Supplement B – the results for the two Russia regions (Kaliningrad, Leningrad) entering the models separately

Table 1B. Descriptive statistics of the explanatory variables (standard deviations in square brackets)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Denmark** | **Estonia** | **Finland** | **Germany** | **Latvia** | **Lithuania** | **Poland** | **Russia -SP** | **Russia - Kal** | **Sweden** |
| *TRIPS* | 5.96 | 1.83 | 3.95 | 1.22 | 2.64 | 1.66 | 1.12 | 0.25 | 2.51 | 6.42 |
| (number) | [15.44] | [5.63] | [19.79] | [10.69] | [7.17] | [5.77] | [8.45] | [1.67] | [5.68] | [13.14] |
| *DIST* | 93.55 | 89.77 | 171.54 | 565.14 | 115.22 | 247.07 | 461.22 | 406.80 | 302.65 | 135.62 |
| (distance, km) | [96.12] | [87.49] | [149.85] | [248.91] | [100.08] | [113.57] | [215.44] | [232.83] | [121.55] | [146.48] |
| *TIME* | 2.89 | 2.65 | 5.71 | 7.14 | 2.79 | 3.38 | 7.94 | 5.11 | 4.55 | 4.80 |
| (travel time, hours) | [3.12] | [2.74] | [10.30] | [3.01] | [2.47] | [1.51] | [3.87] | [2.97] | [3.66] | [5.30] |
| *TRIPS* = 0 | 0.38 | 0.41 | 0.50 | 0.76 | 0.54 | 0.66 | 0.70 | 0.95 | 0.74 | 0.29 |
| (share of respondents) | [0.48] | [0.49] | [0.50] | [0.43] | [0.50] | [0.48] | [0.46] | [0.21] | [0.44] | [0.45] |
| *TC* | 37.46 | 38.35 | 81.81 | 203.58 | 49.71 | 107.13 | 201.84 | 139.30 | 107.03 | 63.74 |
| (travel cost, EUR) | [37.89] | [37.29] | [92.07] | [87.61] | [43.19] | [49.00] | [93.84] | [79.76] | [41.44] | [64.42] |
| *TC\_km* | 18.66 | 29.34 | 39.60 | 141.77 | 41.71 | 98.18 | 176.68 | 116.26 | 86.49 | 28.65 |
| (vehicle operating cost, EUR) | [19.17] | [28.59] | [34.59] | [62.44] | [36.24] | [45.13] | [82.53] | [66.54] | [34.74] | [30.94] |
| *TC\_time* | 18.80 | 9.01 | 42.22 | 61.81 | 7.99 | 8.96 | 25.15 | 23.04 | 20.54 | 35.10 |
| (opportunity cost, EUR) | [20.26] | [9.31] | [76.10] | [26.07] | [7.08] | [4.00] | [12.25] | [13.38] | [16.50] | [38.74] |
| *AGE* | 51.31 | 44.62 | 50.84 | 48.83 | 44.64 | 48.05 | 50.65 | 39.82 | 39.10 | 54.28 |
| (years) | [15.47] | [16.58] | [17.16] | [14.85] | [16.83] | [17.92] | [15.91] | [13.52] | [13.43] | [17.69] |
| *EDU*1 | 0.14 | 0.16 | 0.18 | 0.27 | 0.20 | 0.26 | 0.05 | 0.01 | 0.00 | 0.24 |
| (share – compulsory school) | [0.35] | [0.37] | [0.38] | [0.44] | [0.40] | [0.44] | [0.23] | [0.11] | [0.00] | [0.43] |
| *EDU*2 | 0.08 | 0.05 | 0.35 | 0.19 | 0.24 | 0.28 | 0.53 | 0.23 | 0.33 | 0.26 |
| (share – high school) | [0.27] | [0.21] | [0.48] | [0.39] | [0.43] | [0.45] | [0.50] | [0.42] | [0.47] | [0.44] |
| *EDU*3 | 0.23 | 0.58 | 0.16 | 0.47 | 0.34 | 0.27 | 0.05 | 0.24 | 0.18 | 0.13 |
| (share – vocational education) | [0.42] | [0.49] | [0.37] | [0.50] | [0.47] | [0.44] | [0.21] | [0.43] | [0.39] | [0.34] |
| *EDU*4 | 0.55 | 0.21 | 0.31 | 0.08 | 0.22 | 0.19 | 0.37 | 0.51 | 0.49 | 0.37 |
| (share – university education) | [0.50] | [0.41] | [0.46] | [0.26] | [0.42] | [0.39] | [0.48] | [0.50] | [0.50] | [0.48] |
| *MALE* | 0.52 | 0.44 | 0.52 | 0.49 | 0.53 | 0.47 | 0.68 | 0.50 | 0.49 | 0.56 |
| (share) | [0.50] | [0.50] | [0.50] | [0.50] | [0.50] | [0.50] | [0.47] | [0.50] | [0.50] | [0.50] |
| *BOCC* | 0.07 | 0.09 | 0.08 | 0.05 | 0.07 | 0.03 | 0.06 | 0.06 | 0.14 | 0.08 |
| (share of respondents having an occupation related to the Baltic Sea) | [0.25] | [0.28] | [0.28] | [0.21] | [0.25] | [0.17] | [0.25] | [0.24] | [0.35] | [0.27] |
| *HHSIZE* | 2.53 | 2.59 | 2.48 | 2.29 | 2.83 | 2.52 | 3.24 | 3.10 | 3.51 | 2.32 |
| (household size, number) | [1.36] | [1.27] | [1.47] | [1.33] | [1.46] | [1.24] | [1.58] | [1.22] | [1.12] | [1.25] |
| *HHKIDS* | 0.68 | 0.53 | 0.62 | 0.50 | 0.57 | 0.48 | 0.55 | 0.88 | 1.08 | 0.50 |
| (number of kids in the household) | [1.02] | [0.82] | [1.15] | [0.88] | [0.96] | [0.82] | [0.91] | [0.89] | [0.87] | [0.89] |
| *HINC* | 2.43 | 1.24 | 2.24 | 2.17 | 0.74 | 0.69 | 1.28 | 1.26 | 1.23 | 3.22 |
| (household income EUR/month ) | [1.06] | [0.68] | [1.01] | [1.00] | [0.34] | [0.36] | [0.92] | [0.68] | [0.72] | [1.31] |
| *ENVBN* | 3.39 | 2.94 | 2.79 | 3.63 | 3.21 | 2.94 | 3.19 | 2.58 | 2.90 | 3.12 |
| (perception of water quality, mean score) | [0.84] | [0.70] | [0.82] | [0.82] | [0.82] | [0.87] | [1.44] | [1.03] | [0.96] | [0.83] |
| Observations | 982 | 970 | 996 | 995 | 1051 | 1024 | 1004 | 848 | 88 | 935 |

Table 2B. Estimation results of the zero inflated negative binomial model of the annual number of recreational trips to the Baltic Sea coast

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Count regression –** | | | | **Non-participation regression –** | | | |
| **negative binomial** | | | | **probit** | | | |
| **coefficient** | | **marginal effect** | | **coefficient** | | **marginal effect** | |
| **(s.e.)** | | **(s.e.)** | | **(s.e.)** | | **(s.e.)** | |
| *Denmark* | 1.9918 | \*\*\* | 15.2379 | \*\*\* | -2.8055 | \*\*\* | -0.1850 | \*\* |
| (0.0706) |  | (1.2716) |  | (0.3794) |  | (0.0758) |  |
| *Estonia* | 0.7776 | \*\*\* | 3.3135 | \*\*\* | -1.5614 | \*\*\* | -0.1281 | \*\* |
| (0.0614) |  | (0.3793) |  | (0.3652) |  | (0.0507) |  |
| *Finland* | 1.5569 | \*\*\* | 9.8443 | \*\*\* | -1.6711 | \*\*\* | -0.1342 | \*\*\* |
| (0.0571) |  | (0.7171) |  | (0.3083) |  | (0.0477) |  |
| *Germany* | 1.5803 | \*\*\* | 10.9472 | \*\*\* | -1.8218 | \*\*\* | -0.1461 | \*\*\* |
| (0.0779) |  | (1.0824) |  | (0.3918) |  | (0.0553) |  |
| *Latvia* | 1.7416 | \*\*\* | 12.6262 | \*\*\* | -1.2218 | \*\*\* | -0.1052 | \*\* |
| (0.0795) |  | (1.2520) |  | (0.3363) |  | (0.0429) |  |
| *Lithuania* | 2.0631 | \*\*\* | 18.8629 | \*\*\* | -0.5022 |  | -0.0450 |  |
| (0.1253) |  | (2.7318) |  | (0.3093) |  | (0.0310) |  |
| *Poland* | 1.6109 | \*\*\* | 11.3793 | \*\*\* | -1.4944 | \*\*\* | -0.1248 | \*\*\* |
| (0.0640) |  | (0.9362) |  | (0.3405) |  | (0.0475) |  |
| *Russia - Saint Petersburg* | 0.9770 | \*\*\* | 4.9501 | \*\* | 2.7647 | \*\*\* | 0.4927 | \*\*\* |
| (0.3089) |  | (2.4151) |  | (0.2889) |  | (0.0998) |  |
| *Russia - Kaliningrad* | 1.7348 | \*\*\* | 14.9945 | \* | 1.6373 | \*\*\* | 0.2219 | \*\*\* |
| (0.4164) |  | (7.7948) |  | (0.2752) |  | (0.0756) |  |
| *Sweden* | 1.8261 | \*\*\* | 12.3763 | \*\*\* | -3.0752 | \*\*\* | -0.1958 | \*\*\* |
| (0.0895) |  | (1.3200) |  | (0.3789) |  | (0.0759) |  |
| *TCDenmark* | -0.0318 | \*\*\* | -0.0929 | \*\*\* | - | | - | |
| (0.0008) |  | (0.0037) |  |
| *TCEstonia* | -0.0127 | \*\*\* | -0.0372 | \*\*\* | - | | - | |
| (0.0010) |  | (0.0030) |  |
| *TCFinland* | -0.0124 | \*\*\* | -0.0363 | \*\*\* | - | | - | |
| (0.0004) |  | (0.0014) |  |
| *TCGermany* | -0.0129 | \*\*\* | -0.0377 | \*\*\* | - | | - | |
| (0.0002) |  | (0.0012) |  |
| *TCLatvia* | -0.0353 | \*\*\* | -0.1031 | \*\*\* | - | | - | |
| (0.0014) |  | (0.0052) |  |
| *TCLithuania* | -0.0190 | \*\*\* | -0.0556 | \*\*\* | - | | - | |
| (0.0012) |  | (0.0039) |  |
| *TCPoland* | -0.0140 | \*\*\* | -0.0409 | \*\*\* | - | | - | |
| (0.0005) |  | (0.0018) |  |
| *TCRussia* | -0.0028 | \*\* | -0.0081 | \*\* | - | | - | |
| (0.0012) |  | (0.0036) |  |
| *TCSweden* | -0.0102 | \*\*\* | -0.0299 | \*\*\* | - | | - | |
| (0.0006) |  | (0.0022) |  |
| *ENVBN* | 0.0728 | \*\*\* | 0.2137 | \*\*\* | -0.0712 | \*\* | -0.0068 | \* |
| (0.0184) |  | (0.0540) |  | (0.0300) |  | (0.0038) |  |
| *MALE* | 0.0717 | \*\* | 0.2099 | \*\* | 0.2900 | \*\*\* | 0.0276 | \*\* |
| (0.0307) |  | (0.0902) |  | (0.0575) |  | (0.0113) |  |
| *HINC* | 0.1770 | \*\*\* | 0.5186 | \*\*\* | - | | - | |
| (0.0322) |  | (0.0954) |  |
| *HINC*2 | -0.0129 | \*\* | -0.0378 | \*\* | - | | - | |
| (0.0055) |  | (0.0161) |  |
| *HHKIDS* | - | | - | | -0.2426 | \*\*\* | -0.0231 | \*\* |
| (0.0544) |  | (0.0096) |  |
| *AGE* | - | | - | | -0.5052 | \*\*\* | -0.0452 | \*\*\* |
| (0.1305) |  | (0.0107) |  |
| *AGE2* | - | | - | | 0.0979 | \*\*\* | 0.0096 | \*\* |
| (0.0138) |  | (0.0040) |  |
| *EDU*2 | - | | - | | -0.6288 | \*\*\* | -0.0581 | \*\*\* |
| (0.1164) |  | (0.0221) |  |
| *EDU*3 | - | | - | | -0.7964 | \*\*\* | -0.0727 | \*\*\* |
| (0.1183) |  | (0.0274) |  |
| *EDU*4 | - | | - | | -1.2414 | \*\*\* | -0.1019 | \*\* |
| (0.1226) |  | (0.0400) |  |
| *BOCC* | 0.3121 | \*\*\* | 1.0437 | \*\*\* | -0.4875 | \*\*\* | -0.0427 | \*\* |
| (0.0542) |  | (0.2081) |  | (0.1279) |  | (0.0185) |  |
| *α* | 2.4798 | \*\*\* |  | | | | | |
| (0.0433) |  |
| Log-likelihood | | -33,896.71 | | | | | | |
| (constant only) | |
| Log-likelihood | | -13,443.87 | | | | | | |
| AIC/*n* |  | 3.0334 | | | | | | |
| McFadden’s pseudo-R2 | | 0.6034 | | | | | | |
| *n* (observations) | | 8,893 | | | | | | |
| *k* (parameters) | | 44 | | | | | | |

Table 3B. Descriptive statistics of the number of trips and the associated welfare measures for the current situation and the simulated improvement scenario

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Denmark** | **Estonia** | **Finland** | **Germany** | **Latvia** | **Lithuania** | **Poland** | **Russia** | **Russia** | **Sweden** | **Total** | | | |
| **SP** | **Kal** |
| Adult population (millions) | 4.2668 | 1.0493 | 4.2146 | 67.2119 | 1.6319 | 2.3476 | 30.5180 | 5.2771 | 0.7535 | 7.3794 | 124.6502 | | | |
| Predicted probability of participation | 0.9873 | 0.9602 | 0.9079 | 0.9520 | 0.9190 | 0.7502 | 0.9269 | 0.1006 | 0.4298 | 0.9724 | 0.9034 | | | |
| [0.0512] | [0.0861] | [0.1783] | [0.0962] | [0.1498] | [0.2848] | [0.1343] | [0.0793] | [0.1683] | [0.0926] | [0.0623] | | | |
| Predicted probability of 0 trips | 0.4261 | 0.5340 | 0.5035 | 0.7139 | 0.5950 | 0.6818 | 0.7522 | 0.9464 | 0.7172 | 0.3698 | 0.6922 | | | |
| [0.1823] | [0.0983] | [0.1660] | [0.1694] | [0.2199] | [0.1778] | [0.1860] | [0.0428] | [0.1108] | [0.1176] | [0.1027] | | | |
| Reported share of 0 trips | 0.3768 | 0.4072 | 0.4980 | 0.7598 | 0.5366 | 0.6563 | 0.6952 | 0.9517 | 0.7386 | 0.2866 | 0.6942 | | | |
| [0.4848] | [0.4915] | [0.5002] | [0.4274] | [0.4988] | [0.4751] | [0.4605] | [0.2146] | [0.4418] | [0.4524] | [0.2594] | | | |
| Predicted average no. of trips | 5.4423 | 1.8569 | 3.1471 | 1.0151 | 2.3897 | 1.5748 | 0.9766 | 0.2371 | 2.3715 | 6.2406 | 1.5496 | | | |
| [3.9044] | [0.8725] | [2.1489] | [1.4184] | [2.2274] | [2.1856] | [1.6696] | [0.2076] | [1.0879] | [3.3488] | [0.9040] | | | |
| Reported average no. of trips | 5.9644 | 1.8289 | 3.9548 | 1.2171 | 2.6422 | 1.6621 | 1.1195 | 0.2524 | 2.5114 | 6.4214 | 1.7555 | | | |
| [15.4424] | [5.62516] | [19.7856] | [10.6947] | [7.16868] | [5.77207] | [8.45158] | [1.66780] | [5.67914] | [13.1368] | [6.23671] | | | |
| Average consumer surplus of a single trip (EUR) | 31.4942\*\*\* | 78.5855\*\*\* | 80.6245\*\*\* | 77.5868\*\*\* | 28.3378\*\*\* | 52.5747\*\*\* | 71.5759\*\*\* | 364.278\*\* | 364.278\*\* | 97.9310\*\*\* | | 88.6074\*\*\* | | |
| (29.88-33.09) | (66.96-90.23) | (75.85-85.36) | (74.86-80.30) | (26.07-30.56) | (46.30-58.82) | (66.55-76.58) | (55.49-672.21) | (55.49-672.21) | (85.86-110.02) | | (73.61-103.5) | | |
| **Welfare measures – current situation** | | | | | | | | | | | | | |
| Total consumer surplus (billion EUR) | 0.7213\*\*\* | 0.1493\*\*\* | 1.0386\*\*\* | 5.1324\*\*\* | 0.1077\*\*\* | 0.1914\*\*\* | 2.0635\*\*\* | 0.6318\*\* | 0.7382\*\* | 4.4250\*\*\* | 15.199\*\*\* | |
| (0.62-0.80) | (0.11-0.18) | (0.75-1.21) | (3.83-5.84) | (0.08-0.12) | (0.11-0.26) | (1.44-2.47) | (0.02-2.45) | (0.05-2.27) | (3.50-5.26) | (11.27-19.12) | |
| **Welfare measures – simulated scenario** | | | | | | | | | | | | | |
| Partial effect of ENVBN | 0.4009\*\*\* | 0.1404\*\*\* | 0.2429\*\*\* | 0.0774\*\*\* | 0.1847\*\*\* | 0.1359\*\*\* | 0.0754\*\*\* | 0.0530\*\*\* | 0.3290\*\*\* | 0.4625\*\*\* | 0.1199\*\*\* | |
| (0.20-0.60) | (0.07-0.20) | (0.12-0.36) | (0.04-0.11) | (0.09-0.27) | (0.07-0.20) | (0.03-0.11) | (0.00-0.15) | (0.07-0.81) | (0.24-0.69) | (0.06-0.17) | |
| Total simulated consumer surplus (billion EUR) | 0.7752\*\*\* | 0.1609\*\*\* | 1.1212\*\*\* | 5.5363\*\*\* | 0.1162\*\*\* | 0.2082\*\*\* | 2.2282\*\*\* | 0.7338\*\* | 0.8285\*\* | 4.7594\*\*\* | 16.468\*\*\* | |
| (0.66-0.87) | (0.12-0.19) | (0.81-1.31) | (4.16-6.34) | (0.08-0.13) | (0.12-0.28) | (1.57-2.69) | (0.03-2.80) | (0.06-2.53) | (3.78-5.67) | (12.26-20.79) | |
| Absolute change of the total consumer surplus (billion EUR) | 0.0539 | 0.0116 | 0.0825 | 0.4039 | 0.0085 | 0.0168 | 0.1647 | 0.1020 | 0.0903 | 0.3343 | 1.2686 | |
| Relative change of the total consumer surplus (%) | 7.47% | 7.75% | 7.95% | 7.87% | 7.93% | 8.77% | 7.98% | 16.14% | 12.24% | 7.56% | 8.35% | |