

# Appendix A

## Summary of Synthetic Variables Estimation

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# 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 6 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)

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

	<b>101</b>	<b>102</b>	<b>104</b>	<b>106</b>	<b>103</b>	<b>105</b>
	<b>Model 7</b>	<b>Model 8</b>	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>
D3_rec2	0.321 (0.184)	0.052 (0.182)	-0.578* (0.263)	0.389 (0.219)	-0.620*** (0.188)	0.258 (0.694)
D8_rec1	-0.031 (0.191)	0.165 (0.194)	-0.329 (0.266)	0.188 (0.231)	-0.140 (0.192)	18.220 (2394.693)
D5_rec1	0.194 (0.196)	-0.351 (0.189)	0.043 (0.271)	0.069 (0.228)	0.416* (0.201)	-0.069 (0.694)
EDU_rec2	0.066 (0.254)	0.375 (0.281)	0.300 (0.384)	0.154 (0.341)	-0.072 (0.237)	0.010 (0.906)
EDU_rec3	-0.366 (0.276)	0.648* (0.289)	0.644 (0.386)	0.806* (0.332)	-0.578* (0.273)	-0.015 (0.946)
D1_rec1	-0.128 (0.194)	1.041*** (0.187)	-0.125 (0.275)	-0.299 (0.241)	-0.007 (0.195)	-18.081 (2507.533)
D7_rec1	0.206 (0.230)	0.417 (0.225)	0.209 (0.326)	0.257 (0.279)	-0.171 (0.209)	-1.056 (0.758)
D7_rec2	0.790** (0.276)	0.192 (0.287)	0.498 (0.382)	0.535 (0.326)	-0.442 (0.294)	-1.052 (1.141)
D6_une1	-1.789 (1.038)	0.114 (0.489)	0.645 (0.579)	-0.260 (0.636)	-0.064 (0.479)	0.066 (1.122)
D4_age	0.019*** (0.006)	0.016** (0.006)	-0.029*** (0.008)	-0.016* (0.007)	0.009 (0.006)	-0.030 (0.022)
D10_rec	0.316*** (0.043)	-0.121* (0.048)	-0.032 (0.066)	-0.031 (0.056)	-0.092 (0.048)	-0.083 (0.204)
Constant	-3.430*** (0.424)	-3.100*** (0.428)	-1.221* (0.539)	-2.124*** (0.480)	-1.345*** (0.395)	-19.871 (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 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 2.1).

Table 2.1: 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 2.8). 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 2.2).

Table 2.2: 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 2.9) 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 2.5, 2.6, 2.7)

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 2.3). Consequently, synthetic variables for respondents' vote choice for party 603 have been predicted relying on the constrained model (Model 10b).

Table 2.3: 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 2.4).

Table 2.4: 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 2.5: 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 2.6: 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 2.7: 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 2.8: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>601</b>	<b>603</b>	<b>604</b>	<b>605</b>	<b>606</b>	<b>607</b>	<b>608</b>	<b>602</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>
D3_rec2	0.0003 (0.017)	-0.022 (0.018)	0.016 (0.021)	-0.001 (0.021)	-0.024 (0.026)	0.026 (0.023)	-0.024 (0.022)	0.039* (0.018)
D8_rec1	0.026 (0.019)	0.008 (0.021)	0.001 (0.024)	-0.010 (0.024)	0.012 (0.029)	0.003 (0.026)	0.009 (0.025)	-0.014 (0.021)
D5_rec1	-0.012 (0.018)	-0.030 (0.019)	-0.019 (0.022)	-0.054* (0.022)	0.035 (0.026)	-0.050* (0.023)	0.002 (0.022)	-0.040* (0.019)
EDU_rec2	-0.003 (0.035)	-0.020 (0.038)	0.004 (0.043)	-0.017 (0.043)	-0.025 (0.053)	0.014 (0.046)	0.057 (0.045)	-0.007 (0.038)
EDU_rec3	0.028 (0.036)	-0.031 (0.038)	0.022 (0.044)	-0.044 (0.044)	-0.077 (0.054)	0.038 (0.047)	-0.001 (0.046)	0.023 (0.038)
D1_rec1	0.038 (0.024)	0.121*** (0.025)	0.046 (0.029)	0.077** (0.029)	0.078* (0.035)	-0.025 (0.031)	0.084** (0.030)	0.004 (0.025)
D7_rec1	0.018 (0.019)	0.013 (0.020)	0.036 (0.023)	-0.015 (0.023)	0.032 (0.028)	-0.012 (0.025)	-0.054* (0.024)	0.036 (0.020)
D7_rec2	-0.018 (0.029)	0.040 (0.030)	0.094** (0.035)	-0.017 (0.035)	0.033 (0.043)	0.055 (0.038)	-0.052 (0.036)	0.041 (0.030)
D6_une1	-0.014 (0.070)	0.008 (0.074)	-0.101 (0.085)	0.144 (0.085)	-0.077 (0.104)	0.043 (0.092)	0.097 (0.088)	-0.074 (0.076)
D4_age	-0.003*** (0.001)	-0.0001 (0.001)	-0.005*** (0.001)	0.003*** (0.001)	0.006*** (0.001)	-0.008*** (0.001)	0.001 (0.001)	-0.005*** (0.001)
D10_rec	0.068*** (0.005)	0.003 (0.005)	0.021*** (0.006)	-0.016* (0.006)	-0.013 (0.008)	0.003 (0.007)	-0.011 (0.006)	0.023*** (0.005)
Constant	0.278*** (0.044)	0.299*** (0.046)	0.469*** (0.053)	0.187*** (0.053)	0.136* (0.065)	0.720*** (0.057)	0.240*** (0.055)	0.453*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

Table 2.9: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>601</b>	<b>603</b>	<b>603</b>	<b>604</b>	<b>605</b>	<b>606</b>	<b>607</b>	<b>608</b>	<b>602</b>
	<b>Model 9</b>	<b>Model 10a</b>	<b>Model 10b</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>	<b>Model 14</b>	<b>Model 15</b>	<b>Model 16</b>
D3_rec2	0.032 (0.419)	0.111 (0.502)	0.153 (0.495)	-0.039 (0.265)	-0.357 (0.339)	-0.405* (0.199)	-0.027 (0.244)	-0.079 (0.295)	0.001 (0.377)
D8_rec1	0.185 (0.483)	0.547 (0.652)	0.455 (0.645)	-0.056 (0.299)	0.008 (0.383)	-0.002 (0.227)	0.117 (0.282)	0.509 (0.384)	-1.146** (0.379)
D5_rec1	-0.060 (0.436)	-0.277 (0.514)	-0.213 (0.505)	-0.223 (0.269)	-0.354 (0.333)	0.551** (0.213)	0.030 (0.254)	0.846* (0.354)	-0.328 (0.383)
EDU_rec2	-1.014 (0.697)	17.215 (2200.736)		0.025 (0.540)	-0.513 (0.656)	-0.028 (0.484)	0.298 (0.531)	0.945 (1.042)	-0.546 (0.686)
EDU_rec3	-0.680 (0.700)	16.563 (2200.736)		0.060 (0.549)	-0.448 (0.688)	-0.316 (0.500)	0.699 (0.530)	1.144 (1.046)	0.262 (0.666)
D1_rec1	0.030 (0.531)	0.803 (0.556)	0.827 (0.551)	0.175 (0.344)	0.693 (0.405)	0.527* (0.253)	-0.176 (0.347)	0.253 (0.376)	-0.155 (0.529)
D7_rec1	0.653 (0.477)	-0.151 (0.508)		0.206 (0.307)	-0.314 (0.351)	0.554* (0.217)	-0.506 (0.271)	-0.585 (0.329)	0.997 (0.520)
D7_rec2	-1.370 (1.131)	-16.813 (1627.428)		0.805* (0.393)	-0.685 (0.661)	0.618 (0.334)	-0.047 (0.360)	0.229 (0.423)	1.182 (0.626)
D6_une1	-13.302 (1083.416)	-16.379 (4685.595)		-14.133 (681.233)	0.953 (1.107)	-0.308 (1.097)	0.296 (0.804)	-13.887 (671.864)	-14.354 (1089.635)
D4_age	0.004 (0.013)	-0.015 (0.016)	-0.001 (0.015)	-0.004 (0.008)	0.038*** (0.011)	0.048*** (0.007)	-0.025** (0.008)	0.011 (0.010)	-0.025 (0.013)
D10_rec	0.579*** (0.081)	0.079 (0.135)	0.052 (0.132)	0.088 (0.069)	-0.159 (0.125)	-0.020 (0.058)	-0.124 (0.087)	-0.093 (0.100)	0.091 (0.094)
Constant	-4.343*** (0.970)	-20.454 (2200.736)	-4.406*** (1.019)	-2.468*** (0.659)	-3.991*** (0.936)	-4.550*** (0.631)	-1.310* (0.630)	-4.985*** (1.187)	-1.905* (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

### 3 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 3.1).

Table 3.1: Croatian relevant parties

Dep. Var.	Party	Party name (eng)
stack_412	412	Social Democratic Party of Croatia
stack_404	404	Croatian Democratic Union
stack_414	414	Human Shield
stack_405	405	Coalition 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 3.13). 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 (Croatian 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 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_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 3.14) 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 3.6, 3.7). 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 3.8, 3.9, 3.10, 3.11, 3.12).

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 3.3). For party 413  $H_0$  cannot be rejected (see Table 3.4). Consequently, synthetic variables for respondents' vote choice for party 401 and 413 have been predicted relying on the constrained model (Model 14b, 13b).

Table 3.3: 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 3.4: 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 3.5).

Table 3.5: 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 3.6: 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 3.7: 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 3.8: 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 3.9: 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 3.10: 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 3.11: 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 3.12: 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 3.13: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>412</b>	<b>404</b>	<b>414</b>	<b>405</b>	<b>406</b>	<b>413</b>	<b>401</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	−0.021 (0.023)	−0.001 (0.019)	0.005 (0.019)	0.006 (0.019)	0.003 (0.017)	−0.028 (0.017)	0.014 (0.014)
D8_rec1	−0.038 (0.030)	0.008 (0.024)	−0.037 (0.024)	0.028 (0.024)	−0.004 (0.022)	0.034 (0.022)	0.009 (0.018)
D5_rec1	−0.093*** (0.025)	0.005 (0.021)	−0.045* (0.021)	−0.068** (0.021)	−0.022 (0.019)	−0.023 (0.019)	−0.027 (0.015)
EDU_rec2	−0.095 (0.062)	−0.098 (0.051)	−0.131** (0.050)	−0.157** (0.052)	−0.133** (0.046)	−0.167*** (0.048)	−0.045 (0.038)
EDU_rec3	−0.067 (0.063)	−0.060 (0.052)	−0.174*** (0.051)	−0.110* (0.053)	−0.139** (0.047)	−0.168*** (0.049)	−0.074 (0.038)
D1_rec1	0.050 (0.027)	0.066** (0.022)	−0.008 (0.022)	0.008 (0.022)	0.014 (0.020)	0.034 (0.020)	−0.005 (0.016)
D7_rec1	0.105*** (0.025)	0.047* (0.021)	0.014 (0.020)	0.083*** (0.020)	0.039* (0.019)	0.051** (0.019)	0.037* (0.015)
D7_rec2	0.099** (0.037)	0.113*** (0.030)	0.015 (0.030)	0.083** (0.030)	0.037 (0.028)	0.032 (0.027)	0.025 (0.023)
D6_une1	0.026 (0.042)	−0.013 (0.035)	0.024 (0.034)	0.006 (0.034)	0.041 (0.031)	−0.005 (0.031)	−0.030 (0.026)
D4_age	0.005*** (0.001)	0.0004 (0.001)	−0.003*** (0.001)	0.001 (0.001)	−0.001 (0.001)	0.0001 (0.001)	−0.003*** (0.001)
D10_rec	−0.028*** (0.005)	0.042*** (0.004)	−0.001 (0.004)	−0.022*** (0.004)	0.015*** (0.004)	−0.008* (0.004)	0.020*** (0.003)
Constant	0.311*** (0.071)	0.089 (0.058)	0.574*** (0.058)	0.332*** (0.059)	0.347*** (0.053)	0.313*** (0.055)	0.231*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

Table 3.14: 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 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
D3_rec2	−0.129 (0.220)	−0.514 (0.290)	−0.456 (0.263)	0.827* (0.375)	−0.095 (0.477)	−0.423 (0.541)	−0.459 (0.539)	0.701 (0.893)	0.568 (0.875)
D8_rec1	0.323 (0.324)	−0.239 (0.346)	−0.198 (0.317)	0.774 (0.622)	0.462 (0.660)	−0.292 (0.666)	−0.225 (0.660)	18.994 (5163.834)	
D5_rec1	−0.374 (0.236)	0.525 (0.346)	0.168 (0.287)	0.118 (0.391)	−0.111 (0.517)	0.102 (0.603)	0.152 (0.604)	18.677 (3933.114)	
EDU_rec2	−0.189 (0.826)	0.037 (0.707)	−0.362 (0.563)	−0.474 (1.142)	−1.281 (0.781)	14.858 (1761.469)		18.318 (9794.447)	
EDU_rec3	−0.054 (0.823)	0.428 (0.709)	−0.271 (0.578)	−0.271 (1.134)	−1.348 (0.816)	15.390 (1761.469)		17.456 (9794.447)	
D1_rec1	0.575* (0.238)	0.515 (0.296)	−0.116 (0.305)	0.478 (0.391)	0.662 (0.487)	0.059 (0.601)	0.112 (0.601)	−0.967 (1.119)	−0.707 (1.107)
D7_rec1	0.666** (0.251)	0.250 (0.338)	−0.187 (0.284)	0.928* (0.455)	−0.151 (0.522)	−0.108 (0.625)	0.007 (0.613)	0.675 (0.927)	
D7_rec2	0.713* (0.350)	1.181** (0.400)	−0.041 (0.397)	1.280* (0.552)	0.100 (0.720)	0.791 (0.704)	0.979 (0.685)	−17.869 (6002.379)	
D6_une1	−0.945 (0.613)	−0.250 (0.627)	0.344 (0.432)	−0.263 (0.762)	−0.262 (1.057)	−15.334 (1237.430)		−19.065 (7686.376)	
D4_age	0.053*** (0.009)	−0.001 (0.011)	−0.025* (0.011)	0.028* (0.013)	0.006 (0.018)	0.022 (0.020)	0.030 (0.020)	−0.026 (0.034)	−0.002 (0.029)
D10_rec	−0.202*** (0.057)	0.273*** (0.065)	−0.024 (0.061)	−0.314** (0.104)	0.292** (0.109)	−0.082 (0.133)	−0.093 (0.131)	0.473* (0.208)	0.444* (0.202)
Constant	−4.496*** (0.933)	−4.112*** (0.860)	−0.755 (0.677)	−5.633*** (1.365)	−4.225*** (1.136)	−19.746 (1761.469)	−5.198*** (1.273)	−60.802 (11750.140)	−6.646*** (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

## 4 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 4.1).

Table 4.1: 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 4.11). 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 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_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 4.12) 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 5a 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 4.5, 4.6, 4.7, 4.8, 4.9, 4.10).



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 4.3). Consequently, synthetic variables for respondents' vote choice for party 505 have been predicted relying on the constrained model (Model 11b).

Table 4.3: 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 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_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).

## 5 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 5.1).

Table 4.5: 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 4.6: 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 4.7: 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 4.8: 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 4.9: 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 4.10: 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 4.11: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>501</b>	<b>502</b>	<b>503</b>	<b>504</b>	<b>505</b>	<b>507</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>
D3_rec2	0.095** (0.036)	-0.057 (0.038)	0.047 (0.032)	0.012 (0.029)	0.054 (0.027)	-0.086** (0.030)
D8_rec1	0.023 (0.046)	-0.039 (0.049)	0.010 (0.041)	0.012 (0.036)	0.007 (0.035)	0.017 (0.039)
D5_rec1	0.041 (0.043)	-0.022 (0.046)	0.036 (0.039)	0.021 (0.034)	0.025 (0.033)	-0.015 (0.036)
EDU_rec2	-0.106* (0.050)	0.111* (0.053)	0.069 (0.045)	0.037 (0.040)	0.015 (0.038)	0.027 (0.042)
EDU_rec3	-0.091 (0.055)	0.152** (0.059)	0.087 (0.050)	0.056 (0.044)	0.062 (0.042)	0.002 (0.046)
D1_rec1	0.022 (0.044)	0.126** (0.047)	0.026 (0.040)	-0.020 (0.035)	-0.009 (0.034)	0.059 (0.037)
D7_rec1	-0.135*** (0.037)	0.099* (0.040)	0.006 (0.034)	-0.003 (0.030)	0.019 (0.029)	-0.006 (0.032)
D7_rec2	-0.015 (0.083)	0.166 (0.089)	0.063 (0.076)	0.110 (0.066)	0.068 (0.064)	-0.073 (0.071)
D6_une1	0.141* (0.062)	0.004 (0.066)	0.048 (0.056)	0.025 (0.049)	0.014 (0.049)	-0.029 (0.054)
D4_age	0.0002 (0.001)	0.002* (0.001)	0.002* (0.001)	-0.0002 (0.001)	-0.001 (0.001)	-0.002 (0.001)
D10_rec	-0.027* (0.012)	0.043*** (0.012)	-0.002 (0.011)	0.010 (0.009)	0.002 (0.009)	0.007 (0.010)
Constant	0.436*** (0.086)	-0.012 (0.093)	0.071 (0.079)	0.118 (0.069)	0.122 (0.067)	0.267*** (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 4.12: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>501</b>	<b>502</b>	<b>503</b>	<b>504</b>	<b>505</b>	<b>505</b>	<b>507</b>
	<b>Model 1</b>	<b>Model 8</b>	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11a</b>	<b>Model 11b</b>	<b>Model 12</b>
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

Table 5.1: 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 5.4). 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 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_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 5.5)

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 5.3).

Table 5.3: 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 5.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>701</b>	<b>702</b>	<b>703</b>	<b>704</b>	<b>705</b>	<b>706</b>	<b>707</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	0.083*** (0.023)	-0.050* (0.024)	-0.068** (0.024)	0.035 (0.020)	0.088*** (0.023)	0.044 (0.024)	-0.086*** (0.020)
D8_rec1	0.069* (0.028)	0.001 (0.029)	0.036 (0.030)	0.001 (0.024)	0.065* (0.028)	0.053 (0.029)	0.020 (0.025)
D5_rec1	-0.008 (0.024)	0.036 (0.025)	0.026 (0.026)	-0.025 (0.021)	-0.022 (0.025)	-0.039 (0.026)	-0.006 (0.022)
EDU_rec2	-0.060 (0.051)	0.112* (0.053)	0.037 (0.055)	-0.034 (0.044)	-0.069 (0.053)	-0.056 (0.054)	0.070 (0.046)
EDU_rec3	-0.023 (0.048)	0.038 (0.049)	-0.005 (0.051)	0.004 (0.041)	-0.004 (0.049)	0.003 (0.050)	0.048 (0.042)
D1_rec1	0.137*** (0.026)	-0.056* (0.027)	-0.002 (0.028)	0.004 (0.022)	0.066* (0.026)	0.040 (0.027)	-0.009 (0.023)
D7_rec1	-0.001 (0.026)	0.100*** (0.027)	-0.047 (0.028)	0.045* (0.022)	-0.019 (0.027)	-0.021 (0.027)	0.063** (0.023)
D7_rec2	-0.118** (0.036)	0.173*** (0.037)	-0.053 (0.038)	0.048 (0.031)	-0.076* (0.036)	-0.113** (0.037)	0.192*** (0.032)
D6_une1	0.053 (0.047)	-0.057 (0.049)	-0.004 (0.051)	-0.022 (0.041)	-0.043 (0.048)	-0.033 (0.050)	-0.090* (0.042)
D4_age	0.0001 (0.001)	-0.002* (0.001)	0.001 (0.001)	-0.005*** (0.001)	-0.002** (0.001)	-0.004*** (0.001)	-0.001 (0.001)
D10_rec	0.015* (0.007)	0.023** (0.007)	0.005 (0.007)	0.013* (0.006)	0.013 (0.007)	0.008 (0.007)	0.029*** (0.006)
Constant	0.353*** (0.062)	0.386*** (0.064)	0.312*** (0.066)	0.509*** (0.053)	0.379*** (0.063)	0.490*** (0.065)	0.269*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 6 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

Table 5.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

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

criteria see Sect. XXX; for the relevant parties see Table 6.1).

Table 6.1: 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 6.13). 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 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_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 6.14) 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 6.8) 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 6.9, 6.10, 6.11, 6.12).

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 6.3). Consequently, synthetic variables for respondents' vote choice for party 906 have been predicted relying on the constrained model (Model 13b).

Table 6.3: 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 6.9 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 6.4).

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 6.5).

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 6.5). 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 6.4: 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 6.5: 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

Table 6.6: 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

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 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 6.7).

Table 6.7: 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 6.8: 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 6.9: 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 6.10: 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 6.11: 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 6.12: 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 6.13: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>901</b>	<b>902</b>	<b>903</b>	<b>904</b>	<b>905</b>	<b>906</b>	<b>907</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	0.042 (0.026)	-0.012 (0.023)	-0.127*** (0.024)	-0.039 (0.021)	0.126*** (0.021)	0.035 (0.021)	0.075*** (0.019)
D8_rec1	0.011 (0.029)	0.050 (0.025)	-0.080** (0.026)	-0.112*** (0.023)	0.036 (0.024)	0.027 (0.024)	0.024 (0.021)
D5_rec1	0.009 (0.027)	-0.021 (0.024)	-0.015 (0.025)	-0.034 (0.022)	0.010 (0.023)	0.026 (0.023)	-0.002 (0.020)
EDU_rec2	-0.086 (0.061)	0.074 (0.055)	0.011 (0.058)	0.025 (0.051)	-0.017 (0.052)	-0.045 (0.051)	-0.030 (0.046)
EDU_rec3	-0.034 (0.061)	0.039 (0.055)	-0.012 (0.058)	0.049 (0.051)	0.006 (0.052)	-0.008 (0.051)	-0.006 (0.046)
D1_rec1	-0.066 (0.042)	0.058 (0.038)	-0.008 (0.039)	-0.062 (0.034)	0.028 (0.036)	-0.041 (0.035)	-0.047 (0.032)
D7_rec1	0.100*** (0.027)	-0.042 (0.024)	-0.049 (0.025)	0.001 (0.022)	0.014 (0.023)	0.023 (0.023)	0.009 (0.020)
D7_rec2	0.175*** (0.042)	-0.080* (0.038)	-0.084* (0.039)	-0.042 (0.035)	0.062 (0.035)	0.099** (0.035)	0.032 (0.031)
D6_une1	-0.108 (0.075)	-0.027 (0.067)	0.032 (0.069)	-0.065 (0.061)	-0.047 (0.063)	0.021 (0.063)	0.070 (0.056)
D4_age	-0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.0004 (0.001)	-0.003*** (0.001)	-0.001* (0.001)	-0.002*** (0.001)
D10_rec	-0.022** (0.008)	0.026*** (0.007)	0.014 (0.008)	0.007 (0.007)	-0.003 (0.007)	-0.015* (0.007)	0.003 (0.006)
Constant	0.518*** (0.072)	0.269*** (0.064)	0.361*** (0.067)	0.453*** (0.059)	0.420*** (0.061)	0.366*** (0.060)	0.371*** (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 6.14: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>901</b>	<b>902</b>	<b>903</b>	<b>904</b>	<b>905</b>	<b>906</b>	<b>906</b>	<b>907</b>	<b>907</b>
	<b>Model 14ax</b>	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13a</b>	<b>Model 13b</b>	<b>Model 14a</b>	<b>Model 14b2</b>
D3_rec2	0.181 (0.204)	-0.163 (0.251)	-1.362*** (0.268)	-0.654* (0.285)	0.571** (0.221)	-0.430 (0.434)	-0.461 (0.432)	0.522 (0.750)	0.447 (0.746)
D8_rec1	0.064 (0.227)	0.453 (0.306)	-0.567* (0.259)	-0.597* (0.288)	-0.208 (0.229)	0.123 (0.522)	0.197 (0.518)	-0.659 (0.759)	-0.583 (0.751)
D5_rec1	0.139 (0.220)	0.010 (0.269)	-0.259 (0.264)	-0.257 (0.295)	-0.114 (0.223)	-0.064 (0.468)	0.039 (0.466)	17.058 (1676.995)	17.268 (1749.196)
EDU_rec2	-0.288 (0.483)	0.676 (0.758)	0.305 (0.646)	0.358 (0.768)	-0.278 (0.488)	14.762 (1014.112)		15.512 (3995.567)	
EDU_rec3	-0.0001 (0.478)	0.463 (0.761)	0.212 (0.648)	0.349 (0.774)	0.054 (0.482)	15.433 (1014.112)		16.573 (3995.567)	
D1_rec1	-0.459 (0.377)	0.387 (0.369)	-0.033 (0.428)	-0.650 (0.612)	0.163 (0.330)	-0.916 (1.035)	-0.833 (1.033)	-17.124 (2956.242)	
D7_rec1	0.564* (0.224)	0.078 (0.267)	-0.066 (0.267)	-0.300 (0.292)	0.150 (0.229)	0.561 (0.481)	0.669 (0.473)	0.597 (0.891)	0.695 (0.875)
D7_rec2	0.732* (0.308)	0.244 (0.390)	0.238 (0.380)	-1.583* (0.750)	0.498 (0.321)	-0.198 (0.829)	-0.015 (0.816)	0.928 (1.043)	1.261 (1.017)
D6_une1	-1.178 (1.034)	-15.134 (795.306)	0.295 (0.670)	-0.601 (1.053)	0.067 (0.638)	0.248 (1.072)	0.277 (1.062)	-16.569 (5415.937)	
D4_age	0.019** (0.006)	0.018* (0.008)	0.011 (0.008)	0.019* (0.009)	0.007 (0.006)	-0.012 (0.014)	-0.010 (0.013)	-0.013 (0.024)	-0.013 (0.023)
D10_rec	-0.207** (0.078)	0.115 (0.074)	0.172* (0.070)	0.036 (0.088)	-0.134 (0.078)	-0.048 (0.154)	-0.052 (0.156)	-0.215 (0.335)	-0.237 (0.337)
Constant	-2.864*** (0.593)	-4.250*** (0.914)	-2.093** (0.734)	-2.752** (0.884)	-2.210*** (0.579)	-18.050 (1014.112)	-3.246*** (0.909)	-36.807 (4333.229)	-21.105 (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 7 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 7.1).

Table 7.1: 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 7.4). 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 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_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 7.5) 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 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_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 7.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>1001</b>	<b>1002</b>	<b>1003</b>	<b>1004</b>	<b>1005</b>	<b>1006</b>	<b>1007</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	0.046* (0.022)	-0.143*** (0.026)	-0.041 (0.022)	-0.010 (0.019)	0.157*** (0.023)	0.062** (0.023)	-0.002 (0.019)
D8_rec1	0.109*** (0.029)	-0.069* (0.033)	0.044 (0.028)	-0.016 (0.024)	0.070* (0.030)	0.059* (0.029)	0.012 (0.024)
D5_rec1	-0.046* (0.023)	0.032 (0.027)	0.007 (0.022)	-0.017 (0.019)	-0.055* (0.024)	-0.028 (0.023)	-0.050** (0.019)
EDU_rec2	-0.026 (0.045)	0.110* (0.051)	-0.003 (0.043)	0.018 (0.037)	-0.037 (0.047)	-0.027 (0.045)	0.028 (0.037)
EDU_rec3	0.008 (0.042)	0.021 (0.049)	-0.016 (0.041)	0.005 (0.035)	0.012 (0.044)	0.006 (0.043)	0.031 (0.035)
D1_rec1	0.073** (0.023)	-0.016 (0.027)	-0.039 (0.023)	-0.006 (0.020)	0.038 (0.024)	0.063** (0.024)	0.025 (0.019)
D7_rec1	0.004 (0.026)	0.023 (0.030)	0.157*** (0.025)	0.081*** (0.022)	0.031 (0.027)	-0.058* (0.026)	0.066** (0.021)
D7_rec2	-0.100** (0.035)	0.005 (0.040)	0.299*** (0.034)	0.056 (0.029)	-0.021 (0.036)	-0.196*** (0.035)	0.101*** (0.029)
D6_une1	-0.032 (0.037)	0.025 (0.042)	-0.028 (0.036)	0.0004 (0.031)	-0.013 (0.038)	0.0001 (0.037)	0.0001 (0.030)
D4_age	0.001 (0.001)	-0.002** (0.001)	-0.001 (0.001)	-0.002** (0.001)	-0.003*** (0.001)	-0.001 (0.001)	-0.001 (0.001)
D10_rec	0.011 (0.008)	0.004 (0.009)	0.028*** (0.007)	0.040*** (0.006)	0.003 (0.008)	0.007 (0.008)	0.029*** (0.006)
Constant	0.282*** (0.060)	0.593*** (0.069)	0.320*** (0.058)	0.329*** (0.050)	0.417*** (0.062)	0.368*** (0.061)	0.170*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05



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

	<b>1001</b>	<b>1002</b>	<b>1003</b>	<b>1004</b>	<b>1005</b>	<b>1006</b>	<b>1007</b>
	<b>Model 8</b>	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>	<b>Model 14</b>
D3_rec2	0.020 (0.252)	-0.712** (0.218)	-0.144 (0.255)	-0.019 (0.384)	0.873*** (0.245)	-0.055 (0.307)	-0.713 (0.506)
D8_rec1	0.410 (0.348)	-0.808*** (0.242)	1.040* (0.427)	-0.580 (0.423)	0.236 (0.317)	0.277 (0.427)	-0.538 (0.546)
D5_rec1	0.027 (0.258)	0.013 (0.215)	0.026 (0.259)	0.282 (0.401)	-0.580* (0.244)	-0.404 (0.312)	0.107 (0.488)
EDU_rec2	0.364 (0.656)	0.974 (0.525)	0.436 (0.668)	-0.178 (0.858)	-0.547 (0.411)	0.385 (0.793)	0.091 (1.200)
EDU_rec3	0.656 (0.622)	0.878 (0.507)	0.602 (0.629)	0.030 (0.786)	-0.505 (0.379)	0.875 (0.751)	0.841 (1.095)
D1_rec1	0.650* (0.274)	0.125 (0.219)	-0.007 (0.259)	-0.376 (0.394)	0.168 (0.248)	0.519 (0.333)	-0.057 (0.486)
D7_rec1	-0.138 (0.285)	-0.385 (0.252)	0.890** (0.315)	1.057* (0.448)	0.636* (0.264)	-0.464 (0.342)	0.631 (0.565)
D7_rec2	-0.455 (0.410)	0.538 (0.292)	1.538*** (0.342)	0.287 (0.650)	0.018 (0.392)	-1.597* (0.748)	0.853 (0.651)
D6_une1	-0.242 (0.494)	-0.783 (0.402)	0.463 (0.413)	-15.884 (1057.586)	0.362 (0.365)	-1.179 (0.747)	0.107 (0.797)
D4_age	0.033*** (0.009)	-0.008 (0.007)	0.022** (0.008)	0.015 (0.012)	0.001 (0.007)	0.004 (0.010)	-0.010 (0.015)
D10_rec	0.048 (0.083)	-0.026 (0.069)	0.238** (0.073)	0.241* (0.106)	0.059 (0.079)	-0.152 (0.128)	0.146 (0.134)
Constant	-5.248*** (0.874)	-1.371* (0.611)	-5.783*** (0.856)	-4.311*** (1.069)	-2.606*** (0.602)	-3.517*** (0.994)	-3.863** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 8 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 8.1).

Table 8.1: 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 8.4). 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 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_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 8.5) 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 8.3: 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 8.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>1113</b>	<b>1105</b>	<b>1111</b>	<b>1114</b>	<b>1101</b>	<b>1110</b>	<b>1102</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	0.010 (0.020)	0.016 (0.020)	-0.017 (0.025)	0.051* (0.022)	0.011 (0.020)	0.019 (0.018)	-0.025 (0.024)
D8_rec1	0.010 (0.022)	0.033 (0.022)	-0.022 (0.027)	0.012 (0.023)	-0.008 (0.022)	0.011 (0.020)	0.073** (0.025)
D5_rec1	-0.001 (0.022)	-0.007 (0.022)	0.024 (0.028)	-0.030 (0.024)	0.001 (0.022)	-0.011 (0.021)	-0.023 (0.026)
EDU_rec2	-0.010 (0.039)	0.035 (0.039)	0.131** (0.049)	-0.015 (0.042)	0.014 (0.039)	0.023 (0.036)	-0.044 (0.046)
EDU_rec3	-0.038 (0.038)	0.052 (0.038)	0.036 (0.047)	0.026 (0.040)	0.011 (0.038)	0.029 (0.035)	-0.025 (0.044)
D1_rec1	0.055 (0.030)	0.121*** (0.029)	0.117** (0.036)	0.109*** (0.031)	0.149*** (0.029)	0.173*** (0.027)	0.043 (0.034)
D7_rec1	0.089*** (0.023)	0.046* (0.023)	-0.056* (0.029)	0.067** (0.024)	-0.011 (0.023)	0.051* (0.021)	0.118*** (0.027)
D7_rec2	0.189*** (0.030)	-0.005 (0.030)	-0.026 (0.037)	0.027 (0.032)	-0.090** (0.030)	-0.011 (0.027)	0.194*** (0.035)
D6_une1	-0.011 (0.045)	0.027 (0.044)	-0.002 (0.055)	-0.016 (0.048)	0.071 (0.045)	0.030 (0.042)	-0.087 (0.052)
D4_age	-0.001 (0.001)	-0.002** (0.001)	-0.002* (0.001)	-0.004*** (0.001)	-0.004*** (0.001)	-0.003*** (0.001)	-0.0003 (0.001)
D10_rec	0.035*** (0.006)	-0.008 (0.006)	0.013 (0.007)	-0.016** (0.006)	-0.001 (0.006)	0.002 (0.005)	0.011 (0.006)
Constant	0.242*** (0.050)	0.309*** (0.050)	0.356*** (0.062)	0.560*** (0.053)	0.437*** (0.050)	0.301*** (0.046)	0.274*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 9 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 8.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>1113</b>	<b>1105</b>	<b>1111</b>	<b>1114</b>	<b>1101</b>	<b>1110</b>	<b>1102</b>
	<b>Model 8</b>	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>	<b>Model 14</b>
D3_rec2	0.381 (0.287)	0.189 (0.344)	-0.153 (0.192)	0.195 (0.242)	0.191 (0.306)	-0.089 (0.458)	-0.460* (0.201)
D8_rec1	-0.414 (0.291)	0.019 (0.365)	-0.218 (0.199)	-0.429 (0.244)	-0.612* (0.302)	0.389 (0.526)	0.383 (0.224)
D5_rec1	0.715 (0.379)	-0.229 (0.364)	-0.059 (0.211)	-0.063 (0.264)	0.037 (0.333)	-0.532 (0.474)	-0.274 (0.223)
EDU_rec2	-0.068 (0.611)	1.202 (1.051)	0.484 (0.408)	-0.173 (0.452)	-0.446 (0.545)	0.962 (1.084)	0.181 (0.479)
EDU_rec3	-0.280 (0.598)	1.231 (1.042)	0.208 (0.407)	0.098 (0.434)	-0.080 (0.521)	0.689 (1.087)	0.708 (0.459)
D1_rec1	-0.376 (0.488)	-0.607 (0.632)	0.220 (0.279)	0.521 (0.309)	0.337 (0.411)	1.035 (0.544)	-0.214 (0.318)
D7_rec1	0.937* (0.425)	-0.357 (0.384)	-0.525* (0.210)	0.723* (0.281)	-0.234 (0.312)	0.021 (0.494)	0.592* (0.258)
D7_rec2	1.895*** (0.452)	-0.019 (0.480)	-0.584* (0.291)	0.069 (0.402)	-1.515* (0.639)	-0.159 (0.720)	1.294*** (0.291)
D6_une1	0.389 (0.660)	-0.268 (0.758)	-0.385 (0.456)	0.415 (0.473)	-1.185 (1.033)	-0.345 (1.059)	-1.965 (1.025)
D4_age	0.038*** (0.010)	0.005 (0.011)	0.015* (0.006)	-0.010 (0.008)	0.003 (0.009)	-0.001 (0.014)	0.028*** (0.006)
D10_rec	0.220*** (0.066)	-0.027 (0.100)	0.019 (0.053)	-0.126 (0.074)	-0.058 (0.092)	-0.204 (0.156)	-0.015 (0.055)
Constant	-6.287*** (0.938)	-4.235*** (1.184)	-2.216*** (0.524)	-1.989*** (0.565)	-2.219** (0.720)	-4.307*** (1.306)	-3.983*** (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 9.1).

Table 9.1: 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 9.4). 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 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_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 9.5) 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 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_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 9.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>801</b>	<b>802</b>	<b>805</b>	<b>803</b>	<b>804</b>	<b>807</b>	<b>806</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	-0.038 (0.024)	0.004 (0.022)	0.026 (0.021)	0.040 (0.025)	-0.006 (0.023)	-0.019 (0.024)	-0.016 (0.017)
D8_rec1	-0.039 (0.027)	0.022 (0.025)	-0.033 (0.024)	0.029 (0.029)	0.012 (0.026)	-0.022 (0.027)	0.037 (0.020)
D5_rec1	-0.004 (0.025)	-0.001 (0.023)	0.018 (0.022)	-0.060* (0.027)	-0.021 (0.024)	0.089*** (0.025)	0.031 (0.018)
EDU_rec2	-0.034 (0.042)	-0.029 (0.038)	-0.001 (0.037)	-0.009 (0.044)	-0.018 (0.040)	-0.063 (0.042)	-0.022 (0.031)
EDU_rec3	-0.003 (0.043)	-0.012 (0.039)	0.019 (0.038)	0.028 (0.045)	0.013 (0.041)	-0.052 (0.043)	0.029 (0.031)
D1_rec1	-0.026 (0.030)	0.145*** (0.028)	0.009 (0.027)	0.094** (0.032)	0.143*** (0.029)	0.019 (0.030)	0.095*** (0.022)
D7_rec1	0.091*** (0.026)	0.029 (0.024)	0.044 (0.023)	0.082** (0.028)	-0.074** (0.025)	-0.088*** (0.026)	-0.057** (0.019)
D7_rec2	0.181*** (0.038)	-0.009 (0.035)	0.159*** (0.033)	0.101* (0.040)	-0.162*** (0.036)	-0.071 (0.037)	-0.081** (0.027)
D6_une1	-0.207** (0.066)	-0.108 (0.060)	-0.110 (0.058)	-0.122 (0.071)	0.040 (0.064)	0.018 (0.066)	0.014 (0.049)
D4_age	0.002** (0.001)	0.002* (0.001)	0.0004 (0.001)	-0.001 (0.001)	-0.002* (0.001)	-0.001 (0.001)	-0.005*** (0.001)
D10_rec	0.044*** (0.006)	0.018** (0.006)	0.029*** (0.006)	0.012 (0.007)	-0.007 (0.006)	0.001 (0.006)	0.006 (0.005)
Constant	0.254*** (0.059)	0.249*** (0.054)	0.258*** (0.052)	0.425*** (0.063)	0.451*** (0.057)	0.354*** (0.059)	0.391*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 10 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

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

	<b>801</b>	<b>802</b>	<b>805</b>	<b>803</b>	<b>804</b>	<b>807</b>	<b>806</b>
	<b>Model 8</b>	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>	<b>Model 14</b>
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

see Sect. XXX; for the relevant parties see Table 10.1).

Table 10.1: 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 10.7). 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 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_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 10.8) 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 10.5, 10.6)

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 10.3). Consequently, synthetic variables for respondents' vote choice for party 1203 have been predicted relying on the unconstrained model (Model 8a).

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



Table 10.3: 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

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 10.4).

Table 10.4: 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 10.5: 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 10.6: 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 10.7: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>1201</b>	<b>1202</b>	<b>1203</b>	<b>1204</b>	<b>1205</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
D3_rec2	0.089*** (0.026)	-0.038 (0.025)	-0.031 (0.018)	-0.019 (0.019)	0.057** (0.019)
D8_rec1	-0.025 (0.046)	0.081 (0.044)	0.003 (0.031)	-0.010 (0.033)	-0.040 (0.033)
D5_rec1	0.027 (0.029)	0.037 (0.028)	-0.015 (0.020)	0.031 (0.021)	0.012 (0.021)
EDU_rec2	-0.117 (0.068)	-0.090 (0.065)	0.133** (0.046)	-0.066 (0.048)	-0.072 (0.049)
EDU_rec3	-0.100 (0.065)	-0.104 (0.063)	0.076 (0.045)	-0.055 (0.046)	-0.021 (0.047)
D1_rec1	0.031 (0.044)	-0.030 (0.043)	-0.037 (0.030)	0.104*** (0.032)	0.049 (0.032)
D7_rec1	-0.054* (0.027)	0.114*** (0.026)	-0.040* (0.018)	0.033 (0.019)	-0.060** (0.020)
D7_rec2	-0.121* (0.052)	0.212*** (0.051)	0.024 (0.036)	-0.017 (0.037)	-0.084* (0.038)
D6_une1	-0.060 (0.039)	0.027 (0.038)	0.003 (0.026)	-0.005 (0.028)	-0.065* (0.028)
D4_age	0.0004 (0.001)	-0.001 (0.001)	-0.002** (0.001)	0.001 (0.001)	-0.0001 (0.001)
D10_rec	-0.028*** (0.007)	0.043*** (0.007)	0.021*** (0.005)	0.004 (0.005)	-0.018*** (0.005)
Constant	0.530*** (0.079)	0.234** (0.077)	0.110* (0.054)	0.180** (0.056)	0.315*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

Table 10.8: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>1201</b>	<b>1202</b>	<b>1203</b>	<b>1203</b>	<b>1204</b>	<b>1205</b>
	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8a</b>	<b>Model 8b</b>	<b>Model 9</b>	<b>Model 10</b>
D3_rec2	0.133 (0.185)	0.002 (0.171)	-0.449 (0.372)	-0.382 (0.371)	-0.240 (0.354)	-0.055 (0.369)
D8_rec1	-0.014 (0.331)	0.384 (0.328)	0.134 (0.630)	0.141 (0.626)	-0.723 (0.528)	-0.613 (0.515)
D5_rec1	0.235 (0.210)	0.071 (0.192)	-0.113 (0.407)	-0.070 (0.408)	0.513 (0.442)	0.411 (0.424)
EDU_rec2	-0.513 (0.442)	-0.495 (0.408)	16.506 (1571.670)		0.050 (1.158)	-0.500 (0.893)
EDU_rec3	-0.601 (0.423)	-0.454 (0.389)	16.228 (1571.670)		0.039 (1.124)	-0.421 (0.850)
D1_rec1	0.243 (0.296)	-0.207 (0.286)	-16.574 (1154.167)		1.507*** (0.389)	0.466 (0.561)
D7_rec1	-0.061 (0.189)	0.426* (0.181)	-0.678 (0.368)	-0.723* (0.363)	1.425** (0.440)	-0.531 (0.370)
D7_rec2	-0.656 (0.411)	0.689* (0.314)	-1.319 (1.047)	-1.483 (1.040)	-14.887 (773.813)	-0.505 (0.772)
D6_une1	-0.824* (0.342)	0.176 (0.255)	-0.560 (0.631)	-0.399 (0.630)	0.239 (0.533)	0.621 (0.467)
D4_age	0.014 (0.007)	-0.002 (0.007)	0.004 (0.015)	0.008 (0.014)	0.033* (0.014)	-0.001 (0.015)
D10_rec	-0.161*** (0.048)	0.204*** (0.045)	0.158 (0.093)	0.145 (0.093)	0.150 (0.092)	-0.246** (0.093)
Constant	-1.131* (0.531)	-2.015*** (0.515)	-19.391 (1571.670)	-3.443*** (0.930)	-5.823*** (1.310)	-1.656 (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 11 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 11.1).

Table 11.1: 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 11.4). 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 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_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 11.5) 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 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_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 11.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>1301</b>	<b>1302</b>	<b>1303</b>	<b>1304</b>	<b>1306</b>	<b>1307</b>	<b>1308</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	0.012 (0.024)	-0.004 (0.025)	-0.032 (0.021)	0.027 (0.017)	0.013 (0.019)	-0.043* (0.018)	0.005 (0.023)
D8_rec1	0.005 (0.029)	-0.020 (0.031)	-0.090*** (0.025)	-0.013 (0.021)	-0.004 (0.023)	0.019 (0.021)	0.073** (0.028)
D5_rec1	-0.002 (0.025)	0.066* (0.026)	-0.032 (0.022)	-0.027 (0.018)	-0.002 (0.020)	0.011 (0.018)	-0.031 (0.023)
EDU_rec2	-0.004 (0.042)	0.002 (0.045)	0.015 (0.037)	-0.0004 (0.031)	-0.020 (0.034)	-0.050 (0.032)	-0.041 (0.040)
EDU_rec3	-0.042 (0.043)	0.013 (0.045)	0.023 (0.037)	0.013 (0.031)	-0.008 (0.034)	-0.015 (0.032)	-0.034 (0.040)
D1_rec1	0.054 (0.037)	-0.016 (0.039)	0.076* (0.032)	0.057* (0.027)	0.081** (0.029)	0.093*** (0.027)	0.034 (0.035)
D7_rec1	-0.020 (0.025)	0.072** (0.026)	-0.060** (0.022)	-0.020 (0.018)	-0.018 (0.020)	-0.028 (0.019)	-0.031 (0.024)
D7_rec2	0.012 (0.057)	0.113 (0.060)	0.001 (0.049)	-0.050 (0.042)	0.027 (0.045)	-0.034 (0.042)	0.016 (0.054)
D6_une1	-0.061 (0.063)	-0.019 (0.066)	-0.052 (0.054)	-0.019 (0.046)	-0.045 (0.050)	-0.035 (0.046)	-0.125* (0.059)
D4_age	0.005*** (0.001)	-0.0001 (0.001)	-0.005*** (0.001)	-0.002*** (0.001)	0.002*** (0.001)	-0.002*** (0.001)	-0.0001 (0.001)
D10_rec	-0.025*** (0.006)	0.065*** (0.007)	-0.008 (0.006)	-0.008 (0.005)	-0.019*** (0.005)	-0.003 (0.005)	-0.021*** (0.006)
Constant	0.195*** (0.054)	0.180** (0.057)	0.652*** (0.047)	0.370*** (0.039)	0.166*** (0.043)	0.333*** (0.040)	0.397*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

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

	<b>1301</b>	<b>1302</b>	<b>1303</b>	<b>1304</b>	<b>1306</b>	<b>1307</b>	<b>1308</b>
	<b>Model 8</b>	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>	<b>Model 14</b>
D3_rec2	−0.122 (0.199)	−0.191 (0.173)	−0.438 (0.270)	1.182 (0.693)	−0.084 (0.363)	−1.416** (0.511)	−0.063 (0.248)
D8_rec1	0.122 (0.250)	−0.032 (0.211)	−0.805** (0.284)	0.899 (1.072)	0.968 (0.618)	−0.358 (0.500)	0.798* (0.389)
D5_rec1	−0.159 (0.203)	0.333 (0.184)	−0.184 (0.275)	0.487 (0.700)	0.859* (0.427)	0.271 (0.476)	−0.052 (0.255)
EDU_rec2	−0.008 (0.377)	0.048 (0.330)	0.669 (0.530)	−1.492 (1.455)	−0.627 (0.680)	−0.126 (0.892)	0.419 (0.514)
EDU_rec3	−0.239 (0.387)	0.134 (0.329)	0.704 (0.528)	0.667 (1.117)	−0.253 (0.673)	0.821 (0.823)	0.352 (0.514)
D1_rec1	0.476 (0.286)	−0.053 (0.256)	−0.331 (0.451)	0.324 (0.815)	−0.815 (0.746)	0.628 (0.535)	−0.309 (0.419)
D7_rec1	−0.068 (0.209)	0.261 (0.181)	−0.383 (0.292)	0.737 (0.673)	−0.720 (0.411)	−0.041 (0.425)	0.298 (0.263)
D7_rec2	−0.048 (0.490)	0.639 (0.372)	−0.331 (0.634)	−15.078 (1515.647)	0.021 (0.776)	−16.343 (1536.508)	0.947* (0.462)
D6_une1	−0.069 (0.566)	−0.281 (0.561)	−0.183 (0.657)	1.454 (1.160)	−15.489 (1105.602)	−16.521 (1806.943)	0.216 (0.637)
D4_age	0.048*** (0.007)	0.013** (0.005)	−0.017* (0.008)	−0.005 (0.019)	0.030** (0.012)	−0.022 (0.014)	0.001 (0.007)
D10_rec	−0.203** (0.063)	0.370*** (0.043)	−0.045 (0.077)	0.003 (0.172)	−0.191 (0.123)	−0.257 (0.155)	−0.157 (0.080)
Constant	−3.686*** (0.533)	−2.645*** (0.416)	−1.215* (0.594)	−6.460*** (1.731)	−5.125*** (1.070)	−2.051* (0.931)	−3.348*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05



## 12 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 12.1).

Table 12.1: 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 12.6). 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 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_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 12.7) 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 12.5)

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 12.3). Consequently, synthetic variables for respondents' vote choice for party 1403 have been predicted relying on the constrained model (Model 8b).

Table 12.3: 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 (Family 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 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_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 12.5: 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 12.6: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>1402</b>	<b>1403</b>	<b>1401</b>	<b>1404</b>	<b>1405</b>	<b>1406</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>
D3_rec2	0.007 (0.022)	0.031 (0.019)	-0.047* (0.021)	0.055* (0.022)	-0.019 (0.021)	0.021 (0.021)
D8_rec1	0.029 (0.024)	0.050* (0.021)	0.017 (0.023)	0.035 (0.023)	-0.026 (0.023)	0.020 (0.022)
D5_rec1	0.029 (0.025)	0.009 (0.022)	0.006 (0.024)	0.005 (0.025)	0.010 (0.024)	0.018 (0.024)
EDU_rec2	-0.059 (0.042)	-0.052 (0.037)	0.070 (0.041)	-0.031 (0.042)	0.039 (0.041)	-0.032 (0.040)
EDU_rec3	-0.022 (0.041)	-0.002 (0.036)	0.036 (0.040)	0.015 (0.041)	-0.016 (0.040)	-0.055 (0.039)
D1_rec1	-0.016 (0.025)	0.021 (0.022)	-0.036 (0.024)	0.018 (0.025)	0.025 (0.024)	0.055* (0.023)
D7_rec1	0.075** (0.024)	0.062** (0.021)	0.098*** (0.023)	0.081*** (0.023)	-0.020 (0.023)	-0.040 (0.022)
D7_rec2	0.137*** (0.040)	0.078* (0.035)	0.140*** (0.038)	0.050 (0.040)	-0.030 (0.039)	-0.038 (0.038)
D6_une1	-0.098* (0.046)	-0.028 (0.040)	-0.034 (0.044)	-0.083 (0.046)	0.037 (0.045)	0.110* (0.044)
D4_age	-0.001 (0.001)	-0.001 (0.001)	-0.002** (0.001)	0.001 (0.001)	-0.006*** (0.001)	-0.002** (0.001)
D10_rec	0.030*** (0.005)	0.009* (0.004)	0.039*** (0.004)	-0.002 (0.005)	0.003 (0.004)	-0.007 (0.004)
Constant	0.338*** (0.052)	0.325*** (0.045)	0.321*** (0.050)	0.348*** (0.052)	0.599*** (0.050)	0.477*** (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 12.7: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>1402</b>	<b>1403</b>	<b>1403</b>	<b>1401</b>	<b>1404</b>	<b>1405</b>	<b>1406</b>
	<b>Model 1</b>	<b>Model 8a</b>	<b>Model 8b</b>	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>
D3_rec2	0.040 (0.199)	0.036 (0.469)	0.092 (0.466)	-0.416 (0.247)	-0.131 (0.241)	-0.105 (0.273)	0.290 (0.415)
D8_rec1	-0.102 (0.208)	1.522* (0.759)	1.518* (0.757)	0.220 (0.266)	0.166 (0.262)	-0.562* (0.273)	0.018 (0.446)
D5_rec1	0.065 (0.226)	-0.101 (0.510)	0.006 (0.508)	0.152 (0.281)	-0.038 (0.269)	0.697* (0.343)	0.741 (0.513)
EDU_rec2	-0.515 (0.378)	15.396 (1180.765)		1.199 (0.751)	-0.663 (0.456)	0.288 (0.498)	0.038 (0.805)
EDU_rec3	-0.129 (0.367)	15.791 (1180.765)		1.321 (0.746)	-0.184 (0.429)	-0.526 (0.511)	-0.055 (0.816)
D1_rec1	-0.337 (0.236)	0.516 (0.490)	0.496 (0.488)	0.039 (0.273)	0.389 (0.257)	0.161 (0.295)	0.709 (0.438)
D7_rec1	0.149 (0.216)	0.276 (0.518)	0.396 (0.505)	0.246 (0.264)	0.875** (0.277)	-0.241 (0.284)	-0.643 (0.455)
D7_rec2	0.052 (0.348)	0.291 (0.848)	0.409 (0.828)	0.088 (0.439)	0.844* (0.401)	-1.267 (0.747)	-0.911 (1.051)
D6_une1	-0.574 (0.545)	0.058 (1.079)	-0.046 (1.064)	0.481 (0.476)	-0.277 (0.622)	-0.976 (0.749)	1.782** (0.544)
D4_age	0.026*** (0.006)	0.028 (0.016)	0.026 (0.015)	0.017* (0.008)	0.015* (0.008)	-0.021* (0.010)	0.004 (0.015)
D10_rec	0.143*** (0.040)	-0.178 (0.104)	-0.180 (0.104)	0.130** (0.049)	-0.032 (0.049)	0.029 (0.056)	-0.171 (0.095)
Constant	-3.025*** (0.491)	-21.694 (1180.765)	-6.214*** (1.182)	-4.899*** (0.858)	-3.176*** (0.576)	-1.501* (0.620)	-4.090*** (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

## 13 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 13.1).

Table 13.1: 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 13.4). 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 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_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 13.5) 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 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_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 13.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

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

## 14 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 14.1).

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

	<b>1501</b>	<b>1502</b>	<b>1503</b>	<b>1504</b>	<b>1505</b>	<b>1506</b>	<b>1507</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	0.050 (0.184)	-0.239 (0.336)	-0.228 (0.156)	-0.111 (0.184)	-0.337 (0.457)	0.161 (0.347)	-0.113 (0.336)
D8_rec1	0.613* (0.304)	1.094 (0.740)	0.087 (0.225)	-0.110 (0.257)	-0.586 (0.510)	-0.176 (0.469)	-0.374 (0.438)
D5_rec1	0.263 (0.210)	0.022 (0.369)	0.063 (0.173)	0.330 (0.209)	0.020 (0.486)	-0.660 (0.355)	0.303 (0.395)
EDU_rec2	0.147 (0.345)	-0.639 (0.540)	-0.548* (0.247)	0.515 (0.351)	-0.286 (0.688)	-0.387 (0.670)	0.662 (0.761)
EDU_rec3	0.504 (0.350)	-0.456 (0.545)	-0.857** (0.262)	0.439 (0.365)	-0.065 (0.718)	0.646 (0.640)	0.966 (0.770)
D1_rec1	0.286 (0.238)	0.204 (0.406)	-0.091 (0.210)	-0.214 (0.253)	1.031* (0.492)	-0.299 (0.507)	-1.007 (0.616)
D7_rec1	0.219 (0.210)	0.870* (0.418)	0.151 (0.172)	-0.292 (0.192)	-1.082* (0.515)	-0.152 (0.387)	0.132 (0.377)
D7_rec2	0.752* (0.301)	0.466 (0.638)	0.388 (0.269)	-1.563** (0.485)	-0.471 (0.788)	0.614 (0.527)	-0.013 (0.605)
D4_age	0.016** (0.006)	-0.015 (0.011)	0.004 (0.005)	-0.002 (0.006)	0.016 (0.015)	-0.008 (0.011)	0.010 (0.011)
D10_rec	-0.052 (0.040)	0.157* (0.073)	0.049 (0.034)	0.055 (0.040)	-0.202 (0.108)	-0.120 (0.079)	0.142 (0.073)
Constant	-3.572*** (0.581)	-3.875*** (1.056)	-0.893* (0.431)	-1.885*** (0.551)	-3.041* (1.196)	-2.118* (0.955)	-4.594*** (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

Table 14.1: 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 14.15). 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 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_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 14.16, 14.17) 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 unemployment did vote for party 1611 and 1616 (see Tables 14.9, 14.10, 14.11, 14.12). For party 1610 and 1604 no respondents with low education voted for them (see Tables 14.13, 14.14).

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 14.3). 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 14.4). 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 14.5). 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 14.6). 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 14.7). Consequently, synthetic variables for respondents' vote choice for party 1616 have been predicted relying on the unconstrained model (Model 14).

Table 14.3: 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 14.4: 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 14.5: 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 14.6: 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 14.7: 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 14.8).

Table 14.8: 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 14.9: 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 14.10: 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 14.11: 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 14.12: 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 14.13: 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 14.14: 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 14.15: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>1611</b>	<b>1608</b>	<b>1609</b>	<b>1605</b>	<b>1610</b>	<b>1604</b>	<b>1616</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	−0.029 (0.023)	0.010 (0.022)	0.029 (0.022)	0.014 (0.017)	0.050 (0.026)	0.032 (0.020)	0.033 (0.023)
D8_rec1	−0.108*** (0.028)	−0.077** (0.027)	−0.055* (0.026)	−0.051* (0.021)	0.177*** (0.031)	−0.029 (0.025)	−0.057* (0.028)
D5_rec1	−0.044 (0.026)	−0.015 (0.024)	−0.062* (0.024)	−0.013 (0.019)	0.028 (0.029)	−0.001 (0.023)	−0.034 (0.026)
EDU_rec2	0.079 (0.071)	0.003 (0.067)	0.065 (0.066)	0.035 (0.052)	0.003 (0.078)	0.020 (0.061)	0.047 (0.070)
EDU_rec3	0.118 (0.071)	0.031 (0.067)	0.119 (0.066)	0.061 (0.053)	−0.060 (0.079)	0.086 (0.062)	0.128 (0.070)
D1_rec1	0.025 (0.030)	0.003 (0.028)	0.009 (0.028)	−0.008 (0.022)	0.027 (0.034)	0.019 (0.026)	0.027 (0.030)
D7_rec1	0.038 (0.024)	0.021 (0.023)	0.017 (0.022)	0.020 (0.018)	0.013 (0.027)	0.038 (0.021)	0.030 (0.024)
D7_rec2	0.034 (0.045)	−0.011 (0.043)	−0.007 (0.043)	0.021 (0.034)	−0.022 (0.050)	0.038 (0.039)	0.029 (0.045)
D6_une1	−0.082 (0.060)	−0.103 (0.055)	0.044 (0.057)	−0.003 (0.043)	0.043 (0.066)	0.012 (0.051)	−0.072 (0.058)
D4_age	0.001 (0.001)	−0.001 (0.001)	−0.001 (0.001)	−0.002*** (0.001)	−0.001 (0.001)	0.0001 (0.001)	0.001 (0.001)
D10_rec	0.0001 (0.006)	0.004 (0.006)	−0.009 (0.006)	−0.0003 (0.005)	0.010 (0.007)	0.002 (0.006)	0.001 (0.006)
Constant	0.281** (0.089)	0.376*** (0.084)	0.384*** (0.083)	0.280*** (0.065)	0.138 (0.098)	0.229** (0.076)	0.202* (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 14.16: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>1611</b>	<b>1611</b>	<b>1608</b>	<b>1609</b>	<b>1605</b>
	<b>Model 8</b>	<b>Model 8a</b>	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>
D3_rec2	−0.402 (0.261)	−0.376 (0.260)	0.050 (0.365)	0.118 (0.271)	−0.566 (1.022)
D8_rec1	−0.152 (0.305)	−0.181 (0.304)	−0.420 (0.408)	−0.759** (0.286)	−2.391* (1.091)
D5_rec1	−0.208 (0.287)	−0.167 (0.286)	−0.221 (0.394)	−0.525 (0.276)	17.895 (2703.384)
EDU_rec2	16.015 (1358.359)		−1.380 (0.821)	−0.347 (0.779)	−2.112 (1.475)
EDU_rec3	16.146 (1358.359)		−0.917 (0.806)	−0.176 (0.783)	−2.407 (1.632)
D1_rec1	0.241 (0.315)	0.264 (0.313)	−0.021 (0.471)	0.270 (0.336)	0.412 (1.216)
D7_rec1	−0.026 (0.270)	−0.001 (0.268)	0.025 (0.380)	0.228 (0.275)	0.057 (1.056)
D7_rec2	0.268 (0.463)	0.304 (0.459)	0.130 (0.678)	−0.357 (0.638)	2.371 (1.467)
D6_une1	−16.014 (1087.082)	−15.184 (675.024)	−15.525 (1096.940)	0.414 (0.579)	3.005* (1.175)
D4_age	0.007 (0.008)	0.008 (0.008)	−0.002 (0.012)	0.006 (0.009)	0.062 (0.043)
D10_rec	0.082 (0.068)	0.079 (0.068)	0.090 (0.094)	−0.094 (0.081)	−0.403 (0.348)
Constant	−18.424 (1358.359)	−2.426*** (0.636)	−1.641 (1.110)	−1.624 (0.974)	−22.634 (2703.385)
N	793	793	793	793	793
Log Likelihood	−231.049	−232.952	−136.122	−219.247	−23.164
AIC	486.099	485.904	296.243	462.494	70.328

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

Table 14.17: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>1610</b>	<b>1610</b>	<b>1604</b>	<b>1604</b>	<b>1616</b>
	<b>Model 12a</b>	<b>Model 12b</b>	<b>Model 13a</b>	<b>Model 13b</b>	<b>Model 14</b>
D3_rec2	−0.566 (1.022)	0.269 (0.258)	−0.149 (0.374)	−0.092 (0.373)	−0.149 (0.225)
D8_rec1	−2.391* (1.091)	1.129* (0.438)	−0.717 (0.395)	−0.804* (0.394)	−0.279 (0.251)
D5_rec1	17.895 (2703.384)	−0.176 (0.275)	0.310 (0.451)	0.331 (0.447)	−0.151 (0.246)
EDU_rec2	−2.112 (1.475)		13.702 (849.755)		15.051 (807.771)
EDU_rec3	−2.407 (1.632)		14.637 (849.755)		15.782 (807.771)
D1_rec1	0.412 (1.216)	0.224 (0.305)	0.509 (0.434)	0.624 (0.429)	−0.198 (0.301)
D7_rec1	0.057 (1.056)	0.423 (0.274)	0.392 (0.408)	0.497 (0.405)	−0.032 (0.229)
D7_rec2	2.371 (1.467)	0.403 (0.465)	0.359 (0.701)	0.549 (0.692)	0.035 (0.431)
D6_une1	3.005* (1.175)	0.494 (0.563)	0.838 (0.810)	0.443 (0.776)	−15.058 (652.557)
D4_age	0.062 (0.043)	0.005 (0.008)	0.002 (0.012)	0.003 (0.012)	0.031*** (0.007)
D10_rec	−0.403 (0.348)	0.078 (0.067)	−0.094 (0.111)	−0.103 (0.112)	0.0002 (0.061)
Constant	−22.634 (2703.385)	−3.976*** (0.710)	−17.389 (849.755)	−3.219*** (0.926)	−18.454 (807.771)
N	793	793	793	793	793
Log Likelihood	−23.164	−237.462	−126.234	−129.723	−286.597
AIC	70.328	494.924	276.469	279.447	597.195

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

## 15 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 15.1).

Table 15.1: 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 15.12). 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 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_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 15.13) 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\_unemp
- 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 15.7). For Model 13a, we have that again no respondent with low education and no respondent who is unemployed

voted for party 1707 (see Tables 15.8, 15.10). Furthermore, only one respondent with high subjective social class voted for party 1707 (see Table 15.9). Finally, for Model 14a Table 15.11 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 15.3, 15.4, 15.5). 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 15.3: 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 15.4: 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 15.5: 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 15.6).



Table 15.6: 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 15.7: 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 15.8: 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 15.9: 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 15.10: 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 15.11: 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 15.12: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>1701</b>	<b>1703</b>	<b>1706</b>	<b>1705</b>	<b>1704</b>	<b>1707</b>	<b>1702</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	−0.012 (0.024)	0.030 (0.022)	−0.002 (0.020)	0.025 (0.020)	0.017 (0.018)	0.001 (0.015)	0.006 (0.022)
D8_rec1	0.017 (0.033)	−0.011 (0.031)	0.055* (0.027)	−0.018 (0.027)	−0.010 (0.024)	−0.021 (0.021)	−0.084** (0.031)
D5_rec1	0.003 (0.025)	0.020 (0.023)	−0.030 (0.021)	0.015 (0.021)	0.029 (0.019)	0.001 (0.016)	0.032 (0.024)
EDU_rec2	−0.120 (0.067)	−0.114 (0.062)	−0.020 (0.056)	0.023 (0.055)	0.055 (0.049)	0.044 (0.043)	−0.012 (0.063)
EDU_rec3	−0.054 (0.066)	−0.088 (0.062)	0.008 (0.056)	0.005 (0.055)	0.030 (0.049)	−0.002 (0.042)	−0.042 (0.063)
D1_rec1	0.024 (0.037)	0.072* (0.034)	0.080** (0.030)	0.122*** (0.030)	0.102*** (0.027)	0.139*** (0.023)	0.117*** (0.035)
D7_rec1	0.058* (0.025)	−0.032 (0.023)	0.012 (0.021)	−0.029 (0.021)	−0.034 (0.018)	−0.013 (0.016)	−0.038 (0.024)
D7_rec2	0.162*** (0.035)	−0.002 (0.033)	0.053 (0.029)	0.007 (0.029)	−0.00003 (0.026)	−0.015 (0.023)	−0.029 (0.034)
D6_une1	0.017 (0.061)	0.063 (0.056)	0.122* (0.050)	0.179*** (0.050)	0.094* (0.045)	0.059 (0.039)	0.134* (0.058)
D4_age	−0.001 (0.001)	−0.0003 (0.001)	−0.003*** (0.001)	−0.003*** (0.001)	−0.002*** (0.001)	−0.001 (0.0005)	0.001 (0.001)
D10_rec	0.031*** (0.006)	0.006 (0.006)	−0.0003 (0.005)	0.004 (0.005)	0.001 (0.005)	0.007 (0.004)	0.007 (0.006)
Constant	0.403*** (0.074)	0.511*** (0.069)	0.422*** (0.062)	0.327*** (0.061)	0.258*** (0.055)	0.145** (0.047)	0.319*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

Table 15.13: 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 (0.204)	0.444* (0.218)	−0.389 (0.381)	−0.450 (0.378)	0.490 (0.371)	0.202 (0.540)	0.341 (0.803)	0.168 (0.768)	0.283 (0.266)	0.279 (0.264)
D8_rec1	0.296 (0.299)	0.211 (0.301)	0.504 (0.622)	0.505 (0.620)	−0.075 (0.463)	−1.372* (0.547)	0.774 (1.183)	0.549 (1.105)	−0.999*** (0.281)	−1.011*** (0.281)
D5_rec1	0.241 (0.220)	0.240 (0.227)	0.111 (0.414)	0.172 (0.414)	−0.163 (0.364)	0.607 (0.616)	0.536 (0.912)	0.544 (0.855)	0.448 (0.292)	0.493 (0.290)
EDU_rec2	−0.787 (0.632)	−0.818 (0.570)	13.954 (729.702)		0.454 (1.114)	0.324 (1.200)	17.674 (4946.833)		14.498 (734.059)	
EDU_rec3	−0.415 (0.618)	−0.665 (0.564)	14.776 (729.702)		0.524 (1.112)	0.027 (1.201)	16.269 (4946.833)		14.208 (734.059)	
D1_rec1	−0.171 (0.314)	0.148 (0.319)	1.243** (0.416)	1.302** (0.411)	0.825 (0.452)	0.206 (0.715)	1.389 (0.800)	1.332 (0.746)	−0.664 (0.539)	−0.683 (0.538)
D7_rec1	0.405 (0.220)	−0.286 (0.228)	0.462 (0.381)	0.543 (0.377)	−0.472 (0.368)	−0.590 (0.617)	−0.050 (0.740)		0.056 (0.272)	−0.012 (0.267)
D7_rec2	0.849** (0.276)	0.272 (0.284)	−0.404 (0.665)	−0.206 (0.659)	−1.330 (0.758)	0.542 (0.676)	−17.224 (2320.377)		−0.219 (0.412)	−0.304 (0.404)
D6_une1	−14.348 (437.118)	−0.607 (0.754)	0.144 (1.067)	−0.002 (1.059)	0.851 (0.669)	0.345 (1.091)	−16.347 (5145.352)		0.523 (0.585)	0.620 (0.582)
D4_age	0.024*** (0.007)	0.013 (0.007)	0.0004 (0.012)	0.009 (0.011)	−0.008 (0.011)	−0.062** (0.020)	−0.018 (0.026)	−0.026 (0.022)	0.027** (0.009)	0.027** (0.008)
D10_rec	0.174** (0.054)	0.028 (0.056)	−0.194 (0.103)	−0.190 (0.102)	0.006 (0.097)	0.228 (0.152)	0.664** (0.231)	0.650** (0.225)	−0.022 (0.071)	−0.025 (0.070)
Constant	−3.289*** (0.699)	−2.337*** (0.649)	−17.947 (729.702)	−3.932*** (0.940)	−3.163** (1.205)	−1.421 (1.387)	−24.323 (4946.834)	−6.897*** (1.943)	−17.580 (734.059)	−3.256*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 16 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 16.1).

Table 16.1: 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 16.4). 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 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_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 16.5) 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 16.3).

Table 16.3: 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 16.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>1801</b>	<b>1802</b>	<b>1803</b>	<b>1804</b>	<b>1805</b>	<b>1806</b>	<b>1807</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	0.009 (0.032)	-0.009 (0.029)	0.009 (0.030)	0.056 (0.031)	0.006 (0.027)	-0.026 (0.024)	0.005 (0.024)
D8_rec1	-0.004 (0.032)	-0.028 (0.029)	0.022 (0.030)	-0.0002 (0.031)	-0.003 (0.028)	0.011 (0.025)	-0.016 (0.024)
D5_rec1	0.013 (0.036)	-0.029 (0.032)	-0.052 (0.034)	-0.033 (0.034)	-0.013 (0.030)	0.0003 (0.027)	-0.058* (0.026)
EDU_rec2	0.115 (0.059)	0.169** (0.053)	0.083 (0.056)	-0.041 (0.057)	-0.053 (0.051)	0.065 (0.046)	-0.087* (0.044)
EDU_rec3	0.110 (0.057)	0.099 (0.051)	0.077 (0.054)	0.033 (0.055)	0.012 (0.049)	0.020 (0.044)	-0.083* (0.042)
D1_rec1	0.005 (0.032)	0.060* (0.029)	-0.045 (0.031)	-0.036 (0.031)	-0.009 (0.028)	-0.007 (0.025)	-0.025 (0.024)
D7_rec1	0.005 (0.045)	0.097* (0.041)	0.173*** (0.043)	0.175*** (0.043)	-0.012 (0.039)	-0.033 (0.035)	0.031 (0.034)
D7_rec2	-0.026 (0.048)	0.154*** (0.043)	0.198*** (0.045)	0.219*** (0.046)	-0.010 (0.041)	-0.031 (0.037)	-0.012 (0.035)
D6_une1	-0.192 (0.114)	-0.012 (0.107)	-0.221* (0.107)	-0.166 (0.108)	0.098 (0.097)	0.215* (0.092)	0.172* (0.084)
D4_age	-0.0001 (0.001)	-0.002** (0.001)	-0.002* (0.001)	-0.005*** (0.001)	-0.003*** (0.001)	-0.001 (0.001)	-0.003*** (0.001)
D10_rec	0.053*** (0.010)	-0.001 (0.009)	0.003 (0.009)	-0.012 (0.009)	-0.015 (0.008)	0.015* (0.007)	-0.004 (0.007)
Constant	0.270*** (0.080)	0.307*** (0.072)	0.365*** (0.076)	0.531*** (0.077)	0.439*** (0.068)	0.183** (0.062)	0.426*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 17 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

Table 16.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics  
(Logistic regression models)

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

criteria see Sect. XXX; for the relevant parties see Table 17.1).

Table 17.1: 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 17.19). 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 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_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 17.20) 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 17.7, 17.8, 17.9, 17.10, 17.11, ??).

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 17.12, 17.13, 17.14).

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 17.15, 17.16, 17.17, 17.18).



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 17.3). 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 17.4). 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 17.5). Consequently, synthetic variables for respondents' vote choice for party 1905 have been predicted relying on the constrained model (Model 10b).

Table 17.3: 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 17.4: 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 17.5: 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 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_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 17.7: 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 17.8: 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 17.9: 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 17.10: 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 17.11: 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 17.12: 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 17.13: 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 17.14: 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 17.15: 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 17.16: 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 17.17: 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 17.18: 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 17.19: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>1901</b>	<b>1902</b>	<b>1903</b>	<b>1904</b>	<b>1905</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
D3_rec2	0.009 (0.040)	0.017 (0.036)	0.048 (0.025)	0.031 (0.023)	0.023 (0.023)
D8_rec1	-0.054 (0.120)	0.122 (0.112)	0.069 (0.081)	0.106 (0.072)	0.081 (0.074)
D5_rec1	0.051 (0.046)	-0.061 (0.041)	-0.033 (0.029)	-0.036 (0.026)	-0.059* (0.027)
EDU_rec2	-0.099* (0.046)	0.010 (0.042)	0.029 (0.030)	0.010 (0.026)	0.037 (0.027)
EDU_rec3	-0.174** (0.058)	0.153** (0.052)	0.132*** (0.038)	0.071* (0.033)	-0.030 (0.035)
D1_rec1	0.086 (0.048)	-0.049 (0.042)	0.014 (0.030)	0.015 (0.027)	0.0004 (0.028)
D7_rec1	-0.145*** (0.042)	0.117** (0.038)	0.021 (0.027)	0.038 (0.024)	0.010 (0.025)
D7_rec2	-0.184* (0.075)	0.229*** (0.066)	0.046 (0.047)	0.078 (0.042)	0.001 (0.044)
D6_une1	-0.052 (0.086)	0.162* (0.080)	-0.051 (0.055)	-0.038 (0.049)	0.012 (0.052)
D4_age	-0.001 (0.001)	-0.001 (0.001)	-0.002** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)
D10_rec	0.005 (0.008)	0.018* (0.007)	-0.0003 (0.005)	0.005 (0.005)	0.005 (0.005)
Constant	0.838*** (0.141)	0.115 (0.131)	0.144 (0.094)	0.103 (0.083)	0.136 (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

Table 17.20: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>1901</b>	<b>1902</b>	<b>1903</b>	<b>1904</b>	<b>1905</b>		
	<b>Model 10ax</b>	<b>Model 2</b>	<b>Model 8</b>	<b>Model 9a</b>	<b>Model 9b</b>	<b>Model 10a</b>	<b>Model 10b</b>
D3_rec2	−0.265 (0.242)	0.128 (0.295)	−2.373 (1.456)	−1.437 (1.153)	−1.496 (1.112)	−0.175 (0.825)	−0.225 (0.785)
D8_rec1	−1.157 (1.219)	0.029 (1.206)	16.044 (20639.260)	17.178 (13271.490)		16.553 (13818.120)	
D5_rec1	0.561 (0.293)	−0.151 (0.345)	2.365 (1.765)	−1.079 (0.980)	−1.159 (0.965)	−1.927* (0.956)	−1.718 (0.918)
EDU_rec2	−0.677* (0.283)	0.470 (0.375)	18.869 (3592.839)	0.952 (1.381)	1.005 (1.156)	0.757 (0.885)	
EDU_rec3	−0.958** (0.358)	0.950* (0.438)	20.630 (3592.839)	−0.537 (1.531)	0.248 (1.442)	−17.021 (3155.681)	
D1_rec1	0.581* (0.291)	−0.256 (0.367)	−19.465 (4241.033)	0.620 (0.965)	0.658 (0.921)	−0.199 (1.138)	−0.483 (1.111)
D7_rec1	−0.845*** (0.256)	1.164** (0.365)	1.069 (1.345)	17.402 (2518.866)		−1.467 (0.871)	
D7_rec2	−1.335** (0.452)	1.605** (0.504)	−18.873 (5741.919)	19.172 (2518.866)		−18.094 (4498.985)	
D6_une1	−0.594 (0.577)	1.004 (0.600)	−15.495 (9574.639)	−15.842 (6600.938)		−17.585 (6559.436)	
D4_age	0.007 (0.007)	0.024** (0.009)	−0.165 (0.087)	0.006 (0.028)	0.013 (0.025)	0.004 (0.023)	0.004 (0.021)
D10_rec	−0.006 (0.050)	0.061 (0.063)	−0.380 (0.259)	−0.022 (0.175)	−0.034 (0.169)	−0.031 (0.159)	−0.034 (0.146)
Constant	1.446 (1.321)	−4.111** (1.402)	−33.136 (20949.640)	−38.323 (13508.410)	−4.105** (1.528)	−18.828 (13818.120)	−2.818** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 18 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 18.1).

Table 18.1: 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 18.4). 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 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_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 18.5).

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

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2012</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>	<b>Model 9</b>
D3_rec2	−0.073*** (0.022)	−0.096*** (0.023)	−0.034 (0.019)	−0.006 (0.020)	0.024 (0.022)	0.007 (0.020)	−0.019 (0.022)	−0.001 (0.017)	−0.103*** (0.024)
D8_rec1	−0.023 (0.024)	−0.040 (0.025)	−0.057** (0.021)	−0.014 (0.022)	0.039 (0.024)	0.050* (0.022)	0.027 (0.024)	−0.025 (0.019)	−0.045 (0.027)
D5_rec1	0.005 (0.023)	0.029 (0.024)	0.023 (0.020)	−0.029 (0.021)	−0.052* (0.023)	−0.025 (0.022)	−0.023 (0.023)	0.007 (0.018)	0.036 (0.026)
EDU_rec2	−0.056 (0.041)	0.024 (0.043)	−0.055 (0.036)	−0.047 (0.038)	−0.105* (0.042)	−0.001 (0.038)	−0.098* (0.040)	−0.060 (0.032)	0.022 (0.046)
EDU_rec3	0.003 (0.040)	0.0004 (0.042)	−0.009 (0.035)	0.023 (0.037)	−0.030 (0.040)	0.043 (0.037)	−0.041 (0.039)	−0.017 (0.031)	0.059 (0.044)
D1_rec1	0.011 (0.024)	0.068** (0.026)	0.031 (0.021)	0.057* (0.023)	0.056* (0.025)	0.076*** (0.023)	0.103*** (0.024)	0.028 (0.019)	0.034 (0.027)
D7_rec1	0.117*** (0.025)	−0.049 (0.027)	0.055* (0.022)	0.045 (0.023)	0.003 (0.026)	−0.052* (0.024)	0.020 (0.025)	−0.001 (0.020)	−0.050 (0.028)
D7_rec2	0.188*** (0.031)	−0.102** (0.033)	0.094*** (0.027)	0.078** (0.029)	−0.006 (0.032)	−0.127*** (0.029)	0.014 (0.031)	0.011 (0.025)	−0.100** (0.035)
D6_une1	−0.023 (0.049)	0.042 (0.052)	−0.039 (0.043)	−0.038 (0.046)	0.012 (0.050)	0.024 (0.046)	−0.019 (0.049)	−0.057 (0.039)	−0.084 (0.055)
D4_age	−0.003*** (0.001)	−0.002*** (0.001)	−0.003*** (0.001)	−0.004*** (0.001)	−0.003*** (0.001)	−0.001* (0.001)	−0.001 (0.001)	−0.002** (0.001)	−0.003*** (0.001)
D10_rec	0.003 (0.005)	−0.009 (0.006)	0.035*** (0.005)	−0.005 (0.005)	0.006 (0.005)	0.004 (0.005)	−0.003 (0.005)	0.069*** (0.004)	−0.015** (0.006)
Constant	0.463*** (0.054)	0.525*** (0.057)	0.476*** (0.047)	0.524*** (0.051)	0.554*** (0.055)	0.393*** (0.051)	0.465*** (0.054)	0.292*** (0.043)	0.555*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

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

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2012</b>
	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>	<b>Model 14</b>	<b>Model 15</b>	<b>Model 16</b>	<b>Model 17</b>	<b>Model 18</b>
D3_rec2	−0.134 (0.261)	−0.995** (0.343)	−0.545 (0.350)	−0.189 (0.400)	0.400 (0.316)	0.008 (0.328)	0.017 (0.216)	1.727*** (0.495)	−0.830*** (0.225)
D8_rec1	0.234 (0.291)	−0.239 (0.335)	−0.564 (0.346)	0.311 (0.473)	0.816 (0.421)	0.179 (0.368)	0.092 (0.234)	−0.234 (0.491)	−0.329 (0.227)
D5_rec1	−0.325 (0.269)	−0.024 (0.334)	0.049 (0.368)	−0.318 (0.417)	−0.316 (0.322)	−0.147 (0.340)	0.146 (0.231)	0.313 (0.541)	0.396 (0.240)
EDU_rec2	0.469 (0.590)	−0.524 (0.536)	−1.713** (0.553)	−0.811 (0.875)	−0.970 (0.542)	0.107 (0.657)	−0.166 (0.432)	0.090 (0.788)	0.135 (0.452)
EDU_rec3	0.459 (0.568)	−0.358 (0.509)	−0.965* (0.474)	0.671 (0.698)	−0.129 (0.461)	0.294 (0.642)	0.103 (0.416)	−0.604 (0.791)	0.100 (0.441)
D1_rec1	−0.180 (0.304)	0.388 (0.331)	−0.024 (0.374)	0.420 (0.416)	−0.038 (0.353)	0.363 (0.356)	0.558* (0.230)	0.288 (0.486)	−0.358 (0.258)
D7_rec1	1.195** (0.408)	−0.649 (0.355)	0.515 (0.426)	0.201 (0.518)	0.116 (0.371)	−0.083 (0.353)	0.320 (0.263)	−0.706 (0.538)	0.260 (0.255)
D7_rec2	1.860*** (0.435)	−0.742 (0.451)	0.392 (0.501)	0.627 (0.547)	0.243 (0.435)	−1.049 (0.590)	0.507 (0.311)	−0.196 (0.606)	−0.171 (0.332)
D6_une1	0.055 (0.635)	0.124 (0.642)	0.850 (0.654)	−0.174 (1.059)	0.245 (0.643)	0.251 (0.636)	−0.189 (0.547)	−0.584 (1.733)	−0.655 (0.620)
D4_age	0.008 (0.007)	−0.007 (0.010)	0.010 (0.010)	−0.027* (0.013)	−0.017 (0.009)	0.017 (0.010)	0.025*** (0.007)	0.014 (0.013)	0.003 (0.007)
D10_rec	−0.029 (0.065)	−0.045 (0.078)	0.158* (0.071)	−0.040 (0.097)	−0.055 (0.081)	−0.052 (0.087)	−0.113 (0.058)	0.981*** (0.140)	−0.230** (0.071)
Constant	−4.160*** (0.760)	−1.264 (0.689)	−2.555*** (0.737)	−2.741** (0.948)	−2.422*** (0.731)	−3.947*** (0.913)	−3.678*** (0.611)	−8.086*** (1.320)	−1.619** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 19 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 19.1).

Table 19.1: 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 19.8). 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 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_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 19.9) 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 respondent who is unemployed vote for party 2507. (See tables 19.5, 19.6, 19.7)

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 19.3). Consequently, synthetic variables for respondents' vote choice for party 2507 have been predicted relying on the constrained model (Model 18b).

Table 19.3: 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 19.4).

Table 19.4: 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 19.5: 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 19.6: 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 19.7: 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 19.8: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>2510</b>	<b>2501</b>	<b>2509</b>	<b>2503</b>	<b>2505</b>	<b>2506</b>	<b>2508</b>	<b>2504</b>	<b>2507</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>	<b>Model 9</b>
D3_rec2	−0.023 (0.017)	−0.017 (0.023)	0.057** (0.020)	−0.008 (0.023)	−0.010 (0.020)	0.004 (0.020)	0.020 (0.023)	−0.027 (0.018)	−0.012 (0.015)
D8_rec1	−0.002 (0.018)	−0.032 (0.024)	−0.013 (0.020)	−0.009 (0.024)	0.0001 (0.021)	−0.007 (0.021)	0.020 (0.024)	−0.015 (0.019)	−0.031* (0.016)
D5_rec1	−0.002 (0.018)	0.014 (0.024)	0.010 (0.021)	0.038 (0.024)	−0.015 (0.021)	−0.009 (0.021)	0.017 (0.024)	0.008 (0.019)	0.001 (0.016)
EDU_rec2	0.009 (0.037)	0.033 (0.048)	0.028 (0.041)	−0.092 (0.048)	0.009 (0.043)	−0.022 (0.042)	−0.098* (0.049)	−0.064 (0.039)	−0.040 (0.031)
EDU_rec3	0.015 (0.037)	−0.020 (0.048)	−0.012 (0.042)	−0.097* (0.049)	0.034 (0.043)	−0.009 (0.042)	−0.062 (0.049)	−0.096* (0.039)	−0.021 (0.032)
D1_rec1	0.006 (0.023)	0.043 (0.030)	0.034 (0.026)	0.040 (0.030)	0.006 (0.027)	−0.011 (0.026)	−0.002 (0.031)	0.073** (0.024)	0.045* (0.020)
D7_rec1	0.007 (0.019)	−0.051* (0.025)	−0.005 (0.022)	0.023 (0.025)	0.048* (0.022)	0.014 (0.022)	0.072** (0.026)	0.027 (0.020)	0.015 (0.016)
D7_rec2	0.007 (0.029)	−0.079* (0.038)	−0.076* (0.032)	−0.038 (0.038)	0.046 (0.034)	−0.010 (0.033)	0.102** (0.038)	−0.004 (0.030)	0.006 (0.025)
D6_une1	0.048 (0.038)	0.044 (0.050)	0.070 (0.043)	−0.001 (0.050)	−0.047 (0.045)	0.035 (0.044)	−0.089 (0.052)	−0.003 (0.040)	−0.032 (0.033)
D4_age	0.00002 (0.001)	−0.001 (0.001)	−0.003*** (0.001)	0.004*** (0.001)	−0.002** (0.001)	−0.002*** (0.001)	−0.001 (0.001)	0.001* (0.001)	0.001 (0.0005)
D10_rec	0.043*** (0.004)	−0.003 (0.005)	−0.001 (0.004)	0.003 (0.005)	−0.003 (0.004)	0.007 (0.004)	−0.005 (0.005)	0.006 (0.004)	0.009** (0.003)
Constant	0.132** (0.041)	0.383*** (0.054)	0.429*** (0.047)	0.157** (0.054)	0.371*** (0.048)	0.411*** (0.048)	0.432*** (0.056)	0.241*** (0.044)	0.141*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

Table 19.9: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

Model	2510 10	2501 11	2509 12	2503 13	2505 14	2506 15	2508 16	2504 17	2507 18a	2507 18b
D3_rec2	−0.219 (0.344)	−0.158 (0.256)	0.336 (0.345)	−0.212 (0.260)	0.033 (0.289)	−0.495 (0.374)	0.071 (0.209)	−0.397 (0.413)	0.633 (0.712)	0.699 (0.711)
D8_rec1	−0.217 (0.346)	−0.072 (0.269)	0.073 (0.364)	0.437 (0.292)	−0.0001 (0.309)	−0.176 (0.379)	0.467* (0.236)	0.803 (0.511)	−1.565* (0.712)	−1.513* (0.705)
D5_rec1	−0.171 (0.359)	0.188 (0.274)	−0.046 (0.356)	−0.162 (0.270)	−0.452 (0.297)	−0.212 (0.387)	0.212 (0.227)	−0.048 (0.426)	−0.002 (0.715)	0.114 (0.714)
EDU_rec2	0.052 (0.717)	−0.256 (0.546)	−0.094 (0.694)	−0.162 (0.662)	−0.208 (0.612)	−0.331 (0.723)	−1.032* (0.405)	−0.610 (0.851)	16.902 (3243.229)	
EDU_rec3	0.372 (0.716)	−0.216 (0.552)	−0.207 (0.711)	−0.550 (0.685)	0.213 (0.607)	−0.160 (0.726)	−0.998* (0.411)	−0.653 (0.876)	16.615 (3243.229)	
D1_rec1	−0.193 (0.473)	−0.417 (0.393)	0.382 (0.418)	0.171 (0.342)	0.352 (0.359)	−0.796 (0.620)	0.254 (0.264)	0.283 (0.517)	−17.225 (2191.015)	
D7_rec1	−0.638 (0.382)	−0.352 (0.274)	−0.387 (0.363)	0.269 (0.282)	0.189 (0.334)	−0.334 (0.420)	0.615* (0.247)	0.115 (0.431)	−0.624 (0.784)	−0.614 (0.782)
D7_rec2	0.073 (0.495)	−0.479 (0.450)	−0.721 (0.658)	0.298 (0.451)	0.450 (0.458)	0.468 (0.527)	0.570 (0.354)	−1.227 (1.075)	1.255 (0.900)	1.042 (0.818)
D6_une1	−0.439 (0.783)	0.926* (0.425)	−0.005 (0.759)	0.143 (0.633)	−0.403 (0.750)	−15.376 (913.004)	−0.953 (0.737)	−0.198 (1.061)	−17.201 (3833.733)	
D4_age	0.006 (0.011)	0.004 (0.009)	−0.002 (0.011)	0.048*** (0.009)	0.007 (0.009)	0.010 (0.012)	0.020** (0.007)	0.027 (0.014)	0.016 (0.021)	0.024 (0.021)
D10_rec	0.495*** (0.080)	−0.054 (0.054)	−0.126 (0.078)	0.076 (0.050)	−0.119 (0.064)	0.117 (0.071)	−0.035 (0.043)	0.079 (0.078)	0.059 (0.131)	0.054 (0.129)
Constant	−4.704*** (0.899)	−2.082*** (0.615)	−2.654*** (0.798)	−5.075*** (0.777)	−2.761*** (0.688)	−3.138*** (0.829)	−2.796*** (0.486)	−4.836*** (1.035)	−21.546 (3243.229)	−5.535*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 20 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 20.1).

Table 20.1: 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 20.8). 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 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_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 20.9) 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 20.5, 20.6, 20.7)

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 20.3). Consequently, synthetic variables for respondents' vote choice for party 2105 have been predicted relying on the constrained model (Model 9b).



Table 20.3: 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 20.4).

Table 20.4: 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 20.5: 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 20.6: 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 20.7: 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 20.8: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>2104</b>	<b>2106</b>	<b>2102</b>	<b>2105</b>	<b>2103</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
D3_rec2	−0.050 (0.026)	−0.003 (0.021)	0.095*** (0.021)	0.054** (0.018)	0.024 (0.017)
D8_rec1	0.038 (0.035)	−0.015 (0.028)	−0.008 (0.029)	0.021 (0.025)	0.002 (0.023)
D5_rec1	0.039 (0.030)	0.041 (0.024)	0.064* (0.025)	0.074*** (0.021)	0.029 (0.020)
EDU_rec2	−0.034 (0.065)	0.027 (0.052)	0.047 (0.054)	0.009 (0.047)	0.018 (0.043)
EDU_rec3	−0.001 (0.061)	0.047 (0.049)	0.034 (0.050)	−0.004 (0.043)	0.007 (0.040)
D1_rec1	0.010 (0.034)	−0.013 (0.028)	0.030 (0.028)	0.012 (0.024)	0.047* (0.023)
D7_rec1	−0.037 (0.029)	−0.006 (0.023)	−0.027 (0.024)	−0.045* (0.020)	0.00005 (0.019)
D7_rec2	0.005 (0.041)	−0.032 (0.033)	−0.045 (0.034)	−0.046 (0.029)	0.015 (0.027)
D6_une1	0.008 (0.075)	0.043 (0.061)	−0.005 (0.063)	0.007 (0.055)	0.022 (0.051)
D4_age	−0.001 (0.001)	−0.005*** (0.001)	−0.001 (0.001)	−0.002** (0.001)	0.001* (0.001)
D10_rec	0.060*** (0.005)	0.017*** (0.004)	−0.041*** (0.005)	−0.017*** (0.004)	−0.018*** (0.004)
Constant	0.203** (0.071)	0.473*** (0.058)	0.438*** (0.059)	0.352*** (0.051)	0.308*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

Table 20.9: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>2104</b>	<b>2106</b>	<b>2102</b>	<b>2105</b>	<b>2105</b>	<b>2103</b>
	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>	<b>Model 9a</b>	<b>Model 9b</b>	<b>Model 10</b>
D3_rec2	−0.168 (0.166)	−0.066 (0.261)	0.396 (0.245)	0.250 (0.503)	0.128 (0.496)	−0.248 (0.159)
D8_rec1	0.056 (0.216)	0.284 (0.384)	−0.052 (0.338)	1.126 (1.047)	1.111 (1.040)	0.305 (0.230)
D5_rec1	0.561** (0.209)	−0.304 (0.296)	0.177 (0.279)	0.105 (0.595)	0.155 (0.586)	−0.189 (0.182)
EDU_rec2	0.087 (0.451)	0.583 (0.708)	0.246 (0.685)	16.045 (2361.013)		0.216 (0.453)
EDU_rec3	0.226 (0.422)	1.037 (0.664)	0.185 (0.652)	16.329 (2361.013)		0.301 (0.428)
D1_rec1	0.070 (0.209)	0.339 (0.309)	−0.184 (0.361)	0.641 (0.570)	0.706 (0.559)	−0.090 (0.219)
D7_rec1	−0.087 (0.187)	−0.083 (0.281)	0.038 (0.261)	−0.632 (0.501)		0.434* (0.181)
D7_rec2	0.218 (0.253)	−0.641 (0.482)	−0.456 (0.429)	−17.149 (1491.045)		0.630* (0.249)
D6_une1	0.015 (0.499)	0.567 (0.581)	0.601 (0.580)	−16.565 (3253.938)		−0.988 (0.635)
D4_age	0.003 (0.005)	−0.034*** (0.009)	0.010 (0.008)	−0.004 (0.017)	−0.0004 (0.016)	0.032*** (0.005)
D10_rec	0.317*** (0.039)	0.022 (0.057)	−0.213*** (0.053)	−0.007 (0.108)	−0.026 (0.106)	−0.134*** (0.033)
Constant	−3.074*** (0.508)	−1.988** (0.766)	−2.611*** (0.757)	−20.769 (2361.013)	−5.193*** (1.407)	−2.566*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 21 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 21.1).

Table 21.1: 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 21.8). 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 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_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 21.9) 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 21.6, 21.7).

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

21.3). However, if just EDU\_rec is dropped  $H_0$  cannot be rejected (see Table 21.4). 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 21.3: 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 21.4: 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 21.5).

Table 21.5: 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 21.6: 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 21.7: 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 21.8: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>2301</b>	<b>2303</b>	<b>2305</b>	<b>2306</b>	<b>2307</b>	<b>2308</b>	<b>2302</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	-0.010 (0.022)	0.016 (0.022)	0.022 (0.020)	0.001 (0.024)	-0.018 (0.015)	-0.012 (0.020)	-0.004 (0.025)
D8_rec1	0.077* (0.033)	0.062 (0.033)	0.029 (0.030)	-0.056 (0.036)	-0.039 (0.023)	-0.001 (0.030)	0.019 (0.037)
D5_rec1	0.033 (0.026)	0.035 (0.026)	0.042 (0.024)	-0.007 (0.028)	0.011 (0.018)	-0.016 (0.024)	0.011 (0.029)
EDU_rec2	-0.018 (0.052)	-0.014 (0.052)	-0.005 (0.048)	-0.083 (0.057)	-0.021 (0.037)	0.006 (0.049)	-0.014 (0.058)
EDU_rec3	-0.054 (0.051)	-0.052 (0.051)	-0.035 (0.047)	-0.075 (0.056)	-0.031 (0.036)	-0.002 (0.048)	0.075 (0.057)
D1_rec1	0.029 (0.028)	0.031 (0.027)	0.053* (0.025)	0.036 (0.030)	0.061** (0.019)	0.068** (0.025)	-0.035 (0.031)
D7_rec1	-0.011 (0.027)	-0.015 (0.027)	0.022 (0.024)	0.039 (0.030)	-0.014 (0.019)	-0.012 (0.025)	0.064* (0.030)
D7_rec2	0.074* (0.033)	0.066* (0.033)	0.030 (0.030)	-0.001 (0.036)	0.014 (0.023)	-0.011 (0.031)	0.029 (0.037)
D6_une1	0.071 (0.083)	-0.093 (0.082)	-0.044 (0.075)	-0.050 (0.091)	0.006 (0.058)	-0.113 (0.076)	-0.257** (0.092)
D4_age	0.004*** (0.001)	0.002* (0.001)	-0.001 (0.001)	-0.003*** (0.001)	-0.001** (0.0005)	-0.001 (0.001)	-0.004*** (0.001)
D10_rec	0.027*** (0.005)	0.018*** (0.005)	0.024*** (0.005)	0.014* (0.006)	0.013*** (0.004)	0.016** (0.005)	-0.005 (0.006)
Constant	-0.120 (0.064)	0.080 (0.065)	0.165** (0.059)	0.641*** (0.070)	0.199*** (0.045)	0.269*** (0.060)	0.518*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

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

	<b>2301</b>	<b>2303</b>	<b>2305</b>	<b>2306</b>	<b>2307</b>	<b>2307</b>	<b>2308</b>	<b>2302</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>
D3_rec2	−0.228 (0.233)	0.373 (0.313)	0.122 (0.316)	−0.218 (0.172)	−0.843 (0.455)	−0.809 (0.453)	−0.312 (0.315)	0.248 (0.157)
D8_rec1	−0.002 (0.358)	1.916 (1.025)	0.141 (0.500)	−0.130 (0.243)	−1.115* (0.509)	−0.918 (0.495)	0.006 (0.464)	0.046 (0.238)
D5_rec1	0.664* (0.315)	0.322 (0.386)	0.989* (0.493)	−0.211 (0.198)	−0.431 (0.479)	−0.314 (0.474)	−0.200 (0.350)	0.137 (0.187)
EDU_rec2	0.109 (0.669)	0.282 (1.079)	0.692 (1.068)	0.208 (0.385)	14.980 (911.317)		0.153 (0.790)	0.310 (0.407)
EDU_rec3	0.119 (0.647)	0.288 (1.055)	0.446 (1.054)	−0.059 (0.382)	15.482 (911.317)		−0.082 (0.779)	0.950* (0.401)
D1_rec1	0.040 (0.281)	0.540 (0.347)	0.227 (0.365)	0.442* (0.201)	0.176 (0.520)	0.186 (0.520)	0.218 (0.374)	−0.660** (0.217)
D7_rec1	−0.188 (0.292)	−0.526 (0.334)	−0.070 (0.394)	−0.144 (0.209)	−0.543 (0.508)	−0.530 (0.506)	−0.360 (0.354)	0.618** (0.203)
D7_rec2	0.611 (0.319)	−1.116* (0.500)	0.193 (0.456)	−0.011 (0.255)	0.275 (0.565)	0.264 (0.562)	−0.129 (0.439)	0.131 (0.255)
D6_une1	1.294 (0.690)	−14.721 (975.564)	0.430 (1.081)	0.058 (0.613)	−14.993 (1595.657)	−14.000 (982.695)	−13.763 (605.885)	−0.222 (0.677)
D4_age	0.037*** (0.008)	0.029** (0.010)	0.015 (0.010)	−0.011* (0.005)	0.009 (0.014)	0.016 (0.013)	0.020* (0.010)	−0.021*** (0.005)
D10_rec	0.139* (0.056)	−0.047 (0.076)	0.095 (0.077)	0.081 (0.042)	−0.072 (0.104)	−0.069 (0.103)	−0.093 (0.076)	−0.088* (0.038)
Constant	−5.070*** (0.847)	−6.304*** (1.563)	−5.548*** (1.272)	−0.760 (0.472)	−17.352 (911.317)	−2.688** (0.909)	−3.121** (0.957)	−0.981* (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



## 22 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 22.1).

Table 22.1: 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 22.10). 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 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_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 22.11, 22.12) 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 22.7, 22.8). In Model 17a, no respondents with low education did vote for party 2408 (see Table 22.9).

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 22.3). However, if just EDU\_rec is dropped  $H_0$  can be rejected at  $p < 0.1$  (See Table 22.4). For model 17  $H_0$  cannot be rejected (see Table 22.5). 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 22.3: 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 22.4: 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 22.5: 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 22.6).

## 23 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 23.1).

Table 22.6: 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 22.7: 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

Full OLS models converge and coefficients do not show any particular issue (see Table 23.4). 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 23.2).

On the contrary, one out of seven logistic regression models (see Table 23.5) 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

Table 22.8: 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 22.9: 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 22.10: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>2401</b>	<b>2402</b>	<b>2403</b>	<b>2404</b>	<b>2405</b>	<b>2406</b>	<b>2407</b>	<b>2408</b>	<b>2409</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>	<b>Model 9</b>
D3_rec2	−0.032 (0.022)	−0.020 (0.024)	−0.016 (0.022)	−0.035 (0.018)	−0.006 (0.021)	−0.064** (0.021)	−0.0001 (0.017)	−0.001 (0.017)	0.002 (0.016)
D8_rec1	−0.0003 (0.023)	−0.008 (0.025)	−0.003 (0.023)	0.008 (0.019)	−0.015 (0.022)	−0.034 (0.022)	−0.026 (0.017)	0.002 (0.018)	−0.014 (0.017)
D5_rec1	−0.039 (0.025)	0.020 (0.027)	−0.029 (0.025)	0.009 (0.021)	−0.057* (0.024)	−0.001 (0.023)	−0.026 (0.019)	−0.015 (0.019)	−0.015 (0.018)
EDU_rec2	−0.002 (0.045)	−0.086 (0.049)	0.011 (0.045)	−0.067 (0.037)	0.031 (0.043)	−0.020 (0.041)	−0.024 (0.034)	−0.025 (0.034)	−0.045 (0.032)
EDU_rec3	−0.014 (0.046)	−0.083 (0.050)	0.018 (0.045)	−0.067 (0.038)	0.076 (0.043)	−0.024 (0.042)	0.010 (0.034)	−0.035 (0.035)	−0.046 (0.032)
D1_rec1	−0.042 (0.025)	0.065* (0.027)	0.019 (0.025)	−0.023 (0.021)	0.051* (0.024)	0.022 (0.023)	0.035 (0.019)	0.021 (0.019)	0.042* (0.018)
D7_rec1	0.050* (0.024)	0.002 (0.026)	0.021 (0.024)	0.037 (0.020)	−0.045* (0.023)	0.013 (0.022)	0.012 (0.018)	0.026 (0.018)	0.008 (0.017)
D7_rec2	0.071 (0.037)	0.003 (0.041)	0.121*** (0.037)	0.043 (0.031)	−0.013 (0.036)	0.031 (0.035)	0.064* (0.028)	0.043 (0.029)	0.033 (0.027)
D6_une1	0.051 (0.039)	0.019 (0.042)	−0.021 (0.038)	0.002 (0.032)	0.010 (0.038)	0.027 (0.036)	0.015 (0.029)	−0.048 (0.030)	−0.020 (0.028)
D4_age	−0.001 (0.001)	0.004*** (0.001)	0.003** (0.001)	0.001 (0.001)	−0.0003 (0.001)	−0.001 (0.001)	−0.002** (0.001)	0.002* (0.001)	0.002*** (0.001)
D10_rec	0.050*** (0.006)	−0.015* (0.006)	−0.010 (0.005)	0.041*** (0.005)	−0.026*** (0.005)	0.010 (0.005)	−0.006 (0.004)	−0.007 (0.004)	−0.005 (0.004)
Constant	0.248*** (0.057)	0.361*** (0.061)	0.237*** (0.056)	0.161*** (0.046)	0.362*** (0.054)	0.354*** (0.052)	0.311*** (0.042)	0.169*** (0.043)	0.152*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

Table 22.11: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>2401</b>	<b>2402</b>	<b>2403</b>	<b>2404</b>	<b>2405</b>	<b>2405</b>
	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>	<b>Model 14a</b>	<b>Model 14b</b>
D3_rec2	−0.512*	0.039	−0.502	−0.325	−0.424	−0.421
	(0.255)	(0.210)	(0.261)	(0.438)	(0.349)	(0.348)
D8_rec1	−0.247	0.145	0.059	0.858	0.042	0.053
	(0.257)	(0.225)	(0.276)	(0.507)	(0.366)	(0.363)
D5_rec1	0.361	0.425	−0.317	0.188	−0.484	−0.443
	(0.313)	(0.256)	(0.279)	(0.501)	(0.359)	(0.358)
EDU_rec2	0.531	−1.142**	0.205	−1.338*	16.321	
	(0.538)	(0.363)	(0.639)	(0.668)	(1247.687)	
EDU_rec3	0.083	−1.012**	0.162	−1.035	16.414	
	(0.562)	(0.363)	(0.642)	(0.639)	(1247.687)	
D1_rec1	0.102	0.180	0.540	−1.024	−0.289	−0.267
	(0.277)	(0.237)	(0.279)	(0.583)	(0.436)	(0.435)
D7_rec1	0.254	−0.085	0.512	0.598	−0.437	−0.409
	(0.270)	(0.232)	(0.291)	(0.496)	(0.356)	(0.355)
D7_rec2	−0.244	0.170	1.110**	0.932	−16.652	−16.767
	(0.489)	(0.329)	(0.370)	(0.631)	(1047.658)	(1070.521)
D6_une1	0.248	−0.111	0.416	−0.700	−0.101	−0.113
	(0.443)	(0.381)	(0.417)	(1.050)	(0.559)	(0.552)
D4_age	0.029**	0.022**	0.041***	−0.0002	−0.004	−0.001
	(0.009)	(0.008)	(0.010)	(0.015)	(0.012)	(0.012)
D10_rec	0.478***	−0.037	−0.121	0.378***	−0.270*	−0.286*
	(0.057)	(0.054)	(0.073)	(0.094)	(0.116)	(0.115)
Constant	−5.164***	−2.381***	−4.544***	−4.194***	−17.946	−1.829**
	(0.731)	(0.512)	(0.801)	(0.910)	(1247.687)	(0.678)
N	859	859	859	859	859	859
Log Likelihood	−228.223	−312.946	−226.671	−95.300	−138.401	−141.173
AIC	480.446	649.893	477.341	214.600	300.802	302.346

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

Table 22.12: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>2406</b>	<b>2407</b>	<b>2408</b>	<b>2408</b>	<b>2409</b>
	<b>Model 15</b>	<b>Model 16</b>	<b>Model 17a</b>	<b>Model 17b</b>	<b>Model 18</b>
D3_rec2	−0.407 (0.372)	0.516 (0.743)	0.262 (0.539)	0.292 (0.536)	−0.740 (0.645)
D8_rec1	−0.859* (0.377)	−0.904 (0.755)	0.045 (0.572)	0.072 (0.568)	−0.380 (0.618)
D5_rec1	0.114 (0.426)	−1.084 (0.744)	0.779 (0.692)	0.775 (0.692)	−0.550 (0.647)
EDU_rec2	0.355 (0.698)	−2.434 (1.288)	14.959 (1120.176)		−0.307 (1.101)
EDU_rec3	0.152 (0.726)	−0.739 (0.953)	14.400 (1120.176)		−1.493 (1.281)
D1_rec1	0.054 (0.403)	0.114 (0.755)	−0.108 (0.679)	−0.107 (0.675)	0.762 (0.663)
D7_rec1	0.274 (0.393)	−1.276 (1.136)	0.746 (0.590)	0.726 (0.588)	−0.736 (0.711)
D7_rec2	0.290 (0.598)	1.203 (0.759)	0.527 (0.885)	0.436 (0.871)	−0.467 (1.095)
D6_une1	−0.412 (0.753)	−15.697 (1779.231)	0.009 (1.087)	0.099 (1.082)	−0.231 (1.079)
D4_age	−0.021 (0.014)	0.006 (0.026)	0.098*** (0.029)	0.100*** (0.028)	0.073** (0.028)
D10_rec	0.070 (0.086)	−0.013 (0.177)	−0.058 (0.147)	−0.067 (0.144)	−0.136 (0.171)
Constant	−2.304** (0.835)	−2.800* (1.224)	−25.024 (1120.177)	−10.473*** (2.078)	−6.218** (1.933)
N	859	859	859	859	859
Log Likelihood	−133.269	−40.121	−66.189	−67.420	−54.409
AIC	290.538	104.241	156.379	154.839	132.819

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

Table 23.1: 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

Table 23.2: 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

(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 23.3).

Table 23.3: 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 23.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>2601</b>	<b>2602</b>	<b>2603</b>	<b>2604</b>	<b>2605</b>	<b>2606</b>	<b>2609</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
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 23.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics  
(Logistic regression models)

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

## 24 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 24.1).

Table 24.1: 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 24.4). 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 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_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 24.5) 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 24.3).

Table 24.3: 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 24.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>2702</b>	<b>2705</b>	<b>2707</b>	<b>2704</b>	<b>2703</b>	<b>2708</b>	<b>2706</b>	<b>2701</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>
D3_rec2	0.017 (0.026)	-0.028 (0.024)	0.090*** (0.021)	0.018 (0.019)	0.042* (0.019)	-0.091** (0.027)	-0.019 (0.022)	0.056* (0.023)
D8_rec1	0.042 (0.033)	0.026 (0.030)	0.019 (0.027)	0.040 (0.025)	0.021 (0.024)	-0.047 (0.035)	0.027 (0.028)	-0.003 (0.030)
D5_rec1	-0.017 (0.027)	-0.001 (0.025)	-0.052* (0.022)	-0.026 (0.020)	-0.027 (0.020)	0.035 (0.028)	0.007 (0.023)	-0.054* (0.024)
EDU_rec2	0.026 (0.050)	-0.063 (0.046)	0.034 (0.041)	0.031 (0.037)	-0.003 (0.037)	-0.041 (0.053)	-0.038 (0.043)	0.049 (0.045)
EDU_rec3	-0.004 (0.049)	-0.045 (0.045)	0.063 (0.040)	0.061 (0.036)	0.031 (0.036)	-0.112* (0.052)	-0.025 (0.042)	0.075 (0.044)
D1_rec1	0.068* (0.027)	-0.043 (0.025)	0.034 (0.022)	0.017 (0.020)	0.024 (0.020)	-0.015 (0.029)	-0.038 (0.023)	0.064** (0.024)
D7_rec1	-0.039 (0.028)	0.121*** (0.026)	0.031 (0.023)	0.080*** (0.021)	0.065** (0.021)	0.016 (0.030)	0.094*** (0.024)	-0.089*** (0.025)
D7_rec2	-0.097* (0.040)	0.227*** (0.036)	0.011 (0.032)	0.120*** (0.029)	0.068* (0.029)	0.013 (0.042)	0.118*** (0.034)	-0.134*** (0.035)
D6_une1	-0.075 (0.054)	-0.062 (0.049)	-0.076 (0.044)	0.001 (0.040)	-0.014 (0.040)	0.223*** (0.057)	-0.007 (0.046)	-0.052 (0.048)
D4_age	-0.001 (0.001)	-0.001 (0.001)	-0.005*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)	0.001 (0.001)	-0.0001 (0.001)	-0.002** (0.001)
D10_rec	0.012 (0.007)	0.005 (0.006)	0.014* (0.006)	0.012* (0.005)	0.019*** (0.005)	-0.003 (0.007)	0.029*** (0.006)	-0.003 (0.006)
Constant	0.454*** (0.066)	0.433*** (0.061)	0.397*** (0.054)	0.275*** (0.049)	0.297*** (0.049)	0.427*** (0.070)	0.248*** (0.057)	0.383*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

Table 24.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	<b>2702</b>	<b>2705</b>	<b>2707</b>	<b>2704</b>	<b>2703</b>	<b>2708</b>	<b>2706</b>	<b>2701</b>
	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>	<b>Model 14</b>	<b>Model 15</b>	<b>Model 16</b>
D3_rec2	−0.065 (0.184)	−0.641* (0.270)	0.845** (0.325)	−0.122 (0.404)	0.008 (0.351)	−0.290 (0.200)	−0.126 (0.318)	0.205 (0.281)
D8_rec1	0.347 (0.251)	0.250 (0.337)	−0.175 (0.396)	0.369 (0.556)	−0.228 (0.442)	−0.283 (0.233)	−0.103 (0.378)	0.207 (0.382)
D5_rec1	0.061 (0.190)	0.512 (0.269)	0.146 (0.330)	−0.259 (0.404)	−0.818* (0.368)	0.135 (0.205)	0.059 (0.320)	−0.359 (0.291)
EDU_rec2	0.704 (0.463)	0.457 (0.648)	−0.227 (0.548)	0.850 (1.075)	−0.555 (0.654)	−0.095 (0.367)	−0.545 (0.616)	0.677 (0.769)
EDU_rec3	0.612 (0.454)	0.762 (0.625)	−0.034 (0.537)	0.823 (1.057)	−0.124 (0.607)	−0.340 (0.358)	−0.235 (0.569)	0.974 (0.755)
D1_rec1	0.747*** (0.203)	−0.364 (0.257)	−0.324 (0.325)	−0.576 (0.411)	1.232** (0.444)	−0.197 (0.201)	−0.123 (0.321)	0.596 (0.309)
D7_rec1	−0.095 (0.198)	0.640* (0.313)	0.074 (0.347)	1.020 (0.531)	0.995* (0.425)	−0.102 (0.212)	−0.161 (0.345)	−1.043*** (0.307)
D7_rec2	−0.212 (0.286)	1.033** (0.361)	0.314 (0.463)	1.302* (0.614)	0.157 (0.703)	−0.374 (0.322)	0.078 (0.447)	−1.320* (0.547)
D6_une1	−0.990 (0.541)	−14.798 (529.544)	−1.183 (1.034)	−0.325 (1.058)	0.349 (0.649)	0.742* (0.346)	−0.964 (1.039)	−0.458 (0.630)
D4_age	0.015** (0.005)	0.008 (0.007)	−0.029** (0.010)	0.012 (0.012)	0.0003 (0.011)	0.012* (0.006)	0.028** (0.009)	0.003 (0.009)
D10_rec	0.070 (0.046)	−0.010 (0.065)	0.026 (0.075)	−0.129 (0.124)	0.063 (0.087)	−0.067 (0.056)	0.173* (0.069)	−0.149 (0.089)
Constant	−3.545*** (0.580)	−3.836*** (0.798)	−1.812* (0.717)	−5.244*** (1.322)	−3.889*** (0.913)	−1.535** (0.495)	−3.938*** (0.824)	−3.314*** (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 &lt; .001; \*\*p &lt; .01; \*p &lt; .05

## 25 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 25.1).

Table 25.1: 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 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 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 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_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 25.5) 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 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_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 25.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	<b>2801</b>	<b>2802</b>	<b>2803</b>	<b>2804</b>	<b>2805</b>	<b>2806</b>	<b>2807</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
D3_rec2	0.011 (0.023)	0.007 (0.022)	0.007 (0.022)	0.032 (0.020)	0.011 (0.017)	0.004 (0.019)	-0.023 (0.025)
D8_rec1	-0.039 (0.027)	0.044 (0.026)	-0.024 (0.026)	0.003 (0.024)	-0.041* (0.020)	-0.014 (0.023)	-0.005 (0.030)
D5_rec1	0.036 (0.025)	-0.024 (0.024)	-0.003 (0.024)	-0.028 (0.022)	0.037* (0.019)	0.040 (0.021)	0.061* (0.028)
EDU_rec2	0.006 (0.040)	-0.044 (0.038)	-0.043 (0.038)	-0.0001 (0.035)	-0.003 (0.029)	0.066* (0.033)	0.024 (0.044)
EDU_rec3	-0.057 (0.043)	0.043 (0.040)	0.053 (0.040)	0.074* (0.037)	0.024 (0.031)	-0.020 (0.035)	-0.095* (0.046)
D1_rec1	0.008 (0.030)	0.141*** (0.028)	0.069* (0.028)	0.065* (0.026)	0.126*** (0.022)	0.074** (0.025)	0.043 (0.033)
D7_rec1	0.157*** (0.025)	-0.097*** (0.024)	0.070** (0.024)	-0.019 (0.022)	0.027 (0.019)	0.025 (0.021)	0.008 (0.028)
D7_rec2	0.307*** (0.047)	-0.142** (0.045)	0.078 (0.044)	-0.041 (0.041)	0.037 (0.034)	0.025 (0.039)	-0.017 (0.051)
D6_une1	-0.037 (0.047)	0.041 (0.045)	-0.040 (0.045)	-0.053 (0.041)	-0.031 (0.035)	0.052 (0.040)	0.038 (0.052)
D4_age	0.003*** (0.001)	-0.006*** (0.001)	-0.003*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.002** (0.001)	0.001 (0.001)
D10_rec	0.018** (0.006)	0.010 (0.005)	0.008 (0.005)	0.007 (0.005)	0.025*** (0.004)	0.027*** (0.005)	0.022*** (0.006)
Constant	0.213*** (0.060)	0.681*** (0.057)	0.491*** (0.057)	0.563*** (0.052)	0.297*** (0.045)	0.205*** (0.050)	0.258*** (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 25.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics  
(Logistic regression models)

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