Predicted Probability of Event using Marginal Model

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ATS5K
Response Variable	eventb
Response Distribution	Binary
Link Function	Logit
Variance Function	Default
Variance Matrix Blocked By	pat_id
Estimation Technique	Maximum Likelihood
Likelihood Approximation	Laplace
Degrees of Freedom Method	Containment

Class Level Information		
Class	**Levels**	**Values**
pat_id	5000	not printed
region	4	1 2 3 4
Trt_Step	6	1 2 3 4 5 0
gender	2	2 1
Insurance	6	2 3 4 5 6 1

Number of Observations Read	127071
Number of Observations Used	127071

Response Profile		
Ordered Value	**eventb**	**Total Frequency**
1	1	13128
2	0	113943
The GLIMMIX procedure is modeling the probability that eventb='1'.		

Dimensions	
G-side Cov. Parameters	2
Columns in X	30
Columns in Z per Subject	2
Subjects (Blocks in V)	5000
Max Obs per Subject	218

Predicted Probability of Event using Marginal Model

The GLIMMIX Procedure

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	27
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Not Profiled
Starting From	GLM estimates

Iteration History

Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	**0**	4	76144.460312	.	70029.53
1	**0**	6	76023.389369	121.07094242	16801.61
2	**0**	2	76014.653041	8.73632868	5370.165
3	**0**	2	76012.460215	2.19282557	2906.322
4	**0**	2	76011.600469	0.85974634	1801.538
5	**0**	4	76011.090612	0.50985703	2382.051
6	**0**	4	76003.61545	7.47516172	9530.061
7	**0**	2	76000.009805	3.60564455	10484.17
8	**0**	2	75995.250587	4.75921839	925.1498
9	**0**	2	75990.268614	4.98197330	2903.227
10	**0**	3	75989.869417	0.39919699	340.0565
11	**0**	2	75989.748126	0.12129070	1715.753
12	**0**	4	75988.019397	1.72872906	4483.81
13	**0**	4	75981.146818	6.87257944	8926.001
14	**0**	4	75963.797188	17.34962996	967.9277
15	**0**	3	75963.555641	0.24154688	992.339
16	**0**	4	75962.937548	0.61809276	1404.775
17	**0**	4	75953.196539	9.74100853	3215.378
18	**0**	2	75937.325966	15.87057368	1484.145
19	**0**	3	75933.067523	4.25844284	1290.764
20	**0**	3	75932.649541	0.41798159	242.4842
21	**0**	3	75932.616854	0.03268745	239.0126
22	**0**	4	75932.483975	0.13287850	641.5407
23	**0**	4	75932.170776	0.31319920	428.6978
24	**0**	6	75923.83339	8.33738637	4723.262
25	**0**	3	75919.056495	4.77689465	622.6395

Predicted Probability of Event using Marginal Model

The GLIMMIX Procedure

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
26	**0**	2	75916.090711	2.96578452	2261.725
27	**0**	3	75915.572808	0.51790258	152.1451
28	**0**	3	75915.566189	0.00661876	154.9122
29	**0**	6	75915.403784	0.16240499	690.5761
30	**0**	2	75915.204937	0.19884775	149.893
31	**0**	4	75913.394297	1.81063969	959.4266
32	**0**	2	75912.476147	0.91814989	626.521
33	**0**	2	75912.031865	0.44428165	535.9055
34	**0**	2	75911.523147	0.50871822	172.3872
35	**0**	4	75910.113745	1.40940221	502.2428
36	**0**	3	75909.608113	0.50563187	55.25517
37	**0**	3	75909.605968	0.00214496	56.4542
38	**0**	6	75909.293927	0.31204097	380.0369
39	**0**	3	75909.078907	0.21502000	51.39027
40	**0**	4	75908.559092	0.51981484	751.1296
41	**0**	2	75908.068145	0.49094751	269.6479
42	**0**	3	75907.889671	0.17847386	208.7954
43	**0**	4	75905.791384	2.09828671	164.8597
44	**0**	3	75905.766933	0.02445116	55.41086
45	**0**	3	75905.765529	0.00140393	55.72902
46	**0**	4	75905.750032	0.01549737	61.58598
47	**0**	4	75905.686432	0.06359955	47.76409
48	**0**	6	75903.947082	1.73935051	1158.749
49	**0**	3	75903.827241	0.11984031	96.48244
50	**0**	3	75903.823133	0.00410818	107.9256
51	**0**	2	75903.819893	0.00323991	49.14238
52	**0**	3	75903.819108	0.00078548	33.35748
53	**0**	8	75902.887147	0.93196034	460.5382

Convergence criterion (GCONV=1E-8) satisfied.

Predicted Probability of Event using Marginal Model

The GLIMMIX Procedure

Fit Statistics	
-2 Log Likelihood	75902.89
AIC (smaller is better)	75956.89
AICC (smaller is better)	75956.90
BIC (smaller is better)	76132.85
CAIC (smaller is better)	76159.85
HQIC (smaller is better)	76018.56

Fit Statistics for Conditional Distribution	
-2 log L(eventb | r. effects)	68450.53
Pearson Chi-Square	102022.4
Pearson Chi-Square / DF	0.80

Covariance Parameter Estimates			
Cov Parm	Subject	Estimate	Standard Error
Intercept	pat_id	0.6367	0.02955
year	pat_id	0.05044	0.005702

Solutions for Fixed Effects												
Effect	region	Trt_Step	gender	Insurance	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
Intercept					-1.5110	0.05023	4989	-30.08	<.0001	0.05	-1.6094	-1.4125
year					-0.5416	0.04076	4999	-13.29	<.0001	0.05	-0.6215	-0.4617
year*year					0.1472	0.01852	117E3	7.95	<.0001	0.05	0.1109	0.1835
year*year*year					-0.01720	0.002183	117E3	-7.88	<.0001	0.05	-0.02148	-0.01292
Trt_Step		1			-0.5221	0.04267	117E3	-12.24	<.0001	0.05	-0.6057	-0.4385
Trt_Step		2			-1.2339	0.06396	117E3	-19.29	<.0001	0.05	-1.3593	-1.1085
Trt_Step		3			-0.9512	0.06169	117E3	-15.42	<.0001	0.05	-1.0721	-0.8303
Trt_Step		4			-0.8203	0.06046	117E3	-13.57	<.0001	0.05	-0.9388	-0.7018
Trt_Step		5			0.8883	0.08866	117E3	10.02	<.0001	0.05	0.7146	1.0621
Trt_Step		0			0	.	.	.	.	.	.	.
year*Trt_Step		1			-0.1134	0.02169	117E3	-5.23	<.0001	0.05	-0.1559	-0.07088
year*Trt_Step		2			-0.1363	0.03540	117E3	-3.85	0.0001	0.05	-0.2056	-0.06689
year*Trt_Step		3			-0.03052	0.02990	117E3	-1.02	0.3074	0.05	-0.08913	0.02809
year*Trt_Step		4			-0.00506	0.02736	117E3	-0.19	0.8532	0.05	-0.05868	0.04855
year*Trt_Step		5			-0.06917	0.03940	117E3	-1.76	0.0792	0.05	-0.1464	0.008053

Predicted Probability of Event using Marginal Model

The GLIMMIX Procedure

Solutions for Fixed Effects												
Effect	**region**	**Trt_Step**	**gender**	**Insurance**	**Estimate**	**Standard Error**	**DF**	**t Value**	**Pr > |t|**	**Alpha**	**Lower**	**Upper**
year*Trt_Step		0			0	.	.	.	.	.	.	.
age					0.000998	0.000999	117E3	1.00	0.3176	0.05	-0.00096	0.002956
gender			2		0.2368	0.03597	117E3	6.58	<.0001	0.05	0.1663	0.3073
gender			1		0	.	.	.	.	.	.	.
region	1				-0.1722	0.04666	117E3	-3.69	0.0002	0.05	-0.2636	-0.08070
region	2				-0.1979	0.04439	117E3	-4.46	<.0001	0.05	-0.2849	-0.1109
region	3				-0.1975	0.06160	117E3	-3.21	0.0013	0.05	-0.3182	-0.07672
region	4				0	.	.	.	.	.	.	.
CCI					0.05947	0.02703	117E3	2.20	0.0278	0.05	0.006493	0.1124
Insurance				2	-0.1004	0.1988	117E3	-0.50	0.6136	0.05	-0.4901	0.2893
Insurance				3	0.02018	0.08727	117E3	0.23	0.8172	0.05	-0.1509	0.1912
Insurance				4	-0.05596	0.2429	117E3	-0.23	0.8178	0.05	-0.5320	0.4201
Insurance				5	0.07230	0.05413	117E3	1.34	0.1817	0.05	-0.03379	0.1784
Insurance				6	-0.01448	0.2647	117E3	-0.05	0.9564	0.05	-0.5333	0.5043
Insurance				1	0	.	.	.	.	.	.	.

Predicted Probability of Event using Marginal Model

The GLIMMIX Procedure

Odds Ratio Estimates													
region	Trt_Step	gender	Insurance	year	age	CCI	_region	_Trt_Step	_gender	_Insurance	_year	_age	_CCI
				1.8235	32.308	0.3256					1.8235	31.308	0.3256
				1.8235	31.308	1.3256					1.8235	31.308	0.3256
	1			1.8235	31.308	0.3256		0			1.8235	31.308	0.3256
	2			1.8235	31.308	0.3256		0			1.8235	31.308	0.3256
	3			1.8235	31.308	0.3256		0			1.8235	31.308	0.3256
	4			1.8235	31.308	0.3256		0			1.8235	31.308	0.3256
	5			1.8235	31.308	0.3256		0			1.8235	31.308	0.3256
	1			2.8235	31.308	0.3256		1			1.8235	31.308	0.3256
	2			2.8235	31.308	0.3256		2			1.8235	31.308	0.3256
	3			2.8235	31.308	0.3256		3			1.8235	31.308	0.3256
	4			2.8235	31.308	0.3256		4			1.8235	31.308	0.3256
	5			2.8235	31.308	0.3256		5			1.8235	31.308	0.3256
	0			2.8235	31.308	0.3256		0			1.8235	31.308	0.3256
		2		1.8235	31.308	0.3256			1		1.8235	31.308	0.3256
1				1.8235	31.308	0.3256	4				1.8235	31.308	0.3256
2				1.8235	31.308	0.3256	4				1.8235	31.308	0.3256
3				1.8235	31.308	0.3256	4				1.8235	31.308	0.3256
			2	1.8235	31.308	0.3256				1	1.8235	31.308	0.3256
			3	1.8235	31.308	0.3256				1	1.8235	31.308	0.3256
			4	1.8235	31.308	0.3256				1	1.8235	31.308	0.3256
			5	1.8235	31.308	0.3256				1	1.8235	31.308	0.3256
			6	1.8235	31.308	0.3256				1	1.8235	31.308	0.3256

Effects of continuous variables are assessed as one unit offsets from the mean.
The AT suboption modifies the reference value and the UNIT suboption modifies the offsets.

Predicted Probability of Event using Marginal Model

The GLIMMIX Procedure

Odds Ratio Estimates													
region	Trt_Step	gender	Insurance	year	age	CCI	_region	_Trt_Step	_gender	_Insurance	_year	_age	Estimate
				1.8235	32.308	0.3256					1.8235	31.308	1.001
				1.8235	31.308	1.3256					1.8235	31.308	1.061
	1			1.8235	31.308	0.3256		0			1.8235	31.308	0.482
	2			1.8235	31.308	0.3256		0			1.8235	31.308	0.227
	3			1.8235	31.308	0.3256		0			1.8235	31.308	0.365
	4			1.8235	31.308	0.3256		0			1.8235	31.308	0.436
	5			1.8235	31.308	0.3256		0			1.8235	31.308	2.143
	1			2.8235	31.308	0.3256		1			1.8235	31.308	0.776
	2			2.8235	31.308	0.3256		2			1.8235	31.308	0.758
	3			2.8235	31.308	0.3256		3			1.8235	31.308	0.843
	4			2.8235	31.308	0.3256		4			1.8235	31.308	0.865
	5			2.8235	31.308	0.3256		5			1.8235	31.308	0.811
	0			2.8235	31.308	0.3256		0			1.8235	31.308	0.869
		2		1.8235	31.308	0.3256			1		1.8235	31.308	1.267
1				1.8235	31.308	0.3256	4				1.8235	31.308	0.842
2				1.8235	31.308	0.3256	4				1.8235	31.308	0.820
3				1.8235	31.308	0.3256	4				1.8235	31.308	0.821
			2	1.8235	31.308	0.3256				1	1.8235	31.308	0.904
			3	1.8235	31.308	0.3256				1	1.8235	31.308	1.020
			4	1.8235	31.308	0.3256				1	1.8235	31.308	0.946
			5	1.8235	31.308	0.3256				1	1.8235	31.308	1.075
			6	1.8235	31.308	0.3256				1	1.8235	31.308	0.986

Effects of continuous variables are assessed as one unit offsets from the mean.
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Predicted Probability of Event using Marginal Model

The GLIMMIX Procedure

Odds Ratio Estimates													
region	Trt_Step	gender	Insurance	year	age	CCI	_region	_Trt_Step	_gender	_Insurance	_year	_age	DF
				1.8235	32.308	0.3256					1.8235	31.308	117E3
				1.8235	31.308	1.3256					1.8235	31.308	117E3
	1			1.8235	31.308	0.3256		0			1.8235	31.308	117E3
	2			1.8235	31.308	0.3256		0			1.8235	31.308	117E3
	3			1.8235	31.308	0.3256		0			1.8235	31.308	117E3
	4			1.8235	31.308	0.3256		0			1.8235	31.308	117E3
	5			1.8235	31.308	0.3256		0			1.8235	31.308	117E3
	1			2.8235	31.308	0.3256		1			1.8235	31.308	117E3
	2			2.8235	31.308	0.3256		2			1.8235	31.308	117E3
	3			2.8235	31.308	0.3256		3			1.8235	31.308	117E3
	4			2.8235	31.308	0.3256		4			1.8235	31.308	117E3
	5			2.8235	31.308	0.3256		5			1.8235	31.308	117E3
	0			2.8235	31.308	0.3256		0			1.8235	31.308	117E3
		2		1.8235	31.308	0.3256			1		1.8235	31.308	117E3
1				1.8235	31.308	0.3256	4				1.8235	31.308	117E3
2				1.8235	31.308	0.3256	4				1.8235	31.308	117E3
3				1.8235	31.308	0.3256	4				1.8235	31.308	117E3
			2	1.8235	31.308	0.3256				1	1.8235	31.308	117E3
			3	1.8235	31.308	0.3256				1	1.8235	31.308	117E3
			4	1.8235	31.308	0.3256				1	1.8235	31.308	117E3
			5	1.8235	31.308	0.3256				1	1.8235	31.308	117E3
			6	1.8235	31.308	0.3256				1	1.8235	31.308	117E3

Effects of continuous variables are assessed as one unit offsets from the mean.
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Predicted Probability of Event using Marginal Model

The GLIMMIX Procedure

Odds Ratio Estimates

region	Trt_Step	gender	Insurance	year	age	CCI	_region	_Trt_Step	_gender	_Insurance	_year	_age	95% Confidence Limits	
				1.8235	32.308	0.3256					1.8235	31.308	0.999	1.003
				1.8235	31.308	1.3256					1.8235	31.308	1.007	1.119
	1			1.8235	31.308	0.3256		0			1.8235	31.308	0.454	0.513
	2			1.8235	31.308	0.3256		0			1.8235	31.308	0.207	0.249
	3			1.8235	31.308	0.3256		0			1.8235	31.308	0.335	0.398
	4			1.8235	31.308	0.3256		0			1.8235	31.308	0.403	0.472
	5			1.8235	31.308	0.3256		0			1.8235	31.308	1.901	2.416
	1			2.8235	31.308	0.3256		1			1.8235	31.308	0.738	0.816
	2			2.8235	31.308	0.3256		2			1.8235	31.308	0.704	0.816
	3			2.8235	31.308	0.3256		3			1.8235	31.308	0.791	0.899
	4			2.8235	31.308	0.3256		4			1.8235	31.308	0.815	0.917
	5			2.8235	31.308	0.3256		5			1.8235	31.308	0.747	0.880
	0			2.8235	31.308	0.3256		0			1.8235	31.308	0.839	0.900
		2		1.8235	31.308	0.3256			1		1.8235	31.308	1.181	1.360
1				1.8235	31.308	0.3256	4				1.8235	31.308	0.768	0.922
2				1.8235	31.308	0.3256	4				1.8235	31.308	0.752	0.895
3				1.8235	31.308	0.3256	4				1.8235	31.308	0.727	0.926
			2	1.8235	31.308	0.3256				1	1.8235	31.308	0.613	1.336
			3	1.8235	31.308	0.3256				1	1.8235	31.308	0.860	1.211
			4	1.8235	31.308	0.3256				1	1.8235	31.308	0.587	1.522
			5	1.8235	31.308	0.3256				1	1.8235	31.308	0.967	1.195
			6	1.8235	31.308	0.3256				1	1.8235	31.308	0.587	1.656

Effects of continuous variables are assessed as one unit offsets from the mean.
The AT suboption modifies the reference value and the UNIT suboption modifies the offsets.

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
year	1	4999	206.10	<.0001
year*year	1	117E3	63.18	<.0001
year*year*year	1	117E3	62.04	<.0001
Trt_Step	5	117E3	181.38	<.0001
year*Trt_Step	5	117E3	8.15	<.0001
age	1	117E3	1.00	0.3176
gender	1	117E3	43.34	<.0001

Predicted Probability of Event using Marginal Model

The GLIMMIX Procedure

Type III Tests of Fixed Effects				
Effect	**Num DF**	**Den DF**	**F Value**	**Pr > F**
region	3	117E3	8.17	<.0001
CCI	1	117E3	4.84	0.0278
Insurance	5	117E3	0.44	0.8176