Conjoint Model

Type	AY	Age	y	X: Paid..1	Paid..2	Paid..3	Incd..1	Incd..2	Incd..3
Paid	1	1	50	1					
Paid	1	2	30		1				
Paid	1	3	20			1			
Paid	2	1	60	1					
Paid	2	2	25		1				
Paid	3	1	45	1					
Incd	1	1	75				1		
Incd	1	2	15					1	
Incd	1	3	10						1
Incd	2	1	75				1		
Incd	2	2	25					1	
Incd	3	1	50				1		
Diff	2	Ult	0	1	1	1	-1	-1	-1
Diff	3	Ult	0	1	1	1	-1	-1	-1
Paid	2	3				1			
Paid	3	2			1				
Paid	3	3				1			
Incd	2	3							1
Incd	3	2						1	
Incd	3	3							1

Type	AY	Age	Φ: Paid.1.1	Paid.1.2	Paid.1.3	Paid.2.1	Paid.2.2	Paid.3.1	Incd.1.1	Incd.1.2	Incd.1.3	Incd.2.1	Incd.2.2	Incd.3.1	Diff.2.Ult	Diff.3.Ult	Paid.2.3	Paid.3.2	Paid.3.3	Incd.2.3	Incd.3.2	Incd.3.3
Paid	1	1	1																			
Paid	1	2		1																		
Paid	1	3			1																	
Paid	2	1				1									1							
Paid	2	2					1								1							
Paid	3	1						1								1						
Incd	1	1							1													
Incd	1	2								1												
Incd	1	3									1											
Incd	2	1										1			-1							
Incd	2	2											1		-1							
Incd	3	1												1		-1						
Diff	2	Ult				1	1					-1	-1		6		1			-1		
Diff	3	Ult						1						-1		6		1	1		-1	-1
Paid	2	3													1		1					
Paid	3	2														1		1				
Paid	3	3														1			1			
Incd	2	3													-1					1		
Incd	3	2														-1					1	
Incd	3	3														-1						1

y	Xβ	e
50	51.66667	-1.666667
30	26.25	3.75
20	20	3.55E-15
60	51.66667	8.333333
25	26.25	-1.25
45	51.66667	-6.666667
75	66.66667	8.333333
15	21.25	-6.25
10	10	1.78E-15
75	66.66667	8.333333
25	21.25	3.75
50	66.66667	-16.66667
0	1.78E-15	-1.78E-15
0	1.78E-15	-1.78E-15

$X'\Phi^{-1}\mathbf{y}$	$X'\Phi^{-1}X$					
155	3	0	0	0	0	0
56.25	0	2.25	0.25	0	-0.25	-0.25
28.75	0	0.25	1.75	0	-0.25	-0.75
200	0	0	0	3	0	0
38.75	0	-0.25	-0.25	0	2.25	0.25
1.25	0	-0.25	-0.75	0	0.25	1.75

AY	Paid			Incurred		
1	50	30	20	75	15	10
2	60	25		75	25	
3	45			50		

SSCP

24868.75	24229.17	639.5833
24229.17	24229.17	2.71E-12
639.5833	2.27E-12	639.5833

24868.75	24229.17	639.5833
14	6	8
		79.94792
100%	97%	3%

		$\boldsymbol{\beta}$	$(X'\Phi^{-1}X)^{-1}$					
Paid	1	51.6667	0.33333	0	0	0	0	0
Paid	2	26.25	0	0.45833	-0.0417	0	0.04167	0.04167
Paid	3	20	0	-0.0417	0.70833	0	0.04167	0.29167
Incd	1	66.6667	0	0	0	0.33333	0	0
Incd	2	21.25	0	0.04167	0.04167	0	0.45833	-0.0417
Incd	3	10	0	0.04167	0.29167	0	-0.0417	0.70833

$X_2-\Phi_{21}\Phi_{11}^{-1}X_1$

0	0	0.5	0	0	0.5
0	0.75	-0.25	0	0.25	0.25
0	-0.25	0.75	0	0.25	0.25
0	0	0.5	0	0	0.5
0	0.25	0.25	0	0.75	-0.25
0	0.25	0.25	0	-0.25	0.75

$\Phi_{21}\Phi_{11}^{-1}$

0	0	0	-0.5	-0.5	0	0	0	0	0.5	0.5	0	0.5	0
0	0	0	0	0	-0.25	0	0	0	0	0	0.25	0	0.25
0	0	0	0	0	-0.25	0	0	0	0	0	0.25	0	0.25
0	0	0	0.5	0.5	0	0	0	0	-0.5	-0.5	0	-0.5	0
0	0	0	0	0	0.25	0	0	0	0	0	-0.25	0	-0.25
0	0	0	0	0	0.25	0	0	0	0	0	-0.25	0	-0.25

$\Phi_{22}-\Phi_{21}\Phi_{11}^{-1}\Phi_{12}$

0.5	0	0	0.5	0	0
0	0.75	-0.25	0	0.25	0.25
0	-0.25	0.75	0	0.25	0.25
0.5	0	0	0.5	0	0
0	0.25	0.25	0	0.75	-0.25
0	0.25	0.25	0	-0.25	0.75

Type	AY	Age	E	Std	Var[Pred Err]					
Paid	2	3	22.50	± 8.94	79.9479	0	39.974	79.9479	0	39.974
Paid	3	2	23.75	± 9.48	0	89.9414	-29.98	0	29.9805	29.9805
Paid	3	3	17.50	± 10.48	39.974	-29.98	109.928	39.974	29.9805	49.9674
Incd	2	3	7.50	± 8.94	79.9479	0	39.974	79.9479	0	39.974
Incd	3	2	23.75	± 9.48	0	29.9805	29.9805	0	89.9414	-29.98
Incd	3	3	12.50	± 10.48	39.974	29.9805	49.9674	39.974	-29.98	109.928

Parm Var

0.5	-1E-17	0.5	0.5	1.4E-17	0.5
0	0.375	-0.125	0	0.125	0.125
0.5	-0.125	0.625	0.5	0.125	0.375
0.5	-1E-17	0.5	0.5	1.4E-17	0.5
0	0.125	0.125	0	0.375	-0.125
0.5	0.125	0.375	0.5	-0.125	0.625

AY	Paid	Incd	Unpd	IBNR	Ult	Std
1	100	100	0	0	100.00	
2	85	100	22.50	7.50	107.50	± 8.94
3	45	50	41.25	36.25	86.25	± 11.83
Total	230	250	63.75	43.75	293.75	± 17.31

Conjoint Model

				Paid			Incd																						
				1	2	3	1	2	3																				
Type	AY	Age	**y**	X						Φ																			
Paid	1	1	50	1						1																			
Paid	1	2	30		1						1																		
Paid	1	3	20			1						1																	
Paid	2	1	60	1									1															1	
Paid	2	2	25		1									1														1	
Paid	2	3				1									1													1	
Paid	3	1	45	1												1													1
Paid	3	2			1												1												1
Paid	3	3				1												1											1
Incd	1	1	75				1												1										
Incd	1	2	15					1												1									
Incd	1	3	10						1												1								
Incd	2	1	75				1															1						-1	
Incd	2	2	25					1															1					-1	
Incd	2	3							1															1				-1	
Incd	3	1	50				1																		1				-1
Incd	3	2						1																		1			-1
Incd	3	3							1																		1		-1
Diff	2	Ult	0	1	1	1	-1	-1	-1				1	1	1							-1	-1	-1				6	
Diff	3	Ult	0	1	1	1	-1	-1	-1							1	1	1							-1	-1	-1		6

Model 4

ID	**y**	X	Φ									
Obs 1	106	1	1									
Obs 2	93	1		1				2				
Obs 3	99	1			1							
Obs 4	96	1				1						
Obs 5	105	1					1					
Obs 6	94	1		2				4				
Obs 7	90	1							1			
Obs 8	101	1								1		
Pred 1		1									1	
Pred 2		2										4

Macro JLSM Run: 8/10/2009 3:09:17 PM
Model 4

ID	y2hat	StdPrdErr	VarPrdErr	VarPrdErr
Pred 1	92	8.585702	73.71429	0
Pred 2	184	17.1714	0	294.8571

Betahat	StdBeta	VarBeta
92	0	0

Macro JLSM Run: 8/10/2009 3:09:17 PM
Model 4

ID	y1	Fitted	Resid	Student	Cnstrnd
Obs 1	106	92	14	1.63	0
Obs 2	93	92	1	0.12	0.8
Obs 3	99	92	7	0.82	0
Obs 4	96	92	4	0.47	0
Obs 5	105	92	13	1.51	0
Obs 6	94	92	2	0.12	0.2
Obs 7	90	92	-2	-0.23	0
Obs 8	101	92	9	1.05	0

SSCP	TTy1	Fitted	Resid
TTy1	516	0	516
Fitted	0	0	0
Resid	516	0	516
rhosq	100.0%	0.0%	100.0%
df	7	0	7
s2hat	73.71429	0	73.71429
s2sel			**73.71429**

Model 3

ID	**y**	X	Φ									
Obs 1	106	1	1									
Obs 2	93	1		1				1				
Obs 3	99	1			1							
Obs 4	96	1				1						
Obs 5	105	1					1					
Obs 6	93	1		1				1				
Obs 7	90	1							1			2
Obs 8	101	1								1		
Pred 1		1									1	
Pred 2		2							2			4

Macro JLSM Run: 8/10/2009 3:09:13 PM
Model 3

ID	y2hat	StdPrdErr	VarPrdErr	VarPrdErr
Pred 1	98.57143	6.380242	40.70748	0
Pred 2	180	0	0	0

Betahat	StdBeta	VarBeta
98.57143	2.255756	5.088435

Macro JLSM Run: 8/10/2009 3:09:13 PM
Model 3

ID	y1	Fitted	Resid	Student	Cnstrnd
Obs 1	106	98.57143	7.428571	1.34	0
Obs 2	93	98.57143	-5.571429	-1.01	0.5
Obs 3	99	98.57143	0.428571	0.08	0
Obs 4	96	98.57143	-2.571429	-0.47	0
Obs 5	105	98.57143	6.428571	1.16	0
Obs 6	93	98.57143	-5.571429	-1.01	0.5
Obs 7	90	98.57143	-8.571429	-1.55	0
Obs 8	101	98.57143	2.428571	0.44	0

SSCP	TTy1	Fitted	Resid
TTy1	68228	68014.29	213.7143
Fitted	68014.29	68014.29	0
Resid	213.7143	0	213.7143
rhosq	100.0%	99.7%	0.3%
df	7	1	6
s2hat	9746.857	68014.29	35.61905
s2sel			**35.61905**

Model 2

ID	**y**	X	Φ								
Obs 1	106	1	1								
Obs 2	93	1		1							
Obs 3	99	1			1						
Obs 4	96	1				0					
Obs 5	105	1					1				
Obs 6	93	1						1			
Obs 7	90	1							1		
Obs 8	101	1								1	
Pred 1		1									1
Pred 2		2									4

Macro JLSM Run: 8/10/2009 3:09:09 PM
Model 2

ID	y2hat	StdPrdErr	VarPrdErr	VarPrdErr
Pred 1	96	6.199078	38.42857	0
Pred 2	192	12.39816	0	153.7143

Betahat	StdBeta	VarBeta
96	0	0

Macro JLSM Run: 8/10/2009 3:09:09 PM
Model 2

ID	y1	Fitted	Resid	Student	Cnstrnd
Obs 1	106	96	10	1.61	0
Obs 2	93	96	-3	-0.48	0
Obs 3	99	96	3	0.48	0
Obs 4	96	96	0	0.00	1
Obs 5	105	96	9	1.45	0
Obs 6	93	96	-3	-0.48	0
Obs 7	90	96	-6	-0.97	0
Obs 8	101	96	5	0.81	0

SSCP	TTy1	Fitted	Resid
TTy1	269	0	269
Fitted	0	0	0
Resid	269	0	269
rhosq	100.0%	0.0%	100.0%
df	7	0	7
s2hat	38.42857	0	38.42857
s2sel			**38.42857**

Model 1

ID	**y**	X	Φ								
Obs 1	106	1	1								
Obs 2	93	1		1							
Obs 3	99	1			1						
Obs 4	96	1				1					
Obs 5	105	1					1				
Obs 6	93	1						1			
Obs 7	90	1							1		
Obs 8	101	1								1	
Pred 1		1									1
Pred 2		2									4

Macro JLSM Run: 8/10/2009 3:09:05 PM
Model 1

ID	y2hat	StdPrdErr	VarPrdErr	VarPrdErr
Pred 1	97.875	6.221901	38.71205	8.602679
Pred 2	195.75	12.4438	8.602679	154.8482

Betahat	StdBeta	VarBeta
97.875	2.073967	4.301339

Macro JLSM Run: 8/10/2009 3:09:05 PM
Model 1

ID	y1	Fitted	Resid	Student	Cnstrnd
Obs 1	106	97.875	8.125	1.48	0
Obs 2	93	97.875	-4.875	-0.89	0
Obs 3	99	97.875	1.125	0.21	0
Obs 4	96	97.875	-1.875	-0.34	0
Obs 5	105	97.875	7.125	1.30	0
Obs 6	93	97.875	-4.875	-0.89	0
Obs 7	90	97.875	-7.875	-1.44	0
Obs 8	101	97.875	3.125	0.57	0

SSCP	TTy1	Fitted	Resid
TTy1	76877	76636.13	240.875
Fitted	76636.13	76636.13	0
Resid	240.875	0	240.875
rhosq	100.0%	99.7%	0.3%
df	8	1	7
s2hat	9609.625	76636.13	34.41071
s2sel			**34.41071**