# Appendix A

Summary of Synthetic Variables Estimation

Giuseppe Carteny, Wilhelmine Haeussling, Matthias Körnig, Julian Leiser

03.05.2022

# 1 Austria

Synthetic variables have been estimated for the full set of Austrian parties available in the original 2019 EES Austrian voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 1.1).

Table 1.1: Austrian relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_101 | 101 | Austrian People's Party |
| stack_102 | 102 | Austrian Social Democratic Party |
| stack_104 | 104 | NEOS - The New Austria and Liberal Forum |
| stack_106 | 106 | The Greens |
| stack_103 | 103 | Austrian Freedom Party |
| stack_105 | 105 | Alliance for the Future of Austria |

Full OLS models converge and coefficients do not show any particular issue (see Table 1.7). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.044 for party 103 (Austrian Freedom Party) and a maximum of 0.058, 0.058 for party 102, 104 (Austrian Social Democratic Party, NEOS - The New Austria and Liberal Forum). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in all 6 cases out of 6 null models perform better than full ones (see Table 1.2).

Table 1.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_101 | 101 | 682.375 | 720.163 | -37.787 |
| stack_102 | 102 | 624.274 | 665.472 | -41.198 |
| stack_104 | 104 | 421.355 | 462.888 | -41.533 |
| stack_106 | 106 | 668.762 | 698.015 | -29.253 |
| stack_103 | 103 | 782.815 | 810.946 | -28.131 |
| stack_105 | 105 | 48.952 | 78.412 | -29.460 |

On the contrary, one out of six logistic regression models (see Table 1.8) show inflated standard errors for some of the coefficients of interest:

- Model 12: D8_rec, D1_rec;

Model 12 presents more problematic profile, since it affects the models constant terms with its inflated standard errors

Model 12 inflated standard errors are due to separation issues. In short, no respondents from rural areas or small cities and members of trade unions did vote for party 505 (see Tables 1.5, 1.6).

As a consequence, a constrained version of model 12 without said variables was estimated and contrasted with the original, full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model

does not fit better than the full model) can be rejected at p<0.001 (see Table 1.3). Consequently, synthetic variables for respondents' vote choice for party 105 have been predicted relying on the unconstrained model.

Table 1.3: Likelihood-ratio Test between Model 6a (Unconstrained) and Model 6b (Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 856 | 93.61638 | | | |
| 854 | 78.81738 | 2 | 14.799 | 0.0006116 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.027 for party 105 (Alliance for the Future of Austria) and a maximum of 0.085 for party 101 (Austrian People's Party). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 5 cases out of 6 null models perform better than full ones.

Table 1.4: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_101 | 101 | 792.119 | 868.142 | -76.023 |
| stack_102 | 102 | 810.678 | 845.471 | -34.793 |
| stack_104 | 104 | 479.493 | 483.460 | -3.967 |
| stack_106 | 106 | 621.067 | 625.784 | -4.717 |
| stack_103 | 103 | 794.266 | 806.568 | -12.302 |
| stack_105* | 105 | 102.817 | 102.106 | 0.711 |

* AIC value refers to Model 6b (constrained).

Table 1.5: Cross tabulation between vote choice for party 105 and respondents' area of residency

| stack_105/D8_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 370 | 595 | 965 |
| 1 | 0 | 10 | 10 |
| NA | 13 | 12 | 25 |
| Total | 383 | 617 | 1000 |

Table 1.6: Cross tabulation between vote choice for party 105 and respondents' marital status

| stack_105/D1_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 636 | 329 | 965 |
| 1 | 10 | 0 | 10 |
| NA | 19 | 6 | 25 |
| Total | 665 | 335 | 1000 |

Table 1.7: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **101** | **102** | **104** | **106** | **103** | **105** |
|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| D3_rec2 | −0.012 | 0.005 | −0.027 | 0.035 | −0.073** | −0.025 |
| | (0.024) | (0.023) | (0.021) | (0.024) | (0.026) | (0.017) |
| D8_rec1 | 0.003 | 0.067** | 0.037 | 0.036 | −0.041 | 0.010 |
| | (0.025) | (0.025) | (0.022) | (0.025) | (0.027) | (0.018) |
| D5_rec1 | 0.027 | −0.069** | −0.024 | −0.042 | −0.003 | −0.038* |
| | (0.025) | (0.024) | (0.022) | (0.025) | (0.027) | (0.018) |
| EDU_rec2 | 0.006 | 0.002 | 0.029 | 0.031 | −0.015 | 0.015 |
| | (0.033) | (0.032) | (0.029) | (0.033) | (0.035) | (0.023) |
| EDU_rec3 | −0.057 | 0.090** | 0.087** | 0.144*** | −0.138*** | 0.083*** |
| | (0.035) | (0.034) | (0.031) | (0.035) | (0.037) | (0.025) |
| D1_rec1 | −0.026 | 0.143*** | −0.017 | 0.027 | −0.019 | 0.024 |
| | (0.026) | (0.025) | (0.022) | (0.026) | (0.027) | (0.018) |
| D7_rec1 | 0.032 | 0.006 | 0.032 | 0.017 | −0.011 | −0.009 |
| | (0.029) | (0.028) | (0.025) | (0.029) | (0.030) | (0.020) |
| D7_rec2 | 0.059 | −0.045 | 0.098** | 0.055 | −0.062 | −0.028 |
| | (0.037) | (0.036) | (0.032) | (0.037) | (0.039) | (0.026) |
| D6_une1 | −0.013 | −0.046 | −0.036 | −0.041 | 0.124 | 0.061 |
| | (0.064) | (0.062) | (0.055) | (0.063) | (0.067) | (0.045) |
| D4_age | 0.0004 | −0.001 | −0.003*** | −0.003*** | −0.0001 | −0.002*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.043*** | −0.008 | 0.019*** | −0.001 | −0.009 | 0.002 |
| | (0.006) | (0.006) | (0.005) | (0.006) | (0.006) | (0.004) |
| Constant | 0.362*** | 0.395*** | 0.427*** | 0.412*** | 0.479*** | 0.311*** |
| | (0.051) | (0.050) | (0.045) | (0.051) | (0.054) | (0.036) |
| N | 877 | 879 | 873 | 878 | 875 | 869 |
| R-squared | 0.066 | 0.069 | 0.070 | 0.057 | 0.056 | 0.057 |
| Adj. R-squared | 0.054 | 0.058 | 0.058 | 0.045 | 0.044 | 0.045 |

***p < .001; **p < .01; *p < .05

Table 1.8: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **101** | **102** | **104** | **106** | **103** | **105** |
|---|---|---|---|---|---|---|
| | **Model 7** | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** |
| D3_rec2 | 0.321 | 0.052 | −0.578* | 0.389 | −0.620*** | 0.258 |
| | (0.184) | (0.182) | (0.263) | (0.219) | (0.188) | (0.694) |
| D8_rec1 | −0.031 | 0.165 | −0.329 | 0.188 | −0.140 | 18.220 |
| | (0.191) | (0.194) | (0.266) | (0.231) | (0.192) | (2394.693) |
| D5_rec1 | 0.194 | −0.351 | 0.043 | 0.069 | 0.416* | −0.069 |
| | (0.196) | (0.189) | (0.271) | (0.228) | (0.201) | (0.694) |
| EDU_rec2 | 0.066 | 0.375 | 0.300 | 0.154 | −0.072 | 0.010 |
| | (0.254) | (0.281) | (0.384) | (0.341) | (0.237) | (0.906) |
| EDU_rec3 | −0.366 | 0.648* | 0.644 | 0.806* | −0.578* | −0.015 |
| | (0.276) | (0.289) | (0.386) | (0.332) | (0.273) | (0.946) |
| D1_rec1 | −0.128 | 1.041*** | −0.125 | −0.299 | −0.007 | −18.081 |
| | (0.194) | (0.187) | (0.275) | (0.241) | (0.195) | (2507.533) |
| D7_rec1 | 0.206 | 0.417 | 0.209 | 0.257 | −0.171 | −1.056 |
| | (0.230) | (0.225) | (0.326) | (0.279) | (0.209) | (0.758) |
| D7_rec2 | 0.790** | 0.192 | 0.498 | 0.535 | −0.442 | −1.052 |
| | (0.276) | (0.287) | (0.382) | (0.326) | (0.294) | (1.141) |
| D6_une1 | −1.789 | 0.114 | 0.645 | −0.260 | −0.064 | 0.066 |
| | (1.038) | (0.489) | (0.579) | (0.636) | (0.479) | (1.122) |
| D4_age | 0.019*** | 0.016** | −0.029*** | −0.016* | 0.009 | −0.030 |
| | (0.006) | (0.006) | (0.008) | (0.007) | (0.006) | (0.022) |
| D10_rec | 0.316*** | −0.121* | −0.032 | −0.031 | −0.092 | −0.083 |
| | (0.043) | (0.048) | (0.066) | (0.056) | (0.048) | (0.204) |
| Constant | −3.430*** | −3.100*** | −1.221* | −2.124*** | −1.345*** | −19.871 |
| | (0.424) | (0.428) | (0.539) | (0.480) | (0.395) | (2394.694) |
| N | 866 | 866 | 866 | 866 | 866 | 866 |
| Log Likelihood | −384.060 | −393.339 | −227.746 | −298.534 | −385.133 | −39.409 |
| AIC | 792.119 | 810.678 | 479.493 | 621.067 | 794.266 | 102.817 |

***p < .001; **p < .01; *p < .05

# 2 Belgium

Synthetic variables have been estimated for the full set of Belgian parties available in the original 2019 EES Belgian voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Tables 2.1 and 2.2). Note that the Belgian sample is splitted according to the two electoral colleges of Belgium, namely the Dutch and the French electoral college.

Table 2.1: Belgian relevant parties in Dutch electoral college

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_201 | 201 | Workers Party of Belgium |
| stack_202 | 202 | Christian Democratic and Flemish Party |
| stack_203 | 203 | Socialist Party Different |
| stack_204 | 204 | Open Flemish Liberals and Democrats |
| stack_205 | 205 | New Flemish Alliance |
| stack_206 | 206 | Green |
| stack_207 | 207 | Flemish Interest |

Table 2.2: Belgian relevant parties in French electoral college

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_208 | 208 | Francophone Socialist Party |
| stack_209 | 209 | Reform Movement |
| stack_210 | 210 | Humanist Democratic Centre |
| stack_211 | 211 | Ecologists |
| stack_212 | 212 | National Front (Belgium) |
| stack_213 | 213 | Workers Party of Belgium |
| stack_214 | 214 | Francophone Democratic Federalists |

Full OLS models converge and coefficients do not show any particular issue (see Table 2.11 and Table 2.13).

For the Dutch electoral college: In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0 for party 203 (Socialist Party Different) and a maximum of 0.062 for party 202 (Christian Democratic and Flemish Party). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in all 7 cases out of 7 null models perform better than full ones (see Table 2.3).

For the French electoral college: In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.027 for party 211 (Ecologists) and a maximum of 0.128 for party 213 (Workers Party of Belgium). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in all 7 cases out of 7 null models perform better than full ones (see Table 2.4).

Also all seven logistic regression models in the Dutch electoral college show no issue (see Table 2.12) On the contrary, one out of seven logistic regression models in the French electoral college (see Table 2.14) show inflated standard errors for some of the coefficients of interest:

Table 2.3: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_201 | 201 | 218.286 | 221.796 | -3.510 |
| stack_202 | 202 | 172.948 | 196.202 | -23.255 |
| stack_203 | 203 | 312.241 | 302.151 | 10.090 |
| stack_204 | 204 | 234.958 | 251.257 | -16.299 |
| stack_205 | 205 | 433.439 | 430.468 | 2.970 |
| stack_206 | 206 | 259.913 | 271.127 | -11.213 |
| stack_207 | 207 | 498.332 | 499.672 | -1.340 |

Table 2.4: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_208 | 208 | 224.742 | 243.907 | -19.165 |
| stack_209 | 209 | 238.028 | 251.788 | -13.760 |
| stack_210 | 210 | 126.949 | 151.975 | -25.026 |
| stack_211 | 211 | 238.956 | 240.069 | -1.113 |
| stack_212 | 212 | 150.043 | 161.937 | -11.894 |
| stack_213 | 213 | 211.229 | 254.330 | -43.100 |
| stack_214 | 214 | 132.800 | 136.790 | -3.990 |

- Model 26a: D8_rec, EDU_rec, D7_rec;

Model 26a of the French electoral college presents a more problematic profile, since it affects the models constant terms with its inflated standard errors.

Inflated standard errors are due to separation issues. In short:

- No respondents from rural areas voted for party 212 (Table 2.8);
- No low and high educated respondents voted for party 212 (Table 2.9)
- No upper class respondents voted for party 212 (Table 2.10);

As a consequence, a constrained version of model 26a without said variables was estimated and contrasted with the original, full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model does not fit better than the full model) cannot be rejected at $p<0.05$ (see Table 2.5). Consequently, synthetic variables for respondents' vote choice for party 212 have been predicted relying on the constrained model.

Table 2.5: Likelihood-ratio Test between Model 26a (Unconstrained) and Model 26b (Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 372 | 42.18100 | | | |
| 367 | 29.34199 | 5 | 12.83901 | 0.024935 |

In the case of the Dutch electoral college: In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.062 for party 207 (Flemish Interest) and a maximum of 0.012 for party 203 (Socialist Party Different).

In the case of the Fench electoral college: In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.158 for party 212 (National Front (Belgium)) and a maximum of 0.02 for party 210 (Humanist Democratic Centre).

Table 2.6: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_201 | 201 | 256.725 | 261.229 | -4.504 |
| stack_202 | 202 | 317.743 | 314.286 | 3.457 |
| stack_203 | 203 | 572.088 | 581.032 | -8.944 |
| stack_204 | 204 | 361.724 | 357.521 | 4.203 |
| stack_205 | 205 | 486.627 | 477.614 | 9.013 |
| stack_206 | 206 | 347.090 | 340.740 | 6.350 |
| stack_207 | 207 | 171.854 | 163.767 | 8.087 |

Table 2.7: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_208 | 208 | 334.675 | 326.04300 | 8.632000 |
| stack_209 | 209 | 292.012 | 297.36100 | -5.349000 |
| stack_210 | 210 | 200.627 | 206.63700 | -6.010000 |
| stack_211 | 211 | 331.408 | 336.11000 | -4.702000 |
| stack_212 | 212 | 51.342 | 46.34600 | 4.996000 |
| stack_212* | 212 | 54.181 | 46.34632 | 7.834681 |
| stack_213 | 213 | 276.248 | 277.95700 | -1.709000 |
| stack_214 | 214 | 150.056 | 140.68100 | 9.375000 |

* AIC value of 212 refers to Model 26b (constrained).

Table 2.8: Cross tabulation between vote choice for party 212 and respondents' area of residency

| stack_212/D8_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 152 | 256 | 408 |
| 1 | 0 | 4 | 4 |
| NA | 9 | 16 | 25 |
| Total | 161 | 276 | 437 |

Table 2.9: Cross tabulation between vote choice for party 212 and respondents' education

| stack_212/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 48 | 132 | 223 | 5 | 408 |
| 1 | 0 | 4 | 0 | 0 | 4 |
| NA | 4 | 9 | 11 | 1 | 25 |
| Total | 52 | 145 | 234 | 6 | 437 |

Table 2.10: Cross tabulation between vote choice for party 212 and respondents' subjective social class

| stack_212/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 140 | 196 | 64 | 8 | 408 |
| 1 | 2 | 2 | 0 | 0 | 4 |
| NA | 7 | 14 | 1 | 3 | 25 |
| Total | 149 | 212 | 65 | 11 | 437 |

Table 2.11: Vote choice for a relevant party according to respondents socio-demographic characteristics at Dutch Electoral College (Ordinary square models)

| | **207** | **201** | **204** | **206** | **203** | **202** | **205** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.046 | 0.023 | 0.004 | 0.005 | −0.033 | 0.076** | −0.005 |
| | (0.027) | (0.025) | (0.029) | (0.027) | (0.033) | (0.028) | (0.035) |
| D8_rec1 | 0.007 | −0.044 | −0.007 | −0.032 | −0.042 | −0.033 | −0.027 |
| | (0.027) | (0.025) | (0.029) | (0.027) | (0.033) | (0.028) | (0.035) |
| D5_rec1 | −0.006 | 0.005 | −0.023 | −0.013 | 0.038 | −0.025 | 0.063 |
| | (0.028) | (0.026) | (0.030) | (0.028) | (0.034) | (0.029) | (0.036) |
| EDU_rec2 | 0.080 | 0.014 | 0.018 | −0.108* | −0.039 | 0.070 | 0.026 |
| | (0.050) | (0.047) | (0.054) | (0.050) | (0.061) | (0.051) | (0.064) |
| EDU_rec3 | 0.070 | 0.045 | 0.001 | −0.092 | 0.021 | 0.093 | −0.012 |
| | (0.049) | (0.046) | (0.053) | (0.049) | (0.060) | (0.050) | (0.063) |
| D1_rec1 | 0.057* | −0.047 | 0.067* | 0.006 | −0.068* | 0.002 | −0.004 |
| | (0.028) | (0.026) | (0.030) | (0.028) | (0.034) | (0.029) | (0.036) |
| D7_rec1 | −0.015 | 0.036 | 0.016 | 0.091** | −0.012 | −0.006 | −0.074 |
| | (0.029) | (0.028) | (0.032) | (0.029) | (0.036) | (0.030) | (0.038) |
| D7_rec2 | −0.095* | −0.031 | −0.019 | 0.103* | 0.076 | −0.018 | −0.038 |
| | (0.048) | (0.045) | (0.052) | (0.048) | (0.059) | (0.049) | (0.062) |
| D4_age | −0.002** | −0.001 | −0.001 | −0.002** | 0.001 | −0.003*** | −0.003** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | −0.002 | 0.042*** | 0.003 | 0.023** | 0.011 | 0.006 | 0.016 |
| | (0.008) | (0.008) | (0.009) | (0.008) | (0.010) | (0.008) | (0.010) |
| Constant | 0.281*** | 0.351*** | 0.364*** | 0.501*** | 0.497*** | 0.426*** | 0.577*** |
| | (0.068) | (0.064) | (0.073) | (0.068) | (0.084) | (0.070) | (0.087) |
| N | 508 | 518 | 518 | 519 | 514 | 518 | 519 |
| R-squared | 0.045 | 0.080 | 0.019 | 0.068 | 0.033 | 0.058 | 0.040 |
| Adj. R-squared | 0.026 | 0.062 | −0.0004 | 0.049 | 0.013 | 0.040 | 0.021 |

***p < .001; **p < .01; *p < .05

Table 2.12: Vote choice for a relevant party according to respondents socio-demographic characteristics at Dutch Electoral College (Logistic regression models)

| | **207** | **201** | **204** | **206** | **203** | **202** | **205** |
|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** |
| D3_rec2 | 0.010 | 0.406 | −0.039 | −0.080 | −0.352 | −0.106 | 0.709 |
| | (0.369) | (0.328) | (0.215) | (0.291) | (0.239) | (0.303) | (0.515) |
| D8_rec1 | −0.184 | 0.220 | −0.213 | 0.506 | −0.247 | −0.013 | 0.065 |
| | (0.367) | (0.327) | (0.214) | (0.306) | (0.238) | (0.302) | (0.492) |
| D5_rec1 | 0.129 | −0.370 | −0.200 | 0.046 | 0.436 | −0.512 | 0.191 |
| | (0.380) | (0.325) | (0.222) | (0.312) | (0.261) | (0.307) | (0.537) |
| EDU_rec2 | −1.077 | 0.782 | 0.119 | 0.613 | −0.357 | −0.398 | 0.651 |
| | (0.588) | (0.691) | (0.409) | (0.646) | (0.417) | (0.506) | (1.104) |
| EDU_rec3 | −0.520 | 1.006 | 0.261 | 0.382 | −0.465 | −0.447 | 0.771 |
| | (0.570) | (0.665) | (0.404) | (0.649) | (0.413) | (0.489) | (1.081) |
| D1_rec1 | −0.282 | 0.164 | −0.422 | 0.847** | 0.134 | 0.158 | 0.534 |
| | (0.387) | (0.327) | (0.227) | (0.303) | (0.245) | (0.311) | (0.495) |
| D7_rec1 | −0.368 | −0.220 | 0.127 | 0.353 | −0.093 | 0.964* | −0.268 |
| | (0.378) | (0.349) | (0.239) | (0.323) | (0.259) | (0.383) | (0.508) |
| D7_rec2 | −1.936 | 0.260 | 0.750* | −0.193 | −0.386 | 1.079* | −0.820 |
| | (1.073) | (0.508) | (0.365) | (0.599) | (0.449) | (0.527) | (1.097) |
| D4_age | 0.008 | −0.029** | 0.022*** | 0.016 | −0.009 | −0.003 | −0.008 |
| | (0.011) | (0.010) | (0.006) | (0.009) | (0.007) | (0.009) | (0.015) |
| D10_rec | 0.352*** | −0.044 | −0.121 | −0.073 | 0.060 | 0.098 | −0.634 |
| | (0.086) | (0.100) | (0.069) | (0.090) | (0.069) | (0.083) | (0.324) |
| Constant | −2.373** | −1.867* | −1.977*** | −4.168*** | −0.715 | −2.152** | −3.768** |
| | (0.880) | (0.829) | (0.569) | (0.893) | (0.581) | (0.711) | (1.398) |
| N | 503 | 503 | 503 | 503 | 503 | 503 | 503 |
| Log Likelihood | −117.362 | −147.872 | −275.044 | −169.862 | −232.314 | −162.545 | −74.927 |
| AIC | 256.725 | 317.743 | 572.088 | 361.724 | 486.627 | 347.090 | 171.854 |

***p < .001; **p < .01; *p < .05

Table 2.13: Vote choice for a relevant party according to respondents socio-demographic characteristics at French Electoral College (OLS regression models)

| | **208** | **209** | **210** | **211** | **212** | **213** | **214** |
|---|---|---|---|---|---|---|---|
| | **Model 15** | **Model 16** | **Model 17** | **Model 18** | **Model 19** | **Model 20** | **Model 21** |
| D3_rec2 | 0.035 | 0.027 | 0.025 | 0.017 | −0.056 | −0.008 | −0.018 |
| | (0.033) | (0.033) | (0.029) | (0.033) | (0.030) | (0.032) | (0.030) |
| D8_rec1 | −0.019 | −0.021 | −0.030 | 0.031 | −0.010 | −0.023 | 0.043 |
| | (0.033) | (0.034) | (0.030) | (0.034) | (0.030) | (0.033) | (0.030) |
| D5_rec1 | 0.065 | −0.018 | 0.019 | −0.004 | 0.068* | 0.044 | 0.034 |
| | (0.033) | (0.034) | (0.030) | (0.034) | (0.030) | (0.033) | (0.030) |
| EDU_rec2 | −0.184** | 0.0001 | −0.032 | −0.074 | 0.009 | 0.090 | −0.109* |
| | (0.057) | (0.059) | (0.051) | (0.058) | (0.052) | (0.058) | (0.053) |
| EDU_rec3 | −0.172** | 0.073 | −0.029 | 0.022 | −0.037 | −0.020 | −0.085 |
| | (0.055) | (0.056) | (0.049) | (0.056) | (0.050) | (0.055) | (0.050) |
| D1_rec1 | 0.040 | −0.056 | −0.080* | 0.027 | −0.010 | 0.100** | 0.007 |
| | (0.035) | (0.035) | (0.031) | (0.035) | (0.032) | (0.035) | (0.031) |
| D7_rec1 | −0.035 | 0.101** | 0.085** | 0.052 | −0.045 | −0.081* | 0.063 |
| | (0.036) | (0.037) | (0.032) | (0.037) | (0.033) | (0.036) | (0.033) |
| D7_rec2 | −0.112* | 0.168** | 0.046 | 0.066 | −0.097* | −0.142** | 0.055 |
| | (0.050) | (0.051) | (0.045) | (0.051) | (0.046) | (0.050) | (0.045) |
| D4_age | −0.003** | −0.002 | −0.003*** | −0.002* | −0.002* | −0.004*** | −0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.011 | 0.024** | 0.035*** | 0.003 | 0.021** | 0.004 | 0.016* |
| | (0.009) | (0.009) | (0.008) | (0.009) | (0.008) | (0.009) | (0.008) |
| Constant | 0.652*** | 0.360*** | 0.460*** | 0.479*** | 0.319*** | 0.528*** | 0.401*** |
| | (0.070) | (0.072) | (0.063) | (0.071) | (0.064) | (0.071) | (0.064) |
| N | 395 | 393 | 392 | 396 | 392 | 387 | 384 |
| R-squared | 0.094 | 0.082 | 0.109 | 0.052 | 0.078 | 0.150 | 0.061 |
| Adj. R-squared | 0.071 | 0.058 | 0.085 | 0.027 | 0.054 | 0.128 | 0.035 |

***p < .001; **p < .01; *p < .05

Table 2.14: Vote choice for a relevant party according to respondents socio-demographic characteristics at French Electoral College (Logistic regression models)

| | **208** | **209** | **210** | **211** | **212** | **212** | **213** | **214** |
|---|---|---|---|---|---|---|---|---|
| | **Model 22** | **Model 23** | **Model 24** | **Model 25** | **Model 26a** | **Model 26b** | **Model 27** | **Model 28** |
| D3_rec2 | 0.251 | 0.555 | −0.393 | −0.092 | 0.277 | 0.179 | −0.170 | −0.132 |
| | (0.296) | (0.327) | (0.440) | (0.298) | (1.084) | (1.033) | (0.334) | (0.525) |
| D8_rec1 | −0.677* | −0.313 | −0.771 | 0.458 | 18.905 | | −0.205 | 0.646 |
| | (0.297) | (0.327) | (0.420) | (0.316) | (5661.450) | | (0.336) | (0.593) |
| D5_rec1 | 0.538 | 0.128 | 0.601 | −0.415 | −0.522 | −0.428 | −0.078 | −0.685 |
| | (0.315) | (0.333) | (0.472) | (0.300) | (1.073) | (1.036) | (0.336) | (0.519) |
| EDU_rec2 | −0.288 | 1.505 | 0.596 | −1.011 | 19.728 | | 0.083 | 0.683 |
| | (0.493) | (1.086) | (0.861) | (0.546) | (10629.430) | | (0.532) | (1.166) |
| EDU_rec3 | −0.218 | 1.956 | 0.545 | −0.025 | 0.037 | | −0.506 | 0.342 |
| | (0.466) | (1.056) | (0.824) | (0.471) | (11710.110) | | (0.536) | (1.145) |
| D1_rec1 | −0.149 | −0.197 | −0.631 | 0.377 | 0.338 | 0.419 | 0.644 | 0.807 |
| | (0.319) | (0.360) | (0.486) | (0.316) | (1.154) | (1.090) | (0.341) | (0.544) |
| D7_rec1 | −0.287 | 0.775 | 0.566 | 0.799* | −0.089 | | −0.456 | 0.996 |
| | (0.323) | (0.418) | (0.500) | (0.382) | (1.103) | | (0.340) | (0.695) |
| D7_rec2 | −0.545 | 1.109* | 0.501 | 1.150* | −18.595 | | −2.376* | 1.282 |
| | (0.482) | (0.518) | (0.624) | (0.456) | (7868.020) | | (1.042) | (0.820) |
| D4_age | −0.009 | 0.003 | 0.006 | −0.002 | −0.001 | 0.003 | −0.001 | 0.021 |
| | (0.009) | (0.010) | (0.013) | (0.009) | (0.031) | (0.029) | (0.010) | (0.016) |
| D10_rec | −0.034 | −0.204 | 0.403*** | −0.112 | 0.253 | 0.290 | 0.011 | 0.108 |
| | (0.085) | (0.111) | (0.095) | (0.087) | (0.214) | (0.212) | (0.087) | (0.123) |
| Constant | −0.850 | −4.237*** | −4.018*** | −1.939** | −41.918 | −5.298** | −1.392* | −5.868*** |
| | (0.616) | (1.153) | (1.035) | (0.641) | (12043.120) | (1.873) | (0.699) | (1.442) |
| N | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 |
| Log Likelihood | −156.337 | −135.006 | −89.313 | −154.704 | −14.671 | −21.091 | −127.124 | −64.028 |
| AIC | 334.675 | 292.012 | 200.627 | 331.408 | 51.342 | 54.181 | 276.248 | 150.056 |

***p < .001; **p < .01; *p < .05

# 3 Bulgaria

Synthetic variables have been estimated for the full set of relevant parties available in the original 2019 EES Bulgarian voter study (Table 3.1) selected according to the criteria stated in the EES 2019 SDM codebook (for the criteria see Sect. XXX).

Table 3.1: Cypriot relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_301 | 301 | Citzizens for European Development of Bulgaria (GERB) |
| stack_302 | 302 | Coalition for Bulgaria (KB) |
| stack_303 | 303 | Movements for Rights and Freedoms (DPS) |
| stack_304 | 304 | IMRO – Bulgarian National Movement |
| stack_305 | 305 | Democratic Bulgaria |
| stack_306 | 306 | Will |
| stack_307 | 307 | National Union Attack (ATAKA/ATA) |

Full OLS models converge and coefficients do not show any particular issue (see Table 3.13). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.01 for party 306 (Will) and a maximum of 0.036 for party 303 (Movements for Rights and Freedoms (DPS)). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models suggests that only one null model performs marginally better than the full ones (see Table 3.2).

Table 3.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_301 | 301 | 784.128 | 794.234 | -10.106 |
| stack_302 | 302 | 392.612 | 409.552 | -16.940 |
| stack_303 | 303 | -348.802 | -325.216 | -23.586 |
| stack_304 | 304 | 319.463 | 337.587 | -18.124 |
| stack_305 | 305 | 337.528 | 342.058 | -4.531 |
| stack_306 | 306 | 96.336 | 95.297 | 1.039 |
| stack_307 | 307 | -185.834 | -178.896 | -6.938 |

On the contrary, four out of seven logistic regression models (see Table 3.14) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 9a: D8_rec;
- Model 10a: D7_rec;
- Model 13a: EDU_rec;
- Model 14a: D7_rec and D8_rec.

In Model 10a the constant term and other regression coefficients are not affected by said inflated standard errors, whereas the remaining ones present a more problematic profile. Inflated standard errors due to separation issues affect all th models. In short:

- No respondents from rural areas voted for party 302 (Table 3.8);
- No upper middle or upper class respondents voted for party 303 (Table 3.9);
- No low educated people voted for party 306 (Table 3.10);
- No upper middle or upper class respondents and living in rural areas ones voted for party 307 (Table 3.12);

As a consequence, constrained versions of the models just mentioned above have been estimated, removing the variables source of misfit. Likelihood-ratio test results show that $H_0$ can be rejected only for Model 2, while in all the other cases the null hypothesis cannot be rejected.

Consequently, synthetic variables for respondents' vote choice for parties 303, 306, and 307 have been generated relying on the constrained models (Models 10b, 13b, 14b).

Table 3.3: Likelihood-ratio Test between Model 9a (Unconstrained) and Model 9b (Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 880 | 453.1108 | | | |
| 879 | 446.4830 | 1 | 6.627802 | 0.0100399 |

Table 3.4: Likelihood-ratio Test between Model 10a (Unconstrained) and Model 10b (Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 881 | 93.53127 | | | |
| 879 | 91.53421 | 2 | 1.997058 | 0.3684209 |

Table 3.5: Likelihood-ratio Test between Model 13a (Unconstrained) and Model 13b (Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 881 | 233.5034 | | | |
| 879 | 231.5236 | 2 | 1.979863 | 0.3716022 |

Table 3.6: Likelihood-ratio Test between Model 14a (Unconstrained) and Model 14b (Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 882 | 85.21094 | | | |
| 879 | 82.50028 | 3 | 2.710651 | 0.4384203 |

In terms of model fit (Table 3.7), adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.048 for party 306 (Will) and a maximum of 0.054 for party 302 (Coalition for Bulgaria (KB)).

Table 3.7: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_301 | 301 | 800.542 | 796.444 | 4.098 |
| stack_302 | 302 | 468.483 | 497.232 | -28.749 |
| stack_303 | 303 | 113.534 | 111.660 | 1.874 |
| stack_304 | 304 | 399.043 | 392.678 | 6.365 |
| stack_305 | 305 | 411.160 | 403.798 | 7.362 |
| stack_306 | 306 | 253.524 | 243.923 | 9.600 |
| stack_307 | 307 | 104.500 | 102.601 | 1.900 |
| stack_303* | 303 | 473.111 | 111.660 | 361.451 |
| stack_306* | 306 | 111.531 | 243.923 | -132.392 |
| stack_307* | 307 | 251.503 | 102.601 | 148.903 |

* AIC value refers to Model 11b (constrained).

Table 3.8: Cross tabulation between vote choice for party 302 and respondents' area of residency

| stack_302/D8_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 55 | 834 | 889 |
| 1 | 0 | 73 | 73 |
| NA | 3 | 51 | 54 |
| Total | 58 | 958 | 1016 |

Table 3.9: Cross tabulation between vote choice for party 303 and respondents' subjective social class

| stack_303/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 388 | 448 | 94 | 21 | 951 |
| 1 | 6 | 5 | 0 | 0 | 11 |
| NA | 17 | 26 | 7 | 4 | 54 |
| Total | 411 | 479 | 101 | 25 | 1016 |

Table 3.10: Cross tabulation between vote choice for party 306 and respondents' education

| stack_306/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 37 | 268 | 611 | 18 | 934 |
| 1 | 0 | 5 | 22 | 1 | 28 |
| NA | 2 | 16 | 36 | 0 | 54 |
| Total | 39 | 289 | 669 | 19 | 1016 |

Table 3.11: Cross tabulation between vote choice for party 307 and respondents' subjective social class

| stack_307/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 390 | 448 | 94 | 21 | 953 |
| 1 | 4 | 5 | 0 | 0 | 9 |
| NA | 17 | 26 | 7 | 4 | 54 |
| Total | 411 | 479 | 101 | 25 | 1016 |

Table 3.12: Cross tabulation between vote choice for party 307 and respondents' subjective social class

| stack_307/D8_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 55 | 898 | 953 |
| 1 | 0 | 9 | 9 |
| NA | 3 | 51 | 54 |
| Total | 58 | 958 | 1016 |

Table 3.13: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **301** | **302** | **303** | **304** | **305** | **306** | **307** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.016 | −0.014 | 0.032* | −0.020 | −0.005 | 0.0005 | −0.016 |
| | (0.024) | (0.020) | (0.013) | (0.019) | (0.019) | (0.017) | (0.014) |
| D8_rec1 | 0.078 | 0.089* | −0.052 | 0.062 | 0.089* | 0.032 | 0.013 |
| | (0.054) | (0.043) | (0.029) | (0.042) | (0.042) | (0.036) | (0.031) |
| D5_rec1 | 0.031 | 0.009 | 0.015 | 0.040 | −0.006 | 0.015 | 0.021 |
| | (0.027) | (0.022) | (0.015) | (0.021) | (0.021) | (0.019) | (0.016) |
| EDU_rec2 | −0.145* | −0.188** | −0.122** | −0.122* | −0.043 | −0.082 | −0.110* |
| | (0.072) | (0.060) | (0.039) | (0.057) | (0.058) | (0.050) | (0.044) |
| EDU_rec3 | −0.135 | −0.180** | −0.127** | −0.091 | −0.0002 | −0.099* | −0.116** |
| | (0.072) | (0.060) | (0.040) | (0.057) | (0.058) | (0.050) | (0.044) |
| D1_rec1 | 0.061 | 0.027 | 0.034* | 0.060* | 0.062* | 0.022 | 0.056** |
| | (0.032) | (0.026) | (0.017) | (0.025) | (0.025) | (0.022) | (0.019) |
| D7_rec1 | 0.040 | 0.010 | 0.016 | 0.012 | 0.024 | 0.015 | −0.005 |
| | (0.026) | (0.021) | (0.014) | (0.020) | (0.021) | (0.018) | (0.015) |
| D7_rec2 | 0.040 | 0.030 | 0.020 | −0.015 | 0.055 | 0.013 | −0.023 |
| | (0.044) | (0.036) | (0.024) | (0.034) | (0.035) | (0.031) | (0.026) |
| D4_age | 0.001 | 0.004*** | −0.001** | −0.001 | −0.0002 | −0.001 | −0.0002 |
| | (0.001) | (0.001) | (0.0005) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.024** | 0.003 | 0.006 | 0.021*** | 0.008 | 0.011* | 0.011** |
| | (0.007) | (0.006) | (0.004) | (0.006) | (0.006) | (0.005) | (0.004) |
| Constant | 0.242** | 0.159* | 0.256*** | 0.254*** | 0.130 | 0.248*** | 0.198*** |
| | (0.083) | (0.069) | (0.045) | (0.066) | (0.067) | (0.058) | (0.051) |
| N | 923 | 917 | 922 | 923 | 908 | 919 | 922 |
| R-squared | 0.032 | 0.039 | 0.046 | 0.040 | 0.027 | 0.020 | 0.029 |
| Adj. R-squared | 0.021 | 0.029 | 0.036 | 0.030 | 0.016 | 0.010 | 0.018 |

***p < .001; **p < .01; *p < .05

Table 3.14: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| **Model** | **301 8** | **302 9a** | **302 9b** | **303 10a** | **303 10b** | **304 11** | **305 12** | **306 13a** | **306 13b** | **307 14a** | **307 14b** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D3_rec2 | 0.170 | −0.551* | −0.562* | 0.437 | 0.429 | −0.738* | −0.412 | 0.076 | 0.096 | −1.486 | −1.545 |
| | (0.186) | (0.264) | (0.262) | (0.676) | (0.675) | (0.305) | (0.293) | (0.399) | (0.398) | (0.855) | (0.843) |
| D8_rec1 | 0.350 | 15.830 | | −1.914* | −1.883* | 0.272 | 0.989 | 0.012 | 0.200 | 16.049 | |
| | (0.455) | (868.103) | | (0.775) | (0.746) | (0.753) | (1.031) | (1.058) | (1.043) | (2175.581) | |
| D5_rec1 | −0.107 | 0.075 | 0.072 | −0.714 | −0.757 | 0.533 | −0.271 | 0.568 | 0.693 | −1.333 | −1.331 |
| | (0.204) | (0.293) | (0.290) | (0.683) | (0.682) | (0.365) | (0.313) | (0.510) | (0.506) | (0.763) | (0.759) |
| EDU_rec2 | −0.566 | −1.031 | −1.055 | 0.842 | 0.754 | −0.864 | 0.177 | 14.343 | | −1.472 | −1.643 |
| | (0.525) | (1.122) | (1.119) | (1.229) | (1.223) | (0.863) | (1.106) | (1123.071) | | (1.428) | (1.408) |
| EDU_rec3 | −0.495 | −0.475 | −0.409 | 1.060 | 0.898 | −0.378 | 0.763 | 14.793 | | −1.782 | −1.916 |
| | (0.523) | (1.103) | (1.098) | (1.306) | (1.294) | (0.843) | (1.090) | (1123.071) | | (1.488) | (1.471) |
| D1_rec1 | 0.517* | 0.038 | 0.033 | −0.739 | −0.715 | −0.079 | 0.481 | −0.536 | −0.516 | 2.128** | 2.121** |
| | (0.216) | (0.317) | (0.316) | (1.119) | (1.117) | (0.372) | (0.332) | (0.556) | (0.556) | (0.756) | (0.752) |
| D7_rec1 | 0.014 | −0.311 | −0.254 | 0.149 | | −0.031 | 0.071 | 0.741 | 0.756 | −0.037 | |
| | (0.199) | (0.274) | (0.273) | (0.682) | | (0.308) | (0.313) | (0.464) | (0.462) | (0.707) | |
| D7_rec2 | 0.363 | 0.104 | 0.146 | −15.966 | | −0.624 | 0.397 | 0.541 | 0.610 | −15.704 | |
| | (0.310) | (0.434) | (0.432) | (1789.433) | | (0.636) | (0.467) | (0.713) | (0.709) | (1740.482) | |
| D4_age | 0.011 | 0.051*** | 0.052*** | −0.071* | −0.069* | 0.009 | 0.006 | 0.013 | 0.018 | 0.014 | 0.018 |
| | (0.007) | (0.010) | (0.010) | (0.032) | (0.032) | (0.011) | (0.011) | (0.015) | (0.014) | (0.028) | (0.028) |
| D10_rec | 0.075 | 0.017 | 0.020 | 0.245 | 0.249 | 0.081 | −0.111 | 0.091 | 0.089 | 0.229 | 0.212 |
| | (0.055) | (0.076) | (0.076) | (0.191) | (0.191) | (0.087) | (0.086) | (0.119) | (0.119) | (0.203) | (0.200) |
| Constant | −2.325*** | −19.844 | −4.195*** | −1.487 | −1.474 | −3.184** | −4.122** | −19.832 | −5.714*** | −19.689 | −3.797** |
| | (0.651) | (868.104) | (1.074) | (1.513) | (1.486) | (1.060) | (1.450) | (1123.071) | (1.316) | (2175.581) | (1.289) |
| N | 890 | 890 | 890 | 890 | 890 | 890 | 890 | 890 | 890 | 890 | 890 |
| Log Likelihood | −389.271 | −223.241 | −226.555 | −45.767 | −46.766 | −188.522 | −194.580 | −115.762 | −116.752 | −41.250 | −42.605 |
| AIC | 800.542 | 468.483 | 473.111 | 113.534 | 111.531 | 399.043 | 411.160 | 253.524 | 251.503 | 104.500 | 101.211 |

***p < .001; **p < .01; *p < .05

# 4 Czech Republic

Synthetic variables have been estimated for the full set of Czech parties available in the original 2019 EES Czech Republic voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 4.1).

Table 4.1: Czech Republic relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_601 | 601 | Christian and Democratic Union / Czechoslovak People's Party |
| stack_603 | 603 | Czech Social Democratic Party |
| stack_604 | 604 | Civic Democratic Party |
| stack_605 | 605 | Communist Party of Bohemia and Moravia |
| stack_606 | 606 | ANO 2011 |
| stack_607 | 607 | Czech Pirate Party |
| stack_608 | 608 | Freedom and Direct Democracy Tomio Okamura |
| stack_602 | 602 | Tradition, Responsibility, Prosperity 09 (TOP 09) |

Full OLS models converge and coefficients do not show any particular issue (see Table 4.8). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.023, 0.023 for party 603, 608 (Czech Social Democratic Party, Freedom and Direct Democracy Tomio Okamura) and a maximum of 0.203 for party 601 (Christian and Democratic Union / Czechoslovak People's Party). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that the full models perform better in all cases (see Table 4.2).

Table 4.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_601 | 601 | 52.665 | 237.851 | -185.186 |
| stack_603 | 603 | 160.505 | 169.927 | -9.422 |
| stack_604 | 604 | 389.269 | 459.680 | -70.412 |
| stack_605 | 605 | 392.501 | 411.747 | -19.246 |
| stack_606 | 606 | 745.102 | 803.107 | -58.006 |
| stack_607 | 607 | 525.489 | 633.168 | -107.678 |
| stack_608 | 608 | 459.283 | 468.756 | -9.473 |
| stack_602 | 602 | 140.632 | 241.723 | -101.090 |

On the contrary, five out of eight logistic regression models (see Table 4.9) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 9: D6_une
- Model 10a: EDU_rec (both categories), D7_rec (second category), D6_une
- Model 11: D6_une
- Model 15: D6_une
- Model 16: D6_une

However, for models 9, 11, 15 and 16 the constant terms and other regressors are not affected by the inflated standard errors. Model 10a appears more problematic.

The inflated standard errors in Model 10a are due to separation issues. In short, no respondents who are unemployed or of high subjective social status did vote for party 603. Only one respondent with low education voted for party 603. (See tables 4.5, 4.6, 4.7)

As a consequence, a constrained version of model 10 (namely, Model 10b) without said variables was estimated and contrasted with the original (Model 10a), full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) cannot be rejected (see Table 4.3). Consequently, synthetic variables for respondents' vote choice for party 603 have been predicted relying on the constrained model (Model 10b).

Table 4.3: Likelihood-ratio Test between Model 10a (Unconstrained) and Model 10b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 849 | 163.7771 | | | |
| Unconstrained | 844 | 153.7958 | 5 | 9.981323 | 0.0757662 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.065 for party 603 (Czech Social Democratic Party) and a maximum of 0.155 for party 601 (Christian and Democratic Union / Czechoslovak People's Party). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in four cases out of eight null models perform better than full ones. According to AIC values the related null model appears to have a better fit than Model 10b (see Table 4.4).

Table 4.4: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_601 | 601 | 214.1510 | 255.3350 | -41.184000 |
| stack_602 | 602 | 268.2320 | 275.1270 | -6.894000 |
| stack_603 | 603 | 177.7960 | 168.9080 | 8.888000 |
| stack_603* | 603 | 177.7771 | 168.9081 | 8.869078 |
| stack_604 | 604 | 473.8810 | 462.0590 | 11.822000 |
| stack_605 | 605 | 331.0110 | 331.1770 | -0.166000 |
| stack_606 | 606 | 723.2760 | 774.4330 | -51.157000 |
| stack_607 | 607 | 530.3500 | 528.9600 | 1.390000 |
| stack_608 | 608 | 395.1280 | 394.0820 | 1.046000 |

* AIC value refers to Model 10b (constrained).

Table 4.5: Cross tabulation between vote choice for party 603 and respondents' education

| stack_603/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 71 | 542 | 343 | 7 | 963 |
| 1 | 1 | 14 | 4 | 0 | 19 |
| NA | 3 | 7 | 7 | 1 | 18 |
| Total | 75 | 563 | 354 | 8 | 1000 |

Table 4.6: Cross tabulation between vote choice for party 603 and respondents' subjective social class

| stack_603/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 366 | 467 | 118 | 12 | 963 |
| 1 | 8 | 11 | 0 | 0 | 19 |
| NA | 8 | 9 | 0 | 1 | 18 |
| Total | 382 | 487 | 118 | 13 | 1000 |

Table 4.7: Cross tabulation between vote choice for party 603 and respondents' employment status

| stack_603/D6_une | 0 | 1 | Total |
|---|---|---|---|
| 0 | 945 | 18 | 963 |
| 1 | 19 | 0 | 19 |
| NA | 17 | 1 | 18 |
| Total | 981 | 19 | 1000 |

Table 4.8: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **601** | **603** | **604** | **605** | **606** | **607** | **608** | **602** |
|---|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** | **Model 8** |
| D3_rec2 | 0.0003 | −0.022 | 0.016 | −0.001 | −0.024 | 0.026 | −0.024 | 0.039* |
| | (0.017) | (0.018) | (0.021) | (0.021) | (0.026) | (0.023) | (0.022) | (0.018) |
| D8_rec1 | 0.026 | 0.008 | 0.001 | −0.010 | 0.012 | 0.003 | 0.009 | −0.014 |
| | (0.019) | (0.021) | (0.024) | (0.024) | (0.029) | (0.026) | (0.025) | (0.021) |
| D5_rec1 | −0.012 | −0.030 | −0.019 | −0.054* | 0.035 | −0.050* | 0.002 | −0.040* |
| | (0.018) | (0.019) | (0.022) | (0.022) | (0.026) | (0.023) | (0.022) | (0.019) |
| EDU_rec2 | −0.003 | −0.020 | 0.004 | −0.017 | −0.025 | 0.014 | 0.057 | −0.007 |
| | (0.035) | (0.038) | (0.043) | (0.043) | (0.053) | (0.046) | (0.045) | (0.038) |
| EDU_rec3 | 0.028 | −0.031 | 0.022 | −0.044 | −0.077 | 0.038 | −0.001 | 0.023 |
| | (0.036) | (0.038) | (0.044) | (0.044) | (0.054) | (0.047) | (0.046) | (0.038) |
| D1_rec1 | 0.038 | 0.121*** | 0.046 | 0.077** | 0.078* | −0.025 | 0.084** | 0.004 |
| | (0.024) | (0.025) | (0.029) | (0.029) | (0.035) | (0.031) | (0.030) | (0.025) |
| D7_rec1 | 0.018 | 0.013 | 0.036 | −0.015 | 0.032 | −0.012 | −0.054* | 0.036 |
| | (0.019) | (0.020) | (0.023) | (0.023) | (0.028) | (0.025) | (0.024) | (0.020) |
| D7_rec2 | −0.018 | 0.040 | 0.094** | −0.017 | 0.033 | 0.055 | −0.052 | 0.041 |
| | (0.029) | (0.030) | (0.035) | (0.035) | (0.043) | (0.038) | (0.036) | (0.030) |
| D6_une1 | −0.014 | 0.008 | −0.101 | 0.144 | −0.077 | 0.043 | 0.097 | −0.074 |
| | (0.070) | (0.074) | (0.085) | (0.085) | (0.104) | (0.092) | (0.088) | (0.076) |
| D4_age | −0.003*** | −0.0001 | −0.005*** | 0.003*** | 0.006*** | −0.008*** | 0.001 | −0.005*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.068*** | 0.003 | 0.021*** | −0.016* | −0.013 | 0.003 | −0.011 | 0.023*** |
| | (0.005) | (0.005) | (0.006) | (0.006) | (0.008) | (0.007) | (0.006) | (0.005) |
| Constant | 0.278*** | 0.299*** | 0.469*** | 0.187*** | 0.136* | 0.720*** | 0.240*** | 0.453*** |
| | (0.044) | (0.046) | (0.053) | (0.053) | (0.065) | (0.057) | (0.055) | (0.046) |
| N | 863 | 864 | 864 | 864 | 865 | 863 | 864 | 841 |
| R-squared | 0.213 | 0.036 | 0.101 | 0.047 | 0.088 | 0.140 | 0.036 | 0.136 |
| Adj. R-squared | 0.203 | 0.023 | 0.090 | 0.034 | 0.077 | 0.128 | 0.023 | 0.125 |

***p < .001; **p < .01; *p < .05

Table 4.9: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **601** | **603** | **603** | **604** | **605** | **606** | **607** | **608** | **602** |
|---|---|---|---|---|---|---|---|---|---|
| | **Model 9** | **Model 10a** | **Model 10b** | **Model 11** | **Model 12** | **Model 13** | **Model 14** | **Model 15** | **Model 16** |
| D3_rec2 | 0.032 | 0.111 | 0.153 | −0.039 | −0.357 | −0.405* | −0.027 | −0.079 | 0.001 |
| | (0.419) | (0.502) | (0.495) | (0.265) | (0.339) | (0.199) | (0.244) | (0.295) | (0.377) |
| D8_rec1 | 0.185 | 0.547 | 0.455 | −0.056 | 0.008 | −0.002 | 0.117 | 0.509 | −1.146** |
| | (0.483) | (0.652) | (0.645) | (0.299) | (0.383) | (0.227) | (0.282) | (0.384) | (0.379) |
| D5_rec1 | −0.060 | −0.277 | −0.213 | −0.223 | −0.354 | 0.551** | 0.030 | 0.846* | −0.328 |
| | (0.436) | (0.514) | (0.505) | (0.269) | (0.333) | (0.213) | (0.254) | (0.354) | (0.383) |
| EDU_rec2 | −1.014 | 17.215 | | 0.025 | −0.513 | −0.028 | 0.298 | 0.945 | −0.546 |
| | (0.697) | (2200.736) | | (0.540) | (0.656) | (0.484) | (0.531) | (1.042) | (0.686) |
| EDU_rec3 | −0.680 | 16.563 | | 0.060 | −0.448 | −0.316 | 0.699 | 1.144 | 0.262 |
| | (0.700) | (2200.736) | | (0.549) | (0.688) | (0.500) | (0.530) | (1.046) | (0.666) |
| D1_rec1 | 0.030 | 0.803 | 0.827 | 0.175 | 0.693 | 0.527* | −0.176 | 0.253 | −0.155 |
| | (0.531) | (0.556) | (0.551) | (0.344) | (0.405) | (0.253) | (0.347) | (0.376) | (0.529) |
| D7_rec1 | 0.653 | −0.151 | | 0.206 | −0.314 | 0.554* | −0.506 | −0.585 | 0.997 |
| | (0.477) | (0.508) | | (0.307) | (0.351) | (0.217) | (0.271) | (0.329) | (0.520) |
| D7_rec2 | −1.370 | −16.813 | | 0.805* | −0.685 | 0.618 | −0.047 | 0.229 | 1.182 |
| | (1.131) | (1627.428) | | (0.393) | (0.661) | (0.334) | (0.360) | (0.423) | (0.626) |
| D6_une1 | −13.302 | −16.379 | | −14.133 | 0.953 | −0.308 | 0.296 | −13.887 | −14.354 |
| | (1083.416) | (4685.595) | | (681.233) | (1.107) | (1.097) | (0.804) | (671.864) | (1089.635) |
| D4_age | 0.004 | −0.015 | −0.001 | −0.004 | 0.038*** | 0.048*** | −0.025** | 0.011 | −0.025 |
| | (0.013) | (0.016) | (0.015) | (0.008) | (0.011) | (0.007) | (0.008) | (0.010) | (0.013) |
| D10_rec | 0.579*** | 0.079 | 0.052 | 0.088 | −0.159 | −0.020 | −0.124 | −0.093 | 0.091 |
| | (0.081) | (0.135) | (0.132) | (0.069) | (0.125) | (0.058) | (0.087) | (0.100) | (0.094) |
| Constant | −4.343*** | −20.454 | −4.406*** | −2.468*** | −3.991*** | −4.550*** | −1.310* | −4.985*** | −1.905* |
| | (0.970) | (2200.736) | (1.019) | (0.659) | (0.936) | (0.631) | (0.630) | (1.187) | (0.867) |
| N | 856 | 856 | 856 | 856 | 856 | 856 | 856 | 856 | 856 |
| Log Likelihood | −95.076 | −76.898 | −81.889 | −224.940 | −153.506 | −349.638 | −253.175 | −185.564 | −122.116 |
| AIC | 214.151 | 177.796 | 177.777 | 473.881 | 331.011 | 723.276 | 530.350 | 395.128 | 268.232 |

***p < .001; **p < .01; *p < .05

# 5 Croatia

Synthetic variables have been estimated for the full set of Croatian parties available in the original 2019 EES Croatian voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 5.1).

Table 5.1: Croatian relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_412 | 412 | Social Democratic Party of Croatia |
| stack_404 | 404 | Croation Democratic Union |
| stack_414 | 414 | Human Shield |
| stack_405 | 405 | Coaltion of HSS (1191810) + GRA?ANSKO-LIBERALNI SAVEZ - GLAS +IDS (1191953) |
| stack_406 | 406 | Bridge of Independent Lists |
| stack_413 | 413 | Party of Anti-corruption, Development and Transparency |
| stack_401 | 401 | Milan Bandic 365 – The Party of Labour and Solidarity |

Full OLS models converge and coefficients do not show any particular issue (see Table 5.13). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.029 for party 413 (Party of Anti-corruption, Development and Transparency) and a maximum of 0.119 for party 404 (Croation Democratic Union). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in all 7 cases out of 7 null models perform better than full ones (see Table 5.2).

Table 5.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_412 | 412 | 666.758 | 739.344 | -72.586 |
| stack_404 | 404 | 310.472 | 415.168 | -104.696 |
| stack_414 | 414 | 293.685 | 342.782 | -49.098 |
| stack_405 | 405 | 240.279 | 292.137 | -51.857 |
| stack_406 | 406 | 140.904 | 166.996 | -26.092 |
| stack_413 | 413 | 26.159 | 39.969 | -13.810 |
| stack_401 | 401 | -228.581 | -153.443 | -75.137 |

On the contrary, two out of seven logistic regression models (see Table 5.14) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 8a: D8_rec, D5_rec, EDU_rec, D7_rec (only for category 2), D6_une;
- Model 13a: EDU_rec, D6_une;

Those models 14a and 13a present more problematic profiles, since they affect its models constant terms through their inflated standard errors.

Model 8a and 13a inflated standard errors are due to separation issues. In short, no respondents with low education and in unemployment did vote for party 413 (see Tables 5.6, 5.7). As well as no respondents

from rural areas or small cities, single, low educated, with high subjective socioeconomic status (SES) and unemployed did vote for party 401 (see Tables 5.8, 5.9, 5.10, 5.11, 5.12).

As a consequence, a constrained version of model 8 and 13 (namely, Model 14b, 13b) without said variables was estimated and contrasted with the original (Model 14a, 13a), full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) can be rejected at p<0.1 for party 401 (see Table 5.3). For party 413 $H_0$ cannot be rejected (see Table 5.4) Consequently, synthetic variables for respondents' vote choice for party 401 and 413 have been predicted relying on the constrained model (Model 14b, 13b).

Table 5.3: Likelihood-ratio Test between Model 14a (Unconstrained) and Model 8b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 883 | 65.66908 | | | |
| Unconstrained | 876 | 52.29526 | 7 | 13.37382 | 0.0635075 |

Table 5.4: Likelihood-ratio Test between Model 13a (Unconstrained) and Model 13b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 879 | 145.7295 | | | |
| Unconstrained | 876 | 142.1282 | 3 | 3.60133 | 0.3078558 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.092 for party 413 (Party of Anti-corruption, Development and Transparency) and a maximum of 0.098 for party 412 (Social Democratic Party of Croatia). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 3 cases out of 7 null models perform better than full ones. According to AIC values the related null models appear to have a better fit than Model 13b and 14b (see Table 5.5).

Table 5.5: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_401 | 401 | 76.29500 | 73.92600 | 2.369000 |
| stack_401* | 401 | 75.66908 | 73.92592 | 1.743168 |
| stack_404 | 404 | 406.63000 | 425.29500 | -18.665000 |
| stack_405 | 405 | 292.77400 | 303.31300 | -10.539000 |
| stack_406 | 406 | 193.08600 | 185.68300 | 7.403000 |
| stack_412 | 412 | 599.94700 | 667.24200 | -67.294000 |
| stack_413 | 413 | 166.12800 | 154.17300 | 11.955000 |
| stack_413* | 413 | 163.72954 | 154.17283 | 9.556711 |
| stack_414 | 414 | 481.70400 | 472.07800 | 9.626000 |

* AIC value refers to Model 13b and 14b (constrained).

Table 5.6: Cross tabulation between vote choice for party 413 and respondents' education

| stack_413/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 41 | 434 | 440 | 44 | 959 |
| 1 | 0 | 5 | 10 | 1 | 16 |
| NA | 4 | 19 | 9 | 1 | 33 |
| Total | 45 | 458 | 459 | 46 | 1008 |

Table 5.7: Cross tabulation between vote choice for party 413 and respondents' employment status

| stack_413/D6_une | 0 | 1 | Total |
|---|---|---|---|
| 0 | 875 | 84 | 959 |
| 1 | 16 | 0 | 16 |
| NA | 29 | 4 | 33 |
| Total | 920 | 88 | 1008 |

Table 5.8: Cross tabulation between vote choice for party 401 and respondents' education

| stack_401/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 41 | 435 | 448 | 44 | 968 |
| 1 | 0 | 4 | 2 | 1 | 7 |
| NA | 4 | 19 | 9 | 1 | 33 |
| Total | 45 | 458 | 459 | 46 | 1008 |

Table 5.9: Cross tabulation between vote choice for party 401 and respondents' employment status

| stack_401/D6_une | 0 | 1 | Total |
|---|---|---|---|
| 0 | 884 | 84 | 968 |
| 1 | 7 | 0 | 7 |
| NA | 29 | 4 | 33 |
| Total | 920 | 88 | 1008 |

Table 5.10: Cross tabulation between vote choice for party 401 and respondents' subjective SES membership

| stack_401/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 383 | 429 | 133 | 23 | 968 |
| 1 | 2 | 4 | 1 | 0 | 7 |
| NA | 13 | 16 | 3 | 1 | 33 |
| Total | 398 | 449 | 137 | 24 | 1008 |

Table 5.11: Cross tabulation between vote choice for party 401 and respondents' marital status

| stack_401/D5_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 330 | 638 | 968 |
| 1 | 0 | 7 | 7 |
| NA | 9 | 24 | 33 |
| Total | 339 | 669 | 1008 |

Table 5.12: Cross tabulation between vote choice for party 401 and respondents' area of residency

| stack_401/D8_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 179 | 789 | 968 |
| 1 | 0 | 7 | 7 |
| NA | 8 | 25 | 33 |
| Total | 187 | 821 | 1008 |

Table 5.13: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **412** | **404** | **414** | **405** | **406** | **413** | **401** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | −0.021 | −0.001 | 0.005 | 0.006 | 0.003 | −0.028 | 0.014 |
| | (0.023) | (0.019) | (0.019) | (0.019) | (0.017) | (0.017) | (0.014) |
| D8_rec1 | −0.038 | 0.008 | −0.037 | 0.028 | −0.004 | 0.034 | 0.009 |
| | (0.030) | (0.024) | (0.024) | (0.024) | (0.022) | (0.022) | (0.018) |
| D5_rec1 | −0.093*** | 0.005 | −0.045* | −0.068** | −0.022 | −0.023 | −0.027 |
| | (0.025) | (0.021) | (0.021) | (0.021) | (0.019) | (0.019) | (0.015) |
| EDU_rec2 | −0.095 | −0.098 | −0.131** | −0.157** | −0.133** | −0.167*** | −0.045 |
| | (0.062) | (0.051) | (0.050) | (0.052) | (0.046) | (0.048) | (0.038) |
| EDU_rec3 | −0.067 | −0.060 | −0.174*** | −0.110* | −0.139** | −0.168*** | −0.074 |
| | (0.063) | (0.052) | (0.051) | (0.053) | (0.047) | (0.049) | (0.038) |
| D1_rec1 | 0.050 | 0.066** | −0.008 | 0.008 | 0.014 | 0.034 | −0.005 |
| | (0.027) | (0.022) | (0.022) | (0.022) | (0.020) | (0.020) | (0.016) |
| D7_rec1 | 0.105*** | 0.047* | 0.014 | 0.083*** | 0.039* | 0.051** | 0.037* |
| | (0.025) | (0.021) | (0.020) | (0.020) | (0.019) | (0.019) | (0.015) |
| D7_rec2 | 0.099** | 0.113*** | 0.015 | 0.083** | 0.037 | 0.032 | 0.025 |
| | (0.037) | (0.030) | (0.030) | (0.030) | (0.028) | (0.027) | (0.023) |
| D6_une1 | 0.026 | −0.013 | 0.024 | 0.006 | 0.041 | −0.005 | −0.030 |
| | (0.042) | (0.035) | (0.034) | (0.034) | (0.031) | (0.031) | (0.026) |
| D4_age | 0.005*** | 0.0004 | −0.003*** | 0.001 | −0.001 | 0.0001 | −0.003*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | −0.028*** | 0.042*** | −0.001 | −0.022*** | 0.015*** | −0.008* | 0.020*** |
| | (0.005) | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) | (0.003) |
| Constant | 0.311*** | 0.089 | 0.574*** | 0.332*** | 0.347*** | 0.313*** | 0.231*** |
| | (0.071) | (0.058) | (0.058) | (0.059) | (0.053) | (0.055) | (0.043) |
| N | 911 | 912 | 911 | 868 | 911 | 829 | 910 |
| R-squared | 0.099 | 0.130 | 0.075 | 0.082 | 0.051 | 0.042 | 0.101 |
| Adj. R-squared | 0.088 | 0.119 | 0.064 | 0.070 | 0.040 | 0.029 | 0.090 |

***p < .001; **p < .01; *p < .05

Table 5.14: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **412** | **404** | **414** | **405** | **406** | **413** | **413** | **401** | **401** |
|---|---|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13a** | **Model 13b** | **Model 14a** | **Model 14b** |
| D3_rec2 | −0.129 | −0.514 | −0.456 | 0.827* | −0.095 | −0.423 | −0.459 | 0.701 | 0.568 |
| | (0.220) | (0.290) | (0.263) | (0.375) | (0.477) | (0.541) | (0.539) | (0.893) | (0.875) |
| D8_rec1 | 0.323 | −0.239 | −0.198 | 0.774 | 0.462 | −0.292 | −0.225 | 18.994 | |
| | (0.324) | (0.346) | (0.317) | (0.622) | (0.660) | (0.666) | (0.660) | (5163.834) | |
| D5_rec1 | −0.374 | 0.525 | 0.168 | 0.118 | −0.111 | 0.102 | 0.152 | 18.677 | |
| | (0.236) | (0.346) | (0.287) | (0.391) | (0.517) | (0.603) | (0.604) | (3933.114) | |
| EDU_rec2 | −0.189 | 0.037 | −0.362 | −0.474 | −1.281 | 14.858 | | 18.318 | |
| | (0.826) | (0.707) | (0.563) | (1.142) | (0.781) | (1761.469) | | (9794.447) | |
| EDU_rec3 | −0.054 | 0.428 | −0.271 | −0.271 | −1.348 | 15.390 | | 17.456 | |
| | (0.823) | (0.709) | (0.578) | (1.134) | (0.816) | (1761.469) | | (9794.447) | |
| D1_rec1 | 0.575* | 0.515 | −0.116 | 0.478 | 0.662 | 0.059 | 0.112 | −0.967 | −0.707 |
| | (0.238) | (0.296) | (0.305) | (0.391) | (0.487) | (0.601) | (0.601) | (1.119) | (1.107) |
| D7_rec1 | 0.666** | 0.250 | −0.187 | 0.928* | −0.151 | −0.108 | 0.007 | 0.675 | |
| | (0.251) | (0.338) | (0.284) | (0.455) | (0.522) | (0.625) | (0.613) | (0.927) | |
| D7_rec2 | 0.713* | 1.181** | −0.041 | 1.280* | 0.100 | 0.791 | 0.979 | −17.869 | |
| | (0.350) | (0.400) | (0.397) | (0.552) | (0.720) | (0.704) | (0.685) | (6002.379) | |
| D6_une1 | −0.945 | −0.250 | 0.344 | −0.263 | −0.262 | −15.334 | | −19.065 | |
| | (0.613) | (0.627) | (0.432) | (0.762) | (1.057) | (1237.430) | | (7686.376) | |
| D4_age | 0.053*** | −0.001 | −0.025* | 0.028* | 0.006 | 0.022 | 0.030 | −0.026 | −0.002 |
| | (0.009) | (0.011) | (0.011) | (0.013) | (0.018) | (0.020) | (0.020) | (0.034) | (0.029) |
| D10_rec | −0.202*** | 0.273*** | −0.024 | −0.314** | 0.292** | −0.082 | −0.093 | 0.473* | 0.444* |
| | (0.057) | (0.065) | (0.061) | (0.104) | (0.109) | (0.133) | (0.131) | (0.208) | (0.202) |
| Constant | −4.496*** | −4.112*** | −0.755 | −5.633*** | −4.225*** | −19.746 | −5.198*** | −60.802 | −6.646*** |
| | (0.933) | (0.860) | (0.677) | (1.365) | (1.136) | (1761.469) | (1.273) | (11750.140) | (1.667) |
| N | 888 | 888 | 888 | 888 | 888 | 888 | 888 | 888 | 888 |
| Log Likelihood | −287.974 | −191.315 | −228.852 | −134.387 | −84.543 | −71.064 | −72.865 | −26.148 | −32.835 |
| AIC | 599.947 | 406.630 | 481.704 | 292.774 | 193.086 | 166.128 | 163.730 | 76.295 | 75.669 |

***p < .001; **p < .01; *p < .05

# 6 Cyprus

Synthetic variables have been estimated for the full set of Cypriot parties available in the original 2019 EES Cypriot voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 6.1).

Table 6.1: Cypriot relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_501 | 501 | Progressive Party of the Working People |
| stack_502 | 502 | Democratic Rally |
| stack_503 | 503 | Democratic Party |
| stack_504 | 504 | United Democratic Union of Centre |
| stack_505 | 505 | Ecological and Environmental Movement (Cyprus Green Party) |
| stack_507 | 507 | National Popular Front |

Full OLS models converge and coefficients do not show any particular issue (see Table 6.11). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of -0.007 for party 504 (United Democratic Union of Centre) and a maximum of 0.079 for party 502 (Democratic Rally). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 4 cases out of 6 null models perform better than full ones (see Table 6.2).

Table 6.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_501 | 501 | 343.229 | 362.833 | -19.603 |
| stack_502 | 502 | 398.664 | 423.119 | -24.454 |
| stack_503 | 503 | 263.353 | 256.408 | 6.945 |
| stack_504 | 504 | 146.189 | 132.322 | 13.867 |
| stack_505 | 505 | 114.659 | 107.763 | 6.896 |
| stack_507 | 507 | 205.547 | 199.847 | 5.700 |

On the contrary, three out of six logistic regression models (see Table 6.12) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 9: D7_rec (only for category 2);
- Model 11a: D8_rec, D5_rec, EDU_rec, D7_rec (only for category 2), D6_une;
- Model 12: D6_une.

Nevertheless, models 9 and 12 constant terms and other regression coefficients are not affected by said inflated standard errors, whereas model 5a presents a more problematic profile.

Model 11a inflated standard errors are due to separation issues. In short, no respondents from rural areas or small cities, single, low educated, with high subjective socioeconomic status (SES), members of trade unions, and unemployed did vote for party 505 (see Tables 6.5, 6.6, 6.7, 6.8, 6.9, 6.10).

As a consequence, a constrained version of model 11 (namely, Model 11b) without said variables was estimated and contrasted with the original (Model 11a), full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) cannot be rejected (see Table 6.3). Consequently, synthetic variables for respondents' vote choice for party 505 have been predicted relying on the constrained model (Model 11b).

Table 6.3: Likelihood-ratio Test between Model 5a (Unconstrained) and Model 5b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 390 | 52.23925 | | | |
| Unconstrained | 382 | 39.43782 | 8 | 12.80143 | 0.1188668 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.183 for party 505 (Ecological and Environmental Movement (Cyprus Green Party)) and a maximum of 0.068 for party 501 (Progressive Party of the Working People). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 3 cases out of 6 null models perform better than full ones. According to AIC values the related null model appears to have a better fit than Model 11b (see Table 6.4).

Table 6.4: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_501 | 501 | 264.62700 | 285.99700 | -21.370000 |
| stack_502 | 502 | 358.88900 | 382.63700 | -23.749000 |
| stack_503 | 503 | 233.62800 | 228.82500 | 4.803000 |
| stack_504 | 504 | 151.57100 | 135.86200 | 15.709000 |
| stack_505 | 505 | 63.43800 | 55.60500 | 7.832000 |
| stack_505* | 505 | 60.23925 | 55.60541 | 4.633845 |
| stack_507 | 507 | 115.46200 | 116.26300 | -0.800000 |

* AIC value refers to Model 11b (constrained).

Table 6.5: Cross tabulation between vote choice for party 505 and respondents' area of residency

| stack_505/D8_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 84 | 354 | 438 |
| 1 | 0 | 5 | 5 |
| NA | 10 | 48 | 58 |
| Total | 94 | 407 | 501 |

Table 6.6: Cross tabulation between vote choice for party 505 and respondents' marital status

| stack_505/D5_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 104 | 334 | 438 |
| 1 | 0 | 5 | 5 |
| NA | 14 | 44 | 58 |
| Total | 118 | 383 | 501 |

Table 6.7: Cross tabulation between vote choice for party 505 and respondents' education

| stack_505/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 92 | 175 | 154 | 17 | 438 |
| 1 | 0 | 2 | 3 | 0 | 5 |
| NA | 5 | 20 | 33 | 0 | 58 |
| Total | 97 | 197 | 190 | 17 | 501 |

Table 6.8: Cross tabulation between vote choice for party 505 and respondents' subjective SES

| stack_505/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 161 | 246 | 25 | 6 | 438 |
| 1 | 2 | 3 | 0 | 0 | 5 |
| NA | 24 | 30 | 2 | 2 | 58 |
| Total | 187 | 279 | 27 | 8 | 501 |

Table 6.9: Cross tabulation between vote choice for party 505 and respondents' trade union membership

| stack_505/D1_rec | 0 | 1 | NA | Total |
|---|---|---|---|---|
| 0 | 339 | 84 | 15 | 438 |
| 1 | 5 | 0 | 0 | 5 |
| NA | 47 | 8 | 3 | 58 |
| Total | 391 | 92 | 18 | 501 |

Table 6.10: Cross tabulation between vote choice for party 505 and respondents' employment status

| stack_505/D6_une | 0 | 1 | NA | Total |
|---|---|---|---|---|
| 0 | 398 | 39 | 1 | 438 |
| 1 | 5 | 0 | 0 | 5 |
| NA | 55 | 3 | 0 | 58 |
| Total | 458 | 42 | 1 | 501 |

Table 6.11: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **501** | **502** | **503** | **504** | **505** | **507** |
|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| D3_rec2 | 0.095** | −0.057 | 0.047 | 0.012 | 0.054 | −0.086** |
| | (0.036) | (0.038) | (0.032) | (0.029) | (0.027) | (0.030) |
| D8_rec1 | 0.023 | −0.039 | 0.010 | 0.012 | 0.007 | 0.017 |
| | (0.046) | (0.049) | (0.041) | (0.036) | (0.035) | (0.039) |
| D5_rec1 | 0.041 | −0.022 | 0.036 | 0.021 | 0.025 | −0.015 |
| | (0.043) | (0.046) | (0.039) | (0.034) | (0.033) | (0.036) |
| EDU_rec2 | −0.106* | 0.111* | 0.069 | 0.037 | 0.015 | 0.027 |
| | (0.050) | (0.053) | (0.045) | (0.040) | (0.038) | (0.042) |
| EDU_rec3 | −0.091 | 0.152** | 0.087 | 0.056 | 0.062 | 0.002 |
| | (0.055) | (0.059) | (0.050) | (0.044) | (0.042) | (0.046) |
| D1_rec1 | 0.022 | 0.126** | 0.026 | −0.020 | −0.009 | 0.059 |
| | (0.044) | (0.047) | (0.040) | (0.035) | (0.034) | (0.037) |
| D7_rec1 | −0.135*** | 0.099* | 0.006 | −0.003 | 0.019 | −0.006 |
| | (0.037) | (0.040) | (0.034) | (0.030) | (0.029) | (0.032) |
| D7_rec2 | −0.015 | 0.166 | 0.063 | 0.110 | 0.068 | −0.073 |
| | (0.083) | (0.089) | (0.076) | (0.066) | (0.064) | (0.071) |
| D6_une1 | 0.141* | 0.004 | 0.048 | 0.025 | 0.014 | −0.029 |
| | (0.062) | (0.066) | (0.056) | (0.049) | (0.049) | (0.054) |
| D4_age | 0.0002 | 0.002* | 0.002* | −0.0002 | −0.001 | −0.002 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | −0.027* | 0.043*** | −0.002 | 0.010 | 0.002 | 0.007 |
| | (0.012) | (0.012) | (0.011) | (0.009) | (0.009) | (0.010) |
| Constant | 0.436*** | −0.012 | 0.071 | 0.118 | 0.122 | 0.267*** |
| | (0.086) | (0.093) | (0.079) | (0.069) | (0.067) | (0.074) |
| N | 429 | 429 | 430 | 426 | 426 | 427 |
| R-squared | 0.092 | 0.103 | 0.034 | 0.019 | 0.035 | 0.037 |
| Adj. R-squared | 0.068 | 0.079 | 0.009 | −0.007 | 0.009 | 0.012 |

***p < .001; **p < .01; *p < .05

Table 6.12: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **501** | **502** | **503** | **504** | **505** | **505** | **507** |
|---|---|---|---|---|---|---|---|
| | **Model 7** | **Model 8** | **Model 9** | **Model 10** | **Model 11a** | **Model 11b** | **Model 12** |
| D3_rec2 | 0.831* | 0.009 | −0.026 | −0.574 | 0.765 | 0.480 | −0.710 |
| | (0.376) | (0.289) | (0.396) | (0.535) | (1.003) | (0.948) | (0.666) |
| D8_rec1 | −0.400 | −0.590 | −0.453 | −0.126 | 17.416 | | 0.650 |
| | (0.405) | (0.342) | (0.458) | (0.695) | (4596.323) | | (0.866) |
| D5_rec1 | 0.788 | −0.058 | 0.178 | −0.254 | 18.156 | | 0.607 |
| | (0.472) | (0.366) | (0.498) | (0.652) | (4131.731) | | (0.859) |
| EDU_rec2 | −0.578 | 0.084 | 0.412 | −0.706 | 18.744 | | 0.527 |
| | (0.435) | (0.407) | (0.541) | (0.731) | (4353.602) | | (0.830) |
| EDU_rec3 | −0.558 | 0.567 | 0.841 | −0.133 | 19.398 | | −2.071 |
| | (0.552) | (0.474) | (0.657) | (0.748) | (4353.602) | | (1.285) |
| D1_rec1 | 0.116 | 0.366 | 0.500 | 0.393 | −18.666 | | 1.438* |
| | (0.415) | (0.322) | (0.422) | (0.614) | (4622.859) | | (0.629) |
| D7_rec1 | −1.147** | 0.862* | −0.585 | 1.074 | −0.675 | | 0.979 |
| | (0.377) | (0.339) | (0.405) | (0.692) | (0.992) | | (0.739) |
| D7_rec2 | −1.344 | 0.869 | −15.491 | 1.801 | −19.230 | | 0.864 |
| | (1.081) | (0.677) | (846.929) | (0.990) | (9246.777) | | (1.327) |
| D6_une1 | 0.740 | −0.166 | 0.593 | −0.022 | −17.834 | | −16.117 |
| | (0.517) | (0.577) | (0.610) | (1.079) | (6687.900) | | (1678.260) |
| D4_age | 0.031* | 0.035*** | 0.035* | 0.005 | 0.047 | 0.019 | −0.024 |
| | (0.012) | (0.010) | (0.014) | (0.016) | (0.039) | (0.026) | (0.020) |
| D10_rec | −0.136 | 0.252** | 0.045 | 0.009 | −0.328 | −0.294 | −0.251 |
| | (0.113) | (0.098) | (0.127) | (0.167) | (0.303) | (0.286) | (0.222) |
| Constant | −3.008** | −4.667*** | −4.409*** | −3.456** | −58.902 | −4.437** | −3.020* |
| | (0.979) | (0.799) | (1.124) | (1.269) | (7559.844) | (1.605) | (1.380) |
| N | 394 | 394 | 394 | 394 | 394 | 394 | 394 |
| Log Likelihood | −120.313 | −167.444 | −104.814 | −63.785 | −19.719 | −26.120 | −45.731 |
| AIC | 264.627 | 358.889 | 233.628 | 151.571 | 63.438 | 60.239 | 115.462 |

***p < .001; **p < .01; *p < .05

# 7 Denmark

Synthetic variables have been estimated for seven of ten of Danish parties available in the original 2019 EES Danish voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 7.1).

Table 7.1: Danish relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_701 | 701 | Social Democratic Party |
| stack_702 | 702 | Liberals |
| stack_703 | 703 | Danish People's Party |
| stack_704 | 704 | Radical Party |
| stack_705 | 705 | Socialist People's Party |
| stack_706 | 706 | Red-Green Unity List |
| stack_707 | 707 | Conservative People's Party |

Full OLS models converge and coefficients do not show any particular issue (see Table 7.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.006 for party 703 (Danish People's Party) and a maximum of 0.088 for party 707 (Conservative People's Party). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 1 case out of 7 null models perform better than full ones (see Table 7.2).

Table 7.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_701 | 701 | 600.463 | 650.130 | -49.667 |
| stack_702 | 702 | 664.818 | 698.147 | -33.329 |
| stack_703 | 703 | 708.256 | 702.351 | 5.905 |
| stack_704 | 704 | 320.091 | 385.068 | -64.976 |
| stack_705 | 705 | 604.462 | 637.521 | -33.060 |
| stack_706 | 706 | 651.928 | 694.182 | -42.255 |
| stack_707 | 707 | 363.465 | 431.607 | -68.141 |

Furthermore, there were no unusual standard errors for any coefficients in the logistic regression models. (see Table 7.5)

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.044 for party 704 (Radical Party) and a maximum of 0.016 for party 703 (Danish People's Party). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 3 cases out of 7 null models perform better than full ones (see Table 7.3).

Table 7.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_701 | 701 | 757.463 | 771.073 | -13.610 |
| stack_702 | 702 | 746.983 | 757.681 | -10.698 |
| stack_703 | 703 | 591.403 | 602.927 | -11.523 |
| stack_704 | 704 | 394.100 | 379.564 | 14.536 |
| stack_705 | 705 | 524.266 | 523.116 | 1.150 |
| stack_706 | 706 | 409.327 | 412.696 | -3.369 |
| stack_707 | 707 | 316.348 | 314.621 | 1.727 |

Table 7.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **701** | **702** | **703** | **704** | **705** | **706** | **707** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.083*** | −0.050* | −0.068** | 0.035 | 0.088*** | 0.044 | −0.086*** |
| | (0.023) | (0.024) | (0.024) | (0.020) | (0.023) | (0.024) | (0.020) |
| D8_rec1 | 0.069* | 0.001 | 0.036 | 0.001 | 0.065* | 0.053 | 0.020 |
| | (0.028) | (0.029) | (0.030) | (0.024) | (0.028) | (0.029) | (0.025) |
| D5_rec1 | −0.008 | 0.036 | 0.026 | −0.025 | −0.022 | −0.039 | −0.006 |
| | (0.024) | (0.025) | (0.026) | (0.021) | (0.025) | (0.026) | (0.022) |
| EDU_rec2 | −0.060 | 0.112* | 0.037 | −0.034 | −0.069 | −0.056 | 0.070 |
| | (0.051) | (0.053) | (0.055) | (0.044) | (0.053) | (0.054) | (0.046) |
| EDU_rec3 | −0.023 | 0.038 | −0.005 | 0.004 | −0.004 | 0.003 | 0.048 |
| | (0.048) | (0.049) | (0.051) | (0.041) | (0.049) | (0.050) | (0.042) |
| D1_rec1 | 0.137*** | −0.056* | −0.002 | 0.004 | 0.066* | 0.040 | −0.009 |
| | (0.026) | (0.027) | (0.028) | (0.022) | (0.026) | (0.027) | (0.023) |
| D7_rec1 | −0.001 | 0.100*** | −0.047 | 0.045* | −0.019 | −0.021 | 0.063** |
| | (0.026) | (0.027) | (0.028) | (0.022) | (0.027) | (0.027) | (0.023) |
| D7_rec2 | −0.118** | 0.173*** | −0.053 | 0.048 | −0.076* | −0.113** | 0.192*** |
| | (0.036) | (0.037) | (0.038) | (0.031) | (0.036) | (0.037) | (0.032) |
| D6_une1 | 0.053 | −0.057 | −0.004 | −0.022 | −0.043 | −0.033 | −0.090* |
| | (0.047) | (0.049) | (0.051) | (0.041) | (0.048) | (0.050) | (0.042) |
| D4_age | 0.0001 | −0.002* | 0.001 | −0.005*** | −0.002** | −0.004*** | −0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.015* | 0.023** | 0.005 | 0.013* | 0.013 | 0.008 | 0.029*** |
| | (0.007) | (0.007) | (0.007) | (0.006) | (0.007) | (0.007) | (0.006) |
| Constant | 0.353*** | 0.386*** | 0.312*** | 0.509*** | 0.379*** | 0.490*** | 0.269*** |
| | (0.062) | (0.064) | (0.066) | (0.053) | (0.063) | (0.065) | (0.055) |
| N | 879 | 878 | 877 | 873 | 863 | 861 | 863 |
| R-squared | 0.078 | 0.061 | 0.018 | 0.095 | 0.062 | 0.072 | 0.099 |
| Adj. R-squared | 0.067 | 0.049 | 0.006 | 0.083 | 0.050 | 0.060 | 0.088 |

***p < .001; **p < .01; *p < .05

Table 7.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **701** | **702** | **703** | **704** | **705** | **706** | **707** |
|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** |
| D3_rec2 | 0.523** | −0.191 | −0.729** | −0.078 | 0.871*** | 0.167 | −0.356 |
| | (0.193) | (0.193) | (0.230) | (0.296) | (0.261) | (0.284) | (0.347) |
| D8_rec1 | 0.123 | 0.007 | 0.418 | −0.134 | −0.413 | −0.011 | −0.484 |
| | (0.233) | (0.231) | (0.296) | (0.361) | (0.276) | (0.348) | (0.374) |
| D5_rec1 | 0.072 | 0.408 | −0.308 | −0.334 | −0.074 | −0.039 | 0.190 |
| | (0.201) | (0.212) | (0.234) | (0.310) | (0.259) | (0.296) | (0.374) |
| EDU_rec2 | −0.608 | −0.463 | 0.769 | 0.757 | 0.059 | −0.267 | 0.413 |
| | (0.418) | (0.452) | (0.652) | (0.815) | (0.628) | (0.635) | (0.829) |
| EDU_rec3 | −0.382 | −0.330 | 0.415 | 0.926 | 0.547 | 0.006 | −0.252 |
| | (0.372) | (0.408) | (0.630) | (0.777) | (0.575) | (0.584) | (0.795) |
| D1_rec1 | 0.719** | −0.199 | −0.234 | 0.536 | −0.224 | 0.243 | 0.009 |
| | (0.232) | (0.216) | (0.241) | (0.366) | (0.272) | (0.320) | (0.392) |
| D7_rec1 | 0.127 | 0.504* | 0.130 | 0.013 | 0.101 | −0.005 | 0.534 |
| | (0.213) | (0.244) | (0.257) | (0.335) | (0.290) | (0.299) | (0.468) |
| D7_rec2 | −0.565 | 1.006*** | −0.174 | 0.086 | 0.554 | −2.400* | 1.381** |
| | (0.330) | (0.290) | (0.372) | (0.458) | (0.352) | (1.034) | (0.510) |
| D6_une1 | 0.166 | 0.189 | −0.184 | −0.598 | −0.248 | −0.884 | −0.477 |
| | (0.363) | (0.407) | (0.496) | (0.744) | (0.545) | (0.741) | (1.039) |
| D4_age | 0.004 | 0.012 | 0.025** | −0.012 | −0.006 | 0.003 | 0.011 |
| | (0.006) | (0.006) | (0.008) | (0.010) | (0.008) | (0.009) | (0.011) |
| D10_rec | 0.158** | 0.063 | −0.032 | −0.026 | 0.012 | −0.309** | 0.172 |
| | (0.052) | (0.054) | (0.068) | (0.086) | (0.070) | (0.110) | (0.090) |
| Constant | −2.640*** | −2.587*** | −3.542*** | −3.088*** | −2.640*** | −2.409** | −4.064*** |
| | (0.515) | (0.537) | (0.757) | (0.926) | (0.700) | (0.757) | (1.000) |
| N | 874 | 874 | 874 | 874 | 874 | 874 | 874 |
| Log Likelihood | −366.732 | −361.492 | −283.702 | −185.050 | −250.133 | −192.664 | −146.174 |
| AIC | 757.463 | 746.983 | 591.403 | 394.100 | 524.266 | 409.327 | 316.348 |

***p < .001; **p < .01; *p < .05

# 8 Estonia

Synthetic variables have been estimated for seven of twelve Estonian parties available in the original 2019 EES Estonian voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 8.1).

Table 8.1: Estonian relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_901 | 901 | Estonian Reform Party |
| stack_902 | 902 | Estonian Center Party |
| stack_903 | 903 | Conservative People's Party of Estonia |
| stack_904 | 904 | Union for the Republic – Res Publica |
| stack_905 | 905 | Social Democratic Party |
| stack_906 | 906 | Estonia 200 |
| stack_907 | 907 | Estonian Greens |

Full OLS models converge and coefficients do not show any particular issue (see Table 8.13). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.026 for party 906 (Estonia 200) and a maximum of 0.061 for party 905 (Social Democratic Party). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 0 cases out of 7 null models perform better than full ones (see Table 8.2).

Table 8.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_901 | 901 | 648.376 | 681.225 | -32.850 |
| stack_902 | 902 | 468.344 | 482.379 | -14.035 |
| stack_903 | 903 | 523.076 | 555.418 | -32.342 |
| stack_904 | 904 | 315.169 | 331.505 | -16.336 |
| stack_905 | 905 | 366.351 | 406.867 | -40.517 |
| stack_906 | 906 | 322.705 | 332.960 | -10.255 |
| stack_907 | 907 | 171.172 | 186.800 | -15.628 |

On the contrary, three out of seven logistic regression models (see Table 8.14) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 9: D6_une;
- Model 13a: EDU_rec;
- Model 14a: D5_rec, EDU_rec, D1_rec, D6_une.

Nevertheless, model's 9 constant terms and other regression coefficients are not affected by said inflated standard errors, whereas model 13a and 14a present a more problematic profile.

Model 13a's and 14a's inflated standard errors are due to separation issues. In short, no respondents from respondents with low education did vote for party 906 (see Table 8.8) and no respondents with low

education, with high subjective social status, no members of trade unions, and unemployed and only very few respondents married or in partnership as well as married or in a partnership (2 and 9) did vote for party 907 (see Tables 8.9, 8.10, 8.11, 8.12).

As a consequence, a constrained version of model 13 (namely, Model 13b) without said variable was estimated and contrasted with the original (Model 13a), full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) cannot be rejected (see Table 8.3). Consequently, synthetic variables for respondents' vote choice for party 906 have been predicted relying on the constrained model (Model 13b).

Table 8.3: Likelihood-ratio Test between Model 13a (Unconstrained) and Model 13b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 800 | 202.9630 | | | |
| Unconstrained | 798 | 198.2016 | 2 | 4.761363 | 0.0924875 |

In 8.9 there is no 0 disrupting our logit regression. As a consequence, a constrained version of model 14 (namely, Model 14b_1) without said variables and without D5_rec was estimated and contrasted with the original (Model 14a), full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) cannot be rejected (see Table 8.4).

Furthermore, another constrained version of model 14 (namely, Model 14b_2) without said variables, but with D5_rec, was estimated and contrasted with the original (Model 14a), full model. Model 14b_2 is therefore less constrained than 14b_1 (by D5_rec). Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) cannot be rejected (see Table 8.5).

Then we compared the fit of 14b_1 and 14b_2. Likelihood-ratio test results show that $H_0$ (namely, that the 'fuller' constrained model with D5_rec fits better than the constrained model without D5_rec) cannot be rejected (see Table 8.5). Consequently, synthetic variables for respondents' vote choice for party 907 have been predicted relying on the less constrained model with D5_rec (Model 14b_2).

Table 8.4: Likelihood-ratio Test between Model 14a (Unconstrained) and Model 14b1 (Constrained and without D5rec)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 803 | 85.96929 | | | |
| Unconstrained | 798 | 75.48917 | 5 | 10.48012 | 0.0627196 |

Table 8.5: Likelihood-ratio Test between Model 14a (Unconstrained) and Model 14b2 (Constrained and with D5rec)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 802 | 79.88766 | | | |
| Unconstrained | 798 | 75.48917 | 4 | 4.398489 | 0.3547543 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.108 for party 907 (Estonian Greens) and a maximum of 0.038 for party 903 (Conservative People's Party of Estonia). Moreover, the difference between Akaike Information Criterion (AIC) values for

Table 8.6: Likelihood-ratio Test between Model 14b1 (Constrained and without D5rec, here Constrained) and Model 14b2 (Constrained and with D5rec, here Unconstrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 803 | 85.96929 | | | |
| Unconstrained | 802 | 79.88766 | 1 | 6.081631 | 0.0136595 |

logistic full models and null models shows that in 3 cases out of 7 null models perform better than full ones. According to AIC values the related null model appears to have a better fit than Model 13b and 14b_2 (see Table 8.7).

Table 8.7: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_901 | 901 | 694.22900 | 705.58000 | -11.351000 |
| stack_902 | 902 | 508.86500 | 506.31300 | 2.552000 |
| stack_903 | 903 | 506.76400 | 528.63400 | -21.871000 |
| stack_904 | 904 | 415.12500 | 419.58900 | -4.464000 |
| stack_905 | 905 | 652.00400 | 649.26800 | 2.736000 |
| stack_906 | 906 | 222.20200 | 211.17100 | 11.030000 |
| stack_906* | 906 | 222.96295 | 211.17148 | 11.791471 |
| stack_907 | 907 | 99.48900 | 91.80200 | 7.687000 |
| stack_907* | 907 | 99.96929 | 91.80221 | 8.167081 |

* AIC value refers to Model 13b for 906* (constrained) and 14b_2 for 907* (constrained and with D5_rec).

Table 8.8: Cross tabulation between vote choice for party 906 and respondents' education

| stack_906/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 46 | 456 | 425 | 29 | 956 |
| 1 | 0 | 9 | 18 | 0 | 27 |
| NA | 0 | 8 | 8 | 1 | 17 |
| Total | 46 | 473 | 451 | 30 | 1000 |

Table 8.9: Cross tabulation between vote choice for party 907 and respondents' marital status

| stack_907/D5_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 328 | 644 | 972 |
| 1 | 2 | 9 | 11 |
| NA | 7 | 10 | 17 |
| Total | 337 | 663 | 1000 |

Table 8.10: Cross tabulation between vote choice for party 907 and respondents' education

| stack_907/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 46 | 463 | 436 | 27 | 972 |
| 1 | 0 | 2 | 7 | 2 | 11 |
| NA | 0 | 8 | 8 | 1 | 17 |
| Total | 46 | 473 | 451 | 30 | 1000 |

Table 8.11: Cross tabulation between vote choice for party 907 and respondents' trade union membership

| stack_907/D1_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 880 | 92 | 972 |
| 1 | 11 | 0 | 11 |
| NA | 16 | 1 | 17 |
| Total | 907 | 93 | 1000 |

Table 8.12: Cross tabulation between vote choice for party 907 and respondents' employment status

| stack_907/D6_une | 0 | 1 | Total |
|---|---|---|---|
| 0 | 945 | 27 | 972 |
| 1 | 11 | 0 | 11 |
| NA | 16 | 1 | 17 |
| Total | 972 | 28 | 1000 |

Table 8.13: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **901** | **902** | **903** | **904** | **905** | **906** | **907** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.042 | −0.012 | −0.127*** | −0.039 | 0.126*** | 0.035 | 0.075*** |
| | (0.026) | (0.023) | (0.024) | (0.021) | (0.021) | (0.021) | (0.019) |
| D8_rec1 | 0.011 | 0.050 | −0.080** | −0.112*** | 0.036 | 0.027 | 0.024 |
| | (0.029) | (0.025) | (0.026) | (0.023) | (0.024) | (0.024) | (0.021) |
| D5_rec1 | 0.009 | −0.021 | −0.015 | −0.034 | 0.010 | 0.026 | −0.002 |
| | (0.027) | (0.024) | (0.025) | (0.022) | (0.023) | (0.023) | (0.020) |
| EDU_rec2 | −0.086 | 0.074 | 0.011 | 0.025 | −0.017 | −0.045 | −0.030 |
| | (0.061) | (0.055) | (0.058) | (0.051) | (0.052) | (0.051) | (0.046) |
| EDU_rec3 | −0.034 | 0.039 | −0.012 | 0.049 | 0.006 | −0.008 | −0.006 |
| | (0.061) | (0.055) | (0.058) | (0.051) | (0.052) | (0.051) | (0.046) |
| D1_rec1 | −0.066 | 0.058 | −0.008 | −0.062 | 0.028 | −0.041 | −0.047 |
| | (0.042) | (0.038) | (0.039) | (0.034) | (0.036) | (0.035) | (0.032) |
| D7_rec1 | 0.100*** | −0.042 | −0.049 | 0.001 | 0.014 | 0.023 | 0.009 |
| | (0.027) | (0.024) | (0.025) | (0.022) | (0.023) | (0.023) | (0.020) |
| D7_rec2 | 0.175*** | −0.080* | −0.084* | −0.042 | 0.062 | 0.099** | 0.032 |
| | (0.042) | (0.038) | (0.039) | (0.035) | (0.035) | (0.035) | (0.031) |
| D6_une1 | −0.108 | −0.027 | 0.032 | −0.065 | −0.047 | 0.021 | 0.070 |
| | (0.075) | (0.067) | (0.069) | (0.061) | (0.063) | (0.063) | (0.056) |
| D4_age | −0.001 | 0.001 | 0.001 | 0.0004 | −0.003*** | −0.001* | −0.002*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | −0.022** | 0.026*** | 0.014 | 0.007 | −0.003 | −0.015* | 0.003 |
| | (0.008) | (0.007) | (0.008) | (0.007) | (0.007) | (0.007) | (0.006) |
| Constant | 0.518*** | 0.269*** | 0.361*** | 0.453*** | 0.420*** | 0.366*** | 0.371*** |
| | (0.072) | (0.064) | (0.067) | (0.059) | (0.061) | (0.060) | (0.054) |
| N | 814 | 817 | 810 | 807 | 814 | 794 | 810 |
| R-squared | 0.065 | 0.043 | 0.065 | 0.046 | 0.074 | 0.040 | 0.045 |
| Adj. R-squared | 0.052 | 0.030 | 0.052 | 0.033 | 0.061 | 0.026 | 0.032 |

***p < .001; **p < .01; *p < .05

Table 8.14: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **901** | **902** | **903** | **904** | **905** | **906** | **906** | **907** | **907** |
|---|---|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13a** | **Model 13b** | **Model 14a** | **Model 14b** |
| D3_rec2 | 0.181 | −0.163 | −1.362*** | −0.654* | 0.571** | −0.430 | −0.461 | 0.522 | 0.447 |
| | (0.204) | (0.251) | (0.268) | (0.285) | (0.221) | (0.434) | (0.432) | (0.750) | (0.746) |
| D8_rec1 | 0.064 | 0.453 | −0.567* | −0.597* | −0.208 | 0.123 | 0.197 | −0.659 | −0.583 |
| | (0.227) | (0.306) | (0.259) | (0.288) | (0.229) | (0.522) | (0.518) | (0.759) | (0.751) |
| D5_rec1 | 0.139 | 0.010 | −0.259 | −0.257 | −0.114 | −0.064 | 0.039 | 17.058 | 17.268 |
| | (0.220) | (0.269) | (0.264) | (0.295) | (0.223) | (0.468) | (0.466) | (1676.995) | (1749.196) |
| EDU_rec2 | −0.288 | 0.676 | 0.305 | 0.358 | −0.278 | 14.762 | | 15.512 | |
| | (0.483) | (0.758) | (0.646) | (0.768) | (0.488) | (1014.112) | | (3995.567) | |
| EDU_rec3 | −0.0001 | 0.463 | 0.212 | 0.349 | 0.054 | 15.433 | | 16.573 | |
| | (0.478) | (0.761) | (0.648) | (0.774) | (0.482) | (1014.112) | | (3995.567) | |
| D1_rec1 | −0.459 | 0.387 | −0.033 | −0.650 | 0.163 | −0.916 | −0.833 | −17.124 | |
| | (0.377) | (0.369) | (0.428) | (0.612) | (0.330) | (1.035) | (1.033) | (2956.242) | |
| D7_rec1 | 0.564* | 0.078 | −0.066 | −0.300 | 0.150 | 0.561 | 0.669 | 0.597 | 0.695 |
| | (0.224) | (0.267) | (0.267) | (0.292) | (0.229) | (0.481) | (0.473) | (0.891) | (0.875) |
| D7_rec2 | 0.732* | 0.244 | 0.238 | −1.583* | 0.498 | −0.198 | −0.015 | 0.928 | 1.261 |
| | (0.308) | (0.390) | (0.380) | (0.750) | (0.321) | (0.829) | (0.816) | (1.043) | (1.017) |
| D6_une1 | −1.178 | −15.134 | 0.295 | −0.601 | 0.067 | 0.248 | 0.277 | −16.569 | |
| | (1.034) | (795.306) | (0.670) | (1.053) | (0.638) | (1.072) | (1.062) | (5415.937) | |
| D4_age | 0.019** | 0.018* | 0.011 | 0.019* | 0.007 | −0.012 | −0.010 | −0.013 | −0.013 |
| | (0.006) | (0.008) | (0.008) | (0.009) | (0.006) | (0.014) | (0.013) | (0.024) | (0.023) |
| D10_rec | −0.207** | 0.115 | 0.172* | 0.036 | −0.134 | −0.048 | −0.052 | −0.215 | −0.237 |
| | (0.078) | (0.074) | (0.070) | (0.088) | (0.078) | (0.154) | (0.156) | (0.335) | (0.337) |
| Constant | −2.864*** | −4.250*** | −2.093** | −2.752** | −2.210*** | −18.050 | −3.246*** | −36.807 | −21.105 |
| | (0.593) | (0.914) | (0.734) | (0.884) | (0.579) | (1014.112) | (0.909) | (4333.229) | (1749.197) |
| N | 810 | 810 | 810 | 810 | 810 | 810 | 810 | 810 | 810 |
| Log Likelihood | −335.115 | −242.432 | −241.382 | −195.562 | −314.002 | −99.101 | −101.481 | −37.745 | −39.944 |
| AIC | 694.229 | 508.865 | 506.764 | 415.125 | 652.004 | 222.202 | 222.963 | 99.489 | 95.888 |

***p < .001; **p < .01; *p < .05

# 9 Finland

Synthetic variables have been estimated for the full set of Finnish parties available in the original 2019 EES Finland voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 9.1).

Table 9.1: Finland relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_1001 | 1001 | Finnish Social Democrats |
| stack_1002 | 1002 | True Finns |
| stack_1003 | 1003 | National Coalition |
| stack_1004 | 1004 | Finnish Centre |
| stack_1005 | 1005 | Green Union |
| stack_1006 | 1006 | Left Wing Alliance |
| stack_1007 | 1007 | Swedish People's Party |

Full OLS models converge and coefficients do not show any particular issue (see Table 9.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.037 for party 1001 (Finnish Social Democrats) and a maximum of 0.135 for party 1003 (National Coalition). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that the full models perform better in all cases (see Table 9.2).

Table 9.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1001 | 1001 | 503.822 | 524.434 | -20.611 |
| stack_1002 | 1002 | 760.632 | 793.350 | -32.719 |
| stack_1003 | 1003 | 455.497 | 567.635 | -112.137 |
| stack_1004 | 1004 | 213.717 | 257.058 | -43.341 |
| stack_1005 | 1005 | 579.991 | 634.977 | -54.986 |
| stack_1006 | 1006 | 541.751 | 575.824 | -34.073 |
| stack_1007 | 1007 | 185.984 | 217.272 | -31.288 |

Similarly, only one out of the seven logistic regression models (see Table 9.5) shows inflated standard errors for one of the coefficients of interest, in particular:

- Model 11: D6_une

However, the constant term and the other regressors of model 11 seem not to be affected by the inflated standard errors. Thus, no further adjustments are made and model 11 is kept as is.

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.08 for party 1007 (Swedish People's Party) and a maximum of 0.076 for party 1003 (National Coalition). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in two cases out of seven null models perform better than full ones (see Table 9.3).

Table 9.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1001 | 1001 | 490.829 | 497.038 | -6.210 |
| stack_1002 | 1002 | 646.780 | 659.969 | -13.189 |
| stack_1003 | 1003 | 478.675 | 520.112 | -41.437 |
| stack_1004 | 1004 | 255.100 | 260.410 | -5.310 |
| stack_1005 | 1005 | 540.504 | 546.870 | -6.366 |
| stack_1006 | 1006 | 365.669 | 363.652 | 2.017 |
| stack_1007 | 1007 | 195.727 | 183.272 | 12.455 |

Table 9.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **1001** | **1002** | **1003** | **1004** | **1005** | **1006** | **1007** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.046* | −0.143*** | −0.041 | −0.010 | 0.157*** | 0.062** | −0.002 |
| | (0.022) | (0.026) | (0.022) | (0.019) | (0.023) | (0.023) | (0.019) |
| D8_rec1 | 0.109*** | −0.069* | 0.044 | −0.016 | 0.070* | 0.059* | 0.012 |
| | (0.029) | (0.033) | (0.028) | (0.024) | (0.030) | (0.029) | (0.024) |
| D5_rec1 | −0.046* | 0.032 | 0.007 | −0.017 | −0.055* | −0.028 | −0.050** |
| | (0.023) | (0.027) | (0.022) | (0.019) | (0.024) | (0.023) | (0.019) |
| EDU_rec2 | −0.026 | 0.110* | −0.003 | 0.018 | −0.037 | −0.027 | 0.028 |
| | (0.045) | (0.051) | (0.043) | (0.037) | (0.047) | (0.045) | (0.037) |
| EDU_rec3 | 0.008 | 0.021 | −0.016 | 0.005 | 0.012 | 0.006 | 0.031 |
| | (0.042) | (0.049) | (0.041) | (0.035) | (0.044) | (0.043) | (0.035) |
| D1_rec1 | 0.073** | −0.016 | −0.039 | −0.006 | 0.038 | 0.063** | 0.025 |
| | (0.023) | (0.027) | (0.023) | (0.020) | (0.024) | (0.024) | (0.019) |
| D7_rec1 | 0.004 | 0.023 | 0.157*** | 0.081*** | 0.031 | −0.058* | 0.066** |
| | (0.026) | (0.030) | (0.025) | (0.022) | (0.027) | (0.026) | (0.021) |
| D7_rec2 | −0.100** | 0.005 | 0.299*** | 0.056 | −0.021 | −0.196*** | 0.101*** |
| | (0.035) | (0.040) | (0.034) | (0.029) | (0.036) | (0.035) | (0.029) |
| D6_une1 | −0.032 | 0.025 | −0.028 | 0.0004 | −0.013 | 0.0001 | 0.0001 |
| | (0.037) | (0.042) | (0.036) | (0.031) | (0.038) | (0.037) | (0.030) |
| D4_age | 0.001 | −0.002** | −0.001 | −0.002** | −0.003*** | −0.001 | −0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.011 | 0.004 | 0.028*** | 0.040*** | 0.003 | 0.007 | 0.029*** |
| | (0.008) | (0.009) | (0.007) | (0.006) | (0.008) | (0.008) | (0.006) |
| Constant | 0.282*** | 0.593*** | 0.320*** | 0.329*** | 0.417*** | 0.368*** | 0.170*** |
| | (0.060) | (0.069) | (0.058) | (0.050) | (0.062) | (0.061) | (0.049) |
| N | 843 | 851 | 847 | 845 | 845 | 846 | 844 |
| R-squared | 0.049 | 0.062 | 0.146 | 0.074 | 0.087 | 0.064 | 0.061 |
| Adj. R-squared | 0.037 | 0.050 | 0.135 | 0.062 | 0.075 | 0.052 | 0.049 |

***p < .001; **p < .01; *p < .05

Table 9.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **1001** | **1002** | **1003** | **1004** | **1005** | **1006** | **1007** |
|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** |
| D3_rec2 | 0.020 | −0.712** | −0.144 | −0.019 | 0.873*** | −0.055 | −0.713 |
| | (0.252) | (0.218) | (0.255) | (0.384) | (0.245) | (0.307) | (0.506) |
| D8_rec1 | 0.410 | −0.808*** | 1.040* | −0.580 | 0.236 | 0.277 | −0.538 |
| | (0.348) | (0.242) | (0.427) | (0.423) | (0.317) | (0.427) | (0.546) |
| D5_rec1 | 0.027 | 0.013 | 0.026 | 0.282 | −0.580* | −0.404 | 0.107 |
| | (0.258) | (0.215) | (0.259) | (0.401) | (0.244) | (0.312) | (0.488) |
| EDU_rec2 | 0.364 | 0.974 | 0.436 | −0.178 | −0.547 | 0.385 | 0.091 |
| | (0.656) | (0.525) | (0.668) | (0.858) | (0.411) | (0.793) | (1.200) |
| EDU_rec3 | 0.656 | 0.878 | 0.602 | 0.030 | −0.505 | 0.875 | 0.841 |
| | (0.622) | (0.507) | (0.629) | (0.786) | (0.379) | (0.751) | (1.095) |
| D1_rec1 | 0.650* | 0.125 | −0.007 | −0.376 | 0.168 | 0.519 | −0.057 |
| | (0.274) | (0.219) | (0.259) | (0.394) | (0.248) | (0.333) | (0.486) |
| D7_rec1 | −0.138 | −0.385 | 0.890** | 1.057* | 0.636* | −0.464 | 0.631 |
| | (0.285) | (0.252) | (0.315) | (0.448) | (0.264) | (0.342) | (0.565) |
| D7_rec2 | −0.455 | 0.538 | 1.538*** | 0.287 | 0.018 | −1.597* | 0.853 |
| | (0.410) | (0.292) | (0.342) | (0.650) | (0.392) | (0.748) | (0.651) |
| D6_une1 | −0.242 | −0.783 | 0.463 | −15.884 | 0.362 | −1.179 | 0.107 |
| | (0.494) | (0.402) | (0.413) | (1057.586) | (0.365) | (0.747) | (0.797) |
| D4_age | 0.033*** | −0.008 | 0.022** | 0.015 | 0.001 | 0.004 | −0.010 |
| | (0.009) | (0.007) | (0.008) | (0.012) | (0.007) | (0.010) | (0.015) |
| D10_rec | 0.048 | −0.026 | 0.238** | 0.241* | 0.059 | −0.152 | 0.146 |
| | (0.083) | (0.069) | (0.073) | (0.106) | (0.079) | (0.128) | (0.134) |
| Constant | −5.248*** | −1.371* | −5.783*** | −4.311*** | −2.606*** | −3.517*** | −3.863** |
| | (0.874) | (0.611) | (0.856) | (1.069) | (0.602) | (0.994) | (1.341) |
| N | 834 | 834 | 834 | 834 | 834 | 834 | 834 |
| Log Likelihood | −233.414 | −311.390 | −227.338 | −115.550 | −258.252 | −170.835 | −85.864 |
| AIC | 490.829 | 646.780 | 478.675 | 255.100 | 540.504 | 365.669 | 195.727 |

***p < .001; **p < .01; *p < .05

# 10 France

Synthetic variables have been estimated for the full set of French parties available in the original 2019 EES French voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 10.1).

Table 10.1: French relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_1113 | 1113 | The Republicans |
| stack_1105 | 1105 | Socialist Party |
| stack_1111 | 1111 | National Rally |
| stack_1114 | 1114 | Europe Ecology - The Greens |
| stack_1101 | 1101 | Unbowed France |
| stack_1110 | 1110 | Generation.s, the movement |
| stack_1102 | 1102 | The Republic Onwards! |

Full OLS models converge and coefficients do not show any particular issue (see Table 10.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.038, 0.038 for party 1105, 1111 (Socialist Party, National Rally) and a maximum of 0.122 for party 1110 ( Generation.s, the movement ). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 7 cases out of 7 null models perform better than full ones (see Table 10.2).

Table 10.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1113 | 1113 | 403.730 | 484.329 | -80.599 |
| stack_1105 | 1105 | 389.302 | 413.135 | -23.833 |
| stack_1111 | 1111 | 793.339 | 817.144 | -23.805 |
| stack_1114 | 1114 | 502.767 | 556.941 | -54.174 |
| stack_1101 | 1101 | 372.314 | 453.519 | -81.205 |
| stack_1110 | 1110 | 116.558 | 210.757 | -94.199 |
| stack_1102 | 1102 | 657.229 | 705.587 | -48.357 |

Also the full Logit models converge and coefficients do not show any particular issue (see Table 10.5) In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.078 for party 1110 ( Generation.s, the movement ) and a maximum of 0.105 for party 1113 (The Republicans). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 2 cases out of 6 null models perform better than full ones.

Table 10.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1113 | 1113 | 404.384 | 454.071 | -49.687 |
| stack_1105 | 1105 | 332.931 | 317.328 | 15.603 |
| stack_1111 | 1111 | 772.123 | 771.426 | 0.696 |
| stack_1114 | 1114 | 547.599 | 547.508 | 0.090 |
| stack_1101 | 1101 | 388.236 | 383.077 | 5.159 |
| stack_1110 | 1110 | 215.168 | 201.572 | 13.596 |
| stack_1102 | 1102 | 710.954 | 774.865 | -63.911 |

Table 10.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **1113** | **1105** | **1111** | **1114** | **1101** | **1110** | **1102** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.010 | 0.016 | −0.017 | 0.051* | 0.011 | 0.019 | −0.025 |
| | (0.020) | (0.020) | (0.025) | (0.022) | (0.020) | (0.018) | (0.024) |
| D8_rec1 | 0.010 | 0.033 | −0.022 | 0.012 | −0.008 | 0.011 | 0.073** |
| | (0.022) | (0.022) | (0.027) | (0.023) | (0.022) | (0.020) | (0.025) |
| D5_rec1 | −0.001 | −0.007 | 0.024 | −0.030 | 0.001 | −0.011 | −0.023 |
| | (0.022) | (0.022) | (0.028) | (0.024) | (0.022) | (0.021) | (0.026) |
| EDU_rec2 | −0.010 | 0.035 | 0.131** | −0.015 | 0.014 | 0.023 | −0.044 |
| | (0.039) | (0.039) | (0.049) | (0.042) | (0.039) | (0.036) | (0.046) |
| EDU_rec3 | −0.038 | 0.052 | 0.036 | 0.026 | 0.011 | 0.029 | −0.025 |
| | (0.038) | (0.038) | (0.047) | (0.040) | (0.038) | (0.035) | (0.044) |
| D1_rec1 | 0.055 | 0.121*** | 0.117** | 0.109*** | 0.149*** | 0.173*** | 0.043 |
| | (0.030) | (0.029) | (0.036) | (0.031) | (0.029) | (0.027) | (0.034) |
| D7_rec1 | 0.089*** | 0.046* | −0.056* | 0.067** | −0.011 | 0.051* | 0.118*** |
| | (0.023) | (0.023) | (0.029) | (0.024) | (0.023) | (0.021) | (0.027) |
| D7_rec2 | 0.189*** | −0.005 | −0.026 | 0.027 | −0.090** | −0.011 | 0.194*** |
| | (0.030) | (0.030) | (0.037) | (0.032) | (0.030) | (0.027) | (0.035) |
| D6_une1 | −0.011 | 0.027 | −0.002 | −0.016 | 0.071 | 0.030 | −0.087 |
| | (0.045) | (0.044) | (0.055) | (0.048) | (0.045) | (0.042) | (0.052) |
| D4_age | −0.001 | −0.002** | −0.002* | −0.004*** | −0.004*** | −0.003*** | −0.0003 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.035*** | −0.008 | 0.013 | −0.016** | −0.001 | 0.002 | 0.011 |
| | (0.006) | (0.006) | (0.007) | (0.006) | (0.006) | (0.005) | (0.006) |
| Constant | 0.242*** | 0.309*** | 0.356*** | 0.560*** | 0.437*** | 0.301*** | 0.274*** |
| | (0.050) | (0.050) | (0.062) | (0.053) | (0.050) | (0.046) | (0.058) |
| N | 902 | 901 | 900 | 902 | 888 | 810 | 898 |
| R-squared | 0.108 | 0.050 | 0.050 | 0.081 | 0.110 | 0.134 | 0.075 |
| Adj. R-squared | 0.096 | 0.038 | 0.038 | 0.070 | 0.099 | 0.122 | 0.064 |

***p < .001; **p < .01; *p < .05

# 11 Germany

Synthetic variables have been estimated for all of German parties available in the original 2019 EES German voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see

Table 10.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **1113** | **1105** | **1111** | **1114** | **1101** | **1110** | **1102** |
|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** |
| D3_rec2 | 0.381 | 0.189 | −0.153 | 0.195 | 0.191 | −0.089 | −0.460* |
| | (0.287) | (0.344) | (0.192) | (0.242) | (0.306) | (0.458) | (0.201) |
| D8_rec1 | −0.414 | 0.019 | −0.218 | −0.429 | −0.612* | 0.389 | 0.383 |
| | (0.291) | (0.365) | (0.199) | (0.244) | (0.302) | (0.526) | (0.224) |
| D5_rec1 | 0.715 | −0.229 | −0.059 | −0.063 | 0.037 | −0.532 | −0.274 |
| | (0.379) | (0.364) | (0.211) | (0.264) | (0.333) | (0.474) | (0.223) |
| EDU_rec2 | −0.068 | 1.202 | 0.484 | −0.173 | −0.446 | 0.962 | 0.181 |
| | (0.611) | (1.051) | (0.408) | (0.452) | (0.545) | (1.084) | (0.479) |
| EDU_rec3 | −0.280 | 1.231 | 0.208 | 0.098 | −0.080 | 0.689 | 0.708 |
| | (0.598) | (1.042) | (0.407) | (0.434) | (0.521) | (1.087) | (0.459) |
| D1_rec1 | −0.376 | −0.607 | 0.220 | 0.521 | 0.337 | 1.035 | −0.214 |
| | (0.488) | (0.632) | (0.279) | (0.309) | (0.411) | (0.544) | (0.318) |
| D7_rec1 | 0.937* | −0.357 | −0.525* | 0.723* | −0.234 | 0.021 | 0.592* |
| | (0.425) | (0.384) | (0.210) | (0.281) | (0.312) | (0.494) | (0.258) |
| D7_rec2 | 1.895*** | −0.019 | −0.584* | 0.069 | −1.515* | −0.159 | 1.294*** |
| | (0.452) | (0.480) | (0.291) | (0.402) | (0.639) | (0.720) | (0.291) |
| D6_une1 | 0.389 | −0.268 | −0.385 | 0.415 | −1.185 | −0.345 | −1.965 |
| | (0.660) | (0.758) | (0.456) | (0.473) | (1.033) | (1.059) | (1.025) |
| D4_age | 0.038*** | 0.005 | 0.015* | −0.010 | 0.003 | −0.001 | 0.028*** |
| | (0.010) | (0.011) | (0.006) | (0.008) | (0.009) | (0.014) | (0.006) |
| D10_rec | 0.220*** | −0.027 | 0.019 | −0.126 | −0.058 | −0.204 | −0.015 |
| | (0.066) | (0.100) | (0.053) | (0.074) | (0.092) | (0.156) | (0.055) |
| Constant | −6.287*** | −4.235*** | −2.216*** | −1.989*** | −2.219** | −4.307*** | −3.983*** |
| | (0.938) | (1.184) | (0.524) | (0.565) | (0.720) | (1.306) | (0.603) |
| N | 905 | 905 | 905 | 905 | 905 | 905 | 905 |
| Log Likelihood | −190.192 | −154.466 | −374.061 | −261.799 | −182.118 | −95.584 | −343.477 |
| AIC | 404.384 | 332.931 | 772.123 | 547.599 | 388.236 | 215.168 | 710.954 |

***p < .001; **p < .01; *p < .05

Sect. XXX; for the relevant parties see Table 11.1).

Table 11.1: German relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_801 | 801 | Christian Democratic Union / Christian Social Union |
| stack_802 | 802 | Sozialdemokratische Partei Deutschlands (SPD) |
| stack_805 | 805 | Free Democratic Party |
| stack_803 | 803 | Alliance 90 / The Greens |
| stack_804 | 804 | The Left |
| stack_807 | 807 | Alternative for Germany |
| stack_806 | 806 | Pirates |

Full OLS models converge and coefficients do not show any particular issue (see Table 11.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.023 for party 807 (Alternative for Germany) and a maximum of 0.132 for party 806 (Pirates). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 0 cases out of 7 null models perform better than full ones (see Table 11.2).

Table 11.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_801 | 801 | 631.253 | 723.798 | -92.544 |
| stack_802 | 802 | 479.712 | 515.917 | -36.205 |
| stack_805 | 805 | 396.890 | 446.781 | -49.891 |
| stack_803 | 803 | 729.551 | 749.883 | -20.332 |
| stack_804 | 804 | 562.799 | 597.527 | -34.728 |
| stack_807 | 807 | 624.700 | 634.098 | -9.398 |
| stack_806 | 806 | 68.843 | 178.350 | -109.507 |

On the contrary, one out of seven logistic regression models (see Table 11.5) show inflated standard errors for one of the coefficients of interest, in particular:

- Model 10: D6_une

Nevertheless, model's 10 constant term and other regression coefficients are not affected by said inflated standard error. Therefore, we do not adapt the model.

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.127 for party 806 (Pirates) and a maximum of 0.07 for party 801 (Christian Democratic Union / Christian Social Union). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 1 case out of 7 null models perform better than full ones (see Table 11.3).

Table 11.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_801 | 801 | 783.323 | 844.663 | -61.339 |
| stack_802 | 802 | 591.363 | 602.235 | -10.872 |
| stack_805 | 805 | 371.471 | 373.555 | -2.084 |
| stack_803 | 803 | 850.034 | 850.477 | -0.444 |
| stack_804 | 804 | 374.707 | 384.835 | -10.128 |
| stack_807 | 807 | 592.655 | 593.786 | -1.131 |
| stack_806 | 806 | 123.144 | 111.226 | 11.918 |

Table 11.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **801** | **802** | **805** | **803** | **804** | **807** | **806** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | −0.038 | 0.004 | 0.026 | 0.040 | −0.006 | −0.019 | −0.016 |
| | (0.024) | (0.022) | (0.021) | (0.025) | (0.023) | (0.024) | (0.017) |
| D8_rec1 | −0.039 | 0.022 | −0.033 | 0.029 | 0.012 | −0.022 | 0.037 |
| | (0.027) | (0.025) | (0.024) | (0.029) | (0.026) | (0.027) | (0.020) |
| D5_rec1 | −0.004 | −0.001 | 0.018 | −0.060* | −0.021 | 0.089*** | 0.031 |
| | (0.025) | (0.023) | (0.022) | (0.027) | (0.024) | (0.025) | (0.018) |
| EDU_rec2 | −0.034 | −0.029 | −0.001 | −0.009 | −0.018 | −0.063 | −0.022 |
| | (0.042) | (0.038) | (0.037) | (0.044) | (0.040) | (0.042) | (0.031) |
| EDU_rec3 | −0.003 | −0.012 | 0.019 | 0.028 | 0.013 | −0.052 | 0.029 |
| | (0.043) | (0.039) | (0.038) | (0.045) | (0.041) | (0.043) | (0.031) |
| D1_rec1 | −0.026 | 0.145*** | 0.009 | 0.094** | 0.143*** | 0.019 | 0.095*** |
| | (0.030) | (0.028) | (0.027) | (0.032) | (0.029) | (0.030) | (0.022) |
| D7_rec1 | 0.091*** | 0.029 | 0.044 | 0.082** | −0.074** | −0.088*** | −0.057** |
| | (0.026) | (0.024) | (0.023) | (0.028) | (0.025) | (0.026) | (0.019) |
| D7_rec2 | 0.181*** | −0.009 | 0.159*** | 0.101* | −0.162*** | −0.071 | −0.081** |
| | (0.038) | (0.035) | (0.033) | (0.040) | (0.036) | (0.037) | (0.027) |
| D6_une1 | −0.207** | −0.108 | −0.110 | −0.122 | 0.040 | 0.018 | 0.014 |
| | (0.066) | (0.060) | (0.058) | (0.071) | (0.064) | (0.066) | (0.049) |
| D4_age | 0.002** | 0.002* | 0.0004 | −0.001 | −0.002* | −0.001 | −0.005*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.044*** | 0.018** | 0.029*** | 0.012 | −0.007 | 0.001 | 0.006 |
| | (0.006) | (0.006) | (0.006) | (0.007) | (0.006) | (0.006) | (0.005) |
| Constant | 0.254*** | 0.249*** | 0.258*** | 0.425*** | 0.451*** | 0.354*** | 0.391*** |
| | (0.059) | (0.054) | (0.052) | (0.063) | (0.057) | (0.059) | (0.043) |
| N | 866 | 865 | 862 | 867 | 863 | 868 | 854 |
| R-squared | 0.124 | 0.065 | 0.080 | 0.048 | 0.064 | 0.036 | 0.143 |
| Adj. R-squared | 0.113 | 0.053 | 0.068 | 0.035 | 0.052 | 0.023 | 0.132 |

***p < .001; **p < .01; *p < .05

Table 11.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **801** | **802** | **805** | **803** | **804** | **807** | **806** |
|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** |
| D3_rec2 | −0.462* | −0.152 | 0.178 | 0.315 | 0.352 | −0.553* | 0.528 |
| | (0.188) | (0.226) | (0.308) | (0.178) | (0.307) | (0.230) | (0.674) |
| D8_rec1 | −0.349 | 0.293 | 0.245 | 0.400 | −0.180 | −0.098 | 1.210 |
| | (0.204) | (0.275) | (0.374) | (0.219) | (0.340) | (0.255) | (1.070) |
| D5_rec1 | −0.058 | −0.064 | 0.580 | −0.192 | 0.044 | 0.386 | 0.273 |
| | (0.197) | (0.240) | (0.361) | (0.185) | (0.316) | (0.245) | (0.706) |
| EDU_rec2 | 0.189 | 0.781 | −0.138 | 0.025 | −0.384 | −0.096 | −0.715 |
| | (0.338) | (0.499) | (0.576) | (0.323) | (0.490) | (0.378) | (0.903) |
| EDU_rec3 | 0.156 | 0.778 | −0.014 | 0.286 | −0.030 | −0.500 | −1.026 |
| | (0.344) | (0.503) | (0.576) | (0.327) | (0.503) | (0.401) | (0.983) |
| D1_rec1 | −0.503* | 0.902*** | −0.372 | 0.040 | 0.866* | −0.246 | −0.370 |
| | (0.249) | (0.256) | (0.418) | (0.226) | (0.355) | (0.312) | (0.892) |
| D7_rec1 | 0.448* | 0.321 | 0.623 | 0.284 | −0.879** | −0.494* | −0.790 |
| | (0.215) | (0.257) | (0.402) | (0.203) | (0.317) | (0.241) | (0.756) |
| D7_rec2 | 0.589* | 0.084 | 1.276** | 0.669* | −2.590* | −0.570 | 0.102 |
| | (0.288) | (0.374) | (0.461) | (0.269) | (1.033) | (0.382) | (0.902) |
| D6_une1 | −1.533 | −0.878 | −13.942 | −0.351 | 1.162* | −0.083 | 1.054 |
| | (1.035) | (1.038) | (716.924) | (0.561) | (0.551) | (0.640) | (1.166) |
| D4_age | 0.023*** | 0.027*** | 0.018 | −0.012* | 0.010 | 0.009 | −0.039 |
| | (0.006) | (0.007) | (0.010) | (0.005) | (0.010) | (0.007) | (0.021) |
| D10_rec | 0.293*** | 0.021 | 0.095 | −0.048 | −0.215* | −0.118 | 0.084 |
| | (0.045) | (0.058) | (0.075) | (0.049) | (0.103) | (0.069) | (0.154) |
| Constant | −2.987*** | −4.765*** | −5.020*** | −1.569*** | −2.675*** | −1.797** | −3.292* |
| | (0.500) | (0.694) | (0.879) | (0.449) | (0.754) | (0.568) | (1.605) |
| N | 871 | 871 | 871 | 871 | 871 | 871 | 871 |
| Log Likelihood | −379.662 | −283.681 | −173.736 | −413.017 | −175.353 | −284.327 | −49.572 |
| AIC | 783.323 | 591.363 | 371.471 | 850.034 | 374.707 | 592.655 | 123.144 |

***p < .001; **p < .01; *p < .05

# 12 Greece

Synthetic variables have been estimated for the full set of Greek parties available in the original 2019 EES Greece voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 12.1).

Table 12.1: Greece relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_1201 | 1201 | Coalition of the Radical Left |
| stack_1202 | 1202 | New Democracy |
| stack_1203 | 1203 | Golden Dawn |
| stack_1204 | 1204 | Panhellenic Socialist Movement/ Movement for Change |
| stack_1205 | 1205 | Communist Party of Greece |

Full OLS models converge and coefficients do not show any particular issue (see Table 12.7). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.015 for party 1204 (Panhellenic Socialist Movement/ Movement for Change) and a maximum of 0.081 for party 1202 (New Democracy). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that the full models perform better in all cases (see Table 12.2).

Table 12.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1201 | 1201 | 822.224 | 839.980 | -17.757 |
| stack_1202 | 1202 | 766.550 | 831.163 | -64.614 |
| stack_1203 | 1203 | 131.977 | 163.404 | -31.427 |
| stack_1204 | 1204 | 206.109 | 208.918 | -2.809 |
| stack_1205 | 1205 | 237.283 | 258.529 | -21.246 |

On the contrary, two out of five logistic regression models (see Table 12.8) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 8a: EDU_rec (both categories), D1_rec
- Model 9: D7_rec (second category)

However, for model 9 the constant term and other regressors are not affected by the inflated standard errors. Model 8a appears more problematic.

The inflated standard errors in Model 8a are potentially due to separation issues. In short, no respondents with low education voted for party 1203 and only two respondents who were union members voted for party 1203. (See Tables 12.5, 12.6)

As a consequence, a constrained version of model 8 (namely, Model 8b) without said variables was estimated and contrasted with the original (Model 8a), full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) can be rejected (see Table 12.3). Consequently, synthetic variables for respondents' vote choice for party 1203 have been predicted relying on the unconstrained model (Model 8a).

Table 12.3: Likelihood-ratio Test between Model 8a (Unconstrained) and Model 8b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 851 | 282.583 | | | |
| Unconstrained | 848 | 270.891 | 3 | 11.69196 | 0.0085164 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.035 for party 1205 (Communist Party of Greece) and a maximum of 0.078 for party 1204 (Panhellenic Socialist Movement/ Movement for Change). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in one case out of five the null model performs better than the full ones. According to AIC values the related null model appears to have a better fit than Model 8b (see Table 12.4).

Table 12.4: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1201 | 1201 | 824.145 | 828.3560 | -4.21100 |
| stack_1202 | 1202 | 932.433 | 944.2880 | -11.85500 |
| stack_1203 | 1203 | 294.891 | 294.6670 | 0.22400 |
| stack_1203* | 1203 | 300.583 | 294.6668 | 5.91624 |
| stack_1204 | 1204 | 309.280 | 337.5330 | -28.25300 |
| stack_1205 | 1205 | 302.786 | 294.6670 | 8.11900 |

* AIC value refers to Model 8b (constrained).

Table 12.5: Cross tabulation between vote choice for party 1203 and respondents' education level

| stack_1203/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 46 | 199 | 626 | 38 | 909 |
| 1 | 0 | 12 | 27 | 0 | 39 |
| NA | 2 | 12 | 36 | 7 | 57 |
| Total | 48 | 223 | 689 | 45 | 1005 |

Table 12.6: Cross tabulation between vote choice for party 1203 and respondents' trade union membership status

| stack_1203/D1_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 820 | 89 | 909 |
| 1 | 37 | 2 | 39 |
| NA | 55 | 2 | 57 |
| Total | 912 | 93 | 1005 |

Table 12.7: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **1201** | **1202** | **1203** | **1204** | **1205** |
|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** |
| D3_rec2 | 0.089*** | −0.038 | −0.031 | −0.019 | 0.057** |
| | (0.026) | (0.025) | (0.018) | (0.019) | (0.019) |
| D8_rec1 | −0.025 | 0.081 | 0.003 | −0.010 | −0.040 |
| | (0.046) | (0.044) | (0.031) | (0.033) | (0.033) |
| D5_rec1 | 0.027 | 0.037 | −0.015 | 0.031 | 0.012 |
| | (0.029) | (0.028) | (0.020) | (0.021) | (0.021) |
| EDU_rec2 | −0.117 | −0.090 | 0.133** | −0.066 | −0.072 |
| | (0.068) | (0.065) | (0.046) | (0.048) | (0.049) |
| EDU_rec3 | −0.100 | −0.104 | 0.076 | −0.055 | −0.021 |
| | (0.065) | (0.063) | (0.045) | (0.046) | (0.047) |
| D1_rec1 | 0.031 | −0.030 | −0.037 | 0.104*** | 0.049 |
| | (0.044) | (0.043) | (0.030) | (0.032) | (0.032) |
| D7_rec1 | −0.054* | 0.114*** | −0.040* | 0.033 | −0.060** |
| | (0.027) | (0.026) | (0.018) | (0.019) | (0.020) |
| D7_rec2 | −0.121* | 0.212*** | 0.024 | −0.017 | −0.084* |
| | (0.052) | (0.051) | (0.036) | (0.037) | (0.038) |
| D6_une1 | −0.060 | 0.027 | 0.003 | −0.005 | −0.065* |
| | (0.039) | (0.038) | (0.026) | (0.028) | (0.028) |
| D4_age | 0.0004 | −0.001 | −0.002** | 0.001 | −0.0001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | −0.028*** | 0.043*** | 0.021*** | 0.004 | −0.018*** |
| | (0.007) | (0.007) | (0.005) | (0.005) | (0.005) |
| Constant | 0.530*** | 0.234** | 0.110* | 0.180** | 0.315*** |
| | (0.079) | (0.077) | (0.054) | (0.056) | (0.057) |
| N | 898 | 900 | 899 | 886 | 896 |
| R-squared | 0.043 | 0.092 | 0.058 | 0.028 | 0.047 |
| Adj. R-squared | 0.031 | 0.081 | 0.046 | 0.015 | 0.035 |

***p < .001; **p < .01; *p < .05

Table 12.8: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **1201** | **1202** | **1203** | **1203** | **1204** | **1205** |
|---|---|---|---|---|---|---|
| | **Model 6** | **Model 7** | **Model 8a** | **Model 8b** | **Model 9** | **Model 10** |
| D3_rec2 | 0.133 | 0.002 | −0.449 | −0.382 | −0.240 | −0.055 |
| | (0.185) | (0.171) | (0.372) | (0.371) | (0.354) | (0.369) |
| D8_rec1 | −0.014 | 0.384 | 0.134 | 0.141 | −0.723 | −0.613 |
| | (0.331) | (0.328) | (0.630) | (0.626) | (0.528) | (0.515) |
| D5_rec1 | 0.235 | 0.071 | −0.113 | −0.070 | 0.513 | 0.411 |
| | (0.210) | (0.192) | (0.407) | (0.408) | (0.442) | (0.424) |
| EDU_rec2 | −0.513 | −0.495 | 16.506 | | 0.050 | −0.500 |
| | (0.442) | (0.408) | (1571.670) | | (1.158) | (0.893) |
| EDU_rec3 | −0.601 | −0.454 | 16.228 | | 0.039 | −0.421 |
| | (0.423) | (0.389) | (1571.670) | | (1.124) | (0.850) |
| D1_rec1 | 0.243 | −0.207 | −16.574 | | 1.507*** | 0.466 |
| | (0.296) | (0.286) | (1154.167) | | (0.389) | (0.561) |
| D7_rec1 | −0.061 | 0.426* | −0.678 | −0.723* | 1.425** | −0.531 |
| | (0.189) | (0.181) | (0.368) | (0.363) | (0.440) | (0.370) |
| D7_rec2 | −0.656 | 0.689* | −1.319 | −1.483 | −14.887 | −0.505 |
| | (0.411) | (0.314) | (1.047) | (1.040) | (773.813) | (0.772) |
| D6_une1 | −0.824* | 0.176 | −0.560 | −0.399 | 0.239 | 0.621 |
| | (0.342) | (0.255) | (0.631) | (0.630) | (0.533) | (0.467) |
| D4_age | 0.014 | −0.002 | 0.004 | 0.008 | 0.033* | −0.001 |
| | (0.007) | (0.007) | (0.015) | (0.014) | (0.014) | (0.015) |
| D10_rec | −0.161*** | 0.204*** | 0.158 | 0.145 | 0.150 | −0.246** |
| | (0.048) | (0.045) | (0.093) | (0.093) | (0.092) | (0.093) |
| Constant | −1.131* | −2.015*** | −19.391 | −3.443*** | −5.823*** | −1.656 |
| | (0.531) | (0.515) | (1571.670) | (0.930) | (1.310) | (0.975) |
| N | 860 | 860 | 860 | 860 | 860 | 860 |
| Log Likelihood | −400.072 | −454.216 | −135.446 | −141.291 | −142.640 | −139.393 |
| AIC | 824.145 | 932.433 | 294.891 | 300.583 | 309.280 | 302.786 |

***p < .001; **p < .01; *p < .05

# 13 Hungary

Synthetic variables have been estimated for the full set of Hungarian parties available in the original 2019 EES Hungary voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 13.1).

Table 13.1: Hungary relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_1301 | 1301 | Democratic Coalition |
| stack_1302 | 1302 | FIDESZ-KDNP Alliance |
| stack_1303 | 1303 | Jobbik |
| stack_1304 | 1304 | Politics Can Be Different |
| stack_1306 | 1306 | Hungarian Socialist Party |
| stack_1307 | 1307 | Our Homeland Movement |
| stack_1308 | 1308 | Momentum Movement |

Full OLS models converge and coefficients do not show any particular issue (see Table 13.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.021 for party 1308 (Momentum Movement) and a maximum of 0.11 for party 1302 (FIDESZ-KDNP Alliance). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that the full models perform better in all cases (see Table 13.2).

Table 13.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1301 | 1301 | 695.969 | 736.686 | -40.717 |
| stack_1302 | 1302 | 818.639 | 914.037 | -95.399 |
| stack_1303 | 1303 | 462.137 | 543.950 | -81.813 |
| stack_1304 | 1304 | 135.446 | 146.605 | -11.158 |
| stack_1306 | 1306 | 296.612 | 314.278 | -17.666 |
| stack_1307 | 1307 | 135.544 | 160.468 | -24.924 |
| stack_1308 | 1308 | 600.852 | 608.757 | -7.905 |

On the contrary, three out of seven logistic regression models (see Table 13.5) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 11: D7_rec (second category)
- Model 12: D6_une
- Model 13: D7_rec (second category), D6_une

However, for these models the constant terms and other regressors are not affected by the inflated standard errors. Thus, no additional adjustments are made and models 11, 12 and 13 are not modified.

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.07 for party 1304 (Politics Can Be Different) and a maximum of 0.082 for party 1302

(FIDESZ-KDNP Alliance). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in three cases out of seven null models perform better than full ones (see Table 13.3)..

Table 13.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1301 | 1301 | 711.843 | 766.824 | -54.981 |
| stack_1302 | 1302 | 869.347 | 949.018 | -79.671 |
| stack_1303 | 1303 | 457.605 | 455.166 | 2.439 |
| stack_1304 | 1304 | 125.609 | 119.342 | 6.268 |
| stack_1306 | 1306 | 287.679 | 293.324 | -5.645 |
| stack_1307 | 1307 | 221.046 | 227.216 | -6.170 |
| stack_1308 | 1308 | 514.295 | 508.228 | 6.067 |

Table 13.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **1301** | **1302** | **1303** | **1304** | **1306** | **1307** | **1308** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.012 | −0.004 | −0.032 | 0.027 | 0.013 | −0.043* | 0.005 |
| | (0.024) | (0.025) | (0.021) | (0.017) | (0.019) | (0.018) | (0.023) |
| D8_rec1 | 0.005 | −0.020 | −0.090*** | −0.013 | −0.004 | 0.019 | 0.073** |
| | (0.029) | (0.031) | (0.025) | (0.021) | (0.023) | (0.021) | (0.028) |
| D5_rec1 | −0.002 | 0.066* | −0.032 | −0.027 | −0.002 | 0.011 | −0.031 |
| | (0.025) | (0.026) | (0.022) | (0.018) | (0.020) | (0.018) | (0.023) |
| EDU_rec2 | −0.004 | 0.002 | 0.015 | −0.0004 | −0.020 | −0.050 | −0.041 |
| | (0.042) | (0.045) | (0.037) | (0.031) | (0.034) | (0.032) | (0.040) |
| EDU_rec3 | −0.042 | 0.013 | 0.023 | 0.013 | −0.008 | −0.015 | −0.034 |
| | (0.043) | (0.045) | (0.037) | (0.031) | (0.034) | (0.032) | (0.040) |
| D1_rec1 | 0.054 | −0.016 | 0.076* | 0.057* | 0.081** | 0.093*** | 0.034 |
| | (0.037) | (0.039) | (0.032) | (0.027) | (0.029) | (0.027) | (0.035) |
| D7_rec1 | −0.020 | 0.072** | −0.060** | −0.020 | −0.018 | −0.028 | −0.031 |
| | (0.025) | (0.026) | (0.022) | (0.018) | (0.020) | (0.019) | (0.024) |
| D7_rec2 | 0.012 | 0.113 | 0.001 | −0.050 | 0.027 | −0.034 | 0.016 |
| | (0.057) | (0.060) | (0.049) | (0.042) | (0.045) | (0.042) | (0.054) |
| D6_une1 | −0.061 | −0.019 | −0.052 | −0.019 | −0.045 | −0.035 | −0.125* |
| | (0.063) | (0.066) | (0.054) | (0.046) | (0.050) | (0.046) | (0.059) |
| D4_age | 0.005*** | −0.0001 | −0.005*** | −0.002*** | 0.002*** | −0.002*** | −0.0001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | −0.025*** | 0.065*** | −0.008 | −0.008 | −0.019*** | −0.003 | −0.021*** |
| | (0.006) | (0.007) | (0.006) | (0.005) | (0.005) | (0.005) | (0.006) |
| Constant | 0.195*** | 0.180** | 0.652*** | 0.370*** | 0.166*** | 0.333*** | 0.397*** |
| | (0.054) | (0.057) | (0.047) | (0.039) | (0.043) | (0.040) | (0.051) |
| N | 911 | 916 | 918 | 910 | 915 | 880 | 906 |
| R-squared | 0.067 | 0.120 | 0.107 | 0.036 | 0.042 | 0.052 | 0.032 |
| Adj. R-squared | 0.055 | 0.110 | 0.096 | 0.024 | 0.031 | 0.040 | 0.021 |

***p < .001; **p < .01; *p < .05

Table 13.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **1301** | **1302** | **1303** | **1304** | **1306** | **1307** | **1308** |
|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** |
| D3_rec2 | −0.122 | −0.191 | −0.438 | 1.182 | −0.084 | −1.416** | −0.063 |
| | (0.199) | (0.173) | (0.270) | (0.693) | (0.363) | (0.511) | (0.248) |
| D8_rec1 | 0.122 | −0.032 | −0.805** | 0.899 | 0.968 | −0.358 | 0.798* |
| | (0.250) | (0.211) | (0.284) | (1.072) | (0.618) | (0.500) | (0.389) |
| D5_rec1 | −0.159 | 0.333 | −0.184 | 0.487 | 0.859* | 0.271 | −0.052 |
| | (0.203) | (0.184) | (0.275) | (0.700) | (0.427) | (0.476) | (0.255) |
| EDU_rec2 | −0.008 | 0.048 | 0.669 | −1.492 | −0.627 | −0.126 | 0.419 |
| | (0.377) | (0.330) | (0.530) | (1.455) | (0.680) | (0.892) | (0.514) |
| EDU_rec3 | −0.239 | 0.134 | 0.704 | 0.667 | −0.253 | 0.821 | 0.352 |
| | (0.387) | (0.329) | (0.528) | (1.117) | (0.673) | (0.823) | (0.514) |
| D1_rec1 | 0.476 | −0.053 | −0.331 | 0.324 | −0.815 | 0.628 | −0.309 |
| | (0.286) | (0.256) | (0.451) | (0.815) | (0.746) | (0.535) | (0.419) |
| D7_rec1 | −0.068 | 0.261 | −0.383 | 0.737 | −0.720 | −0.041 | 0.298 |
| | (0.209) | (0.181) | (0.292) | (0.673) | (0.411) | (0.425) | (0.263) |
| D7_rec2 | −0.048 | 0.639 | −0.331 | −15.078 | 0.021 | −16.343 | 0.947* |
| | (0.490) | (0.372) | (0.634) | (1515.647) | (0.776) | (1536.508) | (0.462) |
| D6_une1 | −0.069 | −0.281 | −0.183 | 1.454 | −15.489 | −16.521 | 0.216 |
| | (0.566) | (0.561) | (0.657) | (1.160) | (1105.602) | (1806.943) | (0.637) |
| D4_age | 0.048*** | 0.013** | −0.017* | −0.005 | 0.030** | −0.022 | 0.001 |
| | (0.007) | (0.005) | (0.008) | (0.019) | (0.012) | (0.014) | (0.007) |
| D10_rec | −0.203** | 0.370*** | −0.045 | 0.003 | −0.191 | −0.257 | −0.157 |
| | (0.063) | (0.043) | (0.077) | (0.172) | (0.123) | (0.155) | (0.080) |
| Constant | −3.686*** | −2.645*** | −1.215* | −6.460*** | −5.125*** | −2.051* | −3.348*** |
| | (0.533) | (0.416) | (0.594) | (1.731) | (1.070) | (0.931) | (0.658) |
| N | 844 | 844 | 844 | 844 | 844 | 844 | 844 |
| Log Likelihood | −343.922 | −422.674 | −216.802 | −50.805 | −131.840 | −98.523 | −245.148 |
| AIC | 711.843 | 869.347 | 457.605 | 125.609 | 287.679 | 221.046 | 514.295 |

***p < .001; **p < .01; *p < .05

# 14 Ireland

Synthetic variables have been estimated for the full set of Irish parties available in the original 2019 EES Irish voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 14.1).

Table 14.1: Irish relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_1402 | 1402 | Familiy of the Irish |
| stack_1403 | 1403 | Labour Party |
| stack_1401 | 1401 | Soldiers of Destiny |
| stack_1404 | 1404 | Green Party |
| stack_1405 | 1405 | Ourselves Alone |
| stack_1406 | 1406 | Solidarity - People Before Profit/ |

Full OLS models converge and coefficients do not show any particular issue (see Table 14.6). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.026 for party 1404 (Green Party) and a maximum of 0.111 for party 1401 (Soldiers of Destiny). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 6 cases out of 6 null models perform better than full ones (see Table 14.2).

Table 14.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1402 | 1402 | 482.194 | 542.391 | -60.197 |
| stack_1403 | 1403 | 254.212 | 273.301 | -19.090 |
| stack_1401 | 1401 | 405.420 | 494.195 | -88.775 |
| stack_1404 | 1404 | 452.410 | 463.429 | -11.018 |
| stack_1405 | 1405 | 419.079 | 482.320 | -63.242 |
| stack_1406 | 1406 | 354.990 | 374.578 | -19.587 |

On the contrary, one out of six logistic regression models (see Table 14.7) shows inflated standard errors for one of the coefficients of interest:

- Model 8: EDU_rec;

It presents a problematic profile since the inflated standard error is affecting the constant term.

Model 8a inflated standard errors are due to separation issues. In short, only one low educated respondent did vote for party 1403 (see Tables 14.5)

As a consequence, a constrained version of model 8 (namely, Model 8b) without said variables was estimated and contrasted with the original (Model 8a), full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) cannot be rejected (see Table 14.3). Consequently, synthetic variables for respondents' vote choice for party 1403 have been predicted relying on the constrained model (Model 8b).

Table 14.3: Likelihood-ratio Test between Model 8a (Unconstrained) and Model 8b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 818 | 175.4496 | | | |
| Unconstrained | 816 | 171.8613 | 2 | 3.588386 | 0.1662616 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.039 for party 1403 (Labour Party) and a maximum of 0.033 for party 1402 (Familiy of the Irish). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 4 cases out of 6 null models perform better than full ones. According to AIC values the related null model appears to have a better fit than Model 8b (see Table 14.4).

Table 14.4: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1401 | 1401 | 526.5670 | 532.3840 | -5.817000 |
| stack_1402 | 1402 | 702.4450 | 728.4990 | -26.055000 |
| stack_1403 | 1403 | 195.8610 | 190.4440 | 5.417000 |
| stack_1403* | 1403 | 195.4496 | 190.4442 | 5.005436 |
| stack_1404 | 1404 | 534.5190 | 536.8130 | -2.294000 |
| stack_1405 | 1405 | 443.6380 | 447.6410 | -4.003000 |
| stack_1406 | 1406 | 235.9670 | 233.1430 | 2.825000 |

* AIC value refers to Model 8b (constrained).

Table 14.5: Cross tabulation between vote choice for party 505 and respondents' education

| stack_1403/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 80 | 365 | 421 | 66 | 932 |
| 1 | 0 | 8 | 12 | 3 | 23 |
| NA | 3 | 18 | 20 | 4 | 45 |
| Total | 83 | 391 | 453 | 73 | 1000 |

Table 14.6: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **1402** | **1403** | **1401** | **1404** | **1405** | **1406** |
|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| D3_rec2 | 0.007 | 0.031 | −0.047* | 0.055* | −0.019 | 0.021 |
| | (0.022) | (0.019) | (0.021) | (0.022) | (0.021) | (0.021) |
| D8_rec1 | 0.029 | 0.050* | 0.017 | 0.035 | −0.026 | 0.020 |
| | (0.024) | (0.021) | (0.023) | (0.023) | (0.023) | (0.022) |
| D5_rec1 | 0.029 | 0.009 | 0.006 | 0.005 | 0.010 | 0.018 |
| | (0.025) | (0.022) | (0.024) | (0.025) | (0.024) | (0.024) |
| EDU_rec2 | −0.059 | −0.052 | 0.070 | −0.031 | 0.039 | −0.032 |
| | (0.042) | (0.037) | (0.041) | (0.042) | (0.041) | (0.040) |
| EDU_rec3 | −0.022 | −0.002 | 0.036 | 0.015 | −0.016 | −0.055 |
| | (0.041) | (0.036) | (0.040) | (0.041) | (0.040) | (0.039) |
| D1_rec1 | −0.016 | 0.021 | −0.036 | 0.018 | 0.025 | 0.055* |
| | (0.025) | (0.022) | (0.024) | (0.025) | (0.024) | (0.023) |
| D7_rec1 | 0.075** | 0.062** | 0.098*** | 0.081*** | −0.020 | −0.040 |
| | (0.024) | (0.021) | (0.023) | (0.023) | (0.023) | (0.022) |
| D7_rec2 | 0.137*** | 0.078* | 0.140*** | 0.050 | −0.030 | −0.038 |
| | (0.040) | (0.035) | (0.038) | (0.040) | (0.039) | (0.038) |
| D6_une1 | −0.098* | −0.028 | −0.034 | −0.083 | 0.037 | 0.110* |
| | (0.046) | (0.040) | (0.044) | (0.046) | (0.045) | (0.044) |
| D4_age | −0.001 | −0.001 | −0.002** | 0.001 | −0.006*** | −0.002** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.030*** | 0.009* | 0.039*** | −0.002 | 0.003 | −0.007 |
| | (0.005) | (0.004) | (0.004) | (0.005) | (0.004) | (0.004) |
| Constant | 0.338*** | 0.325*** | 0.321*** | 0.348*** | 0.599*** | 0.477*** |
| | (0.052) | (0.045) | (0.050) | (0.052) | (0.050) | (0.050) |
| N | 848 | 848 | 846 | 841 | 848 | 826 |
| R-squared | 0.092 | 0.047 | 0.123 | 0.038 | 0.096 | 0.049 |
| Adj. R-squared | 0.080 | 0.035 | 0.111 | 0.026 | 0.084 | 0.036 |

***p < .001; **p < .01; *p < .05

Table 14.7: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **1402** | **1403** | **1403** | **1401** | **1404** | **1405** | **1406** |
|---|---|---|---|---|---|---|---|
| | **Model 7** | **Model 8a** | **Model 8b** | **Model 9** | **Model 10** | **Model 11** | **Model 12** |
| D3_rec2 | 0.040 | 0.036 | 0.092 | −0.416 | −0.131 | −0.105 | 0.290 |
| | (0.199) | (0.469) | (0.466) | (0.247) | (0.241) | (0.273) | (0.415) |
| D8_rec1 | −0.102 | 1.522* | 1.518* | 0.220 | 0.166 | −0.562* | 0.018 |
| | (0.208) | (0.759) | (0.757) | (0.266) | (0.262) | (0.273) | (0.446) |
| D5_rec1 | 0.065 | −0.101 | 0.006 | 0.152 | −0.038 | 0.697* | 0.741 |
| | (0.226) | (0.510) | (0.508) | (0.281) | (0.269) | (0.343) | (0.513) |
| EDU_rec2 | −0.515 | 15.396 | | 1.199 | −0.663 | 0.288 | 0.038 |
| | (0.378) | (1180.765) | | (0.751) | (0.456) | (0.498) | (0.805) |
| EDU_rec3 | −0.129 | 15.791 | | 1.321 | −0.184 | −0.526 | −0.055 |
| | (0.367) | (1180.765) | | (0.746) | (0.429) | (0.511) | (0.816) |
| D1_rec1 | −0.337 | 0.516 | 0.496 | 0.039 | 0.389 | 0.161 | 0.709 |
| | (0.236) | (0.490) | (0.488) | (0.273) | (0.257) | (0.295) | (0.438) |
| D7_rec1 | 0.149 | 0.276 | 0.396 | 0.246 | 0.875** | −0.241 | −0.643 |
| | (0.216) | (0.518) | (0.505) | (0.264) | (0.277) | (0.284) | (0.455) |
| D7_rec2 | 0.052 | 0.291 | 0.409 | 0.088 | 0.844* | −1.267 | −0.911 |
| | (0.348) | (0.848) | (0.828) | (0.439) | (0.401) | (0.747) | (1.051) |
| D6_une1 | −0.574 | 0.058 | −0.046 | 0.481 | −0.277 | −0.976 | 1.782** |
| | (0.545) | (1.079) | (1.064) | (0.476) | (0.622) | (0.749) | (0.544) |
| D4_age | 0.026*** | 0.028 | 0.026 | 0.017* | 0.015* | −0.021* | 0.004 |
| | (0.006) | (0.016) | (0.015) | (0.008) | (0.008) | (0.010) | (0.015) |
| D10_rec | 0.143*** | −0.178 | −0.180 | 0.130** | −0.032 | 0.029 | −0.171 |
| | (0.040) | (0.104) | (0.104) | (0.049) | (0.049) | (0.056) | (0.095) |
| Constant | −3.025*** | −21.694 | −6.214*** | −4.899*** | −3.176*** | −1.501* | −4.090*** |
| | (0.491) | (1180.765) | (1.182) | (0.858) | (0.576) | (0.620) | (1.121) |
| N | 828 | 828 | 828 | 828 | 828 | 828 | 828 |
| Log Likelihood | −339.222 | −85.931 | −87.725 | −251.283 | −255.260 | −209.819 | −105.984 |
| AIC | 702.445 | 195.861 | 195.450 | 526.567 | 534.519 | 443.638 | 235.967 |

***p < .001; **p < .01; *p < .05

# 15 Italy

Synthetic variables have been estimated for the full set of relevant parties available in the original 2019 EES ITalian voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 15.1).

Table 15.1: Italian relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_1501 | 1501 | Democratic Party |
| stack_1502 | 1502 | Go Italy |
| stack_1503 | 1503 | Northern League |
| stack_1504 | 1504 | Five Star Movement |
| stack_1505 | 1505 | Italian Left |
| stack_1506 | 1506 | More Europe (+Europa) |
| stack_1507 | 1507 | Brothers of Italy - National Centre-right |

Full OLS models converge and coefficients do not show any particular issue (see Table 15.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.026 for party 1507 (Brothers of Italy - National Centre-right) and a maximum of 0.079 for party 1506 (More Europe (+Europa)). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows in no cases the null models perform better than full ones (see Table 15.2).

Table 15.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1501 | 1501 | 604.084 | 635.702 | -31.618 |
| stack_1502 | 1502 | 379.529 | 426.389 | -46.861 |
| stack_1503 | 1503 | 875.306 | 890.751 | -15.445 |
| stack_1504 | 1504 | 680.820 | 708.829 | -28.009 |
| stack_1505 | 1505 | 208.266 | 268.839 | -60.573 |
| stack_1506 | 1506 | 271.014 | 333.051 | -62.037 |
| stack_1507 | 1507 | 539.212 | 552.821 | -13.609 |

Also considering logistic regression models no anomalies were detected. (see Table 15.5) In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.032 for party 1507 (Brothers of Italy - National Centre-right) and a maximum of 0.005 for party 1501 (Democratic Party). The differences between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 5 cases out of 7 null models perform marginally better than full ones (see Table 15.3).

Table 15.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1501 | 1501 | 790.955 | 796.676 | -5.721 |
| stack_1502 | 1502 | 323.098 | 320.684 | 2.414 |
| stack_1503 | 1503 | 1013.665 | 1012.910 | 0.756 |
| stack_1504 | 1504 | 795.498 | 796.676 | -1.178 |
| stack_1505 | 1505 | 203.427 | 200.042 | 3.384 |
| stack_1506 | 1506 | 304.503 | 302.061 | 2.442 |
| stack_1507 | 1507 | 322.427 | 314.532 | 7.895 |

* AIC value refers to Model 11b (constrained).

Table 15.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **1501** | **1502** | **1503** | **1504** | **1505** | **1506** | **1507** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.020 | −0.024 | 0.006 | −0.022 | 0.055** | 0.067*** | −0.017 |
| | (0.022) | (0.020) | (0.026) | (0.023) | (0.018) | (0.019) | (0.022) |
| D8_rec1 | 0.052 | 0.014 | 0.003 | 0.015 | −0.023 | −0.012 | 0.009 |
| | (0.032) | (0.028) | (0.037) | (0.034) | (0.026) | (0.028) | (0.031) |
| D5_rec1 | 0.007 | −0.012 | 0.003 | 0.056* | 0.031 | 0.003 | 0.008 |
| | (0.025) | (0.022) | (0.029) | (0.026) | (0.020) | (0.021) | (0.024) |
| EDU_rec2 | 0.010 | −0.020 | −0.087 | −0.064 | −0.047 | −0.048 | 0.028 |
| | (0.039) | (0.035) | (0.045) | (0.041) | (0.032) | (0.033) | (0.038) |
| EDU_rec3 | 0.066 | −0.045 | −0.189*** | −0.074 | 0.017 | 0.010 | −0.021 |
| | (0.041) | (0.036) | (0.047) | (0.042) | (0.033) | (0.034) | (0.039) |
| D1_rec1 | 0.182*** | 0.083** | −0.002 | 0.009 | 0.148*** | 0.136*** | 0.027 |
| | (0.030) | (0.027) | (0.035) | (0.032) | (0.024) | (0.026) | (0.029) |
| D7_rec1 | 0.034 | 0.089*** | 0.005 | −0.025 | −0.018 | 0.037 | 0.060* |
| | (0.025) | (0.022) | (0.028) | (0.026) | (0.020) | (0.021) | (0.024) |
| D7_rec2 | 0.064 | 0.095** | 0.014 | −0.147*** | 0.018 | 0.103** | 0.095* |
| | (0.040) | (0.035) | (0.047) | (0.042) | (0.032) | (0.034) | (0.039) |
| D4_age | 0.0001 | −0.002** | −0.001 | −0.004*** | −0.002*** | −0.003*** | −0.0005 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.002 | 0.020*** | 0.021*** | 0.016** | −0.009* | 0.0004 | 0.019*** |
| | (0.005) | (0.004) | (0.006) | (0.005) | (0.004) | (0.004) | (0.005) |
| Constant | 0.177** | 0.272*** | 0.530*** | 0.577*** | 0.319*** | 0.335*** | 0.219*** |
| | (0.064) | (0.056) | (0.074) | (0.067) | (0.052) | (0.054) | (0.062) |
| N | 902 | 903 | 904 | 904 | 896 | 872 | 899 |
| R-squared | 0.056 | 0.071 | 0.038 | 0.052 | 0.086 | 0.090 | 0.037 |
| Adj. R-squared | 0.045 | 0.061 | 0.028 | 0.041 | 0.076 | 0.079 | 0.026 |

***p < .001; **p < .01; *p < .05

Table 15.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **1501** | **1502** | **1503** | **1504** | **1505** | **1506** | **1507** |
|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** |
| D3_rec2 | 0.050 | −0.239 | −0.228 | −0.111 | −0.337 | 0.161 | −0.113 |
| | (0.184) | (0.336) | (0.156) | (0.184) | (0.457) | (0.347) | (0.336) |
| D8_rec1 | 0.613* | 1.094 | 0.087 | −0.110 | −0.586 | −0.176 | −0.374 |
| | (0.304) | (0.740) | (0.225) | (0.257) | (0.510) | (0.469) | (0.438) |
| D5_rec1 | 0.263 | 0.022 | 0.063 | 0.330 | 0.020 | −0.660 | 0.303 |
| | (0.210) | (0.369) | (0.173) | (0.209) | (0.486) | (0.355) | (0.395) |
| EDU_rec2 | 0.147 | −0.639 | −0.548* | 0.515 | −0.286 | −0.387 | 0.662 |
| | (0.345) | (0.540) | (0.247) | (0.351) | (0.688) | (0.670) | (0.761) |
| EDU_rec3 | 0.504 | −0.456 | −0.857** | 0.439 | −0.065 | 0.646 | 0.966 |
| | (0.350) | (0.545) | (0.262) | (0.365) | (0.718) | (0.640) | (0.770) |
| D1_rec1 | 0.286 | 0.204 | −0.091 | −0.214 | 1.031* | −0.299 | −1.007 |
| | (0.238) | (0.406) | (0.210) | (0.253) | (0.492) | (0.507) | (0.616) |
| D7_rec1 | 0.219 | 0.870* | 0.151 | −0.292 | −1.082* | −0.152 | 0.132 |
| | (0.210) | (0.418) | (0.172) | (0.192) | (0.515) | (0.387) | (0.377) |
| D7_rec2 | 0.752* | 0.466 | 0.388 | −1.563** | −0.471 | 0.614 | −0.013 |
| | (0.301) | (0.638) | (0.269) | (0.485) | (0.788) | (0.527) | (0.605) |
| D4_age | 0.016** | −0.015 | 0.004 | −0.002 | 0.016 | −0.008 | 0.010 |
| | (0.006) | (0.011) | (0.005) | (0.006) | (0.015) | (0.011) | (0.011) |
| D10_rec | −0.052 | 0.157* | 0.049 | 0.055 | −0.202 | −0.120 | 0.142 |
| | (0.040) | (0.073) | (0.034) | (0.040) | (0.108) | (0.079) | (0.073) |
| Constant | −3.572*** | −3.875*** | −0.893* | −1.885*** | −3.041* | −2.118* | −4.594*** |
| | (0.581) | (1.056) | (0.431) | (0.551) | (1.196) | (0.955) | (1.111) |
| N | 873 | 873 | 873 | 873 | 873 | 873 | 873 |
| Log Likelihood | −384.478 | −150.549 | −495.833 | −386.749 | −90.713 | −141.251 | −150.214 |
| AIC | 790.955 | 323.098 | 1013.665 | 795.498 | 203.427 | 304.503 | 322.427 |

***p < .001; **p < .01; *p < .05

# 16 Latvia

Synthetic variables have been estimated for the full set of Latvian parties available in the original 2019 EES Latvian voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 16.1).

Table 16.1: latvian relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_1611 | 1611 | For Fatherland and Freedom - National Independence Movement of Latvia |
| stack_1608 | 1608 | New Conservative Party |
| stack_1609 | 1609 | Development/For! |
| stack_1605 | 1605 | Who owns the state? |
| stack_1610 | 1610 | Social Democratic Party ""Harmony"" |
| stack_1604 | 1604 | Green and Farmers' Union |
| stack_1616 | 1616 | Unity |

Full OLS models converge and coefficients do not show any particular issue (see Table 16.15). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.008 for party 1608 (New Conservative Party) and a maximum of 0.047 for party 1610 (Social Democratic Party ""Harmony""). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 5 cases out of 7 null models perform better than full ones (see Table 16.2).

Table 16.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1611 | 1611 | 417.189 | 427.783 | -10.593 |
| stack_1608 | 1608 | 313.166 | 308.067 | 5.099 |
| stack_1609 | 1609 | 298.365 | 304.472 | -6.107 |
| stack_1605 | 1605 | -52.283 | -52.571 | 0.288 |
| stack_1610 | 1610 | 610.902 | 638.014 | -27.112 |
| stack_1604 | 1604 | 225.227 | 225.784 | -0.556 |
| stack_1616 | 1616 | 432.780 | 446.309 | -13.529 |

On the contrary, six out of seven logistic regression models (see Tables 16.16, **??**) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 8,14: EDU_rec, D6_une;
- Model 9: D6_une;
- Model 11: D5_rec;
- Model 12,13: EDU_rec.

Nevertheless, models 9 and 11 constant terms and other regression coefficients are not affected by said inflated standard errors, whereas model 8,12,13,14 presents a more problematic profile.

Models 8,12,13,14 inflated standard errors are due to separation issues. In short, no respondents with low education and unemployement did vote for party 1611 and 1616 (see Tables 16.9, 16.10, 16.11, 16.12). For party 1610 and 1604 no respondents with low education voted for them (see Tables 16.13, 16.14).

As a consequence, a constrained version of model 8,12,13,14 (namely, Model 8b,12b,13b,14b) without said variables was estimated and contrasted with the original (Model 8a,12a,13a,14a), full model. Likelihood-ratio test results show

- that for Model 8 $H_0$ (namely, that the constrained model fits better than the full model) can be rejected at p<0.05 (see Table 16.3). However, if just EDU_rec is dropped, $H_0$ can be rejected at p<0.1 and the constant term is also not affected (see Table 16.4). Thus, synthetic variables for respondents' vote choice for party 1611 have been predicted relying on the constrained model dropping only EDU_rec.
- that for Model 12 $H_0$ can be rejected at p<0.1 (see Table 16.5). Consequently, synthetic variables for respondents' vote choice for party 1610 have been predicted relying on the constrained model (Model 12b).
- that for Model 13 $H_0$ can be rejected at p<0.05 (see Table 16.6). Consequently, synthetic variables for respondents' vote choice for party 1604 have been predicted relying on the constrained model (Model 13b).
- that for Model 14 $H_0$ can be rejected at p<0.001 (see Table 16.7). Consequently, synthetic variables for respondents' vote choice for party 1616 have been predicted relying on the unconstrained model (Model 14).

Table 16.3: Likelihood-ratio Test between Model 8a (Unconstrained) and (Fully Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 784 | 471.7312 | | | |
| 781 | 462.0985 | 3 | 9.632677 | 0.021961 |

Table 16.4: Likelihood-ratio Test between Model 8a (Unconstrained) and Model 8b (Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 783 | 465.9043 | | | |
| 781 | 462.0985 | 2 | 3.805825 | 0.1491336 |

Table 16.5: Likelihood-ratio Test between Model 12a (Unconstrained) and Model 12b (Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 783 | 474.9240 | | | |
| 781 | 469.9404 | 2 | 4.98362 | 0.08276 |

Table 16.6: Likelihood-ratio Test between Model 13a (Unconstrained) and Model 13b (Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 783 | 259.4469 | | | |
| 781 | 252.4689 | 2 | 6.977971 | 0.0305318 |

Table 16.7: Likelihood-ratio Test between Model 14 (Unconstrained and Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 783 | 589.2081 | | | |
| 781 | 573.1949 | 2 | 16.01324 | 0.0003332 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.055 for party 1608 (New Conservative Party) and a maximum of 0.043 for party 1616 (Unity). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 3 cases out of 7 null models perform better than full ones. According to AIC values the related null model appears to have a better fit than Model 11b (see Table 16.8).

Table 16.8: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1604 | 1604 | 276.4690 | 270.1370 | 6.332000 |
| stack_1611* | 1604 | 279.4469 | 270.1366 | 9.310303 |
| stack_1605 | 1605 | 70.3280 | 72.5630 | -2.235000 |
| stack_1608 | 1608 | 296.2430 | 282.6840 | 13.559000 |
| stack_1609 | 1609 | 462.4940 | 456.5220 | 5.972000 |
| stack_1610 | 1610 | 493.9400 | 493.8890 | 0.051000 |
| stack_1610 | 1610 | 494.9240 | 493.8894 | 1.034646 |
| stack_1611 | 1611 | 486.0990 | 480.1110 | 5.988000 |
| stack_1610* | 1611 | 485.9043 | 480.1108 | 5.793550 |
| stack_1616 | 1616 | 597.1950 | 625.7790 | -28.584000 |
| stack_1604* | | | | |

* AIC value refers to Model 11b (constrained).

Table 16.9: Cross tabulation between vote choice for party 1611 and respondents' education

| stack_1611/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 26 | 422 | 422 | 17 | 887 |
| 1 | 1 | 36 | 46 | 3 | 86 |
| NA | 2 | 13 | 12 | 0 | 27 |
| Total | 29 | 471 | 480 | 20 | 1000 |

Table 16.10: Cross tabulation between vote choice for party 1611 and respondents' employment status

| stack_1611/D6_une | 0 | 1 | Total |
|---|---|---|---|
| 0 | 838 | 49 | 887 |
| 1 | 85 | 1 | 86 |
| NA | 26 | 1 | 27 |
| Total | 949 | 51 | 1000 |

Table 16.11: Cross tabulation between vote choice for party 1616 and respondents' education

| stack_1616/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 26 | 414 | 380 | 18 | 838 |
| 1 | 1 | 44 | 88 | 2 | 135 |
| NA | 2 | 13 | 12 | 0 | 27 |
| Total | 29 | 471 | 480 | 20 | 1000 |

Table 16.12: Cross tabulation between vote choice for party 1616 and respondents' employment status

| stack_1616/D6_une | 0 | 1 | Total |
|---|---|---|---|
| 0 | 791 | 47 | 838 |
| 1 | 132 | 3 | 135 |
| NA | 26 | 1 | 27 |
| Total | 949 | 51 | 1000 |

Table 16.13: Cross tabulation between vote choice for party 1610 and respondents' education membership

| stack_1610/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 26 | 419 | 424 | 17 | 886 |
| 1 | 1 | 39 | 44 | 3 | 87 |
| NA | 2 | 13 | 12 | 0 | 27 |
| Total | 29 | 471 | 480 | 20 | 1000 |

Table 16.14: Cross tabulation between vote choice for party 1604 and respondents' education

| stack_1604/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 27 | 446 | 442 | 18 | 933 |
| 1 | 0 | 12 | 26 | 2 | 40 |
| NA | 2 | 13 | 12 | 0 | 27 |
| Total | 29 | 471 | 480 | 20 | 1000 |

Table 16.15: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **1611** | **1608** | **1609** | **1605** | **1610** | **1604** | **1616** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | −0.029 | 0.010 | 0.029 | 0.014 | 0.050 | 0.032 | 0.033 |
| | (0.023) | (0.022) | (0.022) | (0.017) | (0.026) | (0.020) | (0.023) |
| D8_rec1 | −0.108*** | −0.077** | −0.055* | −0.051* | 0.177*** | −0.029 | −0.057* |
| | (0.028) | (0.027) | (0.026) | (0.021) | (0.031) | (0.025) | (0.028) |
| D5_rec1 | −0.044 | −0.015 | −0.062* | −0.013 | 0.028 | −0.001 | −0.034 |
| | (0.026) | (0.024) | (0.024) | (0.019) | (0.029) | (0.023) | (0.026) |
| EDU_rec2 | 0.079 | 0.003 | 0.065 | 0.035 | 0.003 | 0.020 | 0.047 |
| | (0.071) | (0.067) | (0.066) | (0.052) | (0.078) | (0.061) | (0.070) |
| EDU_rec3 | 0.118 | 0.031 | 0.119 | 0.061 | −0.060 | 0.086 | 0.128 |
| | (0.071) | (0.067) | (0.066) | (0.053) | (0.079) | (0.062) | (0.070) |
| D1_rec1 | 0.025 | 0.003 | 0.009 | −0.008 | 0.027 | 0.019 | 0.027 |
| | (0.030) | (0.028) | (0.028) | (0.022) | (0.034) | (0.026) | (0.030) |
| D7_rec1 | 0.038 | 0.021 | 0.017 | 0.020 | 0.013 | 0.038 | 0.030 |
| | (0.024) | (0.023) | (0.022) | (0.018) | (0.027) | (0.021) | (0.024) |
| D7_rec2 | 0.034 | −0.011 | −0.007 | 0.021 | −0.022 | 0.038 | 0.029 |
| | (0.045) | (0.043) | (0.043) | (0.034) | (0.050) | (0.039) | (0.045) |
| D6_une1 | −0.082 | −0.103 | 0.044 | −0.003 | 0.043 | 0.012 | −0.072 |
| | (0.060) | (0.055) | (0.057) | (0.043) | (0.066) | (0.051) | (0.058) |
| D4_age | 0.001 | −0.001 | −0.001 | −0.002*** | −0.001 | 0.0001 | 0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.0001 | 0.004 | −0.009 | −0.0003 | 0.010 | 0.002 | 0.001 |
| | (0.006) | (0.006) | (0.006) | (0.005) | (0.007) | (0.006) | (0.006) |
| Constant | 0.281** | 0.376*** | 0.384*** | 0.280*** | 0.138 | 0.229** | 0.202* |
| | (0.089) | (0.084) | (0.083) | (0.065) | (0.098) | (0.076) | (0.088) |
| N | 784 | 768 | 767 | 770 | 792 | 790 | 789 |
| R-squared | 0.041 | 0.022 | 0.036 | 0.028 | 0.060 | 0.028 | 0.044 |
| Adj. R-squared | 0.027 | 0.008 | 0.022 | 0.014 | 0.047 | 0.014 | 0.030 |

***p < .001; **p < .01; *p < .05

Table 16.16: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **1611** | **1611** | **1608** | **1609** | **1605** | **1610** | **1610** | **1604** | **1604** | **1616** |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Model 8a** | **Model 8b** | **Model 9** | **Model 10** | **Model 11** | **Model 12a** | **Model 12b** | **Model 13a** | **Model 13b** | **Model 14** |
| D3_rec2 | −0.402 | −0.376 | 0.050 | 0.118 | −0.566 | −0.566 | 0.269 | −0.149 | −0.092 | −0.149 |
| | (0.261) | (0.260) | (0.365) | (0.271) | (1.022) | (1.022) | (0.258) | (0.374) | (0.373) | (0.225) |
| D8_rec1 | −0.152 | −0.181 | −0.420 | −0.759** | −2.391* | −2.391* | 1.129* | −0.717 | −0.804* | −0.279 |
| | (0.305) | (0.304) | (0.408) | (0.286) | (1.091) | (1.091) | (0.438) | (0.395) | (0.394) | (0.251) |
| D5_rec1 | −0.208 | −0.167 | −0.221 | −0.525 | 17.895 | 17.895 | −0.176 | 0.310 | 0.331 | −0.151 |
| | (0.287) | (0.286) | (0.394) | (0.276) | (2703.384) | (2703.384) | (0.275) | (0.451) | (0.447) | (0.246) |
| EDU_rec2 | 16.015 | | −1.380 | −0.347 | −2.112 | −2.112 | | 13.702 | | 15.051 |
| | (1358.359) | | (0.821) | (0.779) | (1.475) | (1.475) | | (849.755) | | (807.771) |
| EDU_rec3 | 16.146 | | −0.917 | −0.176 | −2.407 | −2.407 | | 14.637 | | 15.782 |
| | (1358.359) | | (0.806) | (0.783) | (1.632) | (1.632) | | (849.755) | | (807.771) |
| D1_rec1 | 0.241 | 0.264 | −0.021 | 0.270 | 0.412 | 0.412 | 0.224 | 0.509 | 0.624 | −0.198 |
| | (0.315) | (0.313) | (0.471) | (0.336) | (1.216) | (1.216) | (0.305) | (0.434) | (0.429) | (0.301) |
| D7_rec1 | −0.026 | −0.001 | 0.025 | 0.228 | 0.057 | 0.057 | 0.423 | 0.392 | 0.497 | −0.032 |
| | (0.270) | (0.268) | (0.380) | (0.275) | (1.056) | (1.056) | (0.274) | (0.408) | (0.405) | (0.229) |
| D7_rec2 | 0.268 | 0.304 | 0.130 | −0.357 | 2.371 | 2.371 | 0.403 | 0.359 | 0.549 | 0.035 |
| | (0.463) | (0.459) | (0.678) | (0.638) | (1.467) | (1.467) | (0.465) | (0.701) | (0.692) | (0.431) |
| D6_une1 | −16.014 | −15.184 | −15.525 | 0.414 | 3.005* | 3.005* | 0.494 | 0.838 | 0.443 | −15.058 |
| | (1087.082) | (675.024) | (1096.940) | (0.579) | (1.175) | (1.175) | (0.563) | (0.810) | (0.776) | (652.557) |
| D4_age | 0.007 | 0.008 | −0.002 | 0.006 | 0.062 | 0.062 | 0.005 | 0.002 | 0.003 | 0.031*** |
| | (0.008) | (0.008) | (0.012) | (0.009) | (0.043) | (0.043) | (0.008) | (0.012) | (0.012) | (0.007) |
| D10_rec | 0.082 | 0.079 | 0.090 | −0.094 | −0.403 | −0.403 | 0.078 | −0.094 | −0.103 | 0.0002 |
| | (0.068) | (0.068) | (0.094) | (0.081) | (0.348) | (0.348) | (0.067) | (0.111) | (0.112) | (0.061) |
| Constant | −18.424 | −2.426*** | −1.641 | −1.624 | −22.634 | −22.634 | −3.976*** | −17.389 | −3.219*** | −18.454 |
| | (1358.359) | (0.636) | (1.110) | (0.974) | (2703.385) | (2703.385) | (0.710) | (849.755) | (0.926) | (807.771) |
| N | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 |
| Log Likelihood | −231.049 | −232.952 | −136.122 | −219.247 | −23.164 | −23.164 | −237.462 | −126.234 | −129.723 | −286.597 |
| AIC | 486.099 | 485.904 | 296.243 | 462.494 | 70.328 | 70.328 | 494.924 | 276.469 | 279.447 | 597.195 |

***p < .001; **p < .01; *p < .05

# 17 Lithuania

Synthetic variables have been estimated for the full set of Lithuanian parties available in the original 2019 EES Lithuania voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 17.1).

Table 17.1: Lithuania relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_1701 | 1701 | Homeland Union - Lithuanian Christian Democrats |
| stack_1703 | 1703 | Lithuanian Social Democratic Party |
| stack_1706 | 1706 | Liberal Movement |
| stack_1705 | 1705 | Labour Party |
| stack_1704 | 1704 | Order and Justice |
| stack_1707 | 1707 | Election Action of Lithuania's Poles |
| stack_1702 | 1702 | Lithuanian Peasant and Greens Union |

Full OLS models converge and coefficients do not show any particular issue (see Table 17.12). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.004 for party 1703 (Lithuanian Social Democratic Party) and a maximum of 0.057 for party 1701 (Homeland Union - Lithuanian Christian Democrats). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that the full models perform better in six out of seven cases (see Table 17.2).

Table 17.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1701 | 1701 | 596.205 | 636.971 | -40.766 |
| stack_1703 | 1703 | 474.026 | 466.964 | 7.062 |
| stack_1706 | 1706 | 263.609 | 290.702 | -27.093 |
| stack_1705 | 1705 | 260.523 | 299.923 | -39.400 |
| stack_1704 | 1704 | 58.720 | 92.687 | -33.967 |
| stack_1707 | 1707 | -195.821 | -158.090 | -37.731 |
| stack_1702 | 1702 | 502.026 | 515.036 | -13.009 |

On the contrary, three out of seven logistic regression models (see Table 17.13) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 10a: EDU_rec (both categories)
- Model 13a: EDU_rec (both categories), D7_rec (second category), D6_une
- Model 14a: EDU_rec (both categories)

Models 10a, 13a and 14a are all problematic as the constant terms seem to be affected by the inflated standard errors issue. These inflated standard errors are due to separation issues which are explored below.

For Model 10a, we see that no respondent with low education voted for party 1706 (see Table 17.7). For Model 13a, we have that again no respondent with low education and no respondent who is unemployed

voted for party 1707 (see Tables 17.8, 17.10). Furthermore, only one respondent with high subjective social class voted for party 1707 (see Table 17.9). Finally, for Model 14a Table 17.11 shows that no respondent with low education voted for party 1702.

As a consequence constrained versions of Models 10, 13 and 14 (namely 10b, 13b and 14b) were estimated. In Models 10b and 14b the EDU_rec variables were removed, while in Model 13b the EDU_rec variables, the D7_rec variables and the D6_une variable were removed. These constrained models were then contrasted with their respective (original) full models (i.e. 10a, 13a, 14a). Likelihood-ratio test results show that $H_0$ (constrained model fits better than the full model) cannot be rejected for any of the models (see Tables 17.3, 17.4, 17.5). Following these results, synthetic variables for respondents' vote choice for parties 1706, 1707 and 1702 have been predicted relying on the constrained models (Model 10b, 13b, 14b).

Table 17.3: Likelihood-ratio Test between Model 10a (Unconstrained) and Model 10b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 803 | 269.3368 | | | |
| Unconstrained | 801 | 263.6719 | 2 | 5.664943 | 0.0588672 |

Table 17.4: Likelihood-ratio Test between Model 13a (Unconstrained) and Model 13b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 806 | 80.61689 | | | |
| Unconstrained | 801 | 72.03682 | 5 | 8.580075 | 0.1270321 |

Table 17.5: Likelihood-ratio Test between Model 14a (Unconstrained) and Model 14b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 803 | 472.2648 | | | |
| Unconstrained | 801 | 469.0902 | 2 | 3.174585 | 0.2044785 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.043 for party 1705 (Labour Party) and a maximum of 0.056 for party 1701 (Homeland Union - Lithuanian Christian Democrats). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in two cases out of seven null models perform better than full ones. According to AIC values the related null models appear to have a worse fit than Models 10b, 13b and 14b (see Table 17.6).

Table 17.6: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1701 | 1701 | 716.68400 | 761.3430 | -44.660000 |
| stack_1702 | 1702 | 493.09000 | 506.9030 | -13.813000 |
| stack_1702* | 1702 | 492.26483 | 506.9028 | -14.637938 |
| stack_1703 | 1703 | 686.72700 | 682.5230 | 4.204000 |
| stack_1704 | 1704 | 166.63600 | 167.1380 | -0.502000 |
| stack_1705 | 1705 | 313.75500 | 302.9360 | 10.819000 |
| stack_1706 | 1706 | 287.67200 | 290.6480 | -2.976000 |
| stack_1706* | 1706 | 289.33684 | 290.6479 | -1.311111 |
| stack_1707 | 1707 | 96.03700 | 100.9630 | -4.926000 |
| stack_1707* | 1707 | 94.61689 | 100.9631 | -6.346227 |

* AIC value refers to constrained models (i.e. 14b, 10b, 13b)

Table 17.7: Cross tabulation between vote choice for party 1706 and respondents' education

| stack_1706/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 29 | 265 | 553 | 14 | 861 |
| 1 | 0 | 6 | 34 | 2 | 42 |
| NA | 7 | 28 | 59 | 3 | 97 |
| Total | 36 | 299 | 646 | 19 | 1000 |

Table 17.8: Cross tabulation between vote choice for party 1707 and respondents' education

| stack_1707/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 29 | 265 | 584 | 14 | 892 |
| 1 | 0 | 6 | 3 | 2 | 11 |
| NA | 7 | 28 | 59 | 3 | 97 |
| Total | 36 | 299 | 646 | 19 | 1000 |

Table 17.9: Cross tabulation between vote choice for party 1707 and respondents' subjective social class

| stack_1707/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 387 | 353 | 125 | 27 | 892 |
| 1 | 5 | 5 | 1 | 0 | 11 |
| NA | 46 | 37 | 10 | 4 | 97 |
| Total | 438 | 395 | 136 | 31 | 1000 |

Table 17.10: Cross tabulation between vote choice for party 1707 and respondents' employment status

| stack_1707/D6_une | 0 | 1 | Total |
|---|---|---|---|
| 0 | 858 | 34 | 892 |
| 1 | 11 | 0 | 11 |
| NA | 91 | 6 | 97 |
| Total | 960 | 40 | 1000 |

Table 17.11: Cross tabulation between vote choice for party 1702 and respondents' education

| stack_1702/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 29 | 245 | 534 | 15 | 823 |
| 1 | 0 | 26 | 53 | 1 | 80 |
| NA | 7 | 28 | 59 | 3 | 97 |
| Total | 36 | 299 | 646 | 19 | 1000 |

Table 17.12: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **1701** | **1703** | **1706** | **1705** | **1704** | **1707** | **1702** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | −0.012 | 0.030 | −0.002 | 0.025 | 0.017 | 0.001 | 0.006 |
| | (0.024) | (0.022) | (0.020) | (0.020) | (0.018) | (0.015) | (0.022) |
| D8_rec1 | 0.017 | −0.011 | 0.055* | −0.018 | −0.010 | −0.021 | −0.084** |
| | (0.033) | (0.031) | (0.027) | (0.027) | (0.024) | (0.021) | (0.031) |
| D5_rec1 | 0.003 | 0.020 | −0.030 | 0.015 | 0.029 | 0.001 | 0.032 |
| | (0.025) | (0.023) | (0.021) | (0.021) | (0.019) | (0.016) | (0.024) |
| EDU_rec2 | −0.120 | −0.114 | −0.020 | 0.023 | 0.055 | 0.044 | −0.012 |
| | (0.067) | (0.062) | (0.056) | (0.055) | (0.049) | (0.043) | (0.063) |
| EDU_rec3 | −0.054 | −0.088 | 0.008 | 0.005 | 0.030 | −0.002 | −0.042 |
| | (0.066) | (0.062) | (0.056) | (0.055) | (0.049) | (0.042) | (0.063) |
| D1_rec1 | 0.024 | 0.072* | 0.080** | 0.122*** | 0.102*** | 0.139*** | 0.117*** |
| | (0.037) | (0.034) | (0.030) | (0.030) | (0.027) | (0.023) | (0.035) |
| D7_rec1 | 0.058* | −0.032 | 0.012 | −0.029 | −0.034 | −0.013 | −0.038 |
| | (0.025) | (0.023) | (0.021) | (0.021) | (0.018) | (0.016) | (0.024) |
| D7_rec2 | 0.162*** | −0.002 | 0.053 | 0.007 | −0.00003 | −0.015 | −0.029 |
| | (0.035) | (0.033) | (0.029) | (0.029) | (0.026) | (0.023) | (0.034) |
| D6_une1 | 0.017 | 0.063 | 0.122* | 0.179*** | 0.094* | 0.059 | 0.134* |
| | (0.061) | (0.056) | (0.050) | (0.050) | (0.045) | (0.039) | (0.058) |
| D4_age | −0.001 | −0.0003 | −0.003*** | −0.003*** | −0.002*** | −0.001 | 0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.0005) | (0.001) |
| D10_rec | 0.031*** | 0.006 | −0.0003 | 0.004 | 0.001 | 0.007 | 0.007 |
| | (0.006) | (0.006) | (0.005) | (0.005) | (0.005) | (0.004) | (0.006) |
| Constant | 0.403*** | 0.511*** | 0.422*** | 0.327*** | 0.258*** | 0.145** | 0.319*** |
| | (0.074) | (0.069) | (0.062) | (0.061) | (0.055) | (0.047) | (0.070) |
| N | 887 | 888 | 881 | 888 | 884 | 879 | 887 |
| R-squared | 0.068 | 0.017 | 0.054 | 0.067 | 0.061 | 0.066 | 0.039 |
| Adj. R-squared | 0.057 | 0.004 | 0.042 | 0.055 | 0.050 | 0.054 | 0.027 |

***p < .001; **p < .01; *p < .05

Table 17.13: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| **Model** | **1701 8** | **1703 9** | **1706 10a** | **1706 10b** | **1705 11** | **1704 12** | **1707 13a** | **1707 13b** | **1702 14a** | **1702 14b** |
|---|---|---|---|---|---|---|---|---|---|---|
| D3_rec2 | −0.318 | 0.444* | −0.389 | −0.450 | 0.490 | 0.202 | 0.341 | 0.168 | 0.283 | 0.279 |
| | (0.204) | (0.218) | (0.381) | (0.378) | (0.371) | (0.540) | (0.803) | (0.768) | (0.266) | (0.264) |
| D8_rec1 | 0.296 | 0.211 | 0.504 | 0.505 | −0.075 | −1.372* | 0.774 | 0.549 | −0.999*** | −1.011*** |
| | (0.299) | (0.301) | (0.622) | (0.620) | (0.463) | (0.547) | (1.183) | (1.105) | (0.281) | (0.281) |
| D5_rec1 | 0.241 | 0.240 | 0.111 | 0.172 | −0.163 | 0.607 | 0.536 | 0.544 | 0.448 | 0.493 |
| | (0.220) | (0.227) | (0.414) | (0.414) | (0.364) | (0.616) | (0.912) | (0.855) | (0.292) | (0.290) |
| EDU_rec2 | −0.787 | −0.818 | 13.954 | | 0.454 | 0.324 | 17.674 | | 14.498 | |
| | (0.632) | (0.570) | (729.702) | | (1.114) | (1.200) | (4946.833) | | (734.059) | |
| EDU_rec3 | −0.415 | −0.665 | 14.776 | | 0.524 | 0.027 | 16.269 | | 14.208 | |
| | (0.618) | (0.564) | (729.702) | | (1.112) | (1.201) | (4946.833) | | (734.059) | |
| D1_rec1 | −0.171 | 0.148 | 1.243** | 1.302** | 0.825 | 0.206 | 1.389 | 1.332 | −0.664 | −0.683 |
| | (0.314) | (0.319) | (0.416) | (0.411) | (0.452) | (0.715) | (0.800) | (0.746) | (0.539) | (0.538) |
| D7_rec1 | 0.405 | −0.286 | 0.462 | 0.543 | −0.472 | −0.590 | −0.050 | | 0.056 | −0.012 |
| | (0.220) | (0.228) | (0.381) | (0.377) | (0.368) | (0.617) | (0.740) | | (0.272) | (0.267) |
| D7_rec2 | 0.849** | 0.272 | −0.404 | −0.206 | −1.330 | 0.542 | −17.224 | | −0.219 | −0.304 |
| | (0.276) | (0.284) | (0.665) | (0.659) | (0.758) | (0.676) | (2320.377) | | (0.412) | (0.404) |
| D6_une1 | −14.348 | −0.607 | 0.144 | −0.002 | 0.851 | 0.345 | −16.347 | | 0.523 | 0.620 |
| | (437.118) | (0.754) | (1.067) | (1.059) | (0.669) | (1.091) | (5145.352) | | (0.585) | (0.582) |
| D4_age | 0.024*** | 0.013 | 0.0004 | 0.009 | −0.008 | −0.062** | −0.018 | −0.026 | 0.027** | 0.027** |
| | (0.007) | (0.007) | (0.012) | (0.011) | (0.011) | (0.020) | (0.026) | (0.022) | (0.009) | (0.008) |
| D10_rec | 0.174** | 0.028 | −0.194 | −0.190 | 0.006 | 0.228 | 0.664** | 0.650** | −0.022 | −0.025 |
| | (0.054) | (0.056) | (0.103) | (0.102) | (0.097) | (0.152) | (0.231) | (0.225) | (0.071) | (0.070) |
| Constant | −3.289*** | −2.337*** | −17.947 | −3.932*** | −3.163** | −1.421 | −24.323 | −6.897*** | −17.580 | −3.256*** |
| | (0.699) | (0.649) | (729.702) | (0.940) | (1.205) | (1.387) | (4946.834) | (1.943) | (734.059) | (0.619) |
| N | 813 | 813 | 813 | 813 | 813 | 813 | 813 | 813 | 813 | 813 |
| Log Likelihood | −346.342 | −331.363 | −131.836 | −134.668 | −144.877 | −71.318 | −36.018 | −40.308 | −234.545 | −236.132 |
| AIC | 716.684 | 686.727 | 287.672 | 289.337 | 313.755 | 166.636 | 96.037 | 94.617 | 493.090 | 492.265 |

***p < .001; **p < .01; *p < .05

# 18 Luxembourg

Synthetic variables have been estimated for seven of ten of Luxembourgian parties available in the original 2019 EES Luxembourgian voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 18.1).

Table 18.1: Luxembourgian relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_1801 | 1801 | Christian Social People's Party |
| stack_1802 | 1802 | Socialist Workers' Party |
| stack_1803 | 1803 | Democratic Party |
| stack_1804 | 1804 | The Greens |
| stack_1805 | 1805 | The Left |
| stack_1806 | 1806 | Alternative Democratic Reform Party |
| stack_1807 | 1807 | Pirate Party of Luxembourg |

Full OLS models converge and coefficients do not show any particular issue (see Table 18.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.013 for party 1806 (Alternative Democratic Reform Party) and a maximum of 0.136 for party 1804 (The Greens). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 1 case out of 7 null models perform better than full ones (see Table 18.2).

Table 18.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1801 | 1801 | 307.051 | 321.535 | -14.484 |
| stack_1802 | 1802 | 198.883 | 208.287 | -9.404 |
| stack_1803 | 1803 | 252.751 | 277.718 | -24.967 |
| stack_1804 | 1804 | 264.835 | 320.320 | -55.485 |
| stack_1805 | 1805 | 160.767 | 168.247 | -7.480 |
| stack_1806 | 1806 | 56.601 | 51.752 | 4.849 |
| stack_1807 | 1807 | 28.790 | 45.389 | -16.599 |

On the contrary, four out of seven logistic regression models (see Table 18.5) show inflated standard errors for one of the coefficients of interest, in particular:

- Model 8, 9, 10 and 12: D6_une.

Nevertheless, models 8, 9, 10 and 12 constant term and other regression coefficients are not affected by said inflated standard error. Therefore, we do not adapt the model.

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.074 for party 1805 (The Left) and a maximum of 0.022 for party 1801 (Christian Social People's Party). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 6 cases out of 7 null models perform better than full ones (see Table 18.3).

Table 18.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1801 | 1801 | 374.770 | 385.253 | -10.483 |
| stack_1802 | 1802 | 278.141 | 270.650 | 7.491 |
| stack_1803 | 1803 | 433.856 | 426.431 | 7.425 |
| stack_1804 | 1804 | 416.070 | 408.096 | 7.975 |
| stack_1805 | 1805 | 200.446 | 188.620 | 11.825 |
| stack_1806 | 1806 | 179.297 | 171.048 | 8.248 |
| stack_1807 | 1807 | 155.919 | 152.574 | 3.345 |

Table 18.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **1801** | **1802** | **1803** | **1804** | **1805** | **1806** | **1807** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.009 | −0.009 | 0.009 | 0.056 | 0.006 | −0.026 | 0.005 |
| | (0.032) | (0.029) | (0.030) | (0.031) | (0.027) | (0.024) | (0.024) |
| D8_rec1 | −0.004 | −0.028 | 0.022 | −0.0002 | −0.003 | 0.011 | −0.016 |
| | (0.032) | (0.029) | (0.030) | (0.031) | (0.028) | (0.025) | (0.024) |
| D5_rec1 | 0.013 | −0.029 | −0.052 | −0.033 | −0.013 | 0.0003 | −0.058* |
| | (0.036) | (0.032) | (0.034) | (0.034) | (0.030) | (0.027) | (0.026) |
| EDU_rec2 | 0.115 | 0.169** | 0.083 | −0.041 | −0.053 | 0.065 | −0.087* |
| | (0.059) | (0.053) | (0.056) | (0.057) | (0.051) | (0.046) | (0.044) |
| EDU_rec3 | 0.110 | 0.099 | 0.077 | 0.033 | 0.012 | 0.020 | −0.083* |
| | (0.057) | (0.051) | (0.054) | (0.055) | (0.049) | (0.044) | (0.042) |
| D1_rec1 | 0.005 | 0.060* | −0.045 | −0.036 | −0.009 | −0.007 | −0.025 |
| | (0.032) | (0.029) | (0.031) | (0.031) | (0.028) | (0.025) | (0.024) |
| D7_rec1 | 0.005 | 0.097* | 0.173*** | 0.175*** | −0.012 | −0.033 | 0.031 |
| | (0.045) | (0.041) | (0.043) | (0.043) | (0.039) | (0.035) | (0.034) |
| D7_rec2 | −0.026 | 0.154*** | 0.198*** | 0.219*** | −0.010 | −0.031 | −0.012 |
| | (0.048) | (0.043) | (0.045) | (0.046) | (0.041) | (0.037) | (0.035) |
| D6_une1 | −0.192 | −0.012 | −0.221* | −0.166 | 0.098 | 0.215* | 0.172* |
| | (0.114) | (0.107) | (0.107) | (0.108) | (0.097) | (0.092) | (0.084) |
| D4_age | −0.0001 | −0.002** | −0.002* | −0.005*** | −0.003*** | −0.001 | −0.003*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.053*** | −0.001 | 0.003 | −0.012 | −0.015 | 0.015* | −0.004 |
| | (0.010) | (0.009) | (0.009) | (0.009) | (0.008) | (0.007) | (0.007) |
| Constant | 0.270*** | 0.307*** | 0.365*** | 0.531*** | 0.439*** | 0.183** | 0.426*** |
| | (0.080) | (0.072) | (0.076) | (0.077) | (0.068) | (0.062) | (0.059) |
| N | 454 | 449 | 453 | 454 | 453 | 446 | 453 |
| R-squared | 0.077 | 0.068 | 0.098 | 0.157 | 0.063 | 0.038 | 0.082 |
| Adj. R-squared | 0.054 | 0.044 | 0.076 | 0.136 | 0.040 | 0.013 | 0.059 |

***p < .001; **p < .01; *p < .05

Table 18.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **1801** | **1802** | **1803** | **1804** | **1805** | **1806** | **1807** |
|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** |
| D3_rec2 | 0.279 | −0.020 | −0.020 | 0.153 | 0.379 | −0.587 | 0.259 |
| | (0.281) | (0.345) | (0.254) | (0.261) | (0.435) | (0.477) | (0.519) |
| D8_rec1 | −0.203 | 0.160 | 0.084 | 0.053 | 0.204 | −0.858 | −0.643 |
| | (0.279) | (0.352) | (0.257) | (0.265) | (0.446) | (0.474) | (0.511) |
| D5_rec1 | −0.250 | 0.137 | 0.340 | −0.091 | −0.354 | 0.202 | −0.747 |
| | (0.302) | (0.381) | (0.300) | (0.289) | (0.451) | (0.530) | (0.524) |
| EDU_rec2 | 1.419* | 0.528 | 0.532 | −0.412 | −0.446 | −0.067 | −0.422 |
| | (0.674) | (0.603) | (0.588) | (0.493) | (0.755) | (0.734) | (0.701) |
| EDU_rec3 | 1.264 | −0.401 | 0.622 | −0.113 | 0.020 | −0.550 | −0.988 |
| | (0.670) | (0.607) | (0.563) | (0.450) | (0.688) | (0.733) | (0.688) |
| D1_rec1 | 0.157 | 0.593 | −0.162 | −0.088 | 0.449 | 0.399 | 0.357 |
| | (0.281) | (0.349) | (0.258) | (0.267) | (0.448) | (0.472) | (0.534) |
| D7_rec1 | −0.687 | −0.597 | 0.890* | 0.582 | −0.895 | 0.106 | −0.173 |
| | (0.365) | (0.479) | (0.448) | (0.418) | (0.553) | (0.566) | (0.570) |
| D7_rec2 | −0.729 | 0.259 | 0.811 | 0.568 | −0.774 | −0.877 | −1.473 |
| | (0.387) | (0.462) | (0.462) | (0.435) | (0.585) | (0.723) | (0.858) |
| D6_une1 | −14.981 | −14.425 | −14.974 | −0.115 | −13.885 | 1.511 | 1.245 |
| | (901.653) | (885.645) | (884.461) | (1.098) | (863.380) | (1.157) | (1.229) |
| D4_age | 0.020* | −0.012 | 0.003 | −0.015 | 0.0005 | 0.004 | −0.013 |
| | (0.008) | (0.011) | (0.008) | (0.008) | (0.013) | (0.015) | (0.016) |
| D10_rec | 0.232** | 0.067 | 0.014 | −0.169 | −0.244 | −0.140 | −0.151 |
| | (0.074) | (0.097) | (0.076) | (0.090) | (0.162) | (0.163) | (0.178) |
| Constant | −3.629*** | −2.139* | −3.116*** | −1.027 | −2.212* | −2.220* | −0.925 |
| | (0.856) | (0.840) | (0.771) | (0.655) | (0.999) | (1.116) | (1.028) |
| N | 443 | 443 | 443 | 443 | 443 | 443 | 443 |
| Log Likelihood | −175.385 | −127.070 | −204.928 | −196.035 | −88.223 | −77.648 | −65.959 |
| AIC | 374.770 | 278.141 | 433.856 | 416.070 | 200.446 | 179.297 | 155.919 |

***p < .001; **p < .01; *p < .05

# 19 Malta

Synthetic variables have been estimated for the full set of Maltese parties (5) available in the original 2019 EES Maltese voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 19.1).

Table 19.1: Maltese relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_1901 | 1901 | Labour Party |
| stack_1902 | 1902 | Nationalist Party |
| stack_1903 | 1903 | Democratic Alternative |
| stack_1904 | 1904 | Democratic Party |
| stack_1905 | 1905 | Imperium Europa |

Full OLS models converge and coefficients do not show any particular issue (see Table 19.19). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.058 for party 1901 (Labour Party) and a maximum of 0.105 for party 1904 (Democratic Party). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 0 cases out of 5 null models perform better than full ones (see Table 19.2).

Table 19.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1901 | 1901 | 328.713 | 339.868 | -11.155 |
| stack_1902 | 1902 | 241.813 | 267.804 | -25.991 |
| stack_1903 | 1903 | 2.060 | 20.944 | -18.884 |
| stack_1904 | 1904 | -86.223 | -56.098 | -30.124 |
| stack_1905 | 1905 | -59.754 | -47.221 | -12.532 |

On the contrary, three out of five logistic regression models (see Table 19.20) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 8a: D8_rec, EDU_rec, D1_rec, D7_rec (only for category 2), D6_une;
- Model 9a: D8_rec, D7_rec (for category 1 and 2), D6_une;
- Model 10a: D8_rec, EDU_rec (only for category 3), D7_rec (only for category 2), D6_une.

Models 8a, 9a and 10a constant terms and other regression coefficients are affected by the above mentioned variables' inflated standard error showing unusual values.

Model 8a inflated standard errors are due to separation issues. In short, no respondents from rural areas, with low education, with high subjective social status, members of trade unions, and unemployed did vote for party 1903 (see Tables 19.7, 19.8, 19.9, 19.10, 19.11, **??**).

Model 9a inflated standard errors are due to separation issues. In short, no respondents from rural areas, with NA in their subjective social status and NA in their employment information did vote for party 1904 (see Tables 19.12, 19.13, 19.14).

Model 10a inflated standard errors are due to separation issues. In short, no respondents from rural areas, with high education or NA in their education information, with high subjective social status, members of trade unions, and unemployed or NA in their employment information did vote for party 1905 (see Tables 19.15, 19.16, 19.17, 19.18).

As a consequence, constrained versions of model 8, 9 and 10 (namely, Model 8b, 9b and 10b) without said variables were estimated and contrasted with the originals (Model 8a, 9a and 10a), full model.

For model 8 Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) is rejected (see Table 19.3). Consequently, synthetic variables for respondents' vote choice for party 1903 have been predicted relying on the unconstrained model (Model 8a).

For model 9 Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) can not be rejected (see Table 19.4). Consequently, synthetic variables for respondents' vote choice for party 1904 have been predicted relying on the constrained model (Model 9b).

For model 10 Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) can not be rejected (see Table 19.5). Consequently, synthetic variables for respondents' vote choice for party 1905 have been predicted relying on the constrained model (Model 10b).

Table 19.3: Likelihood-ratio Test between Model 8a (Unconstrained) and Model 8b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 319 | 42.95925 | | | |
| Unconstrained | 312 | 28.50452 | 7 | 14.45473 | 0.0436599 |

Table 19.4: Likelihood-ratio Test between Model 9a (Unconstrained) and Model 9b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 316 | 54.49792 | | | |
| Unconstrained | 312 | 45.14544 | 4 | 9.352487 | 0.0528682 |

Table 19.5: Likelihood-ratio Test between Model 10a (Unconstrained) and Model 10b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 318 | 62.42784 | | | |
| Unconstrained | 312 | 53.36654 | 6 | 9.0613 | 0.1701599 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.157 for party 1904 (Democratic Party) and a maximum of 0.04 for party 1901 (Labour Party). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 2 cases out of 5 null models perform better than full ones. According to AIC values the related null model appears to have a better fit than Model 9b and 10b (see Table 19.6).

Table 19.6: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_1901 | 1901 | 429.65800 | 449.66400 | -20.006000 |
| stack_1902 | 1902 | 324.54300 | 337.57100 | -13.028000 |
| stack_1903 | 1903 | 52.50500 | 53.63500 | -1.131000 |
| stack_1904 | 1904 | 69.14500 | 61.75600 | 7.389000 |
| stack_1904* | 1904 | 70.49792 | 61.75601 | 8.741919 |
| stack_1905 | 1905 | 77.36700 | 69.53500 | 7.831000 |
| stack_1905* | 1905 | 74.42784 | 69.53533 | 4.892508 |

* AIC value refers to Model 9b for 1904* (constrained) and to Model 10b for 1905* (constrained).

Table 19.7: Cross tabulation between vote choice for party 1903 and respondents' area of residency

| stack_1903/D8_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 4 | 367 | 371 |
| 1 | 0 | 6 | 6 |
| NA | 8 | 118 | 126 |
| Total | 12 | 491 | 503 |

Table 19.8: Cross tabulation between vote choice for party 1903 and respondents' education

| stack_1903/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 114 | 173 | 72 | 12 | 371 |
| 1 | 0 | 2 | 4 | 0 | 6 |
| NA | 33 | 61 | 31 | 1 | 126 |
| Total | 147 | 236 | 107 | 13 | 503 |

Table 19.9: Cross tabulation between vote choice for party 1903 and respondents' subjective SES

| stack_1903/D1_rec | 0 | 1 | NA | Total |
|---|---|---|---|---|
| 0 | 284 | 79 | 8 | 371 |
| 1 | 6 | 0 | 0 | 6 |
| NA | 97 | 24 | 5 | 126 |
| Total | 387 | 103 | 13 | 503 |

Table 19.10: Cross tabulation between vote choice for party 1903 and respondents' trade union membership

| stack_1903/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 127 | 192 | 38 | 14 | 371 |
| 1 | 1 | 5 | 0 | 0 | 6 |
| NA | 40 | 60 | 13 | 13 | 126 |
| Total | 168 | 257 | 51 | 27 | 503 |

Table 19.11: Cross tabulation between vote choice for party 1903 and respondents' employment status

| stack_1903/D6_une | 0 | 1 | NA | Total |
|---|---|---|---|---|
| 0 | 352 | 17 | 2 | 371 |
| 1 | 6 | 0 | 0 | 6 |
| NA | 117 | 9 | 0 | 126 |
| Total | 475 | 26 | 2 | 503 |

Table 19.12: Cross tabulation between vote choice for party 1904 and respondents' area of residency

| stack_1904/D8_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 4 | 366 | 370 |
| 1 | 0 | 7 | 7 |
| NA | 8 | 118 | 126 |
| Total | 12 | 491 | 503 |

Table 19.13: Cross tabulation between vote choice for party 1904 and respondents' subjective SES

| stack_1904/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 127 | 194 | 35 | 14 | 370 |
| 1 | 1 | 3 | 3 | 0 | 7 |
| NA | 40 | 60 | 13 | 13 | 126 |
| Total | 168 | 257 | 51 | 27 | 503 |

Table 19.14: Cross tabulation between vote choice for party 1904 and respondents' employment status

| stack_1904/D6_une | 0 | 1 | NA | Total |
|---|---|---|---|---|
| 0 | 352 | 16 | 2 | 370 |
| 1 | 6 | 1 | 0 | 7 |
| NA | 117 | 9 | 0 | 126 |
| Total | 475 | 26 | 2 | 503 |

Table 19.15: Cross tabulation between vote choice for party 1905 and respondents' area of residency

| stack_1905/D8_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 4 | 364 | 368 |
| 1 | 0 | 9 | 9 |
| NA | 8 | 118 | 126 |
| Total | 12 | 491 | 503 |

Table 19.16: Cross tabulation between vote choice for party 1905 and respondents' education

| stack_1905/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 111 | 169 | 76 | 12 | 368 |
| 1 | 3 | 6 | 0 | 0 | 9 |
| NA | 33 | 61 | 31 | 1 | 126 |
| Total | 147 | 236 | 107 | 13 | 503 |

Table 19.17: Cross tabulation between vote choice for party 1905 and respondents' subjective SES

| stack_1905/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 122 | 195 | 38 | 13 | 368 |
| 1 | 6 | 2 | 0 | 1 | 9 |
| NA | 40 | 60 | 13 | 13 | 126 |
| Total | 168 | 257 | 51 | 27 | 503 |

Table 19.18: Cross tabulation between vote choice for party 1905 and respondents' trade union membership

| stack_1905/D6_une | 0 | 1 | NA | Total |
|---|---|---|---|---|
| 0 | 349 | 17 | 2 | 368 |
| 1 | 9 | 0 | 0 | 9 |
| NA | 117 | 9 | 0 | 126 |
| Total | 475 | 26 | 2 | 503 |

Table 19.19: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **1901** | **1902** | **1903** | **1904** | **1905** |
|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** |
| D3_rec2 | 0.009 | 0.017 | 0.048 | 0.031 | 0.023 |
| | (0.040) | (0.036) | (0.025) | (0.023) | (0.023) |
| D8_rec1 | −0.054 | 0.122 | 0.069 | 0.106 | 0.081 |
| | (0.120) | (0.112) | (0.081) | (0.072) | (0.074) |
| D5_rec1 | 0.051 | −0.061 | −0.033 | −0.036 | −0.059* |
| | (0.046) | (0.041) | (0.029) | (0.026) | (0.027) |
| EDU_rec2 | −0.099* | 0.010 | 0.029 | 0.010 | 0.037 |
| | (0.046) | (0.042) | (0.030) | (0.026) | (0.027) |
| EDU_rec3 | −0.174** | 0.153** | 0.132*** | 0.071* | −0.030 |
| | (0.058) | (0.052) | (0.038) | (0.033) | (0.035) |
| D1_rec1 | 0.086 | −0.049 | 0.014 | 0.015 | 0.0004 |
| | (0.048) | (0.042) | (0.030) | (0.027) | (0.028) |
| D7_rec1 | −0.145*** | 0.117** | 0.021 | 0.038 | 0.010 |
| | (0.042) | (0.038) | (0.027) | (0.024) | (0.025) |
| D7_rec2 | −0.184* | 0.229*** | 0.046 | 0.078 | 0.001 |
| | (0.075) | (0.066) | (0.047) | (0.042) | (0.044) |
| D6_une1 | −0.052 | 0.162* | −0.051 | −0.038 | 0.012 |
| | (0.086) | (0.080) | (0.055) | (0.049) | (0.052) |
| D4_age | −0.001 | −0.001 | −0.002** | −0.003*** | −0.003*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.005 | 0.018* | −0.0003 | 0.005 | 0.005 |
| | (0.008) | (0.007) | (0.005) | (0.005) | (0.005) |
| Constant | 0.838*** | 0.115 | 0.144 | 0.103 | 0.136 |
| | (0.141) | (0.131) | (0.094) | (0.083) | (0.086) |
| N | 366 | 363 | 368 | 368 | 367 |
| R-squared | 0.087 | 0.124 | 0.105 | 0.132 | 0.090 |
| Adj. R-squared | 0.058 | 0.096 | 0.077 | 0.105 | 0.062 |

***p < .001; **p < .01; *p < .05

Table 19.20: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **1901** | **1902** | **1903** | **1904** | **1904** | **1905** | **1905** |
|---|---|---|---|---|---|---|---|
| | **Model 6** | **Model 7** | **Model 8** | **Model 9a** | **Model 9b** | **Model 10a** | **Model 10b** |
| D3_rec2 | −0.265 | 0.128 | −2.373 | −1.437 | −1.496 | −0.175 | −0.225 |
| | (0.242) | (0.295) | (1.456) | (1.153) | (1.112) | (0.825) | (0.785) |
| D8_rec1 | −1.157 | 0.029 | 16.044 | 17.178 | | 16.553 | |
| | (1.219) | (1.206) | (20639.260) | (13271.490) | | (13818.120) | |
| D5_rec1 | 0.561 | −0.151 | 2.365 | −1.079 | −1.159 | −1.927* | −1.718 |
| | (0.293) | (0.345) | (1.765) | (0.980) | (0.965) | (0.956) | (0.918) |
| EDU_rec2 | −0.677* | 0.470 | 18.869 | 0.952 | 1.005 | 0.757 | |
| | (0.283) | (0.375) | (3592.839) | (1.381) | (1.156) | (0.885) | |
| EDU_rec3 | −0.958** | 0.950* | 20.630 | −0.537 | 0.248 | −17.021 | |
| | (0.358) | (0.438) | (3592.839) | (1.531) | (1.442) | (3155.681) | |
| D1_rec1 | 0.581* | −0.256 | −19.465 | 0.620 | 0.658 | −0.199 | −0.483 |
| | (0.291) | (0.367) | (4241.033) | (0.965) | (0.921) | (1.138) | (1.111) |
| D7_rec1 | −0.845*** | 1.164** | 1.069 | 17.402 | | −1.467 | |
| | (0.256) | (0.365) | (1.345) | (2518.866) | | (0.871) | |
| D7_rec2 | −1.335** | 1.605** | −18.873 | 19.172 | | −18.094 | |
| | (0.452) | (0.504) | (5741.919) | (2518.866) | | (4498.985) | |
| D6_une1 | −0.594 | 1.004 | −15.495 | −15.842 | | −17.585 | |
| | (0.577) | (0.600) | (9574.639) | (6600.938) | | (6559.436) | |
| D4_age | 0.007 | 0.024** | −0.165 | 0.006 | 0.013 | 0.004 | 0.004 |
| | (0.007) | (0.009) | (0.087) | (0.028) | (0.025) | (0.023) | (0.021) |
| D10_rec | −0.006 | 0.061 | −0.380 | −0.022 | −0.034 | −0.031 | −0.034 |
| | (0.050) | (0.063) | (0.259) | (0.175) | (0.169) | (0.159) | (0.146) |
| Constant | 1.446 | −4.111** | −33.136 | −38.323 | −4.105** | −18.828 | −2.818** |
| | (1.321) | (1.402) | (20949.640) | (13508.410) | (1.528) | (13818.120) | (1.017) |
| N | 324 | 324 | 324 | 324 | 324 | 324 | 324 |
| Log Likelihood | −202.829 | −150.271 | −14.252 | −22.573 | −27.249 | −26.683 | −31.214 |
| AIC | 429.658 | 324.543 | 52.505 | 69.145 | 70.498 | 77.367 | 74.428 |

***p < .001; **p < .01; *p < .05

# 20 Netherlands

Synthetic variables have been estimated for nine of 16 Dutch parties available in the original 2019 EES Dutch voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 20.1).

Table 20.1: Dutch relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_2001 | 2001 | People's Party for Freedom and Democracy |
| stack_2002 | 2002 | Party of Freedom |
| stack_2003 | 2003 | Christian Democratic Appeal |
| stack_2004 | 2004 | Democrats '66 |
| stack_2005 | 2005 | Green Left |
| stack_2006 | 2006 | Socialist Party |
| stack_2007 | 2007 | Labour Party |
| stack_2008 | 2008 | Christian Union |
| stack_2012 | 2012 | Forum for Democracy |

Full OLS models converge and coefficients do not show any particular issue (see Table 20.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.035 for party 2007 (Labour Party) and a maximum of 0.287 for party 2008 (Christian Union). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 0 cases out of 9 null models perform better than full ones (see Table 20.2).

Table 20.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2001 | 2001 | 454.279 | 531.738 | -77.459 |
| stack_2002 | 2002 | 548.978 | 581.994 | -33.017 |
| stack_2003 | 2003 | 217.757 | 350.169 | -132.411 |
| stack_2004 | 2004 | 330.443 | 390.042 | -59.599 |
| stack_2005 | 2005 | 473.891 | 525.482 | -51.591 |
| stack_2006 | 2006 | 335.561 | 364.542 | -28.981 |
| stack_2007 | 2007 | 429.023 | 448.610 | -19.586 |
| stack_2008 | 2008 | 40.047 | 315.802 | -275.755 |
| stack_2012 | 2012 | 625.283 | 658.327 | -33.044 |

Full logit models converge and coefficients do not show any particular issue (see Table 20.5).

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.045 for party 2006 (Socialist Party) and a maximum of 0.431 for party 2008 (Christian Union). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 4 cases out of 9 null models perform better than full ones (see Table 20.3).

Table 20.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2001 | 2001 | 481.305 | 489.018 | -7.712 |
| stack_2002 | 2002 | 357.133 | 353.172 | 3.962 |
| stack_2003 | 2003 | 317.331 | 317.798 | -0.467 |
| stack_2004 | 2004 | 250.381 | 247.659 | 2.723 |
| stack_2005 | 2005 | 364.861 | 364.576 | 0.285 |
| stack_2006 | 2006 | 342.485 | 329.791 | 12.694 |
| stack_2007 | 2007 | 636.889 | 643.259 | -6.369 |
| stack_2008 | 2008 | 165.732 | 293.155 | -127.423 |
| stack_2012 | 2012 | 620.365 | 639.394 | -19.029 |

Table 20.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **2001** | **2002** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2012** |
|---|---|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** | **Model 8** | **Model 9** |
| D3_rec2 | −0.073*** | −0.096*** | −0.034 | −0.006 | 0.024 | 0.007 | −0.019 | −0.001 | −0.103*** |
| | (0.022) | (0.023) | (0.019) | (0.020) | (0.022) | (0.020) | (0.022) | (0.017) | (0.024) |
| D8_rec1 | −0.023 | −0.040 | −0.057** | −0.014 | 0.039 | 0.050* | 0.027 | −0.025 | −0.045 |
| | (0.024) | (0.025) | (0.021) | (0.022) | (0.024) | (0.022) | (0.024) | (0.019) | (0.027) |
| D5_rec1 | 0.005 | 0.029 | 0.023 | −0.029 | −0.052* | −0.025 | −0.023 | 0.007 | 0.036 |
| | (0.023) | (0.024) | (0.020) | (0.021) | (0.023) | (0.022) | (0.023) | (0.018) | (0.026) |
| EDU_rec2 | −0.056 | 0.024 | −0.055 | −0.047 | −0.105* | −0.001 | −0.098* | −0.060 | 0.022 |
| | (0.041) | (0.043) | (0.036) | (0.038) | (0.042) | (0.038) | (0.040) | (0.032) | (0.046) |
| EDU_rec3 | 0.003 | 0.0004 | −0.009 | 0.023 | −0.030 | 0.043 | −0.041 | −0.017 | 0.059 |
| | (0.040) | (0.042) | (0.035) | (0.037) | (0.040) | (0.037) | (0.039) | (0.031) | (0.044) |
| D1_rec1 | 0.011 | 0.068** | 0.031 | 0.057* | 0.056* | 0.076*** | 0.103*** | 0.028 | 0.034 |
| | (0.024) | (0.026) | (0.021) | (0.023) | (0.025) | (0.023) | (0.024) | (0.019) | (0.027) |
| D7_rec1 | 0.117*** | −0.049 | 0.055* | 0.045 | 0.003 | −0.052* | 0.020 | −0.001 | −0.050 |
| | (0.025) | (0.027) | (0.022) | (0.023) | (0.026) | (0.024) | (0.025) | (0.020) | (0.028) |
| D7_rec2 | 0.188*** | −0.102** | 0.094*** | 0.078** | −0.006 | −0.127*** | 0.014 | 0.011 | −0.100** |
| | (0.031) | (0.033) | (0.027) | (0.029) | (0.032) | (0.029) | (0.031) | (0.025) | (0.035) |
| D6_une1 | −0.023 | 0.042 | −0.039 | −0.038 | 0.012 | 0.024 | −0.019 | −0.057 | −0.084 |
| | (0.049) | (0.052) | (0.043) | (0.046) | (0.050) | (0.046) | (0.049) | (0.039) | (0.055) |
| D4_age | −0.003*** | −0.002*** | −0.003*** | −0.004*** | −0.003*** | −0.001* | −0.001 | −0.002** | −0.003*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.003 | −0.009 | 0.035*** | −0.005 | 0.006 | 0.004 | −0.003 | 0.069*** | −0.015** |
| | (0.005) | (0.006) | (0.005) | (0.005) | (0.005) | (0.005) | (0.005) | (0.004) | (0.006) |
| Constant | 0.463*** | 0.525*** | 0.476*** | 0.524*** | 0.554*** | 0.393*** | 0.465*** | 0.292*** | 0.555*** |
| | (0.054) | (0.057) | (0.047) | (0.051) | (0.055) | (0.051) | (0.054) | (0.043) | (0.061) |
| N | 852 | 852 | 850 | 851 | 850 | 850 | 851 | 849 | 842 |
| R-squared | 0.110 | 0.063 | 0.166 | 0.091 | 0.083 | 0.058 | 0.048 | 0.296 | 0.063 |
| Adj. R-squared | 0.099 | 0.050 | 0.155 | 0.080 | 0.071 | 0.046 | 0.035 | 0.287 | 0.051 |

***p < .001; **p < .01; *p < .05

Table 20.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **2001** | **2002** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2012** |
|---|---|---|---|---|---|---|---|---|---|
| | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** | **Model 15** | **Model 16** | **Model 17** | **Model 18** |
| D3_rec2 | −0.134 | −0.995** | −0.545 | −0.189 | 0.400 | 0.008 | 0.017 | 1.727*** | −0.830*** |
| | (0.261) | (0.343) | (0.350) | (0.400) | (0.316) | (0.328) | (0.216) | (0.495) | (0.225) |
| D8_rec1 | 0.234 | −0.239 | −0.564 | 0.311 | 0.816 | 0.179 | 0.092 | −0.234 | −0.329 |
| | (0.291) | (0.335) | (0.346) | (0.473) | (0.421) | (0.368) | (0.234) | (0.491) | (0.227) |
| D5_rec1 | −0.325 | −0.024 | 0.049 | −0.318 | −0.316 | −0.147 | 0.146 | 0.313 | 0.396 |
| | (0.269) | (0.334) | (0.368) | (0.417) | (0.322) | (0.340) | (0.231) | (0.541) | (0.240) |
| EDU_rec2 | 0.469 | −0.524 | −1.713** | −0.811 | −0.970 | 0.107 | −0.166 | 0.090 | 0.135 |
| | (0.590) | (0.536) | (0.553) | (0.875) | (0.542) | (0.657) | (0.432) | (0.788) | (0.452) |
| EDU_rec3 | 0.459 | −0.358 | −0.965* | 0.671 | −0.129 | 0.294 | 0.103 | −0.604 | 0.100 |
| | (0.568) | (0.509) | (0.474) | (0.698) | (0.461) | (0.642) | (0.416) | (0.791) | (0.441) |
| D1_rec1 | −0.180 | 0.388 | −0.024 | 0.420 | −0.038 | 0.363 | 0.558* | 0.288 | −0.358 |
| | (0.304) | (0.331) | (0.374) | (0.416) | (0.353) | (0.356) | (0.230) | (0.486) | (0.258) |
| D7_rec1 | 1.195** | −0.649 | 0.515 | 0.201 | 0.116 | −0.083 | 0.320 | −0.706 | 0.260 |
| | (0.408) | (0.355) | (0.426) | (0.518) | (0.371) | (0.353) | (0.263) | (0.538) | (0.255) |
| D7_rec2 | 1.860*** | −0.742 | 0.392 | 0.627 | 0.243 | −1.049 | 0.507 | −0.196 | −0.171 |
| | (0.435) | (0.451) | (0.501) | (0.547) | (0.435) | (0.590) | (0.311) | (0.606) | (0.332) |
| D6_une1 | 0.055 | 0.124 | 0.850 | −0.174 | 0.245 | 0.251 | −0.189 | −0.584 | −0.655 |
| | (0.635) | (0.642) | (0.654) | (1.059) | (0.643) | (0.636) | (0.547) | (1.733) | (0.620) |
| D4_age | 0.008 | −0.007 | 0.010 | −0.027* | −0.017 | 0.017 | 0.025*** | 0.014 | 0.003 |
| | (0.007) | (0.010) | (0.010) | (0.013) | (0.009) | (0.010) | (0.007) | (0.013) | (0.007) |
| D10_rec | −0.029 | −0.045 | 0.158* | −0.040 | −0.055 | −0.052 | −0.113 | 0.981*** | −0.230** |
| | (0.065) | (0.078) | (0.071) | (0.097) | (0.081) | (0.087) | (0.058) | (0.140) | (0.071) |
| Constant | −4.160*** | −1.264 | −2.555*** | −2.741** | −2.422*** | −3.947*** | −3.678*** | −8.086*** | −1.619** |
| | (0.760) | (0.689) | (0.737) | (0.948) | (0.731) | (0.913) | (0.611) | (1.320) | (0.575) |
| N | 842 | 842 | 842 | 842 | 842 | 842 | 842 | 842 | 842 |
| Log Likelihood | −228.653 | −166.567 | −146.665 | −113.191 | −170.430 | −159.243 | −306.445 | −70.866 | −298.182 |
| AIC | 481.305 | 357.133 | 317.331 | 250.381 | 364.861 | 342.485 | 636.889 | 165.732 | 620.365 |

***p < .001; **p < .01; *p < .05

# 21 Poland

Synthetic variables have been estimated for the full set of Polish parties available in the original 2019 EES Poland voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 21.1).

Table 21.1: Poland relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_2104 | 2104 | Law and Justice |
| stack_2106 | 2106 | Kukiz'15 |
| stack_2102 | 2102 | Spring |
| stack_2105 | 2105 | Poland Together |
| stack_2103 | 2103 | European Coalition |

Full OLS models converge and coefficients do not show any particular issue (see Table 21.8). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.028 for party 2103 (European Coalition) and a maximum of 0.125 for party 2104 (Law and Justice). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that the full models perform better in all cases (see Table 21.2).

Table 21.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2104 | 2104 | 833.338 | 943.422 | -110.085 |
| stack_2106 | 2106 | 437.048 | 502.658 | -65.610 |
| stack_2102 | 2102 | 469.635 | 555.309 | -85.674 |
| stack_2105 | 2105 | 193.751 | 222.690 | -28.939 |
| stack_2103 | 2103 | 112.730 | 127.620 | -14.890 |

On the contrary, one out of the five logistic regression models (see Table 21.9) shows inflated standard errors for some of the coefficients of interest, in particular:

- Model 9a: EDU_rec (both categories), D7_rec (second category), D6_une

Model 9a appears to be problematic as the constant term seems to be affected by the inflated standard errors issue.

The inflated standard errors in Model 9a are due to separation issues. In short, no respondents who are unemployed or of high subjective social status voted for party 2105. Only one respondent with low education voted for party 2105. (See tables 21.5, 21.6, 21.7)

As a consequence, a constrained version of model 9 (namely, Model 9b) without said variables was estimated and contrasted with the original (Model 9a), full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) cannot be rejected (see Table 21.3). Consequently, synthetic variables for respondents' vote choice for party 2105 have been predicted relying on the constrained model (Model 9b).

Table 21.3: Likelihood-ratio Test between Model 9a (Unconstrained) and Model 9b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 901 | 165.5611 | | | |
| Unconstrained | 896 | 155.4471 | 5 | 10.11397 | 0.0720696 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.062 for party 2105 (Poland Together) and a maximum of 0.071 for party 2104 (Law and Justice). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in one case out of five null models perform better than full ones. According to AIC values the related null model appears to have a better fit than Model 9b (see Table 21.4).

Table 21.4: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2102 | 2102 | 544.1240 | 548.0700 | -3.946000 |
| stack_2103 | 2103 | 1020.6860 | 1082.1110 | -61.424000 |
| stack_2104 | 2104 | 946.7780 | 1020.9980 | -74.219000 |
| stack_2105 | 2105 | 179.4470 | 170.9330 | 8.514000 |
| stack_2105* | 2105 | 179.5611 | 170.9328 | 8.628321 |
| stack_2106 | 2106 | 477.0260 | 480.2080 | -3.182000 |

* AIC value refers to Model 9b (constrained).

Table 21.5: Cross tabulation between vote choice for party 2105 and respondents' education

| stack_2105/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 57 | 246 | 636 | 34 | 973 |
| 1 | 1 | 4 | 13 | 1 | 19 |
| NA | 1 | 2 | 3 | 2 | 8 |
| Total | 59 | 252 | 652 | 37 | 1000 |

Table 21.6: Cross tabulation between vote choice for party 2105 and respondents' subjective social class

| stack_2105/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 314 | 493 | 147 | 19 | 973 |
| 1 | 11 | 8 | 0 | 0 | 19 |
| NA | 4 | 2 | 1 | 1 | 8 |
| Total | 329 | 503 | 148 | 20 | 1000 |

Table 21.7: Cross tabulation between vote choice for party 2105 and respondents' employment status

| stack_2105/D6_une | 0 | 1 | Total |
|---|---|---|---|
| 0 | 931 | 42 | 973 |
| 1 | 19 | 0 | 19 |
| NA | 8 | 0 | 8 |
| Total | 958 | 42 | 1000 |

Table 21.8: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **2104** | **2106** | **2102** | **2105** | **2103** |
|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** |
| D3_rec2 | −0.050 | −0.003 | 0.095*** | 0.054** | 0.024 |
| | (0.026) | (0.021) | (0.021) | (0.018) | (0.017) |
| D8_rec1 | 0.038 | −0.015 | −0.008 | 0.021 | 0.002 |
| | (0.035) | (0.028) | (0.029) | (0.025) | (0.023) |
| D5_rec1 | 0.039 | 0.041 | 0.064* | 0.074*** | 0.029 |
| | (0.030) | (0.024) | (0.025) | (0.021) | (0.020) |
| EDU_rec2 | −0.034 | 0.027 | 0.047 | 0.009 | 0.018 |
| | (0.065) | (0.052) | (0.054) | (0.047) | (0.043) |
| EDU_rec3 | −0.001 | 0.047 | 0.034 | −0.004 | 0.007 |
| | (0.061) | (0.049) | (0.050) | (0.043) | (0.040) |
| D1_rec1 | 0.010 | −0.013 | 0.030 | 0.012 | 0.047* |
| | (0.034) | (0.028) | (0.028) | (0.024) | (0.023) |
| D7_rec1 | −0.037 | −0.006 | −0.027 | −0.045* | 0.00005 |
| | (0.029) | (0.023) | (0.024) | (0.020) | (0.019) |
| D7_rec2 | 0.005 | −0.032 | −0.045 | −0.046 | 0.015 |
| | (0.041) | (0.033) | (0.034) | (0.029) | (0.027) |
| D6_une1 | 0.008 | 0.043 | −0.005 | 0.007 | 0.022 |
| | (0.075) | (0.061) | (0.063) | (0.055) | (0.051) |
| D4_age | −0.001 | −0.005*** | −0.001 | −0.002** | 0.001* |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.060*** | 0.017*** | −0.041*** | −0.017*** | −0.018*** |
| | (0.005) | (0.004) | (0.005) | (0.004) | (0.004) |
| Constant | 0.203** | 0.473*** | 0.438*** | 0.352*** | 0.308*** |
| | (0.071) | (0.058) | (0.059) | (0.051) | (0.048) |
| N | 905 | 900 | 889 | 884 | 907 |
| R-squared | 0.136 | 0.093 | 0.114 | 0.056 | 0.040 |
| Adj. R-squared | 0.125 | 0.082 | 0.103 | 0.044 | 0.028 |

***p < .001; **p < .01; *p < .05

Table 21.9: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **2104** | **2106** | **2102** | **2105** | **2105** | **2103** |
|---|---|---|---|---|---|---|
| | **Model 6** | **Model 7** | **Model 8** | **Model 9a** | **Model 9b** | **Model 10** |
| D3_rec2 | −0.168 | −0.066 | 0.396 | 0.250 | 0.128 | −0.248 |
| | (0.166) | (0.261) | (0.245) | (0.503) | (0.496) | (0.159) |
| D8_rec1 | 0.056 | 0.284 | −0.052 | 1.126 | 1.111 | 0.305 |
| | (0.216) | (0.384) | (0.338) | (1.047) | (1.040) | (0.230) |
| D5_rec1 | 0.561** | −0.304 | 0.177 | 0.105 | 0.155 | −0.189 |
| | (0.209) | (0.296) | (0.279) | (0.595) | (0.586) | (0.182) |
| EDU_rec2 | 0.087 | 0.583 | 0.246 | 16.045 | | 0.216 |
| | (0.451) | (0.708) | (0.685) | (2361.013) | | (0.453) |
| EDU_rec3 | 0.226 | 1.037 | 0.185 | 16.329 | | 0.301 |
| | (0.422) | (0.664) | (0.652) | (2361.013) | | (0.428) |
| D1_rec1 | 0.070 | 0.339 | −0.184 | 0.641 | 0.706 | −0.090 |
| | (0.209) | (0.309) | (0.361) | (0.570) | (0.559) | (0.219) |
| D7_rec1 | −0.087 | −0.083 | 0.038 | −0.632 | | 0.434* |
| | (0.187) | (0.281) | (0.261) | (0.501) | | (0.181) |
| D7_rec2 | 0.218 | −0.641 | −0.456 | −17.149 | | 0.630* |
| | (0.253) | (0.482) | (0.429) | (1491.045) | | (0.249) |
| D6_une1 | 0.015 | 0.567 | 0.601 | −16.565 | | −0.988 |
| | (0.499) | (0.581) | (0.580) | (3253.938) | | (0.635) |
| D4_age | 0.003 | −0.034*** | 0.010 | −0.004 | −0.0004 | 0.032*** |
| | (0.005) | (0.009) | (0.008) | (0.017) | (0.016) | (0.005) |
| D10_rec | 0.317*** | 0.022 | −0.213*** | −0.007 | −0.026 | −0.134*** |
| | (0.039) | (0.057) | (0.053) | (0.108) | (0.106) | (0.033) |
| Constant | −3.074*** | −1.988** | −2.611*** | −20.769 | −5.193*** | −2.566*** |
| | (0.508) | (0.766) | (0.757) | (2361.013) | (1.407) | (0.504) |
| N | 908 | 908 | 908 | 908 | 908 | 908 |
| Log Likelihood | −461.389 | −226.513 | −260.062 | −77.724 | −82.781 | −498.343 |
| AIC | 946.778 | 477.026 | 544.124 | 179.447 | 179.561 | 1020.686 |

***p < .001; **p < .01; *p < .05

# 22 Romania

Synthetic variables have been estimated for the full set of Romania parties available in the original 2019 EES Romanian voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 22.1).

Table 22.1: Romanian relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_2301 | 2301 | Social Democratic Party |
| stack_2303 | 2303 | Alliance of Liberals and Democrats |
| stack_2305 | 2305 | PRO Romania |
| stack_2306 | 2306 | National Liberal Party |
| stack_2307 | 2307 | Hungarian Democratic Alliance of Romania |
| stack_2308 | 2308 | People's Movement Party |
| stack_2302 | 2302 | 2020 USR(1642421) -PLUS Alliance(1642422) |

Full OLS models converge and coefficients do not show any particular issue (see Table 22.8). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.013 for party 2308 (People's Movement Party) and a maximum of 0.087 for party 2301 (Social Democratic Party). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 7 cases out of 7 null models perform better than full ones (see Table 22.2).

Table 22.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2301 | 2301 | 553.736 | 625.062 | -71.326 |
| stack_2303 | 2303 | 526.983 | 546.879 | -19.896 |
| stack_2305 | 2305 | 344.164 | 365.221 | -21.057 |
| stack_2306 | 2306 | 708.604 | 720.286 | -11.682 |
| stack_2307 | 2307 | -105.959 | -84.132 | -21.826 |
| stack_2308 | 2308 | 383.403 | 383.805 | -0.402 |
| stack_2302 | 2302 | 693.376 | 721.675 | -28.299 |

On the contrary, one out of seven logistic regression models (see Table 22.9) show inflated standard errors for some of the coefficients of interest:

- Model 12: EDU_rec, D6_une;

It presents a problematic profile since the inflated standard errors affect the constant term.

Model 12a inflated standard errors are due to separation issues. In short, no respondents with low education and in unemployment did vote for party 2307 (see Tables 22.6, 22.7).

As a consequence, a constrained version of model 12 (namely, Model 11b) without said variables was estimated and contrasted with the original (Model 12a), full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) can be rejected at p<0.001 (see Table

22.3). However, if just EDU_rec is dropped $H_0$ cannot be rejected (see Table 22.4). Consequently, synthetic variables for respondents' vote choice for party 2307 have been predicted relying on the constrained model where just EDU_rec is dropped (Model 12b).

Table 22.3: Likelihood-ratio Test between Model 12a (Unconstrained) and (Fully Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 886 | 210.8894 | | | |
| 883 | 205.7107 | 3 | 5.178703 | 0.1591697 |

Table 22.4: Likelihood-ratio Test between Model 12a (Unconstrained) and Model 12b (Constrained)

| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|
| 885 | 210.0202 | | | |
| 883 | 205.7107 | 2 | 4.309481 | 0.1159333 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.039 for party 2307 (Hungarian Democratic Alliance of Romania) and a maximum of 0.048 for party 2301 (Social Democratic Party). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 3 cases out of 7 null models perform better than full ones. According to AIC values the related null model appears to have a better fit than Model 12b (see Table 22.5).

Table 22.5: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2301 | 2301 | 580.5250 | 611.9490 | -31.423000 |
| stack_2302 | 2302 | 1032.0560 | 1071.5910 | -39.535000 |
| stack_2303 | 2303 | 371.1440 | 376.2380 | -5.094000 |
| stack_2305 | 2305 | 368.8180 | 358.8130 | 10.005000 |
| stack_2306 | 2306 | 911.0000 | 908.7000 | 2.301000 |
| stack_2307 | 2307 | 229.7110 | 223.0520 | 6.659000 |
| stack_2307* | 2307 | 230.0202 | 223.0515 | 6.968671 |
| stack_2308 | 2308 | 381.8020 | 370.4750 | 11.327000 |

* AIC value refers to Model 12b (constrained).

Table 22.6: Cross tabulation between vote choice for party 505 and respondents' education

| stack_2307/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 51 | 284 | 566 | 43 | 944 |
| 1 | 0 | 6 | 20 | 2 | 28 |
| NA | 2 | 5 | 19 | 2 | 28 |
| Total | 53 | 295 | 605 | 47 | 1000 |

Table 22.7: Cross tabulation between vote choice for party 505 and respondents' employment

| stack_2307/D6_une | 0 | 1 | Total |
|---|---|---|---|
| 0 | 923 | 21 | 944 |
| 1 | 28 | 0 | 28 |
| NA | 27 | 1 | 28 |
| Total | 978 | 22 | 1000 |

Table 22.8: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **2301** | **2303** | **2305** | **2306** | **2307** | **2308** | **2302** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | −0.010 | 0.016 | 0.022 | 0.001 | −0.018 | −0.012 | −0.004 |
| | (0.022) | (0.022) | (0.020) | (0.024) | (0.015) | (0.020) | (0.025) |
| D8_rec1 | 0.077* | 0.062 | 0.029 | −0.056 | −0.039 | −0.001 | 0.019 |
| | (0.033) | (0.033) | (0.030) | (0.036) | (0.023) | (0.030) | (0.037) |
| D5_rec1 | 0.033 | 0.035 | 0.042 | −0.007 | 0.011 | −0.016 | 0.011 |
| | (0.026) | (0.026) | (0.024) | (0.028) | (0.018) | (0.024) | (0.029) |
| EDU_rec2 | −0.018 | −0.014 | −0.005 | −0.083 | −0.021 | 0.006 | −0.014 |
| | (0.052) | (0.052) | (0.048) | (0.057) | (0.037) | (0.049) | (0.058) |
| EDU_rec3 | −0.054 | −0.052 | −0.035 | −0.075 | −0.031 | −0.002 | 0.075 |
| | (0.051) | (0.051) | (0.047) | (0.056) | (0.036) | (0.048) | (0.057) |
| D1_rec1 | 0.029 | 0.031 | 0.053* | 0.036 | 0.061** | 0.068** | −0.035 |
| | (0.028) | (0.027) | (0.025) | (0.030) | (0.019) | (0.025) | (0.031) |
| D7_rec1 | −0.011 | −0.015 | 0.022 | 0.039 | −0.014 | −0.012 | 0.064* |
| | (0.027) | (0.027) | (0.024) | (0.030) | (0.019) | (0.025) | (0.030) |
| D7_rec2 | 0.074* | 0.066* | 0.030 | −0.001 | 0.014 | −0.011 | 0.029 |
| | (0.033) | (0.033) | (0.030) | (0.036) | (0.023) | (0.031) | (0.037) |
| D6_une1 | 0.071 | −0.093 | −0.044 | −0.050 | 0.006 | −0.113 | −0.257** |
| | (0.083) | (0.082) | (0.075) | (0.091) | (0.058) | (0.076) | (0.092) |
| D4_age | 0.004*** | 0.002* | −0.001 | −0.003*** | −0.001** | −0.001 | −0.004*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.0005) | (0.001) | (0.001) |
| D10_rec | 0.027*** | 0.018*** | 0.024*** | 0.014* | 0.013*** | 0.016** | −0.005 |
| | (0.005) | (0.005) | (0.005) | (0.006) | (0.004) | (0.005) | (0.006) |
| Constant | −0.120 | 0.080 | 0.165** | 0.641*** | 0.199*** | 0.269*** | 0.518*** |
| | (0.064) | (0.065) | (0.059) | (0.070) | (0.045) | (0.060) | (0.072) |
| N | 908 | 904 | 893 | 911 | 899 | 896 | 874 |
| R-squared | 0.098 | 0.045 | 0.047 | 0.036 | 0.048 | 0.025 | 0.056 |
| Adj. R-squared | 0.087 | 0.034 | 0.035 | 0.025 | 0.036 | 0.013 | 0.044 |

***p < .001; **p < .01; *p < .05

Table 22.9: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **2301** | **2303** | **2305** | **2306** | **2307** | **2307** | **2308** | **2302** |
|---|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12a** | **Model 12b** | **Model 13** | **Model 14** |
| D3_rec2 | −0.228 | 0.373 | 0.122 | −0.218 | −0.843 | −0.809 | −0.312 | 0.248 |
| | (0.233) | (0.313) | (0.316) | (0.172) | (0.455) | (0.453) | (0.315) | (0.157) |
| D8_rec1 | −0.002 | 1.916 | 0.141 | −0.130 | −1.115* | −0.918 | 0.006 | 0.046 |
| | (0.358) | (1.025) | (0.500) | (0.243) | (0.509) | (0.495) | (0.464) | (0.238) |
| D5_rec1 | 0.664* | 0.322 | 0.989* | −0.211 | −0.431 | −0.314 | −0.200 | 0.137 |
| | (0.315) | (0.386) | (0.493) | (0.198) | (0.479) | (0.474) | (0.350) | (0.187) |
| EDU_rec2 | 0.109 | 0.282 | 0.692 | 0.208 | 14.980 | | 0.153 | 0.310 |
| | (0.669) | (1.079) | (1.068) | (0.385) | (911.317) | | (0.790) | (0.407) |
| EDU_rec3 | 0.119 | 0.288 | 0.446 | −0.059 | 15.482 | | −0.082 | 0.950* |
| | (0.647) | (1.055) | (1.054) | (0.382) | (911.317) | | (0.779) | (0.401) |
| D1_rec1 | 0.040 | 0.540 | 0.227 | 0.442* | 0.176 | 0.186 | 0.218 | −0.660** |
| | (0.281) | (0.347) | (0.365) | (0.201) | (0.520) | (0.520) | (0.374) | (0.217) |
| D7_rec1 | −0.188 | −0.526 | −0.070 | −0.144 | −0.543 | −0.530 | −0.360 | 0.618** |
| | (0.292) | (0.334) | (0.394) | (0.209) | (0.508) | (0.506) | (0.354) | (0.203) |
| D7_rec2 | 0.611 | −1.116* | 0.193 | −0.011 | 0.275 | 0.264 | −0.129 | 0.131 |
| | (0.319) | (0.500) | (0.456) | (0.255) | (0.565) | (0.562) | (0.439) | (0.255) |
| D6_une1 | 1.294 | −14.721 | 0.430 | 0.058 | −14.993 | −14.000 | −13.763 | −0.222 |
| | (0.690) | (975.564) | (1.081) | (0.613) | (1595.657) | (982.695) | (605.885) | (0.677) |
| D4_age | 0.037*** | 0.029** | 0.015 | −0.011* | 0.009 | 0.016 | 0.020* | −0.021*** |
| | (0.008) | (0.010) | (0.010) | (0.005) | (0.014) | (0.013) | (0.010) | (0.005) |
| D10_rec | 0.139* | −0.047 | 0.095 | 0.081 | −0.072 | −0.069 | −0.093 | −0.088* |
| | (0.056) | (0.076) | (0.077) | (0.042) | (0.104) | (0.103) | (0.076) | (0.038) |
| Constant | −5.070*** | −6.304*** | −5.548*** | −0.760 | −17.352 | −2.688** | −3.121** | −0.981* |
| | (0.847) | (1.563) | (1.272) | (0.472) | (911.317) | (0.909) | (0.957) | (0.478) |
| N | 895 | 895 | 895 | 895 | 895 | 895 | 895 | 895 |
| Log Likelihood | −278.263 | −173.572 | −172.409 | −443.500 | −102.855 | −105.010 | −178.901 | −504.028 |
| AIC | 580.525 | 371.144 | 368.818 | 911.000 | 229.711 | 230.020 | 381.802 | 1032.056 |

***p < .001; **p < .01; *p < .05

# 23 Slovakia

Synthetic variables have been estimated for the full set of Slovakian parties available in the original 2019 EES Slovakia voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 23.1).

Table 23.1: Slovakia relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_2510 | 2510 | Christian Democratic Movement |
| stack_2501 | 2501 | People's Party Our Slovakia |
| stack_2509 | 2509 | We are family |
| stack_2503 | 2503 | Direction - Social Democracy |
| stack_2505 | 2505 | Freedom and Solidarity |
| stack_2506 | 2506 | Ordinary People and Independent Personalities |
| stack_2508 | 2508 | Electoral alliance Progressive Slovakia and TOGETHER – Civic Democracy |
| stack_2504 | 2504 | Slovak National Part |
| stack_2507 | 2507 | Bridge |

Full OLS models converge and coefficients do not show any particular issue (see Table 23.8). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.011 for party 2505 (Freedom and Solidarity) and a maximum of 0.141 for party 2510 (Christian Democratic Movement). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that the full models perform better in eight out of nine cases (see Table 23.2).

Table 23.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2510 | 2510 | 122.988 | 249.895 | -126.907 |
| stack_2501 | 2501 | 603.763 | 604.122 | -0.359 |
| stack_2509 | 2509 | 337.752 | 363.837 | -26.085 |
| stack_2503 | 2503 | 616.661 | 633.097 | -16.436 |
| stack_2505 | 2505 | 404.605 | 403.405 | 1.200 |
| stack_2506 | 2506 | 370.421 | 373.616 | -3.195 |
| stack_2508 | 2508 | 615.166 | 627.328 | -12.162 |
| stack_2504 | 2504 | 217.881 | 223.280 | -5.399 |
| stack_2507 | 2507 | -159.866 | -157.311 | -2.555 |

On the contrary, two out of nine logistic regression models (see Table 23.9) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 15: D6_une
- Model 18a: EDU_rec (both categories), D1_rec, D6_une

However, for model 15 the constant term and other regressors are not affected by the inflated standard errors. Model 18a appears more problematic.

The inflated standard errors in Model 18a are due to separation issues. In short, no respondents with low education voted for party 2507. Furthermore, only one respondent with trade union membership status and only one repondent who is unemployed vote for party 2507. (See tables 23.5, 23.6, 23.7)

As a consequence, a constrained version of model 18 (namely, Model 18b) without said variables was estimated and contrasted with the original (Model 18a), full model. Likelihood-ratio test results show that $H_0$ (namely, that the constrained model fits better than the full model) cannot be rejected (see Table 23.3). Consequently, synthetic variables for respondents' vote choice for party 2507 have been predicted relying on the constrained model (Model 18b).

Table 23.3: Likelihood-ratio Test between Model 18a (Unconstrained) and Model 18b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 888 | 98.52036 | | | |
| Unconstrained | 884 | 92.23932 | 4 | 6.281031 | 0.1791207 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.059 for party 2507 (Bridge) and a maximum of 0.1 for party 2510 (Christian Democratic Movement). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in six cases out of nine null models perform better than full ones. According to AIC values the related null model appears to have a better fit than Model 18b (see Table 23.4).

Table 23.4: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2501 | 2501 | 500.2010 | 488.3540 | 11.848000 |
| stack_2503 | 2503 | 481.8520 | 498.2260 | -16.374000 |
| stack_2504 | 2504 | 247.7260 | 237.3100 | 10.416000 |
| stack_2505 | 2505 | 415.8300 | 404.5320 | 11.298000 |
| stack_2506 | 2506 | 286.6800 | 278.1040 | 8.576000 |
| stack_2507 | 2507 | 116.2390 | 111.7950 | 4.444000 |
| stack_2507* | 2507 | 114.5204 | 111.7951 | 2.725274 |
| stack_2508 | 2508 | 668.4200 | 673.2700 | -4.850000 |
| stack_2509 | 2509 | 325.4510 | 310.2900 | 15.161000 |
| stack_2510 | 2510 | 299.7850 | 335.0130 | -35.228000 |

* AIC value refers to Model 18b (constrained).

Table 23.5: Cross tabulation between vote choice for party 2507 and respondents' education

| stack_2507/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 78 | 521 | 360 | 8 | 967 |
| 1 | 0 | 7 | 4 | 0 | 11 |
| NA | 3 | 11 | 7 | 1 | 22 |
| Total | 81 | 539 | 371 | 9 | 1000 |

Table 23.6: Cross tabulation between vote choice for party 2507 and respondents' trade union membership status

| stack_2507/D1_rec | 0 | 1 | Total |
|---|---|---|---|
| 0 | 803 | 164 | 967 |
| 1 | 10 | 1 | 11 |
| NA | 17 | 5 | 22 |
| Total | 830 | 170 | 1000 |

Table 23.7: Cross tabulation between vote choice for party 2507 and respondents' employment status

| stack_2507/D6_une | 0 | 1 | Total |
|---|---|---|---|
| 0 | 910 | 57 | 967 |
| 1 | 10 | 1 | 11 |
| NA | 21 | 1 | 22 |
| Total | 941 | 59 | 1000 |

Table 23.8: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **2510** | **2501** | **2509** | **2503** | **2505** | **2506** | **2508** | **2504** | **2507** |
|---|---|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** | **Model 8** | **Model 9** |
| D3_rec2 | −0.023 | −0.017 | 0.057** | −0.008 | −0.010 | 0.004 | 0.020 | −0.027 | −0.012 |
| | (0.017) | (0.023) | (0.020) | (0.023) | (0.020) | (0.020) | (0.023) | (0.018) | (0.015) |
| D8_rec1 | −0.002 | −0.032 | −0.013 | −0.009 | 0.0001 | −0.007 | 0.020 | −0.015 | −0.031* |
| | (0.018) | (0.024) | (0.020) | (0.024) | (0.021) | (0.021) | (0.024) | (0.019) | (0.016) |
| D5_rec1 | −0.002 | 0.014 | 0.010 | 0.038 | −0.015 | −0.009 | 0.017 | 0.008 | 0.001 |
| | (0.018) | (0.024) | (0.021) | (0.024) | (0.021) | (0.021) | (0.024) | (0.019) | (0.016) |
| EDU_rec2 | 0.009 | 0.033 | 0.028 | −0.092 | 0.009 | −0.022 | −0.098* | −0.064 | −0.040 |
| | (0.037) | (0.048) | (0.041) | (0.048) | (0.043) | (0.042) | (0.049) | (0.039) | (0.031) |
| EDU_rec3 | 0.015 | −0.020 | −0.012 | −0.097* | 0.034 | −0.009 | −0.062 | −0.096* | −0.021 |
| | (0.037) | (0.048) | (0.042) | (0.049) | (0.043) | (0.042) | (0.049) | (0.039) | (0.032) |
| D1_rec1 | 0.006 | 0.043 | 0.034 | 0.040 | 0.006 | −0.011 | −0.002 | 0.073** | 0.045* |
| | (0.023) | (0.030) | (0.026) | (0.030) | (0.027) | (0.026) | (0.031) | (0.024) | (0.020) |
| D7_rec1 | 0.007 | −0.051* | −0.005 | 0.023 | 0.048* | 0.014 | 0.072** | 0.027 | 0.015 |
| | (0.019) | (0.025) | (0.022) | (0.025) | (0.022) | (0.022) | (0.026) | (0.020) | (0.016) |
| D7_rec2 | 0.007 | −0.079* | −0.076* | −0.038 | 0.046 | −0.010 | 0.102** | −0.004 | 0.006 |
| | (0.029) | (0.038) | (0.032) | (0.038) | (0.034) | (0.033) | (0.038) | (0.030) | (0.025) |
| D6_une1 | 0.048 | 0.044 | 0.070 | −0.001 | −0.047 | 0.035 | −0.089 | −0.003 | −0.032 |
| | (0.038) | (0.050) | (0.043) | (0.050) | (0.045) | (0.044) | (0.052) | (0.040) | (0.033) |
| D4_age | 0.00002 | −0.001 | −0.003*** | 0.004*** | −0.002** | −0.002*** | −0.001 | 0.001* | 0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.0005) |
| D10_rec | 0.043*** | −0.003 | −0.001 | 0.003 | −0.003 | 0.007 | −0.005 | 0.006 | 0.009** |
| | (0.004) | (0.005) | (0.004) | (0.005) | (0.004) | (0.004) | (0.005) | (0.004) | (0.003) |
| Constant | 0.132** | 0.383*** | 0.429*** | 0.157** | 0.371*** | 0.411*** | 0.432*** | 0.241*** | 0.141*** |
| | (0.041) | (0.054) | (0.047) | (0.054) | (0.048) | (0.048) | (0.056) | (0.044) | (0.036) |
| N | 904 | 906 | 906 | 907 | 906 | 904 | 891 | 905 | 901 |
| R-squared | 0.152 | 0.024 | 0.052 | 0.041 | 0.023 | 0.027 | 0.038 | 0.030 | 0.027 |
| Adj. R-squared | 0.141 | 0.012 | 0.040 | 0.030 | 0.011 | 0.015 | 0.026 | 0.018 | 0.015 |

***p < .001; **p < .01; *p < .05

Table 23.9: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **2510** | **2501** | **2509** | **2503** | **2505** | **2506** | **2508** | **2504** | **2507** | **2507** |
|---|---|---|---|---|---|---|---|---|---|---|
| **Model** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18a** | **18b** |
| D3_rec2 | −0.219 | −0.158 | 0.336 | −0.212 | 0.033 | −0.495 | 0.071 | −0.397 | 0.633 | 0.699 |
| | (0.344) | (0.256) | (0.345) | (0.260) | (0.289) | (0.374) | (0.209) | (0.413) | (0.712) | (0.711) |
| D8_rec1 | −0.217 | −0.072 | 0.073 | 0.437 | −0.0001 | −0.176 | 0.467* | 0.803 | −1.565* | −1.513* |
| | (0.346) | (0.269) | (0.364) | (0.292) | (0.309) | (0.379) | (0.236) | (0.511) | (0.712) | (0.705) |
| D5_rec1 | −0.171 | 0.188 | −0.046 | −0.162 | −0.452 | −0.212 | 0.212 | −0.048 | −0.002 | 0.114 |
| | (0.359) | (0.274) | (0.356) | (0.270) | (0.297) | (0.387) | (0.227) | (0.426) | (0.715) | (0.714) |
| EDU_rec2 | 0.052 | −0.256 | −0.094 | −0.162 | −0.208 | −0.331 | −1.032* | −0.610 | 16.902 | |
| | (0.717) | (0.546) | (0.694) | (0.662) | (0.612) | (0.723) | (0.405) | (0.851) | (3243.229) | |
| EDU_rec3 | 0.372 | −0.216 | −0.207 | −0.550 | 0.213 | −0.160 | −0.998* | −0.653 | 16.615 | |
| | (0.716) | (0.552) | (0.711) | (0.685) | (0.607) | (0.726) | (0.411) | (0.876) | (3243.229) | |
| D1_rec1 | −0.193 | −0.417 | 0.382 | 0.171 | 0.352 | −0.796 | 0.254 | 0.283 | −17.225 | |
| | (0.473) | (0.393) | (0.418) | (0.342) | (0.359) | (0.620) | (0.264) | (0.517) | (2191.015) | |
| D7_rec1 | −0.638 | −0.352 | −0.387 | 0.269 | 0.189 | −0.334 | 0.615* | 0.115 | −0.624 | −0.614 |
| | (0.382) | (0.274) | (0.363) | (0.282) | (0.334) | (0.420) | (0.247) | (0.431) | (0.784) | (0.782) |
| D7_rec2 | 0.073 | −0.479 | −0.721 | 0.298 | 0.450 | 0.468 | 0.570 | −1.227 | 1.255 | 1.042 |
| | (0.495) | (0.450) | (0.658) | (0.451) | (0.458) | (0.527) | (0.354) | (1.075) | (0.900) | (0.818) |
| D6_une1 | −0.439 | 0.926* | −0.005 | 0.143 | −0.403 | −15.376 | −0.953 | −0.198 | −17.201 | |
| | (0.783) | (0.425) | (0.759) | (0.633) | (0.750) | (913.004) | (0.737) | (1.061) | (3833.733) | |
| D4_age | 0.006 | 0.004 | −0.002 | 0.048*** | 0.007 | 0.010 | 0.020** | 0.027 | 0.016 | 0.024 |
| | (0.011) | (0.009) | (0.011) | (0.009) | (0.009) | (0.012) | (0.007) | (0.014) | (0.021) | (0.021) |
| D10_rec | 0.495*** | −0.054 | −0.126 | 0.076 | −0.119 | 0.117 | −0.035 | 0.079 | 0.059 | 0.054 |
| | (0.080) | (0.054) | (0.078) | (0.050) | (0.064) | (0.071) | (0.043) | (0.078) | (0.131) | (0.129) |
| Constant | −4.704*** | −2.082*** | −2.654*** | −5.075*** | −2.761*** | −3.138*** | −2.796*** | −4.836*** | −21.546 | −5.535*** |
| | (0.899) | (0.615) | (0.798) | (0.777) | (0.688) | (0.829) | (0.486) | (1.035) | (3243.229) | (1.408) |
| N | 896 | 896 | 896 | 896 | 896 | 896 | 896 | 896 | 896 | 896 |
| Log Likelihood | −137.892 | −238.101 | −150.726 | −228.926 | −195.915 | −131.340 | −322.210 | −111.863 | −46.120 | −49.260 |
| AIC | 299.785 | 500.201 | 325.451 | 481.852 | 415.830 | 286.680 | 668.420 | 247.726 | 116.239 | 114.520 |

***p < .001; **p < .01; *p < .05

# 24 Slovenia

Synthetic variables have been estimated for the full set of Slovenian parties available in the original 2019 EES Slovenian voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 24.1).

Table 24.1: Slovenian relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_2401 | 2401 | Electoral alliance with Slovenian Democratic Party and Slovenian People's Party |
| stack_2402 | 2402 | List of Marjan Sarec |
| stack_2403 | 2403 | Social Democratic Party |
| stack_2404 | 2404 | New Slovene Christian People's Party |
| stack_2405 | 2405 | The Left |
| stack_2406 | 2406 | Slovenian National Party |
| stack_2407 | 2407 | Party of Miro Cerar |
| stack_2408 | 2408 | Alliance of Alenka Bratusek |
| stack_2409 | 2409 | Democratic Party of Pensioners of Slovenia |

Full OLS models converge and coefficients do not show any particular issue (see Table 24.10). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.008 for party 2408 (Alliance of Alenka Bratusek) and a maximum of 0.093 for party 2401 (Electoral alliance with Slovenian Democratic Party and Slovenian People's Party). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 8 cases out of 9 null models perform better than full ones (see Table 24.2).

Table 24.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2401 | 2401 | 492.524 | 564.516 | -71.993 |
| stack_2402 | 2402 | 622.271 | 631.346 | -9.075 |
| stack_2403 | 2403 | 454.770 | 463.393 | -8.624 |
| stack_2404 | 2404 | 156.681 | 223.585 | -66.904 |
| stack_2405 | 2405 | 424.234 | 442.635 | -18.402 |
| stack_2406 | 2406 | 355.738 | 359.973 | -4.235 |
| stack_2407 | 2407 | -6.900 | 0.717 | -7.616 |
| stack_2408 | 2408 | 45.308 | 41.280 | 4.028 |
| stack_2409 | 2409 | -84.887 | -82.166 | -2.721 |

On the contrary, three out of nine logistic regression models (see Tables 24.11, **??**) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 14: Edu_rec, D7_rec (category 2 only);
- Model 16: D6_une;
- Model 17: EDU_rec.

Nevertheless, model 16 constant terms and other regression coefficients are not affected by said inflated standard errors, whereas models 14a and 17a present a more problematic profile.

Model 14a inflated standard errors are due to separation issues. In short, no respondents with low education and high subjective socioeconomic status (SES) did vote for party 2405 (see Tables 24.7, 24.8). In Model 17a, no respondents with low education did cote for party 2408 (see Table 24.9).

As a consequence, a constrained version of model 14 and 17 (namely, Model 14b,17b) without said variables was estimated and contrasted with the original (Model 14a,17a), full model. Likelihood-ratio test results show that in case of model 14 $H_0$ (namely, that the constrained model fits better than the full model) can be rejected at p<0.001 (see Table 24.3). However, if just EDU_rec is dropped $H_0$ can be rejected at p<0.1 (See Table 24.4). For model 17 $H_0$ cannot be rejected (see Table 24.5). Consequently, synthetic variables for respondents' vote choice for party 2405 and 2408 both have been predicted relying on the constrained model dropping EDU_rec (Model 14b,17b).

Table 24.3: Likelihood-ratio Test between Model 14a (Unconstrained) and (Fully Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 851 | 292.9527 | | | |
| Unconstrained | 847 | 276.8023 | 4 | 16.15043 | 0.0028238 |

Table 24.4: Likelihood-ratio Test between Model 14a (Unconstrained) and Model 14b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 851 | 292.9527 | | | |
| Unconstrained | 847 | 276.8023 | 4 | 16.15043 | 0.0028238 |

Table 24.5: Likelihood-ratio Test between Model 17a (Unconstrained) and Model 17b (Constrained)

| Model | Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
|---|---|---|---|---|---|
| Constrained | 849 | 134.8392 | | | |
| Unconstrained | 847 | 132.3788 | 2 | 2.460367 | 0.292239 |

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.051 for party 2409 (Democratic Party of Pensioners of Slovenia) and a maximum of 0.14 for party 2401 (Electoral alliance with Slovenian Democratic Party and Slovenian People's Party). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 5 cases out of 9 null models perform better than full ones. According to AIC values the related null model appears to have a better fit than Model 14b and 17b (see Table 24.6).

Table 24.6: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2408* | 2408 | 154.8392 | 161.1619 | -6.322664 |
| stack_2401 | 2401 | 480.4460 | 560.9320 | -80.486000 |
| stack_2402 | 2402 | 649.8930 | 647.8300 | 2.063000 |
| stack_2403 | 2403 | 477.3410 | 496.7800 | -19.439000 |
| stack_2404 | 2404 | 214.6000 | 221.0530 | -6.454000 |
| stack_2405 | 2405 | 300.8020 | 307.1020 | -6.300000 |
| stack_2405* | 2405 | 302.3458 | 307.1019 | -4.756039 |
| stack_2406 | 2406 | 290.5380 | 281.8270 | 8.711000 |
| stack_2407 | 2407 | 104.2410 | 101.9590 | 2.282000 |
| stack_2408 | 2408 | 156.3790 | 161.1620 | -4.783000 |
| stack_2409 | 2409 | 132.8190 | 128.3320 | 4.486000 |

* AIC value refers to Model 14b and 17b (constrained).

Table 24.7: Cross tabulation between vote choice for party 2405 and respondents' education

| stack_2405/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 76 | 446 | 380 | 40 | 942 |
| 1 | 0 | 20 | 18 | 0 | 38 |
| NA | 2 | 14 | 4 | 0 | 20 |
| Total | 78 | 480 | 402 | 40 | 1000 |

Table 24.8: Cross tabulation between vote choice for party 2405 and respondents' subjective SES

| stack_2405/D7_rec | 0 | 1 | 2 | NA | Total |
|---|---|---|---|---|---|
| 0 | 425 | 379 | 110 | 28 | 942 |
| 1 | 23 | 14 | 0 | 1 | 38 |
| NA | 10 | 6 | 4 | 0 | 20 |
| Total | 458 | 399 | 114 | 29 | 1000 |

Table 24.9: Cross tabulation between vote choice for party 2408 and respondents' education

| stack_2408/EDU_rec | 1 | 2 | 3 | NA | Total |
|---|---|---|---|---|---|
| 0 | 76 | 454 | 393 | 40 | 963 |
| 1 | 0 | 12 | 5 | 0 | 17 |
| NA | 2 | 14 | 4 | 0 | 20 |
| Total | 78 | 480 | 402 | 40 | 1000 |

Table 24.10: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **2401** | **2402** | **2403** | **2404** | **2405** | **2406** | **2407** | **2408** | **2409** |
|---|---|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** | **Model 8** | **Model 9** |
| D3_rec2 | −0.032 | −0.020 | −0.016 | −0.035 | −0.006 | −0.064** | −0.0001 | −0.001 | 0.002 |
| | (0.022) | (0.024) | (0.022) | (0.018) | (0.021) | (0.021) | (0.017) | (0.017) | (0.016) |
| D8_rec1 | −0.0003 | −0.008 | −0.003 | 0.008 | −0.015 | −0.034 | −0.026 | 0.002 | −0.014 |
| | (0.023) | (0.025) | (0.023) | (0.019) | (0.022) | (0.022) | (0.017) | (0.018) | (0.017) |
| D5_rec1 | −0.039 | 0.020 | −0.029 | 0.009 | −0.057* | −0.001 | −0.026 | −0.015 | −0.015 |
| | (0.025) | (0.027) | (0.025) | (0.021) | (0.024) | (0.023) | (0.019) | (0.019) | (0.018) |
| EDU_rec2 | −0.002 | −0.086 | 0.011 | −0.067 | 0.031 | −0.020 | −0.024 | −0.025 | −0.045 |
| | (0.045) | (0.049) | (0.045) | (0.037) | (0.043) | (0.041) | (0.034) | (0.034) | (0.032) |
| EDU_rec3 | −0.014 | −0.083 | 0.018 | −0.067 | 0.076 | −0.024 | 0.010 | −0.035 | −0.046 |
| | (0.046) | (0.050) | (0.045) | (0.038) | (0.043) | (0.042) | (0.034) | (0.035) | (0.032) |
| D1_rec1 | −0.042 | 0.065* | 0.019 | −0.023 | 0.051* | 0.022 | 0.035 | 0.021 | 0.042* |
| | (0.025) | (0.027) | (0.025) | (0.021) | (0.024) | (0.023) | (0.019) | (0.019) | (0.018) |
| D7_rec1 | 0.050* | 0.002 | 0.021 | 0.037 | −0.045* | 0.013 | 0.012 | 0.026 | 0.008 |
| | (0.024) | (0.026) | (0.024) | (0.020) | (0.023) | (0.022) | (0.018) | (0.018) | (0.017) |
| D7_rec2 | 0.071 | 0.003 | 0.121*** | 0.043 | −0.013 | 0.031 | 0.064* | 0.043 | 0.033 |
| | (0.037) | (0.041) | (0.037) | (0.031) | (0.036) | (0.035) | (0.028) | (0.029) | (0.027) |
| D6_une1 | 0.051 | 0.019 | −0.021 | 0.002 | 0.010 | 0.027 | 0.015 | −0.048 | −0.020 |
| | (0.039) | (0.042) | (0.038) | (0.032) | (0.038) | (0.036) | (0.029) | (0.030) | (0.028) |
| D4_age | −0.001 | 0.004*** | 0.003** | 0.001 | −0.0003 | −0.001 | −0.002** | 0.002* | 0.002*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.050*** | −0.015* | −0.010 | 0.041*** | −0.026*** | 0.010 | −0.006 | −0.007 | −0.005 |
| | (0.006) | (0.006) | (0.005) | (0.005) | (0.005) | (0.005) | (0.004) | (0.004) | (0.004) |
| Constant | 0.248*** | 0.361*** | 0.237*** | 0.161*** | 0.362*** | 0.354*** | 0.311*** | 0.169*** | 0.152*** |
| | (0.057) | (0.061) | (0.056) | (0.046) | (0.054) | (0.052) | (0.042) | (0.043) | (0.040) |
| N | 847 | 846 | 843 | 841 | 848 | 847 | 840 | 848 | 845 |
| R-squared | 0.105 | 0.036 | 0.036 | 0.100 | 0.047 | 0.030 | 0.035 | 0.021 | 0.029 |
| Adj. R-squared | 0.093 | 0.023 | 0.023 | 0.088 | 0.034 | 0.018 | 0.022 | 0.008 | 0.016 |

***p < .001; **p < .01; *p < .05

Table 24.11: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| Model | 2401<br>10 | 2402<br>11 | 2403<br>12 | 2404<br>13 | 2405<br>14a | 2405<br>14b | 2406<br>15 | 2407<br>16 | 2408<br>17a | 2408<br>17b | 2409<br>18 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D3_rec2 | −0.512* | 0.039 | −0.502 | −0.325 | −0.424 | −0.421 | −0.407 | 0.516 | 0.262 | 0.292 | −0.740 |
| | (0.255) | (0.210) | (0.261) | (0.438) | (0.349) | (0.348) | (0.372) | (0.743) | (0.539) | (0.536) | (0.645) |
| D8_rec1 | −0.247 | 0.145 | 0.059 | 0.858 | 0.042 | 0.053 | −0.859* | −0.904 | 0.045 | 0.072 | −0.380 |
| | (0.257) | (0.225) | (0.276) | (0.507) | (0.366) | (0.363) | (0.377) | (0.755) | (0.572) | (0.568) | (0.618) |
| D5_rec1 | 0.361 | 0.425 | −0.317 | 0.188 | −0.484 | −0.443 | 0.114 | −1.084 | 0.779 | 0.775 | −0.550 |
| | (0.313) | (0.256) | (0.279) | (0.501) | (0.359) | (0.358) | (0.426) | (0.744) | (0.692) | (0.692) | (0.647) |
| EDU_rec2 | 0.531 | −1.142** | 0.205 | −1.338* | 16.321 | | 0.355 | −2.434 | 14.959 | | −0.307 |
| | (0.538) | (0.363) | (0.639) | (0.668) | (1247.687) | | (0.698) | (1.288) | (1120.176) | | (1.101) |
| EDU_rec3 | 0.083 | −1.012** | 0.162 | −1.035 | 16.414 | | 0.152 | −0.739 | 14.400 | | −1.493 |
| | (0.562) | (0.363) | (0.642) | (0.639) | (1247.687) | | (0.726) | (0.953) | (1120.176) | | (1.281) |
| D1_rec1 | 0.102 | 0.180 | 0.540 | −1.024 | −0.289 | −0.267 | 0.054 | 0.114 | −0.108 | −0.107 | 0.762 |
| | (0.277) | (0.237) | (0.279) | (0.583) | (0.436) | (0.435) | (0.403) | (0.755) | (0.679) | (0.675) | (0.663) |
| D7_rec1 | 0.254 | −0.085 | 0.512 | 0.598 | −0.437 | −0.409 | 0.274 | −1.276 | 0.746 | 0.726 | −0.736 |
| | (0.270) | (0.232) | (0.291) | (0.496) | (0.356) | (0.355) | (0.393) | (1.136) | (0.590) | (0.588) | (0.711) |
| D7_rec2 | −0.244 | 0.170 | 1.110** | 0.932 | −16.652 | −16.767 | 0.290 | 1.203 | 0.527 | 0.436 | −0.467 |
| | (0.489) | (0.329) | (0.370) | (0.631) | (1047.658) | (1070.521) | (0.598) | (0.759) | (0.885) | (0.871) | (1.095) |
| D6_une1 | 0.248 | −0.111 | 0.416 | −0.700 | −0.101 | −0.113 | −0.412 | −15.697 | 0.009 | 0.099 | −0.231 |
| | (0.443) | (0.381) | (0.417) | (1.050) | (0.559) | (0.552) | (0.753) | (1779.231) | (1.087) | (1.082) | (1.079) |
| D4_age | 0.029** | 0.022** | 0.041*** | −0.0002 | −0.004 | −0.001 | −0.021 | 0.006 | 0.098*** | 0.100*** | 0.073** |
| | (0.009) | (0.008) | (0.010) | (0.015) | (0.012) | (0.012) | (0.014) | (0.026) | (0.029) | (0.028) | (0.028) |
| D10_rec | 0.478*** | −0.037 | −0.121 | 0.378*** | −0.270* | −0.286* | 0.070 | −0.013 | −0.058 | −0.067 | −0.136 |
| | (0.057) | (0.054) | (0.073) | (0.094) | (0.116) | (0.115) | (0.086) | (0.177) | (0.147) | (0.144) | (0.171) |
| Constant | −5.164*** | −2.381*** | −4.544*** | −4.194*** | −17.946 | −1.829** | −2.304** | −2.800* | −25.024 | −10.473*** | −6.218** |
| | (0.731) | (0.512) | (0.801) | (0.910) | (1247.687) | (0.678) | (0.835) | (1.224) | (1120.177) | (2.078) | (1.933) |
| N | 859 | 859 | 859 | 859 | 859 | 859 | 859 | 859 | 859 | 859 | 859 |
| Log Likelihood | −228.223 | −312.946 | −226.671 | −95.300 | −138.401 | −141.173 | −133.269 | −40.121 | −66.189 | −67.420 | −54.409 |
| AIC | 480.446 | 649.893 | 477.341 | 214.600 | 300.802 | 302.346 | 290.538 | 104.241 | 156.379 | 154.839 | 132.819 |

***p < .001; **p < .01; *p < .05

# 25 Spain

Synthetic variables have been estimated for seven of 15 Spanish parties available in the original 2019 EES Spanish voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 25.1).

Table 25.1: Spanish relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_2601 | 2601 | Spanish Socialist Workers' Party |
| stack_2602 | 2602 | Popular Party |
| stack_2603 | 2603 | Podemos (We Can) |
| stack_2604 | 2604 | Citizens - Party of the Citizenry |
| stack_2605 | 2605 | Voice |
| stack_2606 | 2606 | Republican Left of Catalonia |
| stack_2609 | 2609 | Commitment to Europe |

Full OLS models converge and coefficients do not show any particular issue (see Table 25.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.033 for party 2601 (Spanish Socialist Workers' Party) and a maximum of 0.151 for party 2602 (Popular Party). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 0 cases out of 7 null models perform better than full ones (see Table 25.2).

Table 25.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2601 | 2601 | 705.870 | 725.668 | -19.798 |
| stack_2602 | 2602 | 557.069 | 694.177 | -137.108 |
| stack_2603 | 2603 | 594.433 | 689.794 | -95.361 |
| stack_2604 | 2604 | 555.534 | 615.298 | -59.764 |
| stack_2605 | 2605 | 406.763 | 515.855 | -109.092 |
| stack_2606 | 2606 | 295.035 | 327.931 | -32.896 |
| stack_2609 | 2609 | 225.770 | 262.243 | -36.474 |

On the contrary, one out of seven logistic regression models (see Table 25.5) show inflated standard errors for one of the coefficients of interest, in particular:

- Model 14: D10_rec.

Nevertheless, model 7's constant term and other regression coefficients are not affected by said inflated standard error. Therefore, we do not adapt the models.

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.086 for party 2609 (Commitment to Europe) and a maximum of 0.085 for party 2602 (Popular Party). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in 3 cases out of 7 null models perform better than full ones (see Table 25.3).

Table 25.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2601 | 2601 | 1034.103 | 1023.898 | 10.205 |
| stack_2602 | 2602 | 661.246 | 724.588 | -63.343 |
| stack_2603 | 2603 | 642.191 | 671.944 | -29.752 |
| stack_2604 | 2604 | 702.135 | 691.187 | 10.948 |
| stack_2605 | 2605 | 411.134 | 414.884 | -3.750 |
| stack_2606 | 2606 | 244.572 | 250.879 | -6.307 |
| stack_2609 | 2609 | 88.819 | 83.795 | 5.024 |

Table 25.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **2601** | **2602** | **2603** | **2604** | **2605** | **2606** | **2609** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.050* | −0.022 | 0.020 | 0.011 | −0.081*** | −0.024 | −0.006 |
| | (0.024) | (0.022) | (0.023) | (0.022) | (0.020) | (0.019) | (0.019) |
| D8_rec1 | 0.043 | −0.054 | 0.031 | 0.006 | −0.076** | 0.032 | 0.027 |
| | (0.033) | (0.031) | (0.032) | (0.031) | (0.028) | (0.027) | (0.026) |
| D5_rec1 | −0.012 | −0.010 | 0.008 | 0.004 | 0.009 | 0.019 | 0.010 |
| | (0.026) | (0.024) | (0.025) | (0.024) | (0.022) | (0.021) | (0.021) |
| EDU_rec2 | 0.061 | 0.013 | −0.047 | 0.007 | −0.016 | −0.031 | −0.042 |
| | (0.047) | (0.043) | (0.045) | (0.043) | (0.040) | (0.037) | (0.037) |
| EDU_rec3 | 0.055 | 0.049 | −0.091* | 0.045 | 0.033 | −0.097** | −0.071* |
| | (0.044) | (0.040) | (0.041) | (0.040) | (0.037) | (0.035) | (0.035) |
| D1_rec1 | 0.082** | −0.016 | 0.136*** | 0.004 | 0.039 | 0.128*** | 0.150*** |
| | (0.031) | (0.029) | (0.029) | (0.029) | (0.026) | (0.025) | (0.024) |
| D7_rec1 | −0.016 | 0.086*** | −0.035 | 0.037 | 0.024 | −0.024 | −0.023 |
| | (0.026) | (0.024) | (0.025) | (0.024) | (0.022) | (0.021) | (0.021) |
| D7_rec2 | −0.011 | 0.128*** | −0.068 | 0.125*** | 0.091** | −0.013 | −0.007 |
| | (0.040) | (0.037) | (0.038) | (0.037) | (0.034) | (0.032) | (0.032) |
| D6_une1 | −0.093* | 0.036 | −0.017 | −0.026 | 0.079* | −0.025 | −0.025 |
| | (0.041) | (0.038) | (0.039) | (0.038) | (0.035) | (0.033) | (0.033) |
| D4_age | −0.003*** | 0.0004 | −0.004*** | −0.002* | −0.0005 | −0.001 | −0.001* |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | −0.013* | 0.057*** | −0.027*** | 0.036*** | 0.042*** | −0.005 | −0.002 |
| | (0.005) | (0.005) | (0.005) | (0.005) | (0.005) | (0.004) | (0.004) |
| Constant | 0.537*** | 0.188** | 0.629*** | 0.318*** | 0.207*** | 0.268*** | 0.298*** |
| | (0.063) | (0.058) | (0.060) | (0.058) | (0.054) | (0.051) | (0.051) |
| N | 905 | 905 | 901 | 905 | 904 | 893 | 865 |
| R-squared | 0.045 | 0.161 | 0.122 | 0.086 | 0.135 | 0.060 | 0.065 |
| Adj. R-squared | 0.033 | 0.151 | 0.111 | 0.075 | 0.124 | 0.048 | 0.053 |

***p < .001; **p < .01; *p < .05

Table 25.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **2601** | **2602** | **2603** | **2604** | **2605** | **2606** | **2609** |
|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** |
| D3_rec2 | 0.232 | −0.198 | −0.229 | 0.234 | −0.732* | −0.277 | 0.332 |
| | (0.157) | (0.211) | (0.213) | (0.205) | (0.302) | (0.407) | (0.806) |
| D8_rec1 | 0.073 | −0.879*** | 0.740* | 0.067 | −0.296 | 0.211 | −0.125 |
| | (0.219) | (0.259) | (0.345) | (0.292) | (0.390) | (0.566) | (1.124) |
| D5_rec1 | 0.047 | 0.064 | −0.031 | −0.068 | −0.080 | 0.425 | 0.327 |
| | (0.170) | (0.237) | (0.227) | (0.222) | (0.330) | (0.456) | (0.886) |
| EDU_rec2 | 0.268 | −0.016 | −0.420 | 0.406 | 1.314 | −0.117 | −1.577 |
| | (0.318) | (0.452) | (0.376) | (0.480) | (1.059) | (0.613) | (1.492) |
| EDU_rec3 | 0.296 | 0.257 | −0.397 | 0.766 | 1.655 | −1.251* | −0.850 |
| | (0.297) | (0.417) | (0.343) | (0.448) | (1.031) | (0.624) | (1.164) |
| D1_rec1 | 0.339 | −0.713* | 0.592* | −0.315 | −0.549 | 0.681 | 1.190 |
| | (0.194) | (0.322) | (0.244) | (0.281) | (0.411) | (0.482) | (0.818) |
| D7_rec1 | −0.061 | 0.817** | −0.573* | −0.144 | 0.008 | 0.234 | −0.522 |
| | (0.170) | (0.261) | (0.225) | (0.223) | (0.333) | (0.445) | (0.950) |
| D7_rec2 | −0.136 | 1.119*** | −0.779* | −0.111 | 0.387 | 0.423 | 1.169 |
| | (0.263) | (0.334) | (0.394) | (0.333) | (0.428) | (0.704) | (0.990) |
| D6_une1 | −0.638* | 0.135 | −0.100 | −0.501 | 0.311 | 0.374 | 0.870 |
| | (0.301) | (0.363) | (0.360) | (0.394) | (0.468) | (0.657) | (1.193) |
| D4_age | −0.0003 | 0.011 | −0.011 | 0.0002 | −0.005 | 0.032* | 0.030 |
| | (0.005) | (0.007) | (0.007) | (0.006) | (0.009) | (0.013) | (0.026) |
| D10_rec | −0.036 | 0.269*** | −0.281*** | 0.058 | 0.188** | −0.405** | −17.167 |
| | (0.036) | (0.043) | (0.064) | (0.044) | (0.059) | (0.154) | (2163.353) |
| Constant | −1.412*** | −2.907*** | −0.999 | −2.592*** | −3.775** | −4.647*** | −5.436* |
| | (0.426) | (0.596) | (0.536) | (0.609) | (1.152) | (1.118) | (2.200) |
| N | 891 | 891 | 891 | 891 | 891 | 891 | 891 |
| Log Likelihood | −505.051 | −318.623 | −309.096 | −339.068 | −193.567 | −110.286 | −32.410 |
| AIC | 1034.103 | 661.246 | 642.191 | 702.135 | 411.134 | 244.572 | 88.819 |

***p < .001; **p < .01; *p < .05

# 26 Sweden

Synthetic variables have been estimated for the full set of Swedish parties available in the original 2019 EES Sweden voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 26.1).

Table 26.1: Sweden relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_2702 | 2702 | Social Democratic Labour Party |
| stack_2705 | 2705 | Moderate Coalition Party |
| stack_2707 | 2707 | Green Ecology Party |
| stack_2704 | 2704 | Liberal People's Party |
| stack_2703 | 2703 | Centre Party |
| stack_2708 | 2708 | Sweden Democrats |
| stack_2706 | 2706 | Christian Democrats |
| stack_2701 | 2701 | Left Party |

Full OLS models converge and coefficients do not show any particular issue (see Table 26.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.02 for party 2702 (Social Democratic Labour Party) and a maximum of 0.103 for party 2707 (Green Ecology Party). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that the full models perform better in all cases (see Table 26.2).

Table 26.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2702 | 2702 | 736.830 | 742.960 | -6.131 |
| stack_2705 | 2705 | 583.583 | 623.368 | -39.785 |
| stack_2707 | 2707 | 397.673 | 479.613 | -81.940 |
| stack_2704 | 2704 | 221.126 | 263.305 | -42.179 |
| stack_2703 | 2703 | 216.840 | 266.672 | -49.831 |
| stack_2708 | 2708 | 836.810 | 856.252 | -19.442 |
| stack_2706 | 2706 | 470.258 | 502.935 | -32.677 |
| stack_2701 | 2701 | 542.761 | 577.778 | -35.018 |

On the contrary, one out of the eight logistic regression models (see Table 26.5) shows inflated standard errors for one of the coefficients of interest, in particular:

- Model 10: D6_une

However, the constant term and the other regressors of Model 10 are not affected by the inflated standard errors issue. Therefore, no additional adjustments are made and Model 10 is kept as is.

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.041 for party 2704 (Liberal People's Party) and a maximum of 0.036 for party 2705

(Moderate Coalition Party). Moreover, the difference between Akaike Information Criterion (AIC) values for logistic full models and null models shows that in three cases out of eight null models perform better than full ones (see Table 26.3).

Table 26.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2702 | 2702 | 806.614 | 820.036 | -13.422 |
| stack_2705 | 2705 | 501.736 | 522.644 | -20.909 |
| stack_2707 | 2707 | 360.001 | 359.457 | 0.544 |
| stack_2704 | 2704 | 256.021 | 247.996 | 8.025 |
| stack_2703 | 2703 | 299.075 | 299.837 | -0.762 |
| stack_2708 | 2708 | 736.057 | 735.017 | 1.040 |
| stack_2706 | 2706 | 371.163 | 370.795 | 0.368 |
| stack_2701 | 2701 | 419.663 | 424.960 | -5.297 |

Table 26.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **2702** | **2705** | **2707** | **2704** | **2703** | **2708** | **2706** | **2701** |
|---|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** | **Model 8** |
| D3_rec2 | 0.017 | −0.028 | 0.090*** | 0.018 | 0.042* | −0.091** | −0.019 | 0.056* |
| | (0.026) | (0.024) | (0.021) | (0.019) | (0.019) | (0.027) | (0.022) | (0.023) |
| D8_rec1 | 0.042 | 0.026 | 0.019 | 0.040 | 0.021 | −0.047 | 0.027 | −0.003 |
| | (0.033) | (0.030) | (0.027) | (0.025) | (0.024) | (0.035) | (0.028) | (0.030) |
| D5_rec1 | −0.017 | −0.001 | −0.052* | −0.026 | −0.027 | 0.035 | 0.007 | −0.054* |
| | (0.027) | (0.025) | (0.022) | (0.020) | (0.020) | (0.028) | (0.023) | (0.024) |
| EDU_rec2 | 0.026 | −0.063 | 0.034 | 0.031 | −0.003 | −0.041 | −0.038 | 0.049 |
| | (0.050) | (0.046) | (0.041) | (0.037) | (0.037) | (0.053) | (0.043) | (0.045) |
| EDU_rec3 | −0.004 | −0.045 | 0.063 | 0.061 | 0.031 | −0.112* | −0.025 | 0.075 |
| | (0.049) | (0.045) | (0.040) | (0.036) | (0.036) | (0.052) | (0.042) | (0.044) |
| D1_rec1 | 0.068* | −0.043 | 0.034 | 0.017 | 0.024 | −0.015 | −0.038 | 0.064** |
| | (0.027) | (0.025) | (0.022) | (0.020) | (0.020) | (0.029) | (0.023) | (0.024) |
| D7_rec1 | −0.039 | 0.121*** | 0.031 | 0.080*** | 0.065** | 0.016 | 0.094*** | −0.089*** |
| | (0.028) | (0.026) | (0.023) | (0.021) | (0.021) | (0.030) | (0.024) | (0.025) |
| D7_rec2 | −0.097* | 0.227*** | 0.011 | 0.120*** | 0.068* | 0.013 | 0.118*** | −0.134*** |
| | (0.040) | (0.036) | (0.032) | (0.029) | (0.029) | (0.042) | (0.034) | (0.035) |
| D6_une1 | −0.075 | −0.062 | −0.076 | 0.001 | −0.014 | 0.223*** | −0.007 | −0.052 |
| | (0.054) | (0.049) | (0.044) | (0.040) | (0.040) | (0.057) | (0.046) | (0.048) |
| D4_age | −0.001 | −0.001 | −0.005*** | −0.003*** | −0.003*** | 0.001 | −0.0001 | −0.002** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.012 | 0.005 | 0.014* | 0.012* | 0.019*** | −0.003 | 0.029*** | −0.003 |
| | (0.007) | (0.006) | (0.006) | (0.005) | (0.005) | (0.007) | (0.006) | (0.006) |
| Constant | 0.454*** | 0.433*** | 0.397*** | 0.275*** | 0.297*** | 0.427*** | 0.248*** | 0.383*** |
| | (0.066) | (0.061) | (0.054) | (0.049) | (0.049) | (0.070) | (0.057) | (0.059) |
| N | 854 | 852 | 852 | 849 | 853 | 852 | 851 | 850 |
| R-squared | 0.032 | 0.070 | 0.115 | 0.073 | 0.081 | 0.047 | 0.062 | 0.065 |
| Adj. R-squared | 0.020 | 0.058 | 0.103 | 0.061 | 0.069 | 0.035 | 0.050 | 0.053 |

***p < .001; **p < .01; *p < .05

Table 26.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **2702** | **2705** | **2707** | **2704** | **2703** | **2708** | **2706** | **2701** |
|---|---|---|---|---|---|---|---|---|
| | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** | **Model 15** | **Model 16** |
| D3_rec2 | −0.065 | −0.641* | 0.845** | −0.122 | 0.008 | −0.290 | −0.126 | 0.205 |
| | (0.184) | (0.270) | (0.325) | (0.404) | (0.351) | (0.200) | (0.318) | (0.281) |
| D8_rec1 | 0.347 | 0.250 | −0.175 | 0.369 | −0.228 | −0.283 | −0.103 | 0.207 |
| | (0.251) | (0.337) | (0.396) | (0.556) | (0.442) | (0.233) | (0.378) | (0.382) |
| D5_rec1 | 0.061 | 0.512 | 0.146 | −0.259 | −0.818* | 0.135 | 0.059 | −0.359 |
| | (0.190) | (0.269) | (0.330) | (0.404) | (0.368) | (0.205) | (0.320) | (0.291) |
| EDU_rec2 | 0.704 | 0.457 | −0.227 | 0.850 | −0.555 | −0.095 | −0.545 | 0.677 |
| | (0.463) | (0.648) | (0.548) | (1.075) | (0.654) | (0.367) | (0.616) | (0.769) |
| EDU_rec3 | 0.612 | 0.762 | −0.034 | 0.823 | −0.124 | −0.340 | −0.235 | 0.974 |
| | (0.454) | (0.625) | (0.537) | (1.057) | (0.607) | (0.358) | (0.569) | (0.755) |
| D1_rec1 | 0.747*** | −0.364 | −0.324 | −0.576 | 1.232** | −0.197 | −0.123 | 0.596 |
| | (0.203) | (0.257) | (0.325) | (0.411) | (0.444) | (0.201) | (0.321) | (0.309) |
| D7_rec1 | −0.095 | 0.640* | 0.074 | 1.020 | 0.995* | −0.102 | −0.161 | −1.043*** |
| | (0.198) | (0.313) | (0.347) | (0.531) | (0.425) | (0.212) | (0.345) | (0.307) |
| D7_rec2 | −0.212 | 1.033** | 0.314 | 1.302* | 0.157 | −0.374 | 0.078 | −1.320* |
| | (0.286) | (0.361) | (0.463) | (0.614) | (0.703) | (0.322) | (0.447) | (0.547) |
| D6_une1 | −0.990 | −14.798 | −1.183 | −0.325 | 0.349 | 0.742* | −0.964 | −0.458 |
| | (0.541) | (529.544) | (1.034) | (1.058) | (0.649) | (0.346) | (1.039) | (0.630) |
| D4_age | 0.015** | 0.008 | −0.029** | 0.012 | 0.0003 | 0.012* | 0.028** | 0.003 |
| | (0.005) | (0.007) | (0.010) | (0.012) | (0.011) | (0.006) | (0.009) | (0.009) |
| D10_rec | 0.070 | −0.010 | 0.026 | −0.129 | 0.063 | −0.067 | 0.173* | −0.149 |
| | (0.046) | (0.065) | (0.075) | (0.124) | (0.087) | (0.056) | (0.069) | (0.089) |
| Constant | −3.545*** | −3.836*** | −1.812* | −5.244*** | −3.889*** | −1.535** | −3.938*** | −3.314*** |
| | (0.580) | (0.798) | (0.717) | (1.322) | (0.913) | (0.495) | (0.824) | (0.910) |
| N | 847 | 847 | 847 | 847 | 847 | 847 | 847 | 847 |
| Log Likelihood | −391.307 | −238.868 | −168.000 | −116.010 | −137.538 | −356.029 | −173.582 | −197.832 |
| AIC | 806.614 | 501.736 | 360.001 | 256.021 | 299.075 | 736.057 | 371.163 | 419.663 |

***p < .001; **p < .01; *p < .05

# 27 United Kingdom

Synthetic variables have been estimated for seven of 14 British (UK) parties available in the original 2019 EES British (UK) voter study selected according to the criteria stated in the EES 2019 SDM codebook ( for the criteria see Sect. XXX; for the relevant parties see Table 27.1).

Table 27.1: British (UK) relevant parties

| Dep. Var. | Party | Party name (eng) |
|---|---|---|
| stack_2801 | 2801 | Conservative Party |
| stack_2802 | 2802 | Labour Party |
| stack_2803 | 2803 | Liberal Democrats |
| stack_2804 | 2804 | Green Party |
| stack_2805 | 2805 | Scottish National Party |
| stack_2806 | 2806 | United Kingdom Independence Party |
| stack_2807 | 2807 | The Brexit Party |

Full OLS models converge and coefficients do not show any particular issue (see Table 27.4). In terms of model fit, the adjusted coefficient of determination ($R^2$) values vary between a minimum value of 0.033 for party 2807 (The Brexit Party) and a maximum of 0.225 for party 2805 (Scottish National Party). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models shows that in 0 cases out of 7 null models perform better than full ones (see Table 27.2).

Table 27.2: Akaike Information Criterion values for OLS full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2801 | 2801 | 608.974 | 701.857 | -92.883 |
| stack_2802 | 2802 | 511.047 | 692.047 | -180.999 |
| stack_2803 | 2803 | 501.942 | 556.253 | -54.311 |
| stack_2804 | 2804 | 358.272 | 446.949 | -88.678 |
| stack_2805 | 2805 | 40.646 | 246.372 | -205.726 |
| stack_2806 | 2806 | 284.626 | 351.711 | -67.085 |
| stack_2807 | 2807 | 738.940 | 756.590 | -17.650 |

On the contrary, one out of seven logistic regression models (see Table 27.5) show inflated standard errors for one of the coefficients of interest, in particular:

- Model 8: D6_une;
- Model 12: D7_rec (only for category 2).

Nevertheless, models 8 and 12 constant terms and other regression coefficients are not affected by said inflated standard errors. Therefore, we do not adapt the models.

In terms of model fit, adjusted McFadden's pseudo $R^2$ values for the logistic full models vary between a minimum value of -0.083 for party 2806 (United Kingdom Independence Party) and a maximum of 0.054 for party 2807 (The Brexit Party). Moreover, the difference between Akaike Information Criterion (AIC) values

for logistic full models and null models shows that in 3 cases out of 7 null models perform better than full ones (see Table 27.3).

Table 27.3: Akaike Information Criterion values for logistic full and null models

| Dep. Var. | Party | Full Mod. | Null Mod. | Diff. (Full-Null) |
|---|---|---|---|---|
| stack_2801 | 2801 | 463.434 | 475.051 | -11.617 |
| stack_2802 | 2802 | 611.773 | 640.123 | -28.350 |
| stack_2803 | 2803 | 682.822 | 690.427 | -7.605 |
| stack_2804 | 2804 | 336.476 | 333.022 | 3.455 |
| stack_2805 | 2805 | 223.256 | 214.772 | 8.485 |
| stack_2806 | 2806 | 155.407 | 145.559 | 9.848 |
| stack_2807 | 2807 | 828.182 | 877.704 | -49.522 |

Table 27.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

| | **2801** | **2802** | **2803** | **2804** | **2805** | **2806** | **2807** |
|---|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** |
| D3_rec2 | 0.011 | 0.007 | 0.007 | 0.032 | 0.011 | 0.004 | −0.023 |
| | (0.023) | (0.022) | (0.022) | (0.020) | (0.017) | (0.019) | (0.025) |
| D8_rec1 | −0.039 | 0.044 | −0.024 | 0.003 | −0.041* | −0.014 | −0.005 |
| | (0.027) | (0.026) | (0.026) | (0.024) | (0.020) | (0.023) | (0.030) |
| D5_rec1 | 0.036 | −0.024 | −0.003 | −0.028 | 0.037* | 0.040 | 0.061* |
| | (0.025) | (0.024) | (0.024) | (0.022) | (0.019) | (0.021) | (0.028) |
| EDU_rec2 | 0.006 | −0.044 | −0.043 | −0.0001 | −0.003 | 0.066* | 0.024 |
| | (0.040) | (0.038) | (0.038) | (0.035) | (0.029) | (0.033) | (0.044) |
| EDU_rec3 | −0.057 | 0.043 | 0.053 | 0.074* | 0.024 | −0.020 | −0.095* |
| | (0.043) | (0.040) | (0.040) | (0.037) | (0.031) | (0.035) | (0.046) |
| D1_rec1 | 0.008 | 0.141*** | 0.069* | 0.065* | 0.126*** | 0.074** | 0.043 |
| | (0.030) | (0.028) | (0.028) | (0.026) | (0.022) | (0.025) | (0.033) |
| D7_rec1 | 0.157*** | −0.097*** | 0.070** | −0.019 | 0.027 | 0.025 | 0.008 |
| | (0.025) | (0.024) | (0.024) | (0.022) | (0.019) | (0.021) | (0.028) |
| D7_rec2 | 0.307*** | −0.142** | 0.078 | −0.041 | 0.037 | 0.025 | −0.017 |
| | (0.047) | (0.045) | (0.044) | (0.041) | (0.034) | (0.039) | (0.051) |
| D6_une1 | −0.037 | 0.041 | −0.040 | −0.053 | −0.031 | 0.052 | 0.038 |
| | (0.047) | (0.045) | (0.045) | (0.041) | (0.035) | (0.040) | (0.052) |
| D4_age | 0.003*** | −0.006*** | −0.003*** | −0.005*** | −0.004*** | −0.002** | 0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| D10_rec | 0.018** | 0.010 | 0.008 | 0.007 | 0.025*** | 0.027*** | 0.022*** |
| | (0.006) | (0.005) | (0.005) | (0.005) | (0.004) | (0.005) | (0.006) |
| Constant | 0.213*** | 0.681*** | 0.491*** | 0.563*** | 0.297*** | 0.205*** | 0.258*** |
| | (0.060) | (0.057) | (0.057) | (0.052) | (0.045) | (0.050) | (0.066) |
| N | 871 | 869 | 869 | 865 | 852 | 861 | 858 |
| R-squared | 0.124 | 0.208 | 0.084 | 0.120 | 0.235 | 0.098 | 0.045 |
| Adj. R-squared | 0.112 | 0.198 | 0.072 | 0.109 | 0.225 | 0.087 | 0.033 |

***p < .001; **p < .01; *p < .05

Table 27.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

| | **2801** | **2802** | **2803** | **2804** | **2805** | **2806** | **2807** |
|---|---|---|---|---|---|---|---|
| | **Model 8** | **Model 9** | **Model 10** | **Model 11** | **Model 12** | **Model 13** | **Model 14** |
| D3_rec2 | 0.504 | −0.251 | −0.229 | 0.210 | −0.102 | −0.273 | −0.410* |
| | (0.268) | (0.219) | (0.204) | (0.329) | (0.429) | (0.554) | (0.179) |
| D8_rec1 | −0.044 | 0.271 | −0.121 | 0.241 | −0.670 | −0.297 | 0.189 |
| | (0.296) | (0.266) | (0.230) | (0.408) | (0.444) | (0.575) | (0.209) |
| D5_rec1 | −0.212 | −0.189 | −0.132 | −0.507 | −0.008 | 0.600 | 0.349 |
| | (0.282) | (0.239) | (0.220) | (0.345) | (0.483) | (0.699) | (0.197) |
| EDU_rec2 | 0.476 | 0.231 | −0.467 | 0.944 | −0.186 | 0.453 | −0.043 |
| | (0.502) | (0.423) | (0.335) | (0.780) | (0.796) | (1.087) | (0.292) |
| EDU_rec3 | 0.652 | 0.398 | 0.170 | 1.364 | 0.465 | −0.390 | −0.520 |
| | (0.521) | (0.434) | (0.342) | (0.781) | (0.802) | (1.168) | (0.327) |
| D1_rec1 | −0.043 | 0.654** | 0.023 | 0.365 | 1.047* | 0.540 | −0.457 |
| | (0.347) | (0.250) | (0.260) | (0.386) | (0.470) | (0.668) | (0.259) |
| D7_rec1 | 0.191 | −0.535* | 0.478* | −0.110 | −0.091 | 1.148 | 0.030 |
| | (0.294) | (0.249) | (0.217) | (0.368) | (0.449) | (0.643) | (0.195) |
| D7_rec2 | 1.265** | −1.224* | 0.148 | 0.253 | −15.172 | 1.352 | −0.064 |
| | (0.404) | (0.552) | (0.403) | (0.584) | (805.417) | (0.915) | (0.389) |
| D6_une1 | −15.862 | 0.077 | −1.357 | −1.696 | −0.276 | 0.895 | 0.504 |
| | (798.462) | (0.386) | (0.742) | (1.041) | (1.083) | (1.164) | (0.360) |
| D4_age | 0.020* | −0.027*** | 0.010 | −0.025* | 0.003 | 0.014 | 0.034*** |
| | (0.008) | (0.007) | (0.006) | (0.010) | (0.014) | (0.018) | (0.006) |
| D10_rec | 0.060 | 0.063 | 0.006 | −0.134 | −0.088 | 0.193 | −0.025 |
| | (0.062) | (0.050) | (0.049) | (0.091) | (0.107) | (0.114) | (0.048) |
| Constant | −4.323*** | −1.112* | −2.100*** | −2.772** | −3.430** | −6.330*** | −3.025*** |
| | (0.748) | (0.563) | (0.523) | (0.939) | (1.163) | (1.699) | (0.510) |
| N | 875 | 875 | 875 | 875 | 875 | 875 | 875 |
| Log Likelihood | −219.717 | −293.886 | −329.411 | −156.238 | −99.628 | −65.704 | −402.091 |
| AIC | 463.434 | 611.773 | 682.822 | 336.476 | 223.256 | 155.407 | 828.182 |

***p < .001; **p < .01; *p < .05