APPENDIX D

LIKELIHOOD AND WALD TEST FOR INDEPENDENT VARIABLES, COMBINING DEPENDENT CATEGORIES AND IIA TESTS

Table D.1

Testing for Independent Variables

Scenario 1				
Wald Test				
		2004		
Variable	1998	case 1	case 2	case 3
dist	121.970*	50.186*	48.206*	2.081
difdistx	122.213*	24.114*	115.357*	9.294***
Scenario 2				
Wald Test				
		2004		
Variable	1998	case 1	case 2	case 3
dist	55.940*	49.388*	47.478*	1.925
difdistx	62.095*	24.082*	129.652*	5.577
Scenario 3				
Wald Test				
		2004		
Variable	1998	case 1	case 2	case 3
dist	0.848	42.979*	37.482*	6.139***
difdistx	0.862	24.941*	20094.015*	0.290

Table D.2

Testing for Combining Dependent Categories

Scenario 1				
		2004		
Alternatives Tested	1998	case 1	case 2	case 3
1 vs 2	32.223*	8.155**	7.484**	0.157
1 vs 3	37.908*	1.792	0.566	0.038
1 vs 4	58.371*	28.860*	0.008	0.902
1 vs 5	86.932*	8.425**	8.679*	0.567
1 vs 6	110.421*	20.949*	37.217*	0.075
2 vs 3	16.959*	0.835	15.206*	5.388***
2 vs 4	39.934*	27.475*	25.725*	2.232
2 vs 5	68.869*	9.488*	37.917*	1.770
2 vs 6	92.412*	22.045*	65.930*	0.444
3 vs 4	26.851*	26.559*	13.877*	7.317**
3 vs 5	57.295*	7.555**	44.322*	5.911**
3 vs 6	82.170*	20.067*	67.960*	4.041***
4 vs 5	32.011*	7.174**	47.947*	0.226
4 vs 6	58.887*	18.112*	62.899*	0.126
5 vs 6	28.975*	13.024*	27.869*	0.298
Scenario 2				
		2004		
Alternatives Tested	1998	case 1	case 2	case 3
1 vs 2	18.388*	7.399**	6.898	0.098
1 vs 3	24.369*	28.848*	1.195***	0.883
1 vs 4	40.042*	8.427**	11.803*	0.558
1 vs 5	58.878*	20.913*	39.229*	0.074
2 vs 3	11.039*	28.561*	44.253*	3.839***
2 vs 4	26.834*	10.396*	94.779*	2.767
2 vs 5	45.783*	22.932*	111.382*	1.084
3 vs 4	17.089*	7.175*	47.625*	0.235
3 vs 5	36.348*	18.076*	62.196*	0.127
4 vs 5	19.551*	12.996*	27.023*	0.305
Scenario 3				
		2004		
Alternatives Tested	1998	case 1	case 2	case 3
1 vs 2	0.016	30.332*	17937.112*	4.601*
1 vs 3	0.323	11.718*	20106.502*	1.844
1 vs 4	0.851	25.202*	33.453*	0.815
2 vs 3	0.307	7.260**	48.078*	0.225
2 vs 4	0.836	19.057*	61.150*	0.120
3 vs 4	0.542	13.774*	26.243*	0.288

Table D.3

Testing for Irrelevant of Alternatives

Based on Hausman Test

Scenario 1												
Choice Omitted	1998			2004								
				Case 1			Case 2			Case 3		
	Chi2	P>Chi2	Evidence	Chi2	P>Chi2	Evidence	Chi2	P>Chi2	Evidence	Chi2	P>Chi2	Evidence
1	0.000	1.000	for Ho	0.138	1.000	for Ho	0.155	1.000	for Ho	0.057	1.000	for Ho
2	0.004	1.000	for Ho	13.280	0.275	for Ho	0.481	0.786	for Ho	0.000	1.000	for Ho
3	-40.941	---	---	11.071	0.437	for Ho	0.879	0.644	for Ho	-0.011	---	---
4	-37.139	---	---	0	1.000	for Ho	9.309	0.054	for Ho	-0.004	---	---
5	-21.495	---	---	-44.443	---	---	0.342	0.952	for Ho	0.408	0.815	for Ho
6	1.271	1.000	for Ho	-1.882	---	---	0.000	0.999	for Ho	0.327	0.988	for Ho
Scenario 2												
Choice Omitted	1998			2004								
				Case 1			Case 2			Case 3		
	Chi2	P>Chi2	Evidence	Chi2	P>Chi2	Evidence	Chi2	P>Chi2	Evidence	Chi2	P>Chi2	Evidence
1	0.000	1.000	for Ho	1.193	0.999	for Ho	-0.315	---	---	-0.019	---	---
2	-176.886	---	---	12.345	0.195	for Ho	2.797	0.834	for Ho	0.000	0.994	for Ho
3	-53.391	---	---	0.000	1.000	for Ho	31.560	0.000	against Ho	0.081	0.999	for Ho
4	-15.345	---	---	-44.628	---	---	-53.533	---	---	0.646	0.958	for Ho
5	0.622	1.000	for Ho	-1.163	---	---	-0.527	---	---	0.026	0.987	for Ho

Table D.3

Testing for Irrelevant of Alternatives

Based on Hausman Test

(Continued)

Scenario 3												
Choice Omitted	1998			2004								
				Case 1			Case 2			Case 3		
	Chi2	P>Chi2	Evidence	Chi2	P>Chi2	Evidence	Chi2	P>Chi2	Evidence	Chi2	P>Chi2	Evidence
1	0.000	1.000	for Ho	-0.000	---	---	-5.948	---	---	0.020	1.000	for Ho
2	-0.342	---	---	0.012	0.994	for Ho	9.7e+05	0.000	against Ho	-0.003	---	---
3	0.009	1.000	for Ho	-42.368	---	---	-1.2e+04	---	---	0.000	1.000	for Ho
4	-0.172	---	---	-2.126	---	---	-366.509	---	---	0.000	0.999	for Ho