## Summary of Synthetic Variables Estimation EES 2019 Voter Study (Bulgarian, Cypriot, and Italian samples)

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## 1 Bulgaria

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

Table 1.1: Cypriot relevant parties

Dep. Var.	Party	Party name (eng)
stack_301	301	Citzizens for European Development of Bulgaria (GERB)
$stack_302$	302	Coalition for Bulgaria (KB)
$stack_303$	303	Movements for Rights and Freedoms (DPS)
$stack_304$	304	IMRO <96> Bulgarian National Movement
$stack_305$	305	Democratic Bulgaria
$stack_306$	306	Will
$stack_307$	307	National Union Attack (ATAKA/ATA)

Full OLS models converge and coefficients do not show any particular issue (see Table 1.13). In terms of model fit, the adjusted coefficient of determination ( $R^2$ ) values vary between a minimum value of 0.01 for party 306 (Will) and a maximum of 0.036 for party 303 (Movements for Rights and Freedoms (DPS)). Moreover, the difference between Akaike Information Criterion (AIC) values for full OLS models and null models suggests that only one null model performs marginally better than the full ones (see Table 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_301	301	784.128	794.234	-10.106
$stack_302$	302	392.612	409.552	-16.940
$stack_303$	303	-348.802	-325.216	-23.586
$stack_304$	304	319.463	337.587	-18.124
$stack_305$	305	337.528	342.058	-4.531
$stack_306$	306	96.336	95.297	1.039
$stack_307$	307	-185.834	-178.896	-6.938

On the contrary, four out of seven logistic regression models (see Table 1.14) show inflated standard errors for some of the coefficients of interest, in particular:

Model 9a: D8\_rec;Model 10a: D7\_rec;Model 13a: EDU rec;

• Model 14a: D7\_rec and D8\_rec.

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

- No respondents from rural areas voted for party 302 (Table 1.8);
- No upper middle or upper class respondents voted for party 303 (Table 1.9);
- No low educated people voted for party 306 (Table 1.10);
- No upper middle or upper class respondents and living in rural areas ones voted for party 307 (Table 1.12);

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

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

Table 1.3: Likelihood-ratio Test between Model 9a (Unconstrained) and Model 9b (Constrained)

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

Table 1.4: Likelihood-ratio Test between Model 10a (Unconstrained) and Model 10b (Constrained)

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

Table 1.5: Likelihood-ratio Test between Model 13a (Unconstrained) and Model 13b (Constrained)

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

Table 1.6: Likelihood-ratio Test between Model 14a (Unconstrained) and Model 14b (Constrained)

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

In terms of model fit (Table 1.7), adjusted McFadden's pseudo  $R^2$  values for the logistic full models vary between a minimum value of -0.048 for party 306 (Will) and a maximum of 0.054 for party 302 (Coalition for Bulgaria (KB)).

Table 1.7: Akaike Information Criterion values for logistic full and null models

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

<sup>\*</sup> AIC value refers to Model 11b (constrained).

Table 1.8: Cross tabulation between vote choice for party 302 and respondents' area of residency

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

Table 1.9: Cross tabulation between vote choice for party 303 and respondents' subjective social class

$stack_303/D7\_rec$	0	1	2	NA	Total
0	388	448	94	21	951
1	6	5	0	0	11
NA	17	26	7	4	54
Total	411	479	101	25	1016

Table 1.10: Cross tabulation between vote choice for party 306 and respondents' education

$stack\_306/EDU\_rec$	1	2	3	NA	Total
0	37	268	611	18	934
1	0	5	22	1	28
NA	2	16	36	0	54
Total	39	289	669	19	1016

Table 1.11: Cross tabulation between vote choice for party 307 and respondents' subjective social class

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

Table 1.12: Cross tabulation between vote choice for party 307 and respondents' subjective social class

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

Table 1.13: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

	301	302	303	304	305	306	307
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
$D3\_rec2$	0.016	-0.014	0.032*	-0.020	-0.005	0.0005	-0.016
	(0.024)	(0.020)	(0.013)	(0.019)	(0.019)	(0.017)	(0.014)
$D8\_rec1$	0.078	0.089*	-0.052	0.062	$0.089^{*}$	0.032	0.013
	(0.054)	(0.043)	(0.029)	(0.042)	(0.042)	(0.036)	(0.031)
$D5\_rec1$	0.031	0.009	0.015	0.040	-0.006	0.015	0.021
	(0.027)	(0.022)	(0.015)	(0.021)	(0.021)	(0.019)	(0.016)
$EDU\_rec2$	$-0.145^*$	-0.188**	-0.122**	$-0.122^*$	-0.043	-0.082	$-0.110^*$
	(0.072)	(0.060)	(0.039)	(0.057)	(0.058)	(0.050)	(0.044)
$EDU\_rec3$	-0.135	-0.180**	-0.127**	-0.091	-0.0002	-0.099*	-0.116**
	(0.072)	(0.060)	(0.040)	(0.057)	(0.058)	(0.050)	(0.044)
D1_rec1	0.061	0.027	0.034*	0.060*	0.062*	0.022	0.056**
	(0.032)	(0.026)	(0.017)	(0.025)	(0.025)	(0.022)	(0.019)
$D7\_rec1$	0.040	0.010	0.016	0.012	0.024	0.015	-0.005
	(0.026)	(0.021)	(0.014)	(0.020)	(0.021)	(0.018)	(0.015)
$D7\_rec2$	0.040	0.030	0.020	-0.015	0.055	0.013	-0.023
	(0.044)	(0.036)	(0.024)	(0.034)	(0.035)	(0.031)	(0.026)
D4_age	0.001	0.004***	-0.001**	-0.001	-0.0002	-0.001	-0.0002
	(0.001)	(0.001)	(0.0005)	(0.001)	(0.001)	(0.001)	(0.001)
$D10\_rec$	0.024**	0.003	0.006	0.021***	0.008	0.011*	0.011**
	(0.007)	(0.006)	(0.004)	(0.006)	(0.006)	(0.005)	(0.004)
Constant	0.242**	$0.159^{*}$	0.256***	0.254***	0.130	0.248***	0.198***
	(0.083)	(0.069)	(0.045)	(0.066)	(0.067)	(0.058)	(0.051)
N	923	917	922	923	908	919	922
R-squared	0.032	0.039	0.046	0.040	0.027	0.020	0.029
Adj. R-squared	0.021	0.029	0.036	0.030	0.016	0.010	0.018

<sup>\*\*\*</sup>p < .001; \*\*p < .01; \*p < .05

6

Table 1.14: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

Model	301 8	302 9a	302 9b	303 10a	303 10b	$304\\11$	$\begin{array}{c} 305 \\ 12 \end{array}$	306 13a	306 13b	307 14a	$\begin{array}{c} 307 \\ 14 \mathrm{b} \end{array}$
•											
$D3\_rec2$	0.170	$-0.551^*$	$-0.562^*$	0.437	0.429	-0.738*	-0.412	0.076	0.096	-1.486	-1.545
	(0.186)	(0.264)	(0.262)	(0.676)	(0.675)	(0.305)	(0.293)	(0.399)	(0.398)	(0.855)	(0.843)
$D8\_rec1$	0.350	15.830		$-1.914^*$	$-1.883^*$	0.272	0.989	0.012	0.200	16.049	
	(0.455)	(868.103)		(0.775)	(0.746)	(0.753)	(1.031)	(1.058)	(1.043)	(2175.581)	
$D5\_rec1$	-0.107	0.075	0.072	-0.714	-0.757	0.533	-0.271	0.568	0.693	-1.333	-1.331
	(0.204)	(0.293)	(0.290)	(0.683)	(0.682)	(0.365)	(0.313)	(0.510)	(0.506)	(0.763)	(0.759)
$EDU\_rec2$	-0.566	-1.031	-1.055	0.842	0.754	-0.864	0.177	14.343		-1.472	-1.643
	(0.525)	(1.122)	(1.119)	(1.229)	(1.223)	(0.863)	(1.106)	(1123.071)		(1.428)	(1.408)
$EDU\_rec3$	-0.495	-0.475	-0.409	1.060	0.898	-0.378	0.763	14.793		-1.782	-1.916
	(0.523)	(1.103)	(1.098)	(1.306)	(1.294)	(0.843)	(1.090)	(1123.071)		(1.488)	(1.471)
D1_rec1	$0.517^{st}$	0.038	$0.033^{'}$	-0.739	-0.715	-0.079	0.481	-0.536	-0.516	2.128**	2.121**
	(0.216)	(0.317)	(0.316)	(1.119)	(1.117)	(0.372)	(0.332)	(0.556)	(0.556)	(0.756)	(0.752)
$D7\_rec1$	$0.014^{'}$	-0.311	-0.254	$0.149^{'}$	,	-0.031	$0.071^{'}$	$0.741^{'}$	$0.756^{'}$	-0.037	,
	(0.199)	(0.274)	(0.273)	(0.682)		(0.308)	(0.313)	(0.464)	(0.462)	(0.707)	
$D7\_rec2$	$0.363^{'}$	0.104	$0.146^{'}$	-15.966		-0.624	$0.397^{'}$	$0.541^{'}$	$0.610^{'}$	-15.704	
_	(0.310)	(0.434)	(0.432)	(1789.433)		(0.636)	(0.467)	(0.713)	(0.709)	(1740.482)	
D4_age	$0.011^{'}$	0.051***	0.052***	-0.071*	-0.069*	0.009	0.006	$0.013^{'}$	0.018	0.014	0.018
_ 0	(0.007)	(0.010)	(0.010)	(0.032)	(0.032)	(0.011)	(0.011)	(0.015)	(0.014)	(0.028)	(0.028)
$D10\_rec$	$0.075^{'}$	$0.017^{'}$	0.020	$0.245^{'}$	0.249	0.081	-0.111	0.091	0.089	$0.229^{'}$	0.212
_	(0.055)	(0.076)	(0.076)	(0.191)	(0.191)	(0.087)	(0.086)	(0.119)	(0.119)	(0.203)	(0.200)
Constant	-2.325***	-19.844	-4.195***	-1.487	-1.474	-3.184**	-4.122**	-19.832	-5.714***	-19.689	-3.797**
	(0.651)	(868.104)	(1.074)	(1.513)	(1.486)	(1.060)	(1.450)	(1123.071)	(1.316)	(2175.581)	(1.289)
N	890	890	890	890	890	890	890	890	890	890	890
Log Likelihood	-389.271	-223.241	-226.555	-45.767	-46.766	-188.522	-194.580	-115.762	-116.752	-41.250	-42.605
AIC	800.542	468.483	473.111	113.534	111.531	399.043	411.160	253.524	251.503	104.500	101.211

<sup>\*\*\*</sup>p < .001; \*\*p < .01; \*p < .05

## 2 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 2.1).

Table 2.1: 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)
$\rm stack\_507$	507	National Popular Front

Full OLS models converge and coefficients do not show any particular issue (see Table 2.11). 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 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)
$stack_501$	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 2.12) show inflated standard errors for some of the coefficients of interest, in particular:

- Model 9: D7\_rec (only for category 2);
- Model 11a: D8 rec, D5 rec, EDU rec, D7 rec (only for category 2), D6 une;
- Model 12: D6\_une.

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

Model 11a inflated standard errors are due to separation issues. In short, no respondents from rural areas or small cities, single, low educated, with high subjective socioeconomic status (SES), members of trade unions, and unemployed did vote for party 505 (see Tables 2.5, 2.6, 2.7, 2.8, 2.9, 2.10).

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

Table 2.3: 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 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)
$stack_501$	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
$\rm stack\_505*$	505	60.23925	55.60541	4.633845
_stack507	507	115.46200	116.26300	-0.800000

<sup>\*</sup> AIC value refers to Model 11b (constrained).

Table 2.5: 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 2.6: 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 2.7: 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 2.8: 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 2.9: 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 2.10: 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 2.11: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models)

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	501	502	503	504	505	507
	Model 1	Model 2	Model 3	Model 4	$\bf Model~5$	Model 6
$D3$ _rec2	0.095**	-0.057	0.047	0.012	0.054	-0.086**
	(0.036)	(0.038)	(0.032)	(0.029)	(0.027)	(0.030)
$D8\_rec1$	0.023	-0.039	0.010	0.012	0.007	0.017
	(0.046)	(0.049)	(0.041)	(0.036)	(0.035)	(0.039)
$D5\_rec1$	0.041	-0.022	0.036	0.021	0.025	-0.015
	(0.043)	(0.046)	(0.039)	(0.034)	(0.033)	(0.036)
$EDU\_rec2$	-0.106*	$0.111^*$	0.069	0.037	0.015	0.027
	(0.050)	(0.053)	(0.045)	(0.040)	(0.038)	(0.042)
$EDU\_rec3$	-0.091	0.152**	0.087	0.056	0.062	0.002
	(0.055)	(0.059)	(0.050)	(0.044)	(0.042)	(0.046)
D1_rec1	0.022	0.126**	0.026	-0.020	-0.009	0.059
	(0.044)	(0.047)	(0.040)	(0.035)	(0.034)	(0.037)
$D7\_rec1$	$-0.135^{***}$	0.099*	0.006	-0.003	0.019	-0.006
	(0.037)	(0.040)	(0.034)	(0.030)	(0.029)	(0.032)
$D7\_rec2$	-0.015	0.166	0.063	0.110	0.068	-0.073
	(0.083)	(0.089)	(0.076)	(0.066)	(0.064)	(0.071)
D6_une1	0.141*	0.004	0.048	0.025	0.014	-0.029
	(0.062)	(0.066)	(0.056)	(0.049)	(0.049)	(0.054)
D4_age	0.0002	0.002*	0.002*	-0.0002	-0.001	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
$D10\_rec$	$-0.027^*$	0.043***	-0.002	0.010	0.002	0.007
	(0.012)	(0.012)	(0.011)	(0.009)	(0.009)	(0.010)
Constant	$0.436^{***}$	-0.012	0.071	0.118	0.122	$0.267^{***}$
	(0.086)	(0.093)	(0.079)	(0.069)	(0.067)	(0.074)
N	429	429	430	426	426	427
R-squared	0.092	0.103	0.034	0.019	0.035	0.037
Adj. R-squared	0.068	0.079	0.009	-0.007	0.009	0.012
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<sup>\*\*\*</sup>p < .001; \*\*p < .01; \*p < .05

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

	501	502	503	504	505	505	507
	Model 7	Model 8	Model 9	Model 10	Model 11a	Model 11b	Model 12
$D3\_rec2$	0.831*	0.009	-0.026	-0.574	0.765	0.480	-0.710
	(0.376)	(0.289)	(0.396)	(0.535)	(1.003)	(0.948)	(0.666)
$D8\_rec1$	-0.400	-0.590	-0.453	-0.126	17.416		0.650
	(0.405)	(0.342)	(0.458)	(0.695)	(4596.323)		(0.866)
$D5\_rec1$	0.788	-0.058	0.178	-0.254	18.156		0.607
	(0.472)	(0.366)	(0.498)	(0.652)	(4131.731)		(0.859)
$EDU\_rec2$	-0.578	0.084	0.412	-0.706	18.744		0.527
	(0.435)	(0.407)	(0.541)	(0.731)	(4353.602)		(0.830)
$EDU\_rec3$	-0.558	0.567	0.841	-0.133	19.398		-2.071
	(0.552)	(0.474)	(0.657)	(0.748)	(4353.602)		(1.285)
D1_rec1	0.116	0.366	0.500	0.393	-18.666		1.438*
	(0.415)	(0.322)	(0.422)	(0.614)	(4622.859)		(0.629)
$D7\_rec1$	-1.147**	0.862*	-0.585	1.074	-0.675		0.979
	(0.377)	(0.339)	(0.405)	(0.692)	(0.992)		(0.739)
$D7\_rec2$	-1.344	0.869	-15.491	1.801	-19.230		0.864
	(1.081)	(0.677)	(846.929)	(0.990)	(9246.777)		(1.327)
D6_une1	0.740	-0.166	0.593	-0.022	-17.834		-16.117
	(0.517)	(0.577)	(0.610)	(1.079)	(6687.900)		(1678.260)
D4_age	0.031*	0.035***	0.035*	0.005	0.047	0.019	-0.024
	(0.012)	(0.010)	(0.014)	(0.016)	(0.039)	(0.026)	(0.020)
$D10\_rec$	-0.136	0.252**	0.045	0.009	-0.328	-0.294	-0.251
	(0.113)	(0.098)	(0.127)	(0.167)	(0.303)	(0.286)	(0.222)
Constant	-3.008**	$-4.667^{***}$	-4.409***	-3.456**	-58.902	-4.437**	$-3.020^*$
	(0.979)	(0.799)	(1.124)	(1.269)	(7559.844)	(1.605)	(1.380)
N	394	394	394	394	394	394	394
Log Likelihood	-120.313	-167.444	-104.814	-63.785	-19.719	-26.120	-45.731
AIC	264.627	358.889	233.628	151.571	63.438	60.239	115.462

<sup>\*\*\*</sup>p < .001; \*\*p < .01; \*p < .05

## 3 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 3.1).

Table 3.1: 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 stack_1507	1506 1507	More Europe (+Europa) Brothers of Italy - National Centre-right

Full OLS models converge and coefficients do not show any particular issue (see Table 3.4). 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 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_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
$\rm stack\_1506$	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 3.5) 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 3.3).

Table 3.3: 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

 $<sup>^{*}</sup>$  AIC value refers to Model 11b (constrained).

 $\label{eq:conding} \begin{tabular}{ll} Table 3.4: Propensity to vote for a relevant party according to respondents' socio-demographic characteristics (OLS regression models) \\ \end{tabular}$ 

	1501	1502	1503	1504	1505	1506	1507
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
D3_rec2	0.020	-0.024	0.006	-0.022	0.055**	0.067***	-0.017
	(0.022)	(0.020)	(0.026)	(0.023)	(0.018)	(0.019)	(0.022)
$D8\_rec1$	0.052	0.014	0.003	0.015	-0.023	-0.012	0.009
	(0.032)	(0.028)	(0.037)	(0.034)	(0.026)	(0.028)	(0.031)
$D5\_rec1$	0.007	-0.012	0.003	0.056*	0.031	0.003	0.008
	(0.025)	(0.022)	(0.029)	(0.026)	(0.020)	(0.021)	(0.024)
$EDU\_rec2$	0.010	-0.020	-0.087	-0.064	-0.047	-0.048	0.028
	(0.039)	(0.035)	(0.045)	(0.041)	(0.032)	(0.033)	(0.038)
$EDU\_rec3$	0.066	-0.045	-0.189***	-0.074	0.017	0.010	-0.021
	(0.041)	(0.036)	(0.047)	(0.042)	(0.033)	(0.034)	(0.039)
D1_rec1	0.182***	0.083**	-0.002	0.009	0.148***	0.136***	0.027
	(0.030)	(0.027)	(0.035)	(0.032)	(0.024)	(0.026)	(0.029)
D7_rec1	0.034	0.089***	0.005	-0.025	-0.018	0.037	0.060*
	(0.025)	(0.022)	(0.028)	(0.026)	(0.020)	(0.021)	(0.024)
$D7\_rec2$	0.064	0.095**	0.014	$-0.147^{***}$	0.018	0.103**	$0.095^{*}$
	(0.040)	(0.035)	(0.047)	(0.042)	(0.032)	(0.034)	(0.039)
D4_age	0.0001	-0.002**	-0.001	-0.004***	-0.002***	-0.003***	-0.0005
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
$D10\_rec$	0.002	0.020***	0.021***	0.016**	$-0.009^*$	0.0004	0.019***
	(0.005)	(0.004)	(0.006)	(0.005)	(0.004)	(0.004)	(0.005)
Constant	0.177**	0.272***	0.530***	0.577***	0.319***	0.335***	0.219***
	(0.064)	(0.056)	(0.074)	(0.067)	(0.052)	(0.054)	(0.062)
N	902	903	904	904	896	872	899
R-squared	0.056	0.071	0.038	0.052	0.086	0.090	0.037
Adj. R-squared	0.045	0.061	0.028	0.041	0.076	0.079	0.026

 $<sup>^{***}</sup>p < .001; \, ^{**}p < .01; \, ^{*}p < .05$ 

Table 3.5: Vote choice for a relevant party according to respondents' socio-demographic characteristics (Logistic regression models)

	1501	1502	1503	1504	1505	1506	1507
	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
D2 0							
$D3\_rec2$	0.050	-0.239	-0.228	-0.111	-0.337	0.161	-0.113
<b>D</b> 0 4	(0.184)	(0.336)	(0.156)	(0.184)	(0.457)	(0.347)	(0.336)
$D8\_rec1$	0.613*	1.094	0.087	-0.110	-0.586	-0.176	-0.374
	(0.304)	(0.740)	(0.225)	(0.257)	(0.510)	(0.469)	(0.438)
$D5\_rec1$	0.263	0.022	0.063	0.330	0.020	-0.660	0.303
	(0.210)	(0.369)	(0.173)	(0.209)	(0.486)	(0.355)	(0.395)
$EDU\_rec2$	0.147	-0.639	$-0.548^*$	0.515	-0.286	-0.387	0.662
	(0.345)	(0.540)	(0.247)	(0.351)	(0.688)	(0.670)	(0.761)
$EDU\_rec3$	0.504	-0.456	-0.857**	0.439	-0.065	0.646	0.966
	(0.350)	(0.545)	(0.262)	(0.365)	(0.718)	(0.640)	(0.770)
D1_rec1	0.286	0.204	-0.091	-0.214	1.031*	-0.299	-1.007
	(0.238)	(0.406)	(0.210)	(0.253)	(0.492)	(0.507)	(0.616)
$D7\_rec1$	0.219	0.870*	0.151	-0.292	-1.082*	-0.152	0.132
	(0.210)	(0.418)	(0.172)	(0.192)	(0.515)	(0.387)	(0.377)
D7  rec2	$0.752^{*}$	0.466	$0.388^{'}$	$-1.563^{**}$	-0.471	0.614	-0.013
	(0.301)	(0.638)	(0.269)	(0.485)	(0.788)	(0.527)	(0.605)
D4 age	0.016**	-0.015	0.004	-0.002	0.016	-0.008	0.010
	(0.006)	(0.011)	(0.005)	(0.006)	(0.015)	(0.011)	(0.011)
D10_rec	-0.052	$0.157^{st}$	0.049	$0.055^{'}$	-0.202	-0.120	$0.142^{'}$
_	(0.040)	(0.073)	(0.034)	(0.040)	(0.108)	(0.079)	(0.073)
Constant	$-3.572^{***}$	$-3.875^{***}$	$-0.893^{*}$	$-1.885^{***}$	$-3.041^{*}$	$-2.118^{*}$	$-4.594^{***}$
	(0.581)	(1.056)	(0.431)	(0.551)	(1.196)	(0.955)	(1.111)
N	873	873	873	873	873	873	873
Log Likelihood	-384.478	-150.549	-495.833	-386.749	-90.713	-141.251	-150.214
AIC	790.955	323.098	1013.665	795.498	203.427	304.503	322.427

<sup>\*\*\*</sup>p < .001; \*\*p < .01; \*p < .05