

Conditional Logit Estimates

Algorithm converged.

Model Fit Summary

Dependent Variable	Y
Number of Observations	823
Number of Cases	27982
Log Likelihood	-1739
Maximum Absolute Gradient	2.70719E-6
Number of Iterations	6
Optimization Method	Newton-Raphson
AIC	3489
Schwarz Criterion	3512

Discrete Response Profile

Index	site	Frequency	Percent
0	1	1	0.12
1	2	11	1.34
2	3	25	3.04
3	4	3	0.36
4	5	19	2.31
5	6	18	2.19
6	7	5	0.61
7	8	5	0.61
8	9	77	9.36
9	10	84	10.21
10	11	104	12.64
11	12	5	0.61
12	13	36	4.37
13	14	49	5.95

14	15	203	24.67
15	16	2	0.24
16	17	27	3.28
17	18	11	1.34
18	19	7	0.85
19	20	1	0.12
20	21	2	0.24
21	22	9	1.09
22	23	5	0.61
23	24	14	1.70
24	25	7	0.85
25	26	16	1.94
26	27	3	0.36
27	28	3	0.36
28	29	15	1.82
29	30	1	0.12
30	31	29	3.52
31	32	6	0.73
32	33	6	0.73
33	34	14	1.70

Goodness-of-Fit Measures

Measure	Value	Formula
Likelihood Ratio (R)	2325.6	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	5804.4	$- 2 * \text{LogL0}$
Aldrich-Nelson	0.7386	$R / (R+N)$
Cragg-Uhler 1	0.9407	$1 - \exp(-R/N)$

N = # of observations, K = # of regressors

The SAS System

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The MDC Procedure

Conditional Logit Estimates

Goodness-of-Fit Measures

Measure	Value	Formula
Cragg-Uhler 2	0.9416	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.973	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.9724	$1 - ((\text{LogL} - K) / \text{LogL0})^{(-2/N * \text{LogL0})}$
McFadden's LRI	0.4007	R / U
Veall-Zimmermann	0.8433	$(R * (U + N)) / (U * (R + N))$

N = # of observations, K = # of regressors

The SAS System

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The MDC Procedure

Conditional Logit Estimates

Parameter Estimates

Parameter	DF	Estimate	Standard Error	t Value	Approx Pr > t
tcfee	1	-0.0400	0.001470	-27.18	<.0001
pbigsq	1	2.2166	0.4470	4.96	<.0001
psmallsq	1	2.3246	0.1715	13.55	<.0001
bigamesq	1	2.7918	0.6278	4.45	<.0001
lognsite	1	0.0436	0.0462	0.94	0.3453

The SAS System

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The MDC Procedure

Conditional Logit Estimates

Algorithm converged.

Model Fit Summary

Dependent Variable	Y
Number of Observations	823
Number of Cases	27982
Log Likelihood	-1737
Maximum Absolute Gradient	5.6019E-11
Number of Iterations	7
Optimization Method	Newton-Raphson
AIC	3490
Schwarz Criterion	3528

Discrete Response Profile

Index	site	Frequency	Percent
0	1	1	0.12
1	2	11	1.34
2	3	25	3.04
3	4	3	0.36
4	5	19	2.31
5	6	18	2.19
6	7	5	0.61
7	8	5	0.61
8	9	77	9.36
9	10	84	10.21
10	11	104	12.64
11	12	5	0.61
12	13	36	4.37
13	14	49	5.95

14	15	203	24.67
15	16	2	0.24
16	17	27	3.28
17	18	11	1.34
18	19	7	0.85
19	20	1	0.12
20	21	2	0.24
21	22	9	1.09
22	23	5	0.61
23	24	14	1.70
24	25	7	0.85
25	26	16	1.94
26	27	3	0.36
27	28	3	0.36
28	29	15	1.82
29	30	1	0.12
30	31	29	3.52
31	32	6	0.73
32	33	6	0.73
33	34	14	1.70

Goodness-of-Fit Measures

Measure	Value	Formula
Likelihood Ratio (R)	2330.5	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	5804.4	$- 2 * \text{LogL0}$
Aldrich-Nelson	0.739	$R / (R+N)$
Cragg-Uhler 1	0.9411	$1 - \exp(-R/N)$

N = # of observations, K = # of regressors

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Conditional Logit Estimates

Goodness-of-Fit Measures

Measure	Value	Formula
Cragg-Uhler 2	0.9419	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.9732	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.9723	$1 - ((\text{LogL} - K) / \text{LogL0})^{(-2/N * \text{LogL0})}$
McFadden's LRI	0.4015	R / U
Veall-Zimmermann	0.8438	$(R * (U + N)) / (U * (R + N))$

N = # of observations, K = # of regressors

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The MDC Procedure

Conditional Logit Estimates

Parameter Estimates

Parameter	DF	Estimate	Standard Error	t Value	Approx Pr > t
tcfee	1	-0.0419	0.001596	-26.28	<.0001
pbig	1	8.3105	1.0933	7.60	<.0001
psmall	1	1.6940	0.1834	9.23	<.0001
bigame	1	-0.8942	2.2940	-0.39	0.6967
pbig2	1	-10.1602	1.8606	-5.46	<.0001
psmall2	1	-0.1439	0.0304	-4.74	<.0001
bigame2	1	21.8855	5.3349	4.10	<.0001
lognsite	1	0.0784	0.0459	1.71	0.0874

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The MDC Procedure
Nested Logit Estimates

Algorithm converged.

Model Fit Summary

Dependent Variable	Y
Number of Observations	823
Number of Cases	27982
Log Likelihood	-1564
Maximum Absolute Gradient	0.0000172
Number of Iterations	13
Optimization Method	Newton-Raphson
AIC	3141
Schwarz Criterion	3169

Discrete Response Profile

Index	site	Frequency	Percent
0	1	1	0.12
1	2	11	1.34
2	3	25	3.04
3	4	3	0.36
4	5	19	2.31
5	6	18	2.19
6	7	5	0.61
7	8	5	0.61
8	9	77	9.36
9	10	84	10.21
10	11	104	12.64

11	12	5	0.61
12	13	36	4.37
13	14	49	5.95
14	15	203	24.67
15	16	2	0.24
16	17	27	3.28
17	18	11	1.34
18	19	7	0.85
19	20	1	0.12
20	21	2	0.24
21	22	9	1.09
22	23	5	0.61
23	24	14	1.70
24	25	7	0.85
25	26	16	1.94
26	27	3	0.36
27	28	3	0.36
28	29	15	1.82
29	30	1	0.12
30	31	29	3.52
31	32	6	0.73
32	33	6	0.73
33	34	14	1.70

Goodness-of-Fit Measures

Measure	Value	Formula
Likelihood Ratio (R)	2675.7	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	5804.4	$- 2 * \text{LogL0}$
Aldrich-Nelson	0.7648	$R / (R+N)$
Cragg-Uhler 1	0.9613	$1 - \exp (-R/N)$

N = # of observations, K = # of regressors

The MDC Procedure

Nested Logit Estimates

Goodness-of-Fit Measures

Measure	Value	Formula
Cragg-Uhler 2	0.9621	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.9872	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.9869	$1 - ((\text{Log}L - K) / \text{Log}L0)^{(-2/N * \text{Log}L0)}$
McFadden's LRI	0.461	R / U
Veall-Zimmermann	0.8732	$(R * (U + N)) / (U * (R + N))$

N = # of observations, K = # of regressors

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The MDC Procedure

Nested Logit Estimates

Parameter Estimates

Parameter	DF	Estimate	Standard Error	t Value	Approx Pr > t
tcfee_L1	1	-0.0770	0.003324	-23.17	<.0001
pbigsq_L1	1	5.7644	0.6790	8.49	<.0001
psmallsq_L1	1	2.0138	0.2528	7.97	<.0001
bigamesq_L1	1	-3.0395	0.8213	-3.70	0.0002
lognsite_L1	1	0.1791	0.0539	3.33	0.0009
INC_L2G1	1	0.2792	0.0176	15.87	<.0001

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The MDC Procedure

Nested Logit Estimates

Algorithm converged.

Model Fit Summary

Dependent Variable	y
Number of Observations	823
Number of Cases	27982
Log Likelihood	-1668
Maximum Absolute Gradient	0.0000544
Number of Iterations	17
Optimization Method	Newton-Raphson
AIC	3355
Schwarz Criterion	3397

Discrete Response Profile

Index	site	Frequency	Percent
0	1	1	0.12
1	2	11	1.34
2	3	25	3.04
3	4	3	0.36
4	5	19	2.31
5	6	18	2.19
6	7	5	0.61
7	8	5	0.61
8	9	77	9.36
9	10	84	10.21

10	11	104	12.64
11	12	5	0.61
12	13	36	4.37
13	14	49	5.95
14	15	203	24.67
15	16	2	0.24
16	17	27	3.28
17	18	11	1.34
18	19	7	0.85
19	20	1	0.12
20	21	2	0.24
21	22	9	1.09
22	23	5	0.61
23	24	14	1.70
24	25	7	0.85
25	26	16	1.94
26	27	3	0.36
27	28	3	0.36
28	29	15	1.82
29	30	1	0.12
30	31	29	3.52
31	32	6	0.73
32	33	6	0.73
33	34	14	1.70

Goodness-of-Fit Measures

Measure	Value	Formula
Likelihood Ratio (R)	2467.4	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	5804.4	$- 2 * \text{LogL0}$
Aldrich-Nelson	0.7499	$R / (R+N)$
Cragg-Uhler 1	0.9501	$1 - \exp(-R/N)$

N = # of observations, K = # of regressors

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The MDC Procedure

Nested Logit Estimates

Goodness-of-Fit Measures

Measure	Value	Formula
Cragg-Uhler 2	0.9509	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.9798	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.9791	$1 - ((\text{Log}L - K) / \text{Log}L0)^{(-2/N * \text{Log}L0)}$
McFadden's LRI	0.4251	R / U
Veall-Zimmermann	0.8562	$(R * (U + N)) / (U * (R + N))$

N = # of observations, K = # of regressors

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The MDC Procedure

Nested Logit Estimates

Parameter Estimates

Parameter	DF	Estimate	Standard Error	t Value	Approx Pr > t
tcfee_L1	1	-0.0590	0.002587	-22.82	<.0001
pbig_L1	1	15.4189	1.6098	9.58	<.0001
psmall_L1	1	0.9163	0.2184	4.20	<.0001
bigame_L1	1	-6.1057	2.8669	-2.13	0.0332
pbig2_L1	1	-17.7082	2.7080	-6.54	<.0001
psmall2_L1	1	-0.0417	0.0366	-1.14	0.2543

bigame2_L1	1	40.4480	6.2766	6.44	<.0001
lognsite_L1	1	0.0972	0.0516	1.88	0.0597
INC_L2G1	1	0.4142	0.0301	13.75	<.0001