.27 | 0.26 | 0.26 |

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 10: Table 4 using Levensthtein distance instead of percentage of words changed. Project P25 omitted.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|  |  |  |  |  |  |  |  |
| Number of | 3.19 | 2.71 | -1.70 | 11.97 | -29.80 | 2.69 | 45.81 |
| submissions | (9.501) | (12.557) | (9.875) | (32.463) | (31.062) | (10.183) | (30.976) |
| ...with legal |  | 5.16 |  |  |  |  |  |
| arguments |  | (84.306) |  |  |  |  |  |
| ...with political |  |  | 123.94 |  |  |  |  |
| arguments |  |  | (83.806) |  |  |  |  |
| ...with technical |  |  |  | -23.18 |  |  |  |
| arguments |  |  |  | (81.902) |  |  |  |
| ...with economic |  |  |  |  | 111.27 |  |  |
| arguments |  |  |  |  | (99.792) |  |  |
| ...with ecologic |  |  |  |  |  | 17.34 |  |
| arguments |  |  |  |  |  | (109.913) |  |
| ...with medical |  |  |  |  |  |  | -92.29 |
| arguments |  |  |  |  |  |  | (63.975) |
| New construct. | 40.48 | 41.41 | 31.87 | 37.23 | -20.23 | 40.62 | 43.83 |
|  | (193.049) | (197.170) | (189.172) | (196.637) | (199.777) | (196.503) | (189.441) |
| Length | -0.66 | -0.68 | -1.16\*\* | -0.66 | -0.76\* | -0.70 | -1.31\*\* |
|  | (0.409) | (0.480) | (0.520) | (0.417) | (0.416) | (0.488) | (0.600) |
| Amprion | -106.42 | -109.09 | -155.69 | -108.20 | -118.09 | -112.27 | -103.93 |
|  | (231.062) | (239.290) | (228.753) | (235.038) | (230.302) | (238.096) | (226.732) |
| Tennet | -192.94 | -194.75 | -194.95 | -189.09 | -189.65 | -195.20 | -151.05 |
|  | (239.545) | (245.719) | (234.626) | (243.959) | (238.529) | (244.251) | (236.835) |
| Hertz | 221.97 | 219.99 | 230.08 | 226.84 | 247.41 | 217.85 | 254.29 |
|  | (252.609) | (259.258) | (247.479) | (257.439) | (252.551) | (258.450) | (248.879) |
|  |  |  |  |  |  |  |  |
| Observations | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| Adjusted R² | 0.13 | 0.10 | 0.17 | 0.10 | 0.14 | 0.10 | 0.17 |

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 11: Table 5 using actor type instead of type of arguments

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
|  |  |  |  |  |  |  |
| TSO: No. of submissions | -0.20 | 0.19 | -0.29 | -0.11 | -0.19 | -0.27 |
|  | (0.149) | (0.468) | (0.187) | (0.175) | (0.163) | (0.168) |
| FNA: No. of submissions | 0.00 | -0.03 | -0.00 | 0.00 | 0.00 | 0.00 |
|  | (0.003) | (0.176) | (0.003) | (0.005) | (0.003) | (0.003) |
| Submissions to TSOs by citizens |  | -0.52 |  |  |  |  |
|  |  | (0.507) |  |  |  |  |
| Submissions to FNA by citizens |  | 0.03 |  |  |  |  |
|  |  | (0.178) |  |  |  |  |
| Submissions to TSOs by citizen initiatives |  |  | -3.90 |  |  |  |
|  |  |  | (4.174) |  |  |  |
| Submissions to FNA by citizen initiatives |  |  | 1.77 |  |  |  |
|  |  |  | (1.224) |  |  |  |
| Submissions to TSOs by local governments |  |  |  | -1.75 |  |  |
|  |  |  |  | (1.388) |  |  |
| Submissions to FNA by local governments |  |  |  | -0.04 |  |  |
|  |  |  |  | (0.341) |  |  |
| Submissions to TSOs by Länder governments |  |  |  |  | 0.18 |  |
|  |  |  |  |  | (0.743) |  |
| Submissions to FNA by Länder governments |  |  |  |  | -0.29 |  |
|  |  |  |  |  | (0.449) |  |
| Submissions to TSOs by disctricts |  |  |  |  |  | 1.15 |
|  |  |  |  |  |  | (0.890) |
| Submissions to FNA by disctricts |  |  |  |  |  | -0.04 |
|  |  |  |  |  |  | (0.463) |
| New construction | -0.10 | -0.39 | 0.25 | 0.28 | -0.13 | -0.38 |
|  | (0.888) | (0.958) | (0.962) | (0.921) | (0.905) | (0.920) |
| Length | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
|  | (0.005) | (0.006) | (0.007) | (0.006) | (0.005) | (0.006) |
| Amprion | -1.35 | -1.37 | -1.81 | -1.77 | -1.46 | -1.39 |
|  | (1.314) | (1.359) | (1.413) | (1.374) | (1.325) | (1.329) |
| Tennet | -1.49 | -1.65 | -2.20 | -2.04 | -1.55 | -1.86 |
|  | (1.400) | (1.617) | (1.574) | (1.526) | (1.403) | (1.571) |
| 50Hertz | -0.90 | -1.29 | -1.75 | -0.91 | -0.78 | -1.15 |
|  | (1.559) | (1.723) | (1.707) | (1.587) | (1.704) | (1.595) |
|  |  |  |  |  |  |  |
| Observations | 57 | 57 | 57 | 57 | 57 | 57 |
| Pseudo R² | 0.14 | 0.17 | 0.21 | 0.17 | 0.15 | 0.18 |
| log-likelihood | -28.9 | -28.2 | -26.6 | -28.1 | -28.7 | -27.6 |

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Notes: Logit models, some actor types dropped because of too little observations (~ too little contributions)

Table 12: Table 5 without the outlier (the extremely contentious Korridor A)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| TSO: No. of submissions | -0.11 | -0.09 | -0.12 | 0.38 | -0.01 | -0.11 | -0.11 |
|  | (0.090) | (0.093) | (0.111) | (0.266) | (0.126) | (0.092) | (0.127) |
| FNA: No. of submissions | -0.00 | 0.00 | -0.01 | -2.67 | 0.01 | 0.01 | 0.03 |
|  | (0.017) | (0.022) | (0.017) | (1.948) | (0.029) | (0.022) | (0.074) |
| TSO: Submissions/legal |  | -0.28 |  |  |  |  |  |
|  |  | (0.499) |  |  |  |  |  |
| FNA: Submissions/legal |  | -0.01 |  |  |  |  |  |
|  |  | (0.030) |  |  |  |  |  |
| TSO: Submissions/political |  |  | -0.58 |  |  |  |  |
|  |  |  | (0.564) |  |  |  |  |
| FNA: Submissions/political |  |  | 0.18 |  |  |  |  |
|  |  |  | (0.169) |  |  |  |  |
| TSO: Submissions/technical |  |  |  | -1.94\*\* |  |  |  |
|  |  |  |  | (0.911) |  |  |  |
| FNA: Submissions/technical |  |  |  | 2.75 |  |  |  |
|  |  |  |  | (1.974) |  |  |  |
| TSO: Submissions/economy |  |  |  |  | -0.48 |  |  |
|  |  |  |  |  | (0.441) |  |  |
| FNA: Submissions/economy |  |  |  |  | -0.03 |  |  |
|  |  |  |  |  | (0.045) |  |  |
| TSO: Submissions/ecology |  |  |  |  |  | -1.35\*\* |  |
|  |  |  |  |  |  | (0.674) |  |
| FNA: Submissions/ecology |  |  |  |  |  | -0.01 |  |
|  |  |  |  |  |  | (0.029) |  |
| TSO: Submissions/medical |  |  |  |  |  |  | -0.09 |
|  |  |  |  |  |  |  | (0.383) |
| FNA: Submissions/medical |  |  |  |  |  |  | -0.04 |
|  |  |  |  |  |  |  | (0.077) |
|  |  |  |  |  |  |  |  |
| New construction | -0.17 | -0.14 | 0.15 | -0.59 | 0.02 | 0.12 | -0.01 |
|  | (0.880) | (0.887) | (0.937) | (1.050) | (0.897) | (0.917) | (0.905) |
| Length | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01\* | 0.01 |
|  | (0.004) | (0.004) | (0.005) | (0.008) | (0.005) | (0.005) | (0.005) |
| Amprion | -1.16 | -1.13 | -1.32 | -1.52 | -0.94 | -1.33 | -1.29 |
|  | (1.287) | (1.282) | (1.339) | (1.360) | (1.289) | (1.298) | (1.311) |
| Tennet | -1.14 | -1.04 | -1.88 | -1.45 | -0.97 | -1.38 | -1.38 |
|  | (1.373) | (1.381) | (1.522) | (1.646) | (1.387) | (1.387) | (1.467) |
| 50Hertz | -0.62 | -0.54 | -1.02 | -1.13 | -0.48 | -0.45 | -0.71 |
|  | (1.558) | (1.558) | (1.667) | (1.699) | (1.530) | (1.619) | (1.585) |
|  |  |  |  |  |  |  |  |
| Observations | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| PseudoR2 | 0.12 | 0.13 | 0.16 | 0.32 | 0.14 | 0.19 | 0.13 |
| log-likelihood | -29.2 | -29 | -27.8 | -22.5 | -28.5 | -27 | -28.9 |

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1