

## **Chapter 2**

### **Appendix A: Vertical line model parameter estimates**

Model Summary	
Model Variables	4
Parameters	166
Equations	4
Number of Statements	252

**Note:** The parameter beta12 is shared by 2 of the equations to be estimated.

**Note:** The parameter beta13 is shared by 2 of the equations to be estimated.

**Note:** The parameter beta14 is shared by 2 of the equations to be estimated.

**Note:** The parameter beta23 is shared by 2 of the equations to be estimated.

**Note:** The parameter beta24 is shared by 2 of the equations to be estimated.

**Note:** The parameter beta34 is shared by 2 of the equations to be estimated.

The 4 Equations to Estimate	
<b>redgrplbs =</b>	F(alpha1(esf_a2), beta11(esf_a1), beta12, beta13, beta14, a1, a2, a3, a4, a5, a6, a7, a8, a9, m2a, m3a, m4a, c1, d1, e1, z1, ban1, j1, m5a, m6a, m7a, m8a, m9a, m10a, m11a, m12a, g1, g2, g3, g4, y1, y2, gg1, gg2, gg3, gg4, mx1)
<b>swgrplbs =</b>	F(beta12, alpha2(esf_a2), beta22(esf_a1), beta23, beta24, a10, a11, a12, a13, a14, a15, a16, a17, a18, m2b, m3b, m4b, c2, d2, e2, z2, ban2, j2, m5b, m6b, m7b, m8b, m9b, m10b, g5, m11b, m12b, g6, g7, g8, y4, y5, gg5, gg6, gg7, gg8, mx2)
<b>swnaplbs =</b>	F(beta13, beta23, alpha3(esf_a2), beta33(esf_a1), beta34, a19, a20, a21, a22, a23, a24, a25, a26, a27, m2c, m3c, m4c, c3, d3, e3, z3, ban3, j3, m5c, m6c, m7c, m8c, m9c, m10c, m11c, m12c, g9, g10, g11, g12, y7, y8, gg9, gg10, gg11, gg12, mx3)
<b>l_misclbs =</b>	F(beta14, beta24, beta34, alpha4(esf_a2), beta44(esf_a1), a28, a29, a30, a31, a32, a33, a34, a35, a36, m2d, m3d, m4d, c4, d4, e4, z4, ban4, j4, m5d, m6d, m7d, m8d, m9d, m10d, m11d, m12d, g13, g14, g15, g16, y10, y11, gg13, gg14, gg15, gg16, mx4)

<b>Observations will be weighted by</b>	inv
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NOTE: At FIML Iteration 0 CONVERGE=0.001 Criteria Met.

Data Set Options	
DATA=	NEW9
OUT=	REST
OUTEST=	FIN

Minimization Summary	
Parameters Estimated	162
Method	Gauss
Hessian	GLS
Covariance Estimator	Cross
Iterations	0

Final Convergence Criteria	
R	6.329E-6
PPC(beta13)	0.002668
RPC	.
Object	.
Trace(S)	101941.4
Gradient norm	1.9E-12
Log likelihood	-567851

Observations Processed	
Read	19503
Solved	19503

Nonlinear FIML Summary of Residual Errors							
Equation	DF Model	DF Error	SSE	MSE	Root MSE	R-Square	Adj R-Sq
redgrplbs	40.5	19463	1.2102E8	6218.1	78.8551	0.4114	0.4102
swgrplbs	40.5	19463	2.8431E8	14608.2	120.9	0.3083	0.3069
swsnaplbs	40.5	19463	6.4459E8	33119.6	182.0	0.4064	0.4052
l_misclbs	40.5	19463	9.3824E8	48207.7	219.6	0.1179	0.1161

Nonlinear FIML Parameter Estimates				
Parameter	Estimate	Approx Std Err	t Value	Approx Pr >  t
alpha1	0.032267	0.2718	0.12	0.9055
beta11	8.782671	13.6642	0.64	0.5204
beta12	13.48016	11.6015	1.16	0.2453
beta13	10.66284	7.1388	1.49	0.1353
beta14	-44.9748	5.5976	-8.03	<.0001
a1	-4.0068	5.6020	-0.72	0.4745
a2	7.301176	6.3110	1.16	0.2473
a3	87.13593	6.3681	13.68	<.0001
a4	88.12353	5.1820	17.01	<.0001
a5	67.91923	4.5512	14.92	<.0001
a6	90.43974	4.1565	21.76	<.0001
a7	57.71192	5.1873	11.13	<.0001
a8	39.29748	6.3834	6.16	<.0001
a9	12.1922	8.4243	1.45	0.1478
m2a	0.608317	3.6851	0.17	0.8689
m3a	-3.41422	3.6928	-0.92	0.3552

<b>Nonlinear FIML Parameter Estimates</b>				
<b>Parameter</b>	<b>Estimate</b>	<b>Approx Std Err</b>	<b>t Value</b>	<b>Approx Pr &gt;  t </b>
<b>m4a</b>	3.127027	3.1868	0.98	0.3265
<b>c1</b>	-6.21402	6.8019	-0.91	0.3610
<b>d1</b>	-55.1074	8.4502	-6.52	<.0001
<b>e1</b>	25.96188	2.3749	10.93	<.0001
<b>z1</b>	-0.01044	0.00965	-1.08	0.2792
<b>ban1</b>	4.428685	1.3623	3.25	0.0012
<b>j1</b>	-0.11024	0.2730	-0.40	0.6863
<b>m5a</b>	10.14146	3.0302	3.35	0.0008
<b>m6a</b>	13.92493	2.7952	4.98	<.0001
<b>m7a</b>	15.5874	2.7709	5.63	<.0001
<b>m8a</b>	13.98367	2.9478	4.74	<.0001
<b>m9a</b>	21.32203	4.3827	4.87	<.0001
<b>m10a</b>	14.85631	3.2037	4.64	<.0001
<b>m11a</b>	0.66091	3.4504	0.19	0.8481
<b>m12a</b>	2.528476	3.8279	0.66	0.5089
<b>g1</b>	-1.10329	5.5885	-0.20	0.8435
<b>g2</b>	47.77745	4.9521	9.65	<.0001
<b>g3</b>	12.83823	2.5854	4.97	<.0001
<b>g4</b>	0.615518	6.4639	0.10	0.9241
<b>y1</b>	11.38806	1.7495	6.51	<.0001
<b>y2</b>	-8.14415	1.9322	-4.21	<.0001
<b>gg1</b>	-7.99403	6.0729	-1.32	0.1881
<b>gg2</b>	27.80314	3.1431	8.85	<.0001
<b>gg3</b>	27.59864	4.1977	6.57	<.0001

<b>Nonlinear FIML Parameter Estimates</b>				
<b>Parameter</b>	<b>Estimate</b>	<b>Approx Std Err</b>	<b>t Value</b>	<b>Approx Pr &gt;  t </b>
<b>gg4</b>	26.98418	4.0499	6.66	<.0001
<b>mx1</b>	-5.57789	10.3823	-0.54	0.5911
<b>alpha2</b>	1.49472	0.5194	2.88	0.0040
<b>beta22</b>	103.2799	16.7141	6.18	<.0001
<b>beta23</b>	-117.977	9.8051	-12.03	<.0001
<b>beta24</b>	0.651032	7.7711	0.08	0.9332
<b>a10</b>	0.906151	12.1528	0.07	0.9406
<b>a11</b>	5.399202	14.8622	0.36	0.7164
<b>a12</b>	74.09588	16.0755	4.61	<.0001
<b>a13</b>	72.697	10.9347	6.65	<.0001
<b>a14</b>	95.72441	8.5872	11.15	<.0001
<b>a15</b>	78.89168	7.9428	9.93	<.0001
<b>a16</b>	114.0108	8.1542	13.98	<.0001
<b>a17</b>	42.90961	7.5234	5.70	<.0001
<b>a18</b>	-0.52496	8.8193	-0.06	0.9525
<b>m2b</b>	-12.7933	4.4790	-2.86	0.0043
<b>m3b</b>	-5.42027	3.5750	-1.52	0.1295
<b>m4b</b>	-28.7012	4.1922	-6.85	<.0001
<b>c2</b>	-38.2442	10.9852	-3.48	0.0005
<b>d2</b>	-117.044	15.5248	-7.54	<.0001
<b>e2</b>	55.21201	4.1775	13.22	<.0001
<b>z2</b>	0.017206	0.0117	1.46	0.1431
<b>ban2</b>	-2.89938	2.3766	-1.22	0.2225
<b>j2</b>	-0.58222	0.5102	-1.14	0.2538

<b>Nonlinear FIML Parameter Estimates</b>				
<b>Parameter</b>	<b>Estimate</b>	<b>Approx Std Err</b>	<b>t Value</b>	<b>Approx Pr &gt;  t </b>
<b>m5b</b>	-27.9365	4.4540	-6.27	<.0001
<b>m6b</b>	-46.223	4.8282	-9.57	<.0001
<b>m7b</b>	-71.2561	5.2086	-13.68	<.0001
<b>m8b</b>	-84.1051	6.1985	-13.57	<.0001
<b>m9b</b>	-61.9243	9.9682	-6.21	<.0001
<b>m10b</b>	-13.3685	4.3703	-3.06	0.0022
<b>g5</b>	9.343434	6.1660	1.52	0.1297
<b>m11b</b>	-42.3064	4.3637	-9.70	<.0001
<b>m12b</b>	-15.6644	4.6312	-3.38	0.0007
<b>g6</b>	45.13755	8.1801	5.52	<.0001
<b>g7</b>	28.20156	5.6814	4.96	<.0001
<b>g8</b>	65.03702	8.3144	7.82	<.0001
<b>y4</b>	6.143341	2.9168	2.11	0.0352
<b>y5</b>	-7.14369	3.1393	-2.28	0.0229
<b>gg5</b>	120.4778	6.1868	19.47	<.0001
<b>gg6</b>	-4.23832	10.5756	-0.40	0.6886
<b>gg7</b>	55.2323	5.5932	9.87	<.0001
<b>gg8</b>	5.991257	10.9620	0.55	0.5847
<b>mx2</b>	24.63797	15.5151	1.59	0.1123
<b>alpha3</b>	-0.43082	0.9030	-0.48	0.6333
<b>beta33</b>	171.7643	23.4483	7.33	<.0001
<b>beta34</b>	-45.0124	8.9205	-5.05	<.0001
<b>a19</b>	-13.5455	6.7729	-2.00	0.0455
<b>a20</b>	-13.9482	9.1016	-1.53	0.1254

<b>Nonlinear FIML Parameter Estimates</b>				
<b>Parameter</b>	<b>Estimate</b>	<b>Approx Std Err</b>	<b>t Value</b>	<b>Approx Pr &gt;  t </b>
<b>a21</b>	-35.23	50.7303	-0.69	0.4874
<b>a22</b>	-39.0486	39.5660	-0.99	0.3237
<b>a23</b>	-28.5808	24.2438	-1.18	0.2385
<b>a24</b>	-38.0156	18.3937	-2.07	0.0388
<b>a25</b>	-80.9892	11.2162	-7.22	<.0001
<b>a26</b>	-134.702	7.3123	-18.42	<.0001
<b>a27</b>	-181.657	5.5473	-32.75	<.0001
<b>m2c</b>	13.31162	7.0927	1.88	0.0606
<b>m3c</b>	24.08949	9.3633	2.57	0.0101
<b>m4c</b>	75.31058	6.4185	11.73	<.0001
<b>c3</b>	-9.50543	8.3733	-1.14	0.2563
<b>d3</b>	72.52395	10.5955	6.84	<.0001
<b>e3</b>	-11.599	7.0743	-1.64	0.1011
<b>z3</b>	-0.07854	0.0120	-6.52	<.0001
<b>ban3</b>	4.428867	3.5195	1.26	0.2083
<b>j3</b>	0.252717	0.8537	0.30	0.7672
<b>m5c</b>	73.52843	6.7853	10.84	<.0001
<b>m6c</b>	88.64453	6.8339	12.97	<.0001
<b>m7c</b>	80.1943	7.2580	11.05	<.0001
<b>m8c</b>	66.02771	7.8936	8.36	<.0001
<b>m9c</b>	46.85506	12.4423	3.77	0.0002
<b>m10c</b>	66.02668	7.9835	8.27	<.0001
<b>m11c</b>	66.28623	7.3185	9.06	<.0001
<b>m12c</b>	56.23304	7.6970	7.31	<.0001

<b>Nonlinear FIML Parameter Estimates</b>				
<b>Parameter</b>	<b>Estimate</b>	<b>Approx Std Err</b>	<b>t Value</b>	<b>Approx Pr &gt;  t </b>
<b>g9</b>	67.41144	19.2155	3.51	0.0005
<b>g10</b>	39.73601	28.8137	1.38	0.1679
<b>g11</b>	-21.0504	21.8401	-0.96	0.3351
<b>g12</b>	558.8891	18.6298	30.00	<.0001
<b>y7</b>	-5.66447	4.3050	-1.32	0.1883
<b>y8</b>	0.704692	4.2036	0.17	0.8669
<b>gg9</b>	239.8607	18.8555	12.72	<.0001
<b>gg10</b>	-32.336	42.2718	-0.76	0.4443
<b>gg11</b>	52.31332	21.2328	2.46	0.0138
<b>gg12</b>	-9.58167	44.5992	-0.21	0.8299
<b>mx3</b>	292.8588	18.8186	15.56	<.0001
<b>alpha4</b>	-18.7797	1.1317	-16.59	<.0001
<b>beta44</b>	321.5528	22.5001	14.29	<.0001
<b>a28</b>	-104.017	5.4082	-19.23	<.0001
<b>a29</b>	-12.6613	6.7738	-1.87	0.0616
<b>a30</b>	15.08106	31.3063	0.48	0.6300
<b>a31</b>	27.08137	10.5599	2.56	0.0103
<b>a32</b>	-11.643	8.5998	-1.35	0.1758
<b>a33</b>	-50.0512	11.4461	-4.37	<.0001
<b>a34</b>	-47.8607	18.7008	-2.56	0.0105
<b>a35</b>	-42.7658	15.6618	-2.73	0.0063
<b>a36</b>	-45.3373	14.8511	-3.05	0.0023
<b>m2d</b>	-4.51991	5.9827	-0.76	0.4500
<b>m3d</b>	-65.9112	6.8534	-9.62	<.0001

<b>Nonlinear FIML Parameter Estimates</b>				
<b>Parameter</b>	<b>Estimate</b>	<b>Approx Std Err</b>	<b>t Value</b>	<b>Approx Pr &gt;  t </b>
<b>m4d</b>	-105.862	10.4807	-10.10	<.0001
<b>c4</b>	144.6868	5.4451	26.57	<.0001
<b>d4</b>	63.34511	14.9241	4.24	<.0001
<b>e4</b>	-21.5165	10.8826	-1.98	0.0480
<b>z4</b>	0.175844	0.00901	19.51	<.0001
<b>ban4</b>	26.39529	4.8647	5.43	<.0001
<b>j4</b>	-0.68427	1.0879	-0.63	0.5294
<b>m5d</b>	-110.925	11.0363	-10.05	<.0001
<b>m6d</b>	-101.526	9.7617	-10.40	<.0001
<b>m7d</b>	-81.7787	9.2704	-8.82	<.0001
<b>m8d</b>	-65.2131	8.8948	-7.33	<.0001
<b>m9d</b>	-67.5901	13.0403	-5.18	<.0001
<b>m10d</b>	-75.6812	10.7605	-7.03	<.0001
<b>m11d</b>	-72.0599	9.0557	-7.96	<.0001
<b>m12d</b>	-85.7258	9.3578	-9.16	<.0001
<b>g13</b>	81.26445	15.7395	5.16	<.0001
<b>g14</b>	-6.23203	27.6390	-0.23	0.8216
<b>g15</b>	17.3353	14.8453	1.17	0.2429
<b>g16</b>	55.87547	18.7577	2.98	0.0029
<b>y10</b>	3.35369	4.8717	0.69	0.4912
<b>y11</b>	4.087489	4.7712	0.86	0.3916
<b>gg13</b>	30.46449	19.0063	1.60	0.1090
<b>gg14</b>	24.31587	19.8184	1.23	0.2199
<b>gg15</b>	-5.57201	21.3636	-0.26	0.7942

Nonlinear FIML Parameter Estimates				
Parameter	Estimate	Approx Std Err	t Value	Approx Pr >  t
gg16	-107.846	26.4839	-4.07	<.0001
mx4	-50.0805	20.3796	-2.46	0.0140

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Own supply elasticity of red gro	0.062539	0.0998	0.63	0.5308	$(-0.5) * (\beta_{12} * \sqrt{x_{pswgrp}/x_{predgrp}}) + \beta_{13} * \sqrt{x_{pswsnap}/x_{predgrp}} + \beta_{14} * \sqrt{x_{l\_pmisc}/x_{predgrp}}) * (x_{esf\_a1}/x_{redgrplbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Own supply elasticity of sw grou	0.663517	0.0964	6.88	<.0001	$(-0.5) * (\beta_{12} * \sqrt{x_{predgrp}/x_{pswgrp}}) + \beta_{23} * \sqrt{x_{pswsnap}/x_{pswgrp}} + \beta_{24} * \sqrt{x_{l\_pmisc}/x_{pswgrp}}) * (x_{esf\_a1}/x_{swgrplbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Own supply elasticity of sw snap	0.760069	0.0656	11.58	<.0001	$(-0.5) * (\beta_{13} * \sqrt{x_{predgrp}/x_{pswsnap}}) + \beta_{23} * \sqrt{x_{pswgrp}/x_{pswsnap}} + \beta_{34} * \sqrt{x_{l\_pmisc}/x_{pswsnap}}) * (x_{esf\_a1}/x_{swsnaplbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Own supply elasticity of l_miscl	0.891557	0.1040	8.57	<.0001	$(-0.5) * (\beta_{14} * \sqrt{x_{predgrp} / x_{l\_pmisc}}) + \beta_{24} * \sqrt{x_{pswgrp} / x_{l\_pmisc}} + \beta_{34} * \sqrt{x_{pswsnap} / x_{l\_pmisc}}) * (x_{esf\_a1} / x_{l\_misclbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price red grouper with sw	0.114288	0.0984	1.16	0.2453	$(0.5) * (\beta_{12} * \sqrt{x_{pswgrp} / x_{predgrp}}) * (x_{esf\_a1} / x_{redgrplbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price red grouper with sna	0.081609	0.0546	1.49	0.1353	$(0.5) * (\beta_{13} * \sqrt{x_{pswsnap} / x_{predgrp}}) * (x_{esf\_a1} / x_{redgrplbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price red grouper with oth	-0.25844	0.0322	-8.03	<.0001	$(0.5) * (\beta_{14} * \sqrt{x_{l\_pmisc} / x_{predgrp}}) * (x_{esf\_a1} / x_{redgrplbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price sw grouper with red	0.08561	0.0737	1.16	0.2453	$(0.5) * (\beta_{12} * \sqrt{x_{predgrp} / x_{pswgrp}}) * (x_{esf\_a1} / x_{swgrplbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price sw grouper with snap	-0.75224	0.0625	-12.03	<.0001	$(0.5) * (\beta_{23} * \sqrt{x_{pswsnap} / x_{pswgrp}}) * (x_{esf\_a1} / x_{swgrplbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price sw grouper with othe	0.003117	0.0372	0.08	0.9332	$(0.5) * (\beta_{24} * \sqrt{x_{l\_pmisc} / x_{pswgrp}}) * (x_{esf\_a1} / x_{swgrplbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price snappers with red gr	0.052463	0.0351	1.49	0.1353	$(0.5) * (\beta_{13} * \sqrt{x_{predgrp} / x_{pswsnap}}) * (x_{esf\_a1} / x_{swsnaplbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price snapper with sw grou	-0.64559	0.0537	-12.03	<.0001	(0.5)*(beta23*sqrt(xpswgrp/xpswsnap))*(xesf_a1/xswnaplbs)

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price snapper with other s	-0.16694	0.0331	-5.05	<.0001	(0.5)*(beta34*sqrt(xl_pmisc/xpswsnap))*(xesf_a1/xswnaplbs)

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price other species with	-0.4483	0.0558	-8.03	<.0001	(0.5)*(beta14*sqrt(xpredgrp/xl_pmisc))*(xesf_a1/xl_misclbs)

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price other species with	0.007217	0.0862	0.08	0.9332	(0.5)*(beta24*sqrt(xpswgrp/xl_pmisc))*(xesf_a1/xl_misclbs)

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Cross-price other species with	-0.45047	0.0893	-5.05	<.0001	(0.5)*(beta34*sqrt(xpswsnap/xl_pmisc))*(xesf_a1/xl_misclbs)

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Red Grouper Scale Elasticity	0.012048	0.0805	0.15	0.8810	$(2*\alpha_1*x_{esf\_a1}+\beta_{11}+\beta_{12}*\sqrt{x_{pswgrp}/x_{predgrp}})+\beta_{13}*\sqrt{x_{pswgrp}/x_{predgrp}}+\beta_{14}*\sqrt{x_{l\_pmisc}/x_{predgrp}})*(x_{esf\_a1}/x_{redgrp\ lbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Shallow water grouper Scale Elas	0.270357	0.1365	1.98	0.0476	$(2*\alpha_2*x_{esf\_a1}+\beta_{22}+\beta_{12}*\sqrt{x_{predgrp}/x_{pswgrp}})+\beta_{23}*\sqrt{x_{pswgrp}/x_{pswgrp}}+\beta_{24}*\sqrt{x_{l\_pmisc}/x_{pswgrp}})*(x_{esf\_a1}/x_{swgrp\ lbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Snappers Scale Elasticity	0.148952	0.1985	0.75	0.4531	$(2*\alpha_3*x_{esf\_a1}+\beta_{33}+\beta_{13}*\sqrt{x_{predgrp}/x_{pswgrp}})+\beta_{23}*\sqrt{x_{pswgrp}/x_{pswgrp}}+\beta_{34}*\sqrt{x_{l\_pmisc}/x_{pswgrp}})*(x_{esf\_a1}/x_{swsnap\ lbs})$

Nonlinear FIML Estimates					
Term	Estimate	Approx Std Err	t Value	Approx Pr >  t	Label
Other species Scale Elasticity	1.199253	0.2598	4.62	<.0001	$(2*\alpha_4*x_{esf\_a1}+\beta_{44}+\beta_{14}*\sqrt{x_{predgrp}/x_{l\_pmisc}})+\beta_{24}*\sqrt{x_{pswgrp}/x_{l\_pmisc}}+\beta_{34}*\sqrt{x_{pswgrp}/x_{l\_pmisc}})*(x_{esf\_a1}/x_{l\_misc\ lbs})$

Test Results				
Test	Type	Statistic	Pr > ChiSq	Label
Test0	Wald	285.88	<.0001	alpha1, alpha2, alpha3, alpha4
Test1	Wald	283.04	<.0001	beta12, beta13, beta14, beta23, beta24,
Test2	Wald	66.28	<.0001	beta12, beta13, beta14
Test3	Wald	146.32	<.0001	beta12, beta23, beta24
Test4	Wald	183.72	<.0001	beta13, beta23, beta34
Test5	Wald	116.19	<.0001	beta14, beta24, beta34
Test6	Wald	49.07	<.0001	ban1,ban2,ban3,ban4
Test7	Wald	722.67	<.0001	c1,c2,c3,c4
Test8	Wald	192.30	<.0001	d1,d2,d3,d4
Test9	Wald	247.84	<.0001	e1,e2,e3,e4
Test10	Wald	9713.6	<.0001	g1,g2,g3,g4,gg1,gg2,gg3,gg4,mx1, g5,g6,
Test11	Wald	1.88	0.7583	j1,j2,j3,j4
Test12	Wald	2747.7	<.0001	z1,z2,z3,z4
Test13	Wald	1332.2	<.0001	m2a, m3a, m4a, m5a, m6a, m7a, m8a, m9a,
Test14	Wald	2679.8	<.0001	a1,a2,a3,a4,a5,a6,a7,a8,a9,a10,a11,a12,
Test15	Wald	166.37	<.0001	y1,y2, y4,y5, y7,y8 ,y10,y11

Number of Observations		Statistics for System	
Used	19503	Log Likelihood	-567851
Missing	0		
Sum of Weights	7482		

<b>Heteroscedasticity Test</b>					
<b>Equation</b>	<b>Test</b>	<b>Statistic</b>	<b>DF</b>	<b>Pr &gt; ChiSq</b>	<b>Variables</b>
<b>redgrplbs</b>	White's Test	1568	683	<.0001	Cross of all vars
<b>swgrplbs</b>	White's Test	2254	683	<.0001	Cross of all vars
<b>swnaplbs</b>	White's Test	2073	683	<.0001	Cross of all vars
<b>l_misclbs</b>	White's Test	1551	683	<.0001	Cross of all vars