SDE linear in t all params

The NLMIXED Procedure

Specifications	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Distribution for Dependent Variable	Normal
Random Effects	b1 b2 b3 b4
Distribution for Random Effects	Normal
Subject Variable	subjidN
Optimization Technique	Dual Quasi-Newton
Integration Method	Adaptive Gaussian Quadrature

Dimensions	
Observations Used	10616
Observations Not Used	0
Total Observations	10616
Subjects	460
Max Obs per Subject	24
Parameters	12
Quadrature Points	1

Initial Parameters												
sigma2a_ind	sigma2b_ind	a1a_ind	a1b_ind	a2a_ind	a2b_ind	a3a_ind	a3b_ind	s2b1	s2b2	s2b3	s2b4	Negative Log Likelihood
16	4	-5	-3	5	5	-5	-5	1	1	1	1	11999.5749

Iteration History					
Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
1	6	11900.5504	99.02453	26.8628	-634.969
2	10	11700.1146	200.4358	12.9728	-53.5794
3	12	11652.3546	47.76001	44.9705	-266.725
4	16	11488.2902	164.0643	24.4856	-469.154
5	23	11416.8543	71.43591	5.72085	-257.705
6	25	11323.2992	93.55512	17.3495	-93.8053
7	30	11281.3908	41.90846	6.40581	-142.951
8	32	11225.3373	56.05341	5.15249	-37.5634
9	35	11198.6280	26.70932	3.85811	-13.7521
10	38	11192.1425	6.485481	1.37135	-4.38429
11	41	11188.4948	3.64773	2.36031	-1.71811
12	43	11185.3386	3.156212	1.56504	-2.82731
13	45	11183.3342	2.004362	3.80717	-2.02616
14	47	11180.0797	3.254582	1.16101	-3.79180
15	51	11173.3171	6.762505	3.01108	-3.92353
16	53	11163.4925	9.824629	1.58841	-6.10618
17	56	11158.5938	4.898707	1.53776	-4.68656
18	58	11151.1936	7.400212	3.41436	-4.70107
19	62	11135.3390	15.85461	5.53108	-8.71373
20	64	11122.7572	12.58181	3.89351	-8.32434
21	66	11102.5607	20.19645	2.01186	-16.4075
22	69	11088.4787	14.08203	2.42640	-14.1625
23	72	11083.0375	5.441224	1.83500	-14.6345
24	75	11081.1296	1.907903	0.50463	-2.70218
25	78	11080.5975	0.532124	0.73554	-0.54572
26	80	11079.7161	0.881398	0.73658	-0.46098
27	82	11078.7058	1.010287	1.11244	-0.79204
28	84	11077.3687	1.337033	0.66625	-0.62066
29	87	11076.5008	0.867938	0.54846	-0.41266
30	91	11074.3274	2.173436	1.20956	-0.51031
31	94	11073.2566	1.070742	0.84871	-1.16922
32	96	11072.9074	0.34919	0.96030	-0.62601
33	100	11071.6408	1.26665	0.55717	-1.51043
34	102	11070.2802	1.360626	0.40626	-0.67536
35	105	11070.2211	0.059097	0.15154	-0.10863
36	107	11070.1855	0.03553	0.23345	-0.01120
37	111	11069.9698	0.215729	0.23357	-0.08089
38	115	11067.9719	1.997932	0.91194	-0.30242
39	117	11065.2245	2.747334	1.52271	-1.29813
40	120	11064.5689	0.655617	1.38332	-0.79825
41	122	11063.4423	1.126573	1.11463	-0.86691
42	126	11060.2310	3.211318	0.77946	-2.03725
43	128	11059.1687	1.062297	0.80972	-2.06899
44	130	11057.8501	1.318606	0.14034	-2.60099
45	133	11057.8076	0.042528	0.066962	-0.06631
46	136	11057.8022	0.005438	0.005305	-0.00937
47	139	11057.8019	0.000278	0.001126	-0.00047
48	142	11057.8019	3.6E-6	0.000134	-6.88E-6

NOTE: GCONV convergence criterion satisfied.

Fit Statistics	
-2 Log Likelihood	22116
AIC (smaller is better)	22140
AICC (smaller is better)	22140
BIC (smaller is better)	22189

Parameter Estimates

Parameter	Estimate	Standard Error	DF	t Value	Pr > |t|	95% Confidence Limits		Gradient
sigma2a_ind	20.1209	0.7252	456	27.75	<.0001	18.6959	21.5460	0.000129
sigma2b_ind	8.0308	1.1427	456	7.03	<.0001	5.7852	10.2764	0.000056
a1a_ind	-23.2671	0.9450	456	-24.62	<.0001	-25.1243	-21.4100	0.000050
a1b_ind	-7.7716	1.2273	456	-6.33	<.0001	-10.1834	-5.3597	-0.00003
a2a_ind	15.0142	1.7344	456	8.66	<.0001	11.6058	18.4226	-0.00004
a2b_ind	5.4909	2.5229	456	2.18	0.0300	0.5329	10.4489	-0.00006
a3a_ind	-8.4784	1.7310	456	-4.90	<.0001	-11.8801	-5.0768	0.000134
a3b_ind	-14.2501	2.6895	456	-5.30	<.0001	-19.5354	-8.9647	0.000083
s2b1	40.5439	7.4854	456	5.42	<.0001	25.8338	55.2541	-7.13E-6
s2b2	526.21	57.6843	456	9.12	<.0001	412.85	639.57	5.44E-6
s2b3	379.16	59.7075	456	6.35	<.0001	261.82	496.49	7.66E-6
s2b4	49.3707	5.9267	456	8.33	<.0001	37.7238	61.0176	0.000019

SDE linear in t reduced - combined a2 a3 across country

The NLMIXED Procedure

Specifications	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Distribution for Dependent Variable	Normal
Random Effects	b1 b2 b3 b4
Distribution for Random Effects	Normal
Subject Variable	subjidN
Optimization Technique	Dual Quasi-Newton
Integration Method	Adaptive Gaussian Quadrature

Dimensions	
Observations Used	10616
Observations Not Used	0
Total Observations	10616
Subjects	460
Max Obs per Subject	24
Parameters	10
Quadrature Points	1

Initial Parameters

sigma2a_ind	sigma2b_ind	a1a_ind	a1b_ind	a2_ind	a3_ind	s2b1	s2b2	s2b3	s2b4	Negative Log Likelihood
16	4	-5	-3	5	-5	1	1	1	1	11940.3466

Iteration History

Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
1	6	11877.4963	62.85036	26.1953	-375.040
2	10	11667.1504	210.3459	21.9060	-207.812
3	12	11551.8807	115.2697	17.4333	-215.069
4	16	11446.1479	105.7328	21.9788	-84.2813
5	27	11352.4959	93.65202	11.3294	-72.8895
6	34	11294.1112	58.38472	7.54996	-44.5497
7	39	11269.9977	24.11355	4.01768	-18.4046
8	42	11260.8170	9.180674	3.64685	-7.35221
9	45	11254.8155	6.001513	1.47205	-3.04901
10	47	11250.4640	4.351508	3.51116	-3.30197
11	49	11249.3065	1.157497	1.35578	-3.65000
12	53	11246.0929	3.213542	1.38865	-4.84794
13	55	11243.8886	2.204278	2.58463	-0.89906
14	57	11241.1151	2.773588	0.86824	-2.34960
15	61	11228.8093	12.30579	4.26703	-2.43633
16	63	11211.3125	17.49679	4.19887	-2.62500
17	65	11190.6984	20.61409	9.36384	-24.9664
18	68	11181.2516	9.44675	5.50687	-13.3596
19	72	11156.9485	24.30318	8.13796	-10.4408
20	77	11145.5254	11.42306	5.75109	-48.8861
21	79	11132.5962	12.92918	4.81134	-13.8549
22	81	11122.4299	10.16632	4.88894	-7.72889
23	83	11112.1548	10.27507	2.62760	-13.1452
24	86	11106.3769	5.777915	1.95227	-5.61011
25	89	11104.5651	1.811807	1.34244	-1.70384
26	91	11102.3013	2.263836	0.95761	-1.54397
27	94	11101.7867	0.514603	0.65869	-0.77377
28	97	11101.4845	0.302131	0.78287	-0.16872
29	99	11101.1323	0.352268	0.56617	-0.25227

30	102	11100.9776	0.154693	0.39684	-0.12808
31	106	11099.7531	1.224465	1.14014	-0.14364
32	110	11091.0704	8.682707	1.68186	-1.88933
33	113	11089.7480	1.322379	0.47030	-1.76620
34	116	11089.5911	0.156943	0.18569	-0.27288
35	119	11089.5723	0.018748	0.18540	-0.01418
36	121	11089.5565	0.015811	0.18416	-0.01327
37	125	11089.4985	0.057975	0.18579	-0.03095
38	129	11088.4824	1.016152	1.20506	-0.09380
39	133	11086.2397	2.242694	2.23701	-2.11519
40	137	11078.7568	7.482911	0.58301	-4.24422
41	139	11073.4497	5.307055	0.79601	-5.13502
42	142	11072.3239	1.125848	0.10171	-2.04931
43	145	11072.3076	0.016316	0.007148	-0.02933
44	148	11072.3074	0.000183	0.002043	-0.00034
45	151	11072.3074	5.17E-6	0.000470	-6.77E-6

NOTE: GCONV convergence criterion satisfied.

Fit Statistics	
-2 Log Likelihood	22145
AIC (smaller is better)	22165
AICC (smaller is better)	22165
BIC (smaller is better)	22206

Parameter Estimates

Parameter	Estimate	Standard Error	DF	t Value	Pr > |t|	95% Confidence Limits		Gradient
sigma2a_ind	20.3159	0.7300	456	27.83	<.0001	18.8814	21.7505	0.000211
sigma2b_ind	7.2296	1.1011	456	6.57	<.0001	5.0657	9.3935	0.000037
a1a_ind	-23.6639	0.9510	456	-24.88	<.0001	-25.5329	-21.7950	0.000074
a1b_ind	-6.3780	1.1555	456	-5.52	<.0001	-8.6488	-4.1073	-0.00009
a2_ind	17.2344	1.3201	456	13.06	<.0001	14.6402	19.8286	-0.00026
a3_ind	-14.6492	1.3743	456	-10.66	<.0001	-17.3499	-11.9485	-0.00047
s2b1	40.3730	7.4522	456	5.42	<.0001	25.7281	55.0179	0.000066
s2b2	522.42	57.2203	456	9.13	<.0001	409.97	634.86	-7.19E-6
s2b3	406.29	62.3076	456	6.52	<.0001	283.84	528.73	-3.5E-6
s2b4	48.9725	5.7551	456	8.51	<.0001	37.6628	60.2823	-0.00004

SDE quadratic in t all params

The NLMIXED Procedure

Specifications	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Distribution for Dependent Variable	Normal
Random Effects	b1 b2 b3 b4
Distribution for Random Effects	Normal
Subject Variable	subjidN
Optimization Technique	Dual Quasi-Newton
Integration Method	Adaptive Gaussian Quadrature

Dimensions	
Observations Used	10616
Observations Not Used	0
Total Observations	10616
Subjects	460
Max Obs per Subject	24
Parameters	14
Quadrature Points	1

Initial Parameters

sigma2a_ind	sigma2b_ind	a1a_ind	a1b_ind	a2a_ind	a2b_ind	a3a_ind	a3b_ind	a4a_ind	a4b_ind	s2b1	s2b2	s2b3	s2b4	Negative Log Likelihood
17	5	-5	-5	5	5	-20	-20	20	1	20	2	1	1	11958.9896

Iteration History

Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
1	6	11744.5722	214.4173	23.7666	-888.766
2	10	11678.1591	66.41315	15.6020	-70.0291
3	14	11530.0100	148.1491	20.2174	-83.8599
4	18	11391.7105	138.2995	14.5425	-124.297
5	22	11321.6967	70.01375	13.5522	-66.1043
6	24	11210.1773	111.5194	3.35043	-64.1693
7	29	11171.3516	38.82566	4.76978	-38.6069
8	32	11154.5999	16.75174	4.88091	-7.63601
9	34	11133.8745	20.72541	5.12851	-5.97913
10	36	11103.0709	30.80354	4.76811	-12.1620
11	38	11077.0817	25.98921	4.51891	-16.7538

12	320	11071.6974	5.384288	3.83346	-7.53545
13	322	11065.3180	6.37942	2.03110	-11.2678
14	324	11061.5910	3.726994	2.87937	-2.68089
15	326	11056.9603	4.630765	2.74545	-5.40183
16	328	11050.4158	6.544425	1.79464	-2.46446
17	331	11047.0545	3.361329	1.77401	-2.33900
18	334	11045.5732	1.4813	0.92414	-1.54876
19	336	11045.1741	0.399107	1.08482	-0.53139
20	340	11043.9554	1.218716	0.58964	-2.03424
21	343	11043.1189	0.836454	1.06748	-0.35268
22	347	11040.8319	2.28703	1.38032	-0.57931
23	350	11039.2922	1.539684	1.95291	-0.66368
24	354	11030.2248	9.067422	5.40594	-1.67387
25	356	11018.4163	11.80846	5.12443	-5.05901
26	358	11006.9018	11.51456	5.30381	-7.37505
27	360	10994.5884	12.31342	2.15580	-34.4539
28	363	10991.5372	3.051171	1.61514	-5.36231
29	366	10989.8233	1.713846	1.79674	-2.04920
30	370	10984.1898	5.633508	2.52846	-1.97424
31	373	10982.0427	2.147183	1.32799	-4.98689
32	376	10981.3687	0.673918	0.96487	-0.99492
33	380	10978.8622	2.506554	1.89402	-0.59504
34	384	10962.2534	16.60875	2.72856	-6.56789
35	386	10939.7166	22.53684	3.40702	-24.4438
36	391	10929.5234	10.19316	0.66423	-18.0743
37	394	10925.8589	3.664554	0.40706	-5.45044
38	399	10925.5075	0.351405	0.55464	-1.09587
39	401	10925.0401	0.467407	0.28512	-1.02662
40	404	10924.9759	0.064204	0.29211	-0.03539
41	408	10924.4814	0.494443	0.65421	-0.07150
42	412	10919.8600	4.621366	3.57133	-0.51476
43	414	10911.3864	8.473634	1.21045	-6.90899
44	417	10906.9449	4.441484	1.07461	-7.12605
45	420	10906.6258	0.319115	0.61092	-1.49062
46	422	10906.1232	0.50263	0.29066	-0.79911
47	425	10906.0762	0.046947	0.26516	-0.09362
48	427	10906.0015	0.074689	0.26793	-0.02717
49	431	10905.6059	0.395622	0.40237	-0.10473
50	437	10897.0330	8.572878	1.37837	-0.60593
51	440	10893.6342	3.39885	0.24035	-2.90739
52	443	10893.2156	0.418602	0.11479	-0.60566
53	446	10893.1521	0.063477	0.068509	-0.08905
54	449	10893.1397	0.012418	0.060161	-0.01247
55	452	10893.1378	0.001874	0.060317	-0.00162
56	456	10893.1300	0.007796	0.060221	-0.00108
57	460	10893.0435	0.086531	0.18706	-0.01051
58	464	10891.6855	1.357973	0.40731	-0.10137
59	468	10888.9283	2.757255	0.64847	-1.65767
60	471	10887.7010	1.227312	0.14238	-1.75383
61	474	10887.5283	0.172609	0.046208	-0.27991
62	477	10887.5157	0.012678	0.006128	-0.02478
63	480	10887.5152	0.000437	0.004371	-0.00055
64	483	10887.5152	0.000041	0.000452	-0.00006

NOTE: GCONV convergence criterion satisfied.

Fit Statistics	
-2 Log Likelihood	21775
AIC (smaller is better)	21803
AICC (smaller is better)	21803
BIC (smaller is better)	21861

Parameter Estimates

Parameter	Estimate	Standard Error	DF	t Value	Pr > |t|	95% Confidence Limits		Gradient
sigma2a_ind	20.5989	0.7469	456	27.58	<.0001	19.1312	22.0667	0.000452
sigma2b_ind	8.9193	1.1769	456	7.58	<.0001	6.6065	11.2322	0.000192
a1a_ind	-26.5109	1.0536	456	-25.16	<.0001	-28.5814	-24.4405	-0.00030
a1b_ind	-8.0385	1.3448	456	-5.98	<.0001	-10.6812	-5.3957	-0.00037
a2a_ind	30.0837	2.2318	456	13.48	<.0001	25.6978	34.4695	0.000227
a2b_ind	2.8452	3.2118	456	0.89	0.3762	-3.4665	9.1570	0.000141
a3a_ind	-84.6741	5.6006	456	-15.12	<.0001	-95.6803	-73.6680	-0.00001
a3b_ind	1.3135	8.4666	456	0.16	0.8768	-15.3250	17.9519	0.000128
a4a_ind	73.8965	5.0495	456	14.63	<.0001	63.9733	83.8197	-0.00003
a4b_ind	-16.6239	7.6050	456	-2.19	0.0293	-31.5692	-1.6786	0.000159
s2b1	51.2204	9.0718	456	5.65	<.0001	33.3928	69.0481	0.000020
s2b2	682.96	72.1560	456	9.46	<.0001	541.16	824.75	-6.19E-6
s2b3	546.35	76.3208	456	7.16	<.0001	396.36	696.33	-9.84E-7
s2b4	47.7269	5.6138	456	8.50	<.0001	36.6948	58.7590	-0.00002

SDE quadratic in t reduced combined a2 a3 across country

The NLMIXED Procedure

Specifications	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Distribution for Dependent Variable	Normal
Random Effects	b1 b2 b3 b4
Distribution for Random Effects	Normal
Subject Variable	subjidN
Optimization Technique	Dual Quasi-Newton
Integration Method	Adaptive Gaussian Quadrature

Dimensions	
Observations Used	10616
Observations Not Used	0
Total Observations	10616
Subjects	460
Max Obs per Subject	24
Parameters	12
Quadrature Points	1

Initial Parameters												
sigma2a_ind	sigma2b_ind	a1a_ind	a1b_ind	a2_ind	a3_ind	a4a_ind	a4b_ind	s2b1	s2b2	s2b3	s2b4	Negative Log Likelihood
17	5	-5	-5	5	-20	20	1	20	2	1	1	11842.4507

Iteration History					
Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
1	6	11734.7505	107.7002	17.2868	-355.794
2	10	11549.7015	185.0489	13.5860	-79.9117
3	13	11477.1165	72.58506	13.5547	-426.966
4	15	11447.9326	29.18389	27.5031	-265.561
5	19	11271.1013	176.8313	7.76211	-359.909
6	280	11266.8346	4.266701	6.69234	-89.3593
7	284	11171.3506	95.48397	3.94954	-159.500
8	286	11115.1342	56.21637	21.3098	-44.6322
9	288	11080.4395	34.69476	10.1840	-48.7278
10	290	11065.9164	14.52304	12.1230	-44.3262
11	292	11046.1735	19.74297	2.53524	-26.6078
12	294	11036.4567	9.716717	4.56666	-5.93832
13	297	11030.9120	5.54475	0.66202	-8.47288
14	300	11029.7012	1.210754	0.81889	-0.50272
15	304	11022.5176	7.183633	2.92744	-1.66500
16	306	11014.9304	7.587241	6.02604	-5.53352
17	310	10994.2072	20.72315	6.80845	-6.67749
18	312	10982.4053	11.8019	9.71060	-18.2710
19	314	10976.4772	5.928153	4.03646	-33.6825
20	316	10968.5774	7.899755	2.43882	-18.0051
21	321	10964.5275	4.049926	1.45704	-5.22783
22	324	10961.9372	2.590246	2.32393	-3.29333
23	326	10957.9703	3.966917	2.05773	-2.90385
24	328	10953.6781	4.292232	2.80180	-2.62219
25	330	10946.3830	7.295039	2.02961	-4.99662
26	332	10935.1769	11.20617	1.77381	-10.6230
27	334	10927.3356	7.84124	3.17343	-6.85014
28	336	10922.9049	4.430763	1.03206	-11.8787
29	339	10919.5754	3.329448	0.63485	-2.39608
30	342	10918.5234	1.052019	0.51580	-1.63224
31	345	10918.1345	0.388923	0.77997	-1.16769
32	350	10917.1271	1.007363	1.80059	-2.47239
33	353	10916.8554	0.271707	0.61498	-1.41657
34	357	10915.4867	1.368691	0.58835	-0.61726
35	360	10914.9442	0.54254	0.82762	-0.49443
36	362	10914.4156	0.528621	0.92936	-0.60868
37	364	10913.5165	0.899054	1.20778	-0.91286
38	368	10911.0509	2.465616	1.50754	-1.37273
39	372	10900.8682	10.18269	1.10901	-3.30042
40	377	10896.8492	4.019029	0.99786	-5.89552
41	380	10895.5876	1.261591	0.59509	-1.63874
42	383	10895.3175	0.270074	0.46043	-0.28050
43	385	10894.9579	0.359617	0.62672	-0.12025
44	388	10894.7991	0.158764	0.23568	-0.16917
45	391	10894.7248	0.074312	0.11609	-0.04967
46	394	10894.6854	0.039423	0.066051	-0.04065
47	397	10894.6732	0.012175	0.10284	-0.00584
48	401	10894.6079	0.065287	0.17638	-0.01216
49	405	10893.9203	0.687642	0.43329	-0.06591
50	409	10890.4265	3.493822	1.79804	-0.79684
51	412	10888.3183	2.108125	0.15730	-2.34975
52	415	10888.2033	0.115085	0.025573	-0.22501
53	418	10888.1942	0.00903	0.019337	-0.01620

54	421	10888.1939	0.000363	0.006968	-0.00054
55	424	10888.1939	0.000011	0.000253	-0.00002

NOTE: GCONV convergence criterion satisfied.

Fit Statistics	
-2 Log Likelihood	21776
AIC (smaller is better)	21800
AICC (smaller is better)	21800
BIC (smaller is better)	21850

Parameter Estimates

Parameter	Estimate	Standard Error	DF	t Value	Pr > |t|	95% Confidence Limits		Gradient
sigma2a_ind	20.6345	0.7449	456	27.70	<.0001	19.1706	22.0984	0.000164
sigma2b_ind	8.8028	1.1387	456	7.73	<.0001	6.5649	11.0406	2.394E-7
a1a_ind	-26.5911	1.0456	456	-25.43	<.0001	-28.6459	-24.5363	-0.00013
a1b_ind	-7.8280	1.2535	456	-6.24	<.0001	-10.2915	-5.3646	-0.00007
a2_ind	31.4463	1.7373	456	18.10	<.0001	28.0321	34.8604	-0.00016
a3_ind	-84.0955	4.4581	456	-18.86	<.0001	-92.8565	-75.3344	-0.00007
a4a_ind	73.3949	4.1685	456	17.61	<.0001	65.2031	81.5868	-0.00006
a4b_ind	-15.3226	2.6994	456	-5.68	<.0001	-20.6274	-10.0179	-0.00025
s2b1	51.3601	9.0861	456	5.65	<.0001	33.5042	69.2159	0.000012
s2b2	684.15	72.1626	456	9.48	<.0001	542.34	825.96	-1.48E-6
s2b3	546.26	76.1723	456	7.17	<.0001	396.56	695.95	7.563E-7
s2b4	47.6253	5.5709	456	8.55	<.0001	36.6775	58.5732	-0.00002

SDE cubic most params - not a5a a5b so converges

The NLMIXED Procedure

Specifications	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Distribution for Dependent Variable	Normal
Random Effects	b1 b2 b3 b4
Distribution for Random Effects	Normal
Subject Variable	subjidN
Optimization Technique	Dual Quasi-Newton
Integration Method	Adaptive Gaussian Quadrature

Dimensions	
Observations Used	10616
Observations Not Used	0
Total Observations	10616
Subjects	460
Max Obs per Subject	24
Parameters	15
Quadrature Points	1

Initial Parameters

sigma2a_ind	sigma2b_ind	a1a_ind	a1b_ind	a2a_ind	a2b_ind	a3a_ind	a3b_ind	a4a_ind	a4b_ind	a5_ind	s2b1	s2b2	s2b3	s2b4	Negative Log Likelihood
17	5	-5	-5	5	5	-20	-20	20	1	1	20	2	1	1	11941.9341

Iteration History

Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
1	6	11748.8678	193.0663	23.7080	-888.668
2	10	11681.3570	67.51089	15.6109	-71.3525
3	14	11535.2224	146.1346	19.7387	-84.9466
4	18	11407.2645	127.9579	16.7232	-116.533
5	22	11322.9090	84.35547	12.1026	-66.1843
6	24	11212.3978	110.5112	4.49619	-79.4477
7	29	11173.1795	39.21831	4.86883	-21.9661
8	34	11156.7799	16.39963	4.72294	-17.1410
9	36	11145.0780	11.70187	5.24774	-6.88489
10	38	11125.4538	19.62424	4.12872	-12.9975
11	40	11103.2557	22.19801	6.79697	-19.2394
12	42	11082.9855	20.27028	4.90748	-18.1200
13	47	11074.8102	8.175225	2.68060	-7.47125
14	49	11071.6338	3.176478	5.11093	-4.06801
15	51	11066.5784	5.055321	2.99074	-8.56516
16	53	11064.7171	1.861357	2.53653	-2.71017
17	57	11059.8106	4.906479	1.20145	-6.12851
18	59	11058.1912	1.619445	2.40966	-1.91831
19	61	11055.7663	2.424881	1.26343	-3.84395
20	64	11054.5270	1.239238	0.63515	-0.78365
21	66	11052.3803	2.146722	0.63564	-1.41321
22	69	11051.4594	0.920902	0.98074	-1.22844
23	73	11049.4906	1.968846	1.37599	-0.50251
24	75	11048.6664	0.824133	1.69901	-0.66787

25	79	11044.7972	3.869282	0.97782	-3.65540
26	83	11022.3098	22.48735	2.18417	-4.05190
27	93	11017.6429	4.666904	1.67270	-4.94310
28	95	11014.9296	2.713279	3.67856	-2.72528
29	97	11010.3659	4.563697	1.88378	-4.13519
30	99	11004.1083	6.257625	2.67723	-4.86747
31	101	10996.6746	7.433656	1.31564	-5.66648
32	104	10994.6055	2.069114	1.30362	-0.81591
33	108	10989.9703	4.635221	2.43974	-2.07865
34	110	10988.0792	1.891139	2.66199	-2.08780
35	114	10982.6496	5.429579	3.28488	-5.87821
36	118	10971.5927	11.05689	7.10762	-4.27490
37	120	10958.0681	13.52459	5.75973	-54.7121
38	122	10936.0705	21.99765	3.47153	-18.9988
39	124	10904.7078	31.36265	2.68952	-43.8988
40	136	10899.3754	5.332428	1.42282	-11.3372
41	139	10897.8007	1.574713	1.54873	-2.81693
42	142	10897.3809	0.419763	1.45773	-0.56044
43	146	10896.1686	1.212265	1.49768	-0.58048
44	150	10892.0507	4.117986	1.40801	-1.62530
45	154	10882.0946	9.956099	2.66100	-4.90664
46	157	10874.5165	7.578042	0.62135	-6.47500
47	160	10870.2464	4.270126	1.21865	-4.20036
48	165	10868.9794	1.266987	0.86293	-1.75984
49	168	10868.8016	0.177846	0.32593	-0.35282
50	171	10868.7179	0.083679	0.31265	-0.40899
51	173	10868.6776	0.040313	0.49242	-0.07177
52	175	10868.6189	0.058677	0.22242	-0.08738
53	177	10868.5542	0.064685	0.54872	-0.02817
54	181	10867.9434	0.610842	0.42344	-0.10252
55	185	10865.6139	2.32945	1.28723	-0.95521
56	187	10861.8198	3.794153	1.13448	-2.27233
57	189	10858.0588	3.760955	1.06194	-4.10325
58	192	10856.4167	1.642112	0.22523	-1.72175
59	195	10856.2138	0.202891	0.085816	-0.29410
60	198	10856.2012	0.012596	0.081798	-0.01443
61	201	10856.1975	0.003732	0.081966	-0.00296
62	205	10856.1842	0.013273	0.092861	-0.00290
63	209	10856.0803	0.103858	0.28914	-0.01666
64	213	10854.8808	1.199566	0.38748	-0.11567
65	217	10848.5958	6.285017	0.92267	-1.66311
66	220	10846.3833	2.212477	0.39715	-3.90047
67	223	10845.9672	0.41604	0.12918	-0.93377
68	226	10845.9024	0.06485	0.025915	-0.14275
69	229	10845.9008	0.001581	0.018811	-0.00302
70	232	10845.9006	0.000168	0.014904	-0.00009

NOTE: GCONV convergence criterion satisfied.

Fit Statistics	
-2 Log Likelihood	21692
AIC (smaller is better)	21722
AICC (smaller is better)	21722
BIC (smaller is better)	21784

Parameter Estimates

Parameter	Estimate	Standard Error	DF	t Value	Pr > |t|	95% Confidence Limits		Gradient
sigma2a_ind	19.8610	0.7156	456	27.75	<.0001	18.4547	21.2673	0.002270
sigma2b_ind	9.3494	1.1613	456	8.05	<.0001	7.0673	11.6316	0.001883
a1a_ind	-25.5901	1.0029	456	-25.52	<.0001	-27.5609	-23.6192	-0.00032
a1b_ind	-8.3321	1.3201	456	-6.31	<.0001	-10.9264	-5.7378	0.004588
a2a_ind	37.5164	2.3225	456	16.15	<.0001	32.9523	42.0804	0.001812
a2b_ind	2.4321	3.1105	456	0.78	0.4347	-3.6805	8.5448	-0.00122
a3a_ind	-170.77	10.6036	456	-16.11	<.0001	-191.61	-149.94	-0.01015
a3b_ind	3.0502	8.3015	456	0.37	0.7135	-13.2638	19.3642	0.000441
a4a_ind	282.35	22.1247	456	12.76	<.0001	238.87	325.82	0.014904
a4b_ind	-17.2897	7.4872	456	-2.31	0.0214	-32.0033	-2.5761	-0.00592
a5_ind	-137.24	14.0274	456	-9.78	<.0001	-164.80	-109.67	-0.01307
s2b1	50.1401	8.5390	456	5.87	<.0001	33.3593	66.9208	0.000303
s2b2	625.95	65.4343	456	9.57	<.0001	497.36	754.54	-0.00230
s2b3	466.81	64.3827	456	7.25	<.0001	340.29	593.33	-0.01304
s2b4	46.6880	5.5325	456	8.44	<.0001	35.8156	57.5605	0.004462

SDE cubic reduced

The NLMIXED Procedure

Specifications	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Distribution for Dependent Variable	Normal

Random Effects	b1 b2 b3 b4
Distribution for Random Effects	Normal
Subject Variable	subjidN
Optimization Technique	Dual Quasi-Newton
Integration Method	Adaptive Gaussian Quadrature

Dimensions	
Observations Used	10616
Observations Not Used	0
Total Observations	10616
Subjects	460
Max Obs per Subject	24
Parameters	13
Quadrature Points	1

Initial Parameters

sigma2a_ind	sigma2b_ind	a1a_ind	a1b_ind	a2_ind	a3_ind	a4a_ind	a4b_ind	a5_ind	s2b1	s2b2	s2b3	s2b4	Negative Log Likelihood
17	5	-5	-5	5	-20	20	1	1	20	2	1	1	11848.0186

Iteration History

Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
1	6	11737.4728	110.5458	17.1605	-356.905
2	10	11580.6393	156.8335	20.8391	-91.4750
3	13	11518.1708	62.46851	13.9187	-419.840
4	15	11421.9643	96.20645	16.2344	-192.505
5	17	11299.7608	122.2035	9.88380	-259.594
6	20	11226.9169	72.84394	21.1385	-83.9667
7	29	11163.9181	62.99878	3.95384	-146.080
8	31	11097.6913	66.22677	7.03932	-39.8302
9	36	11074.9932	22.69812	3.77245	-15.0075
10	38	11062.1798	12.81345	3.64041	-8.68819
11	41	11055.1270	7.052725	1.06974	-10.8301
12	44	11052.7699	2.357119	2.67542	-0.95291
13	48	11047.5069	5.263043	1.38187	-2.52672
14	50	11042.0467	5.460223	3.45311	-3.22067
15	54	11027.1186	14.92804	1.74051	-5.19821
16	56	11015.4184	11.70021	2.31525	-9.59421
17	61	11010.1204	5.298029	1.82060	-5.79594
18	63	11004.1472	5.973173	2.04766	-4.09737
19	65	10995.6504	8.496826	1.15499	-5.47526
20	68	10992.0365	3.613867	1.64632	-3.01122
21	70	10986.0679	5.968591	1.45103	-2.22114
22	72	10981.4002	4.667731	3.20161	-4.30539
23	76	10968.1740	13.22617	1.98760	-8.11940
24	356	10926.6854	41.48858	4.96594	-15.0774
25	361	10913.3259	13.35951	6.45704	-67.5492
26	363	10894.3587	18.96717	4.91054	-30.8726
27	365	10876.3269	18.03186	1.73312	-26.5867
28	368	10872.6429	3.683966	2.50323	-5.42650
29	371	10870.1183	2.524601	1.00283	-2.45840
30	374	10868.5292	1.589101	0.68626	-1.90293
31	377	10867.9440	0.585257	0.56657	-0.55205
32	379	10867.5809	0.36309	1.03883	-0.44613
33	383	10866.4578	1.123102	0.48514	-1.18085
34	385	10864.6297	1.828039	0.81146	-0.78693
35	388	10863.5380	1.091738	0.83769	-1.24139
36	391	10863.0320	0.50597	0.87475	-0.44902
37	394	10862.7720	0.260003	0.86272	-0.16686
38	398	10861.7037	1.068325	0.70603	-0.29684
39	400	10860.3603	1.343438	0.19081	-0.95459
40	403	10860.2770	0.083307	0.092673	-0.12066
41	406	10860.2611	0.015851	0.12034	-0.00816
42	412	10859.7824	0.478666	0.57982	-0.01846
43	418	10851.0336	8.748832	2.44932	-0.79945
44	421	10848.8707	2.162889	0.62583	-15.6306
45	423	10848.0399	0.830856	0.92402	-3.44267
46	425	10846.8540	1.18585	0.37453	-2.38078
47	428	10846.7796	0.074377	0.047247	-0.13064
48	431	10846.7712	0.008427	0.042117	-0.01073
49	434	10846.7698	0.001427	0.018862	-0.00188
50	437	10846.7693	0.00051	0.018598	-0.00053
51	441	10846.7643	0.004997	0.027515	-0.00070
52	447	10846.3774	0.386878	0.38680	-0.01073
53	449	10846.0891	0.288294	0.15098	-0.37486
54	452	10846.0284	0.060744	0.010385	-0.11676
55	455	10846.0282	0.000107	0.000400	-0.00020
56	458	10846.0282	6.991E-7	0.000052	-1.21E-6

NOTE: GCONV convergence criterion satisfied.

Fit Statistics	
-2 Log Likelihood	21692
AIC (smaller is better)	21718
AICC (smaller is better)	21718
BIC (smaller is better)	21772

Parameter Estimates

Parameter	Estimate	Standard Error	DF	t Value	Pr > |t|	95% Confidence Limits		Gradient
sigma2a_ind	20.0335	0.7228	456	27.72	<.0001	18.6131	21.4539	-0.00004
sigma2b_ind	9.3478	1.1375	456	8.22	<.0001	7.1124	11.5833	-0.00001
a1a_ind	-26.0370	1.0189	456	-25.56	<.0001	-28.0392	-24.0348	-1.52E-6
a1b_ind	-8.3162	1.2524	456	-6.64	<.0001	-10.7773	-5.8551	-0.00001
a2_ind	38.6548	1.9374	456	19.95	<.0001	34.8474	42.4623	-0.00004
a3_ind	-165.33	10.1463	456	-16.29	<.0001	-185.27	-145.39	-0.00005
a4a_ind	270.01	22.0530	456	12.24	<.0001	226.67	313.35	-0.00005
a4b_ind	-14.7244	2.6687	456	-5.52	<.0001	-19.9688	-9.4800	-8.2E-6
a5_ind	-129.47	14.0974	456	-9.18	<.0001	-157.17	-101.76	-0.00005
s2b1	51.2259	8.7509	456	5.85	<.0001	34.0289	68.4229	-1.56E-6
s2b2	663.51	70.3384	456	9.43	<.0001	525.28	801.74	-2.73E-7
s2b3	530.27	74.3152	456	7.14	<.0001	384.23	676.31	2.831E-7
s2b4	46.6904	5.5296	456	8.44	<.0001	35.8237	57.5571	-4.08E-6

linear lmm + country fixed - no R-side

The Mixed Procedure

Model Information	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structure	Unstructured
Subject Effect	subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
country	2	SA TZ

Dimensions	
Covariance Parameters	7
Columns in X	4
Columns in Z per Subject	3
Subjects	460
Max Obs per Subject	24

Number of Observations	
Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Log Like	Criterion
0	1	32853.08016703	
1	2	22689.88415796	0.00041362
2	1	22689.19242309	0.00000308
3	1	22689.18749601	0.00000000

Convergence criteria met.

Estimated G Matrix					
Row	Effect	Subject	Col1	Col2	Col3
1	Intercept	1	1.4152	-3.1850	2.1246
2	agects1	1	-3.1850	21.2906	-17.7816
3	agects12	1	2.1246	-17.7816	15.6737

Covariance Parameter Estimates		
Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.4152
UN(2,1)	subjidN	-3.1850
UN(2,2)	subjidN	21.2906
UN(3,1)	subjidN	2.1246
UN(3,2)	subjidN	-17.7816
UN(3,3)	subjidN	15.6737
Residual		0.3593

Fit Statistics	
-2 Log Likelihood	22689.2
AIC (Smaller is Better)	22709.2

AICC (Smaller is Better)	22709.2
BIC (Smaller is Better)	22750.5

Null Model Likelihood Ratio Test		
DF	Chi-Square	Pr > ChiSq
6	10163.89	<.0001

Information Criteria						
Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
22689.2	10	22709.2	22709.2	22725.5	22750.5	22760.5

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		0.6409	0.06394	458	10.02	<.0001
agects1		-0.4036	0.05400	459	-7.47	<.0001
country	SA	0.2704	0.07505	9236	3.60	0.0003
country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	459	55.86	<.0001
country	1	9236	12.99	0.0003

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linear lmm + country fixed - R-side AR(1)

The Mixed Procedure

Model Information	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
country	2	SA TZ

Dimensions	
Covariance Parameters	8
Columns in X	4
Columns in Z per Subject	3
Subjects	460
Max Obs per Subject	24

Number of Observations	
Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Log Like	Criterion
0	1	32853.08016703	
1	4	22151.43280122	0.00055948
2	1	22150.68714390	0.00000277
3	1	22150.68347640	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.782E-6	1.674E-6	4.849E-7	1.404E-7	4.067E-8	1.178E-8	3.41E-9	9.88E-10	2.86E-10	8.28E-11	2.4
2	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.782E-6	1.674E-6	4.849E-7	1.404E-7	4.067E-8	1.178E-8	3.41E-9	9.88E-10	2.86E-10	8.28
3	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.782E-6	1.674E-6	4.849E-7	1.404E-7	4.067E-8	1.178E-8	3.41E-9	9.88E-10	2.86
4	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.782E-6	1.674E-6	4.849E-7	1.404E-7	4.067E-8	1.178E-8	3.41E-9	9.88
5	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.782E-6	1.674E-6	4.849E-7	1.404E-7	4.067E-8	1.178E-8	3.4
6	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.782E-6	1.674E-6	4.849E-7	1.404E-7	4.067E-8	1.17
7	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.782E-6	1.674E-6	4.849E-7	1.404E-7	4.06
8	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.782E-6	1.674E-6	4.849E-7	1.40
9	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.782E-6	1.674E-6	4.84
10	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.782E-6	1.67
11	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.000020	5.78
12	4.849E-7	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.000069	0.00
13	1.404E-7	4.849E-7	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.000238	0.00
14	4.067E-8	1.404E-7	4.849E-7	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.000822	0.00
15	1.178E-8	4.067E-8	1.404E-7	4.849E-7	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.002839	0.00
16	3.41E-9	1.178E-8	4.067E-8	1.404E-7	4.849E-7	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.009802	0.00
17	9.88E-10	3.41E-9	1.178E-8	4.067E-8	1.404E-7	4.849E-7	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.03385	0.00

18	2.86E-10	9.88E-10	3.41E-9	1.178E-8	4.067E-8	1.404E-7	4.849E-7	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.1169	0.0
19	8.28E-11	2.86E-10	9.88E-10	3.41E-9	1.178E-8	4.067E-8	1.404E-7	4.849E-7	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.4036	0.
20	2.4E-11	8.28E-11	2.86E-10	9.88E-10	3.41E-9	1.178E-8	4.067E-8	1.404E-7	4.849E-7	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.1169	0.
21	6.95E-12	2.4E-11	8.28E-11	2.86E-10	9.88E-10	3.41E-9	1.178E-8	4.067E-8	1.404E-7	4.849E-7	1.674E-6	5.782E-6	0.000020	0.000069	0.000238	0.000822	0.002839	0.009802	0.03385	0.

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3
1	Intercept	1	1.1998	-2.4176	1.5056
2	agects1	1	-2.4176	17.6731	-14.4819
3	agects12	1	1.5056	-14.4819	12.4990

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.1998
UN(2,1)	subjidN	-2.4176
UN(2,2)	subjidN	17.6731
UN(3,1)	subjidN	1.5056
UN(3,2)	subjidN	-14.4819
UN(3,3)	subjidN	12.4990
AR(1)	subjidN	0.2896
Residual		0.4036

Fit Statistics

-2 Log Likelihood	22150.7
AIC (Smaller is Better)	22172.7
AICC (Smaller is Better)	22172.7
BIC (Smaller is Better)	22218.1

Null Model Likelihood Ratio Test

DF	Chi-Square	Pr > ChiSq
7	10702.40	<.0001

Information Criteria

Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
22150.7	11	22172.7	22172.7	22190.6	22218.1	22229.1

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		0.6534	0.06292	458	10.38	<.0001
agects1		-0.4103	0.05338	459	-7.69	<.0001
country	SA	0.2561	0.07426	9236	3.45	0.0006
country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	459	59.09	<.0001
country	1	9236	11.90	0.0006

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quad lmm + country fixed

The Mixed Procedure

Model Information

Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
country	2	SA TZ

Dimensions

Covariance Parameters	8
Columns in X	5
Columns in Z per Subject	3
Subjects	460
Max Obs per Subject	24

Number of Observations

Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Log Like	Criterion
0	1	32669.38004955	

1	2	22034.20910789	0.00004541
2	1	22034.15072222	0.00000004
3	1	22034.15067039	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.117E-6	1.462E-6	4.18E-7	1.195E-7	3.414E-8	9.758E-9	2.789E-9	7.97E-10	2.28E-10	6.51E-11	1.86
2	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.117E-6	1.462E-6	4.18E-7	1.195E-7	3.414E-8	9.758E-9	2.789E-9	7.97E-10	2.28E-10	6.51
3	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.117E-6	1.462E-6	4.18E-7	1.195E-7	3.414E-8	9.758E-9	2.789E-9	7.97E-10	2.28
4	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.117E-6	1.462E-6	4.18E-7	1.195E-7	3.414E-8	9.758E-9	2.789E-9	7.97
5	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.117E-6	1.462E-6	4.18E-7	1.195E-7	3.414E-8	9.758E-9	2.78
6	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.117E-6	1.462E-6	4.18E-7	1.195E-7	3.414E-8	9.75
7	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.117E-6	1.462E-6	4.18E-7	1.195E-7	3.41
8	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.117E-6	1.462E-6	4.18E-7	1.19
9	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.117E-6	1.462E-6	4.1
10	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.117E-6	1.46
11	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.000018	5.11
12	4.18E-7	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.000063	0.00
13	1.195E-7	4.18E-7	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.000219	0.00
14	3.414E-8	1.195E-7	4.18E-7	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.000767	0.00
15	9.758E-9	3.414E-8	1.195E-7	4.18E-7	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.002683	0.00
16	2.789E-9	9.758E-9	3.414E-8	1.195E-7	4.18E-7	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.009388	0.00
17	7.97E-10	2.789E-9	9.758E-9	3.414E-8	1.195E-7	4.18E-7	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.03285	0.00
18	2.28E-10	7.97E-10	2.789E-9	9.758E-9	3.414E-8	1.195E-7	4.18E-7	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.1149	0.0
19	6.51E-11	2.28E-10	7.97E-10	2.789E-9	9.758E-9	3.414E-8	1.195E-7	4.18E-7	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.4021	0.
20	1.86E-11	6.51E-11	2.28E-10	7.97E-10	2.789E-9	9.758E-9	3.414E-8	1.195E-7	4.18E-7	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.1149	0.
21	5.32E-12	1.86E-11	6.51E-11	2.28E-10	7.97E-10	2.789E-9	9.758E-9	3.414E-8	1.195E-7	4.18E-7	1.462E-6	5.117E-6	0.000018	0.000063	0.000219	0.000767	0.002683	0.009388	0.03285	0.

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3
1	Intercept	1	1.1245	-1.8019	0.9585
2	agects1	1	-1.8019	12.7150	-10.0777
3	agects12	1	0.9585	-10.0777	8.5884

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.1245
UN(2,1)	subjidN	-1.8019
UN(2,2)	subjidN	12.7150
UN(3,1)	subjidN	0.9585
UN(3,2)	subjidN	-10.0777
UN(3,3)	subjidN	8.5884
AR(1)	subjidN	0.2858
Residual		0.4021

Fit Statistics

-2 Log Likelihood	22034.2
AIC (Smaller is Better)	22058.2
AICC (Smaller is Better)	22058.2
BIC (Smaller is Better)	22107.7

Null Model Likelihood Ratio Test

DF	Chi-Square	Pr > ChiSq
7	10635.23	<.0001

Information Criteria

Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
22034.2	12	22058.2	22058.2	22077.7	22107.7	22119.7

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		0.9277	0.06725	458	13.79	<.0001
agects1		-2.6488	0.2017	459	-13.13	<.0001
agects12		1.9936	0.1734	459	11.50	<.0001
country	SA	0.2633	0.07430	9236	3.54	0.0004
country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	459	172.43	<.0001
agects12	1	459	132.24	<.0001
country	1	9236	12.56	0.0004

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cubic lmm + country fixed

The Mixed Procedure

Model Information

Data Set	WORK.COMBINED

Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
country	2	SA TZ

Dimensions

Covariance Parameters	12
Columns in X	6
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations

Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Log Like	Criterion
0	1	32661.03933042	
1	2	21902.26704677	0.00009553
2	1	21902.14991145	0.00000016
3	1	21902.14972186	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.224E-6	3.006E-7	7.382E-8	1.813E-8	4.451E-9	1.093E-9	2.68E-10	6.59E-11	1.62E-11	3.97E-12	
2	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.224E-6	3.006E-7	7.382E-8	1.813E-8	4.451E-9	1.093E-9	2.68E-10	6.59E-11	1.62E-11	3.97
3	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.224E-6	3.006E-7	7.382E-8	1.813E-8	4.451E-9	1.093E-9	2.68E-10	6.59E-11	1.62
4	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.224E-6	3.006E-7	7.382E-8	1.813E-8	4.451E-9	1.093E-9	2.68E-10	6.59
5	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.224E-6	3.006E-7	7.382E-8	1.813E-8	4.451E-9	1.093E-9	2.68
6	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.224E-6	3.006E-7	7.382E-8	1.813E-8	4.451E-9	1.09
7	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.224E-6	3.006E-7	7.382E-8	1.813E-8	4.45
8	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.224E-6	3.006E-7	7.382E-8	1.81
9	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.224E-6	3.006E-7	7.38
10	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.224E-6	3.00
11	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.986E-6	1.22
12	7.382E-8	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.000020	4.98
13	1.813E-8	7.382E-8	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.000083	0.00
14	4.451E-9	1.813E-8	7.382E-8	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.000337	0.00
15	1.093E-9	4.451E-9	1.813E-8	7.382E-8	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.001371	0.00
16	2.68E-10	1.093E-9	4.451E-9	1.813E-8	7.382E-8	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.005584	0.00
17	6.59E-11	2.68E-10	1.093E-9	4.451E-9	1.813E-8	7.382E-8	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.02274	0.00
18	1.62E-11	6.59E-11	2.68E-10	1.093E-9	4.451E-9	1.813E-8	7.382E-8	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.09261	0.0
19	3.97E-12	1.62E-11	6.59E-11	2.68E-10	1.093E-9	4.451E-9	1.813E-8	7.382E-8	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.3771	0.0
20		3.97E-12	1.62E-11	6.59E-11	2.68E-10	1.093E-9	4.451E-9	1.813E-8	7.382E-8	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.09261	0.
21			3.97E-12	1.62E-11	6.59E-11	2.68E-10	1.093E-9	4.451E-9	1.813E-8	7.382E-8	3.006E-7	1.224E-6	4.986E-6	0.000020	0.000083	0.000337	0.001371	0.005584	0.02274	0.0

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2967	-4.2952	5.3863	-2.1983
2	agects1	1	-4.2952	48.9429	-82.0231	39.9059
3	agects12	1	5.3863	-82.0231	148.23	-75.5182
4	agects13	1	-2.1983	39.9059	-75.5182	39.7180

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2967
UN(2,1)	subjidN	-4.2952
UN(2,2)	subjidN	48.9429
UN(3,1)	subjidN	5.3863
UN(3,2)	subjidN	-82.0231
UN(3,3)	subjidN	148.23
UN(4,1)	subjidN	-2.1983
UN(4,2)	subjidN	39.9059
UN(4,3)	subjidN	-75.5182
UN(4,4)	subjidN	39.7180
AR(1)	subjidN	0.2456
Residual		0.3771

Fit Statistics

-2 Log Likelihood	21902.1
AIC (Smaller is Better)	21936.1

AICC (Smaller is Better)	21936.2
BIC (Smaller is Better)	22006.4

Null Model Likelihood Ratio Test		
DF	**Chi-Square**	**Pr > ChiSq**
11	10758.89	<.0001

Information Criteria						
Neg2LogLike	**Parms**	**AIC**	**AICC**	**HQIC**	**BIC**	**CAIC**
21902.1	17	21936.1	21936.2	21963.8	22006.4	22023.4

Solution for Fixed Effects						
Effect	**country**	**Estimate**	**Standard Error**	**DF**	**t Value**	**Pr > |t|**
Intercept		1.0454	0.07338	458	14.25	<.0001
agects1		-3.7934	0.4313	459	-8.80	<.0001
agects12		4.6280	0.8425	459	5.49	<.0001
agects13		-1.6649	0.4914	459	-3.39	0.0008
country	SA	0.2574	0.07365	8776	3.50	0.0005
country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects				
Effect	**Num DF**	**Den DF**	**F Value**	**Pr > F**
agects1	1	459	77.37	<.0001
agects12	1	459	30.17	<.0001
agects13	1	459	11.48	0.0008
country	1	8776	12.22	0.0005

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quartic lmm + country

The Mixed Procedure

Model Information	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	**Levels**	**Values**
country	2	SA TZ

Dimensions	
Covariance Parameters	17
Columns in X	7
Columns in Z per Subject	5
Subjects	460
Max Obs per Subject	24

Number of Observations	
Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History			
Iteration	**Evaluations**	**-2 Log Like**	**Criterion**
0	1	32648.89977029	
1	2	21772.31440742	0.00012609
2	1	21772.16844657	0.00000018
3	1	21772.16824520	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1																			
Row	**Col1**	**Col2**	**Col3**	**Col4**	**Col5**	**Col6**	**Col7**	**Col8**	**Col9**	**Col10**	**Col11**	**Col12**	**Col13**	**Col14**	**Col15**	**Col16**	**Col17**	**Col18**	**Col19**	**C**
1	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.507E-7	5.199E-8	1.078E-8	2.236E-9	4.64E-10	9.62E-11	1.99E-11	4.14E-12			
2	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.507E-7	5.199E-8	1.078E-8	2.236E-9	4.64E-10	9.62E-11	1.99E-11	4.14E-12		
3	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.507E-7	5.199E-8	1.078E-8	2.236E-9	4.64E-10	9.62E-11	1.99E-11	4.14E-12	
4	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.507E-7	5.199E-8	1.078E-8	2.236E-9	4.64E-10	9.62E-11	1.99E-11	4.14
5	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.507E-7	5.199E-8	1.078E-8	2.236E-9	4.64E-10	9.62E-11	1.99
6	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.507E-7	5.199E-8	1.078E-8	2.236E-9	4.64E-10	9.62
7	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.507E-7	5.199E-8	1.078E-8	2.236E-9	4.64
8	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.507E-7	5.199E-8	1.078E-8	2.23
9	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.507E-7	5.199E-8	1.07
10	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.507E-7	5.19
11	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.209E-6	2.50
12	1.078E-8	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.829E-6	1.20

13	2.236E-9	1.078E-8	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.000028	5.82
14	4.64E-10	2.236E-9	1.078E-8	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.000136	0.00
15	9.62E-11	4.64E-10	2.236E-9	1.078E-8	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.000653	0.00
16	1.99E-11	9.62E-11	4.64E-10	2.236E-9	1.078E-8	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.003150	0.00
17	4.14E-12	1.99E-11	9.62E-11	4.64E-10	2.236E-9	1.078E-8	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.01519	0.00
18		4.14E-12	1.99E-11	9.62E-11	4.64E-10	2.236E-9	1.078E-8	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.07325	0.0
19			4.14E-12	1.99E-11	9.62E-11	4.64E-10	2.236E-9	1.078E-8	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.3532	0.0
20				4.14E-12	1.99E-11	9.62E-11	4.64E-10	2.236E-9	1.078E-8	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.07325	0.
21					4.14E-12	1.99E-11	9.62E-11	4.64E-10	2.236E-9	1.078E-8	5.199E-8	2.507E-7	1.209E-6	5.829E-6	0.000028	0.000136	0.000653	0.003150	0.01519	0.0

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4	Col5
1	Intercept	1	1.4144	-8.1042	19.9066	-21.2091	8.1020
2	agects1	1	-8.1042	145.67	-465.90	569.54	-238.36
3	agects12	1	19.9066	-465.90	1676.19	-2184.61	948.85
4	agects13	1	-21.2091	569.54	-2184.61	2945.03	-1303.60
5	agects14	1	8.1020	-238.36	948.85	-1303.60	583.10

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.4144
UN(2,1)	subjidN	-8.1042
UN(2,2)	subjidN	145.67
UN(3,1)	subjidN	19.9066
UN(3,2)	subjidN	-465.90
UN(3,3)	subjidN	1676.19
UN(4,1)	subjidN	-21.2091
UN(4,2)	subjidN	569.54
UN(4,3)	subjidN	-2184.61
UN(4,4)	subjidN	2945.03
UN(5,1)	subjidN	8.1020
UN(5,2)	subjidN	-238.36
UN(5,3)	subjidN	948.85
UN(5,4)	subjidN	-1303.60
UN(5,5)	subjidN	583.10
AR(1)	subjidN	0.2074
Residual		0.3532

Fit Statistics

-2 Log Likelihood	21772.2
AIC (Smaller is Better)	21818.2
AICC (Smaller is Better)	21818.3
BIC (Smaller is Better)	21913.2

Null Model Likelihood Ratio Test

DF	Chi-Square	Pr > ChiSq
16	10876.73	<.0001

Information Criteria

Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
21772.2	23	21818.2	21818.3	21855.6	21913.2	21936.2

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		0.8930	0.08000	458	11.16	<.0001
agects1		-0.9255	0.8035	459	-1.15	0.2500
agects12		-7.4047	2.8900	459	-2.56	0.0107
agects13		16.2594	4.0045	459	4.06	<.0001
agects14		-8.6759	1.8621	459	-4.66	<.0001
country	SA	0.2221	0.07322	8316	3.03	0.0024
country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	459	1.33	0.2500
agects12	1	459	6.56	0.0107
agects13	1	459	16.49	<.0001
agects14	1	459	21.71	<.0001
country	1	8316	9.20	0.0024

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quartic lmm + country - reduced - no linear agects1 as not sig. in full model

The Mixed Procedure

Model Information

Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile

Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	**Levels**	**Values**
country	2	SA TZ

Dimensions	
Covariance Parameters	12
Columns in X	6
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations	
Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History			
Iteration	**Evaluations**	**-2 Log Like**	**Criterion**
0	1	32649.95273123	
1	2	21951.01096700	0.00031117
2	1	21950.61328447	0.00000187
3	1	21950.61099899	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.354E-6	6.192E-7	1.629E-7	4.284E-8	1.127E-8	2.964E-9	7.8E-10	2.05E-10	5.39E-11	1.42E-11	3.73
2	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.354E-6	6.192E-7	1.629E-7	4.284E-8	1.127E-8	2.964E-9	7.8E-10	2.05E-10	5.39E-11	1.42
3	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.354E-6	6.192E-7	1.629E-7	4.284E-8	1.127E-8	2.964E-9	7.8E-10	2.05E-10	5.39
4	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.354E-6	6.192E-7	1.629E-7	4.284E-8	1.127E-8	2.964E-9	7.8E-10	2.05
5	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.354E-6	6.192E-7	1.629E-7	4.284E-8	1.127E-8	2.964E-9	7.8
6	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.354E-6	6.192E-7	1.629E-7	4.284E-8	1.127E-8	2.96
7	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.354E-6	6.192E-7	1.629E-7	4.284E-8	1.12
8	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.354E-6	6.192E-7	1.629E-7	4.28
9	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.354E-6	6.192E-7	1.62
10	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.354E-6	6.19
11	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.951E-6	2.35
12	1.629E-7	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.000034	8.95
13	4.284E-8	1.629E-7	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.000129	0.00
14	1.127E-8	4.284E-8	1.629E-7	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.000492	0.00
15	2.964E-9	1.127E-8	4.284E-8	1.629E-7	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.001870	0.00
16	7.8E-10	2.964E-9	1.127E-8	4.284E-8	1.629E-7	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.007110	0.00
17	2.05E-10	7.8E-10	2.964E-9	1.127E-8	4.284E-8	1.629E-7	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.02703	0.00
18	5.39E-11	2.05E-10	7.8E-10	2.964E-9	1.127E-8	4.284E-8	1.629E-7	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.1028	0.0
19	1.42E-11	5.39E-11	2.05E-10	7.8E-10	2.964E-9	1.127E-8	4.284E-8	1.629E-7	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.3907	0.
20	3.73E-12	1.42E-11	5.39E-11	2.05E-10	7.8E-10	2.964E-9	1.127E-8	4.284E-8	1.629E-7	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.1028	0.
21		3.73E-12	1.42E-11	5.39E-11	2.05E-10	7.8E-10	2.964E-9	1.127E-8	4.284E-8	1.629E-7	6.192E-7	2.354E-6	8.951E-6	0.000034	0.000129	0.000492	0.001870	0.007110	0.02703	0.

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	0.9649	-4.0767	6.1871	-2.7241
2	agects12	1	-4.0767	200.76	-396.01	205.06
3	agects13	1	6.1871	-396.01	789.04	-409.98
4	agects14	1	-2.7241	205.06	-409.98	213.02

Estimated G matrix is not positive definite.

Covariance Parameter Estimates		
Cov Parm	**Subject**	**Estimate**
UN(1,1)	subjidN	0.9649
UN(2,1)	subjidN	-4.0767
UN(2,2)	subjidN	200.76
UN(3,1)	subjidN	6.1871
UN(3,2)	subjidN	-396.01
UN(3,3)	subjidN	789.04
UN(4,1)	subjidN	-2.7241
UN(4,2)	subjidN	205.06
UN(4,3)	subjidN	-409.98
UN(4,4)	subjidN	213.02
AR(1)	subjidN	0.2630
Residual		0.3907

Fit Statistics	
-2 Log Likelihood	21950.6
AIC (Smaller is Better)	21984.6
AICC (Smaller is Better)	21984.7
BIC (Smaller is Better)	22054.8

Null Model Likelihood Ratio Test		
DF	Chi-Square	Pr > ChiSq
11	10699.34	<.0001

Information Criteria						
Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
21950.6	17	21984.6	21984.7	22012.3	22054.8	22071.8

Solution for Fixed Effects						
Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		0.7982	0.06300	458	12.67	<.0001
agects12		-10.6595	0.8485	459	-12.56	<.0001
agects13		20.5643	1.8074	459	11.38	<.0001
agects14		-10.5859	1.0154	459	-10.43	<.0001
country	SA	0.2626	0.07483	8776	3.51	0.0005
country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
agects12	1	459	157.81	<.0001
agects13	1	459	129.46	<.0001
agects14	1	459	108.69	<.0001
country	1	8776	12.32	0.0005

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cubic lmm + country*agects all terms

The Mixed Procedure

Model Information	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
country	2	SA TZ

Dimensions	
Covariance Parameters	12
Columns in X	12
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations	
Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Log Like	Criterion
0	1	32627.04333711	
1	2	21878.62542753	0.00009332
2	1	21878.51215794	0.00000015
3	1	21878.51197998	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1																			
Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.248E-6	3.07E-7	7.555E-8	1.859E-8	4.574E-9	1.126E-9	2.77E-10	6.82E-11	1.68E-11	4.13E-12	
2	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.248E-6	3.07E-7	7.555E-8	1.859E-8	4.574E-9	1.126E-9	2.77E-10	6.82E-11	1.68E-11	4.13
3	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.248E-6	3.07E-7	7.555E-8	1.859E-8	4.574E-9	1.126E-9	2.77E-10	6.82E-11	1.68
4	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.248E-6	3.07E-7	7.555E-8	1.859E-8	4.574E-9	1.126E-9	2.77E-10	6.82
5	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.248E-6	3.07E-7	7.555E-8	1.859E-8	4.574E-9	1.126E-9	2.77
6	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.248E-6	3.07E-7	7.555E-8	1.859E-8	4.574E-9	1.12
7	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.248E-6	3.07E-7	7.555E-8	1.859E-8	4.57
8	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.248E-6	3.07E-7	7.555E-8	1.85
9	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.248E-6	3.07E-7	7.55
10	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.248E-6	3.0
11	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.071E-6	1.24
12	7.555E-8	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.000021	5.07
13	1.859E-8	7.555E-8	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.000084	0.00
14	4.574E-9	1.859E-8	7.555E-8	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.000340	0.00
15	1.126E-9	4.574E-9	1.859E-8	7.555E-8	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.001383	0.00
16	2.77E-10	1.126E-9	4.574E-9	1.859E-8	7.555E-8	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.005622	0.00

17	6.82E-11	2.77E-10	1.126E-9	4.574E-9	1.859E-8	7.555E-8	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.02285	0.00
18	1.68E-11	6.82E-11	2.77E-10	1.126E-9	4.574E-9	1.859E-8	7.555E-8	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.09285	0.0
19	4.13E-12	1.68E-11	6.82E-11	2.77E-10	1.126E-9	4.574E-9	1.859E-8	7.555E-8	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.3773	0.0
20		4.13E-12	1.68E-11	6.82E-11	2.77E-10	1.126E-9	4.574E-9	1.859E-8	7.555E-8	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.09285	0.
21			4.13E-12	1.68E-11	6.82E-11	2.77E-10	1.126E-9	4.574E-9	1.859E-8	7.555E-8	3.07E-7	1.248E-6	5.071E-6	0.000021	0.000084	0.000340	0.001383	0.005622	0.02285	0.0

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2879	-4.3007	5.4090	-2.2009
2	agects1	1	-4.3007	48.7434	-81.6321	39.7447
3	agects12	1	5.4090	-81.6321	147.43	-75.1881
4	agects13	1	-2.2009	39.7447	-75.1881	39.5633

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2879
UN(2,1)	subjidN	-4.3007
UN(2,2)	subjidN	48.7434
UN(3,1)	subjidN	5.4090
UN(3,2)	subjidN	-81.6321
UN(3,3)	subjidN	147.43
UN(4,1)	subjidN	-2.2009
UN(4,2)	subjidN	39.7447
UN(4,3)	subjidN	-75.1881
UN(4,4)	subjidN	39.5633
AR(1)	subjidN	0.2461
Residual		0.3773

Fit Statistics

-2 Log Likelihood	21878.5
AIC (Smaller is Better)	21918.5
AICC (Smaller is Better)	21918.6
BIC (Smaller is Better)	22001.1

Null Model Likelihood Ratio Test

DF	Chi-Square	Pr > ChiSq
11	10748.53	<.0001

Information Criteria

Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
21878.5	20	21918.5	21918.6	21951.0	22001.1	22021.1

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		1.1239	0.08892	458	12.64	<.0001
agects1		-3.4776	0.6036	458	-5.76	<.0001
agects12		3.9141	1.1776	458	3.32	0.0010
agects13		-1.4316	0.6858	458	-2.09	0.0374
country	SA	0.09705	0.1268	8776	0.77	0.4439
country	TZ	0	.	.	.	.
agects1*country	SA	-0.5427	0.8621	8776	-0.63	0.5290
agects1*country	TZ	0	.	.	.	.
agects12*country	SA	1.2148	1.6846	8776	0.72	0.4709
agects12*country	TZ	0	.	.	.	.
agects13*country	SA	-0.3360	0.9832	8776	-0.34	0.7325
agects13*country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	458	75.63	<.0001
agects12	1	458	28.82	<.0001
agects13	1	458	10.59	0.0012
country	1	8776	0.59	0.4439
agects1*country	1	8776	0.40	0.5290
agects12*country	1	8776	0.52	0.4709
agects13*country	1	8776	0.12	0.7325

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cubic lmm + country + country*agects1

The Mixed Procedure

Model Information

Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
country	2	SA TZ

Dimensions	
Covariance Parameters	12
Columns in X	8
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations	
Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Log Like	Criterion
0	1	32632.94574629	
1	2	21882.71657553	0.00009723
2	1	21882.59827661	0.00000017
3	1	21882.59807978	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1																			
Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19
1	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.664E-8	1.888E-8	4.652E-9	1.146E-9	2.82E-10	6.96E-11	1.71E-11	4.22E-12
2	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.664E-8	1.888E-8	4.652E-9	1.146E-9	2.82E-10	6.96E-11	1.71E-11
3	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.664E-8	1.888E-8	4.652E-9	1.146E-9	2.82E-10	6.96E-11
4	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.664E-8	1.888E-8	4.652E-9	1.146E-9	2.82E-10
5	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.664E-8	1.888E-8	4.652E-9	1.146E-9
6	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.664E-8	1.888E-8	4.652E-9
7	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.664E-8	1.888E-8
8	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.664E-8
9	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7
10	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6
11	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021	5.125E-6
12	7.664E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084	0.000021
13	1.888E-8	7.664E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343	0.000084
14	4.652E-9	1.888E-8	7.664E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391	0.000343
15	1.146E-9	4.652E-9	1.888E-8	7.664E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645	0.001391
16	2.82E-10	1.146E-9	4.652E-9	1.888E-8	7.664E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291	0.005645
17	6.96E-11	2.82E-10	1.146E-9	4.652E-9	1.888E-8	7.664E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300	0.02291
18	1.71E-11	6.96E-11	2.82E-10	1.146E-9	4.652E-9	1.888E-8	7.664E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775	0.09300
19	4.22E-12	1.71E-11	6.96E-11	2.82E-10	1.146E-9	4.652E-9	1.888E-8	7.664E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300	0.3775
20		4.22E-12	1.71E-11	6.96E-11	2.82E-10	1.146E-9	4.652E-9	1.888E-8	7.664E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291	0.09300
21			4.22E-12	1.71E-11	6.96E-11	2.82E-10	1.146E-9	4.652E-9	1.888E-8	7.664E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005645	0.02291

Estimated G Matrix						
Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2898	-4.3191	5.4235	-2.1985
2	agects1	1	-4.3191	48.9069	-81.7755	39.7418
3	agects12	1	5.4235	-81.7755	147.50	-75.1192
4	agects13	1	-2.1985	39.7418	-75.1192	39.4933

Covariance Parameter Estimates		
Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2898
UN(2,1)	subjidN	-4.3191
UN(2,2)	subjidN	48.9069
UN(3,1)	subjidN	5.4235
UN(3,2)	subjidN	-81.7755
UN(3,3)	subjidN	147.50
UN(4,1)	subjidN	-2.1985
UN(4,2)	subjidN	39.7418
UN(4,3)	subjidN	-75.1192
UN(4,4)	subjidN	39.4933
AR(1)	subjidN	0.2464
Residual		0.3775

Fit Statistics	
-2 Log Likelihood	21882.6
AIC (Smaller is Better)	21918.6
AICC (Smaller is Better)	21918.7
BIC (Smaller is Better)	21993.0

Null Model Likelihood Ratio Test		
DF	Chi-Square	Pr > ChiSq
11	10750.35	<.0001

Information Criteria	

Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
21882.6	18	21918.6	21918.7	21947.9	21993.0	22011.0

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		1.1883	0.07990	458	14.87	<.0001
agects1		-3.9860	0.4334	458	-9.20	<.0001
agects12		4.5285	0.8422	459	5.38	<.0001
agects13		-1.6026	0.4914	459	-3.26	0.0012
country	SA	-0.03194	0.09789	8776	-0.33	0.7442
country	TZ	0	.	.	.	.
agects1*country	SA	0.4645	0.1035	8776	4.49	<.0001
agects1*country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	458	75.71	<.0001
agects12	1	459	28.91	<.0001
agects13	1	459	10.64	0.0012
country	1	8776	0.11	0.7442
agects1*country	1	8776	20.14	<.0001

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cubic lmm + country + country*agects12

The Mixed Procedure

Model Information

Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
country	2	SA TZ

Dimensions

Covariance Parameters	12
Columns in X	8
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations

Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Log Like	Criterion
0	1	32628.36972820	
1	2	21879.26459496	0.00009426
2	1	21879.15013850	0.00000015
3	1	21879.14995608	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.666E-8	1.889E-8	4.653E-9	1.146E-9	2.82E-10	6.96E-11	1.71E-11	4.22E-12	
2	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.666E-8	1.889E-8	4.653E-9	1.146E-9	2.82E-10	6.96E-11	1.71E-11	4.22
3	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.666E-8	1.889E-8	4.653E-9	1.146E-9	2.82E-10	6.96E-11	1.71
4	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.666E-8	1.889E-8	4.653E-9	1.146E-9	2.82E-10	6.96
5	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.666E-8	1.889E-8	4.653E-9	1.146E-9	2.82
6	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.666E-8	1.889E-8	4.653E-9	1.14
7	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.666E-8	1.889E-8	4.65
8	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.666E-8	1.88
9	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.111E-7	7.66
10	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.263E-6	3.11
11	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.125E-6	1.26
12	7.666E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.000021	5.12
13	1.889E-8	7.666E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.000084	0.00
14	4.653E-9	1.889E-8	7.666E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.000343	0.00
15	1.146E-9	4.653E-9	1.889E-8	7.666E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.001391	0.00
16	2.82E-10	1.146E-9	4.653E-9	1.889E-8	7.666E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.005646	0.00
17	6.96E-11	2.82E-10	1.146E-9	4.653E-9	1.889E-8	7.666E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.02291	0.00
18	1.71E-11	6.96E-11	2.82E-10	1.146E-9	4.653E-9	1.889E-8	7.666E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.09300	0.0

19	4.22E-12	1.71E-11	6.96E-11	2.82E-10	1.146E-9	4.653E-9	1.889E-8	7.666E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.3775	0.0
20		4.22E-12	1.71E-11	6.96E-11	2.82E-10	1.146E-9	4.653E-9	1.889E-8	7.666E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.09300	0.
21			4.22E-12	1.71E-11	6.96E-11	2.82E-10	1.146E-9	4.653E-9	1.889E-8	7.666E-8	3.111E-7	1.263E-6	5.125E-6	0.000021	0.000084	0.000343	0.001391	0.005646	0.02291	0.0

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2874	-4.2995	5.4045	-2.1972
2	agects1	1	-4.2995	48.7435	-81.6047	39.7173
3	agects12	1	5.4045	-81.6047	147.33	-75.1084
4	agects13	1	-2.1972	39.7173	-75.1084	39.5066

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2874
UN(2,1)	subjidN	-4.2995
UN(2,2)	subjidN	48.7435
UN(3,1)	subjidN	5.4045
UN(3,2)	subjidN	-81.6047
UN(3,3)	subjidN	147.33
UN(4,1)	subjidN	-2.1972
UN(4,2)	subjidN	39.7173
UN(4,3)	subjidN	-75.1084
UN(4,4)	subjidN	39.5066
AR(1)	subjidN	0.2464
Residual		0.3775

Fit Statistics

-2 Log Likelihood	21879.1
AIC (Smaller is Better)	21915.1
AICC (Smaller is Better)	21915.2
BIC (Smaller is Better)	21989.5

Null Model Likelihood Ratio Test

DF	Chi-Square	Pr > ChiSq
11	10749.22	<.0001

Information Criteria

Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
21879.1	18	21915.1	21915.2	21944.4	21989.5	22007.5

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		1.1586	0.07686	458	15.07	<.0001
agects1		-3.7462	0.4310	459	-8.69	<.0001
agects12		4.3026	0.8444	458	5.10	<.0001
agects13		-1.5946	0.4914	459	-3.24	0.0013
country	SA	0.02637	0.08766	8776	0.30	0.7636
country	TZ	0	.	.	.	.
agects12*country	SA	0.4233	0.08713	8776	4.86	<.0001
agects12*country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	459	75.55	<.0001
agects12	1	458	28.74	<.0001
agects13	1	459	10.53	0.0013
country	1	8776	0.09	0.7636
agects12*country	1	8776	23.60	<.0001

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cubic lmm + country + country*agects13

The Mixed Procedure

Model Information

Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
country	2	SA TZ

Dimensions

Covariance Parameters	12
Columns in X	8
Columns in Z per Subject	4

Subjects	460
Max Obs per Subject	24

Number of Observations	
Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Log Like	Criterion
0	1	32627.74040386	
1	2	21879.19929684	0.00009673
2	1	21879.08179325	0.00000016
3	1	21879.08159910	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.731E-8	1.906E-8	4.7E-9	1.159E-9	2.86E-10	7.05E-11	1.74E-11	4.28E-12	
2	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.731E-8	1.906E-8	4.7E-9	1.159E-9	2.86E-10	7.05E-11	1.74E-11	4.28
3	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.731E-8	1.906E-8	4.7E-9	1.159E-9	2.86E-10	7.05E-11	1.74
4	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.731E-8	1.906E-8	4.7E-9	1.159E-9	2.86E-10	7.05
5	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.731E-8	1.906E-8	4.7E-9	1.159E-9	2.86
6	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.731E-8	1.906E-8	4.7E-9	1.15
7	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.731E-8	1.906E-8	4.
8	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.731E-8	1.90
9	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.73
10	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.13
11	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.158E-6	1.27
12	7.731E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.000021	5.15
13	1.906E-8	7.731E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.000085	0.00
14	4.7E-9	1.906E-8	7.731E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.000344	0.00
15	1.159E-9	4.7E-9	1.906E-8	7.731E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.001395	0.00
16	2.86E-10	1.159E-9	4.7E-9	1.906E-8	7.731E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.005659	0.00
17	7.05E-11	2.86E-10	1.159E-9	4.7E-9	1.906E-8	7.731E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.02295	0.00
18	1.74E-11	7.05E-11	2.86E-10	1.159E-9	4.7E-9	1.906E-8	7.731E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.09309	0.0
19	4.28E-12	1.74E-11	7.05E-11	2.86E-10	1.159E-9	4.7E-9	1.906E-8	7.731E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.3775	0.0
20		4.28E-12	1.74E-11	7.05E-11	2.86E-10	1.159E-9	4.7E-9	1.906E-8	7.731E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.09309	0.
21			4.28E-12	1.74E-11	7.05E-11	2.86E-10	1.159E-9	4.7E-9	1.906E-8	7.731E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001395	0.005659	0.02295	0.0

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2862	-4.2930	5.3985	-2.1964
2	agects1	1	-4.2930	48.7257	-81.6245	39.7489
3	agects12	1	5.3985	-81.6245	147.46	-75.2132
4	agects13	1	-2.1964	39.7489	-75.2132	39.5809

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2862
UN(2,1)	subjidN	-4.2930
UN(2,2)	subjidN	48.7257
UN(3,1)	subjidN	5.3985
UN(3,2)	subjidN	-81.6245
UN(3,3)	subjidN	147.46
UN(4,1)	subjidN	-2.1964
UN(4,2)	subjidN	39.7489
UN(4,3)	subjidN	-75.2132
UN(4,4)	subjidN	39.5809
AR(1)	subjidN	0.2466
Residual		0.3775

Fit Statistics	
-2 Log Likelihood	21879.1
AIC (Smaller is Better)	21915.1
AICC (Smaller is Better)	21915.1
BIC (Smaller is Better)	21989.4

Null Model Likelihood Ratio Test		
DF	**Chi-Square**	**Pr > ChiSq**
11	10748.66	<.0001

Information Criteria						
Neg2LogLike	**Parms**	**AIC**	**AICC**	**HQIC**	**BIC**	**CAIC**
21879.1	18	21915.1	21915.1	21944.4	21989.4	22007.4

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		1.1397	0.07575	458	15.05	<.0001
agects1		-3.7410	0.4310	459	-8.68	<.0001

agects12		4.5062	0.8424	459	5.35	<.0001
agects13		-1.7893	0.4921	458	-3.64	0.0003
country	SA	0.06234	0.08384	8776	0.74	0.4572
country	TZ	0	.	.	.	.
agects13*country	SA	0.3985	0.08190	8776	4.87	<.0001
agects13*country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	459	75.33	<.0001
agects12	1	459	28.62	<.0001
agects13	1	458	10.46	0.0013
country	1	8776	0.55	0.4572
agects13*country	1	8776	23.67	<.0001

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cubic lmm + country + country*agects1+country*agects12

The Mixed Procedure

Model Information

Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
country	2	SA TZ

Dimensions

Covariance Parameters	12
Columns in X	10
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations

Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Log Like	Criterion
0	1	32627.25724777	
1	2	21878.74484424	0.00009569
2	1	21878.62864862	0.00000016
3	1	21878.62846009	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.259E-6	3.101E-7	7.638E-8	1.881E-8	4.634E-9	1.141E-9	2.81E-10	6.92E-11	1.71E-11	4.2E-12	
2	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.259E-6	3.101E-7	7.638E-8	1.881E-8	4.634E-9	1.141E-9	2.81E-10	6.92E-11	1.71E-11	4.2
3	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.259E-6	3.101E-7	7.638E-8	1.881E-8	4.634E-9	1.141E-9	2.81E-10	6.92E-11	1.71
4	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.259E-6	3.101E-7	7.638E-8	1.881E-8	4.634E-9	1.141E-9	2.81E-10	6.92
5	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.259E-6	3.101E-7	7.638E-8	1.881E-8	4.634E-9	1.141E-9	2.81
6	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.259E-6	3.101E-7	7.638E-8	1.881E-8	4.634E-9	1.14
7	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.259E-6	3.101E-7	7.638E-8	1.881E-8	4.63
8	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.259E-6	3.101E-7	7.638E-8	1.88
9	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.259E-6	3.101E-7	7.63
10	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.259E-6	3.10
11	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.112E-6	1.25
12	7.638E-8	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.000021	5.11
13	1.881E-8	7.638E-8	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.000084	0.00
14	4.634E-9	1.881E-8	7.638E-8	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.000342	0.00
15	1.141E-9	4.634E-9	1.881E-8	7.638E-8	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.001389	0.00
16	2.81E-10	1.141E-9	4.634E-9	1.881E-8	7.638E-8	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.005640	0.00
17	6.92E-11	2.81E-10	1.141E-9	4.634E-9	1.881E-8	7.638E-8	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.02290	0.00
18	1.71E-11	6.92E-11	2.81E-10	1.141E-9	4.634E-9	1.881E-8	7.638E-8	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.09296	0.0
19	4.2E-12	1.71E-11	6.92E-11	2.81E-10	1.141E-9	4.634E-9	1.881E-8	7.638E-8	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.3774	0.0
20		4.2E-12	1.71E-11	6.92E-11	2.81E-10	1.141E-9	4.634E-9	1.881E-8	7.638E-8	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.09296	0.
21			4.2E-12	1.71E-11	6.92E-11	2.81E-10	1.141E-9	4.634E-9	1.881E-8	7.638E-8	3.101E-7	1.259E-6	5.112E-6	0.000021	0.000084	0.000342	0.001389	0.005640	0.02290	0.0

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2870	-4.2958	5.4013	-2.1972

2	agects1	1	-4.2958	48.7157	-81.5846	39.7201
3	agects12	1	5.4013	-81.5846	147.35	-75.1393
4	agects13	1	-2.1972	39.7201	-75.1393	39.5347

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2870
UN(2,1)	subjidN	-4.2958
UN(2,2)	subjidN	48.7157
UN(3,1)	subjidN	5.4013
UN(3,2)	subjidN	-81.5846
UN(3,3)	subjidN	147.35
UN(4,1)	subjidN	-2.1972
UN(4,2)	subjidN	39.7201
UN(4,3)	subjidN	-75.1393
UN(4,4)	subjidN	39.5347
AR(1)	subjidN	0.2463
Residual		0.3774

Fit Statistics

-2 Log Likelihood	21878.6
AIC (Smaller is Better)	21916.6
AICC (Smaller is Better)	21916.7
BIC (Smaller is Better)	21995.1

Null Model Likelihood Ratio Test

DF	Chi-Square	Pr > ChiSq
11	10748.63	<.0001

Information Criteria

Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
21878.6	19	21916.6	21916.7	21947.5	21995.1	22014.1

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		1.1333	0.08448	458	13.42	<.0001
agects1		-3.6053	0.4730	458	-7.62	<.0001
agects12		4.1887	0.8590	458	4.88	<.0001
agects13		-1.5947	0.4915	459	-3.24	0.0013
country	SA	0.07675	0.1120	8776	0.69	0.4933
country	TZ	0	.	.	.	.
agects1*country	SA	-0.2793	0.3867	8776	-0.72	0.4701
agects1*country	TZ	0	.	.	.	.
agects12*country	SA	0.6499	0.3255	8776	2.00	0.0459
agects12*country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	458	75.53	<.0001
agects12	1	458	28.73	<.0001
agects13	1	459	10.53	0.0013
country	1	8776	0.47	0.4933
agects1*country	1	8776	0.52	0.4701
agects12*country	1	8776	3.99	0.0459

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cubic lmm + country + country*agects1+country*agects13

The Mixed Procedure

Model Information

Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
country	2	SA TZ

Dimensions

Covariance Parameters	12
Columns in X	10
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations

Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Log Like	Criterion
0	1	32627.73821460	
1	2	21879.15031162	0.00009849
2	1	21879.03064429	0.00000017
3	1	21879.03044265	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.733E-8	1.907E-8	4.702E-9	1.159E-9	2.86E-10	7.05E-11	1.74E-11	4.29E-12	
2	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.733E-8	1.907E-8	4.702E-9	1.159E-9	2.86E-10	7.05E-11	1.74E-11	4.29
3	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.733E-8	1.907E-8	4.702E-9	1.159E-9	2.86E-10	7.05E-11	1.74
4	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.733E-8	1.907E-8	4.702E-9	1.159E-9	2.86E-10	7.05
5	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.733E-8	1.907E-8	4.702E-9	1.159E-9	2.86
6	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.733E-8	1.907E-8	4.702E-9	1.15
7	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.733E-8	1.907E-8	4.70
8	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.733E-8	1.90
9	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.136E-7	7.73
10	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.272E-6	3.13
11	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.158E-6	1.27
12	7.733E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.000021	5.15
13	1.907E-8	7.733E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.000085	0.00
14	4.702E-9	1.907E-8	7.733E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.000344	0.00
15	1.159E-9	4.702E-9	1.907E-8	7.733E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.001396	0.00
16	2.86E-10	1.159E-9	4.702E-9	1.907E-8	7.733E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.005660	0.00
17	7.05E-11	2.86E-10	1.159E-9	4.702E-9	1.907E-8	7.733E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.02295	0.00
18	1.74E-11	7.05E-11	2.86E-10	1.159E-9	4.702E-9	1.907E-8	7.733E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.09309	0.0
19	4.29E-12	1.74E-11	7.05E-11	2.86E-10	1.159E-9	4.702E-9	1.907E-8	7.733E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.3775	0.0
20		4.29E-12	1.74E-11	7.05E-11	2.86E-10	1.159E-9	4.702E-9	1.907E-8	7.733E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.09309	0.
21			4.29E-12	1.74E-11	7.05E-11	2.86E-10	1.159E-9	4.702E-9	1.907E-8	7.733E-8	3.136E-7	1.272E-6	5.158E-6	0.000021	0.000085	0.000344	0.001396	0.005660	0.02295	0.0

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2864	-4.2948	5.4013	-2.1978
2	agects1	1	-4.2948	48.7359	-81.6322	39.7487
3	agects12	1	5.4013	-81.6322	147.45	-75.1937
4	agects13	1	-2.1978	39.7487	-75.1937	39.5629

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2864
UN(2,1)	subjidN	-4.2948
UN(2,2)	subjidN	48.7359
UN(3,1)	subjidN	5.4013
UN(3,2)	subjidN	-81.6322
UN(3,3)	subjidN	147.45
UN(4,1)	subjidN	-2.1978
UN(4,2)	subjidN	39.7487
UN(4,3)	subjidN	-75.1937
UN(4,4)	subjidN	39.5629
AR(1)	subjidN	0.2466
Residual		0.3775

Fit Statistics

-2 Log Likelihood	21879.0
AIC (Smaller is Better)	21917.0
AICC (Smaller is Better)	21917.1
BIC (Smaller is Better)	21995.5

Null Model Likelihood Ratio Test

DF	Chi-Square	Pr > ChiSq
11	10748.71	<.0001

Information Criteria

Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
21879.0	19	21917.0	21917.1	21947.9	21995.5	22014.5

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		1.1472	0.08274	458	13.87	<.0001
agects1		-3.7686	0.4479	458	-8.41	<.0001
agects12		4.5063	0.8423	459	5.35	<.0001
agects13		-1.7699	0.4995	458	-3.54	0.0004
country	SA	0.04748	0.1065	8776	0.45	0.6558
country	TZ	0	.	.	.	.

agects1*country	SA	0.05433	0.2401	8776	0.23	0.8210
agects1*country	TZ	0	.	.	.	.
agects13*country	SA	0.3597	0.1900	8776	1.89	0.0583
agects13*country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	458	75.34	<.0001
agects12	1	459	28.62	<.0001
agects13	1	458	10.46	0.0013
country	1	8776	0.20	0.6558
agects1*country	1	8776	0.05	0.8210
agects13*country	1	8776	3.59	0.0583

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cubic lmm + country + country*agects12+country*agects13

The Mixed Procedure

Model Information

Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
country	2	SA TZ

Dimensions

Covariance Parameters	12
Columns in X	10
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations

Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Log Like	Criterion
0	1	32627.71937090	
1	2	21879.02496021	0.00009676
2	1	21878.90742282	0.00000016
3	1	21878.90722899	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.268E-6	3.126E-7	7.705E-8	1.899E-8	4.681E-9	1.154E-9	2.84E-10	7.01E-11	1.73E-11	4.26E-12	
2	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.268E-6	3.126E-7	7.705E-8	1.899E-8	4.681E-9	1.154E-9	2.84E-10	7.01E-11	1.73E-11	4.26
3	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.268E-6	3.126E-7	7.705E-8	1.899E-8	4.681E-9	1.154E-9	2.84E-10	7.01E-11	1.73
4	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.268E-6	3.126E-7	7.705E-8	1.899E-8	4.681E-9	1.154E-9	2.84E-10	7.01
5	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.268E-6	3.126E-7	7.705E-8	1.899E-8	4.681E-9	1.154E-9	2.84
6	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.268E-6	3.126E-7	7.705E-8	1.899E-8	4.681E-9	1.15
7	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.268E-6	3.126E-7	7.705E-8	1.899E-8	4.68
8	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.268E-6	3.126E-7	7.705E-8	1.89
9	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.268E-6	3.126E-7	7.70
10	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.268E-6	3.12
11	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.145E-6	1.26
12	7.705E-8	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.000021	5.14
13	1.899E-8	7.705E-8	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.000085	0.00
14	4.681E-9	1.899E-8	7.705E-8	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.000344	0.00
15	1.154E-9	4.681E-9	1.899E-8	7.705E-8	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.001394	0.00
16	2.84E-10	1.154E-9	4.681E-9	1.899E-8	7.705E-8	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.005654	0.00
17	7.01E-11	2.84E-10	1.154E-9	4.681E-9	1.899E-8	7.705E-8	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.02294	0.00
18	1.73E-11	7.01E-11	2.84E-10	1.154E-9	4.681E-9	1.899E-8	7.705E-8	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.09305	0.0
19	4.26E-12	1.73E-11	7.01E-11	2.84E-10	1.154E-9	4.681E-9	1.899E-8	7.705E-8	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.3775	0.0
20		4.26E-12	1.73E-11	7.01E-11	2.84E-10	1.154E-9	4.681E-9	1.899E-8	7.705E-8	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.09305	0.
21			4.26E-12	1.73E-11	7.01E-11	2.84E-10	1.154E-9	4.681E-9	1.899E-8	7.705E-8	3.126E-7	1.268E-6	5.145E-6	0.000021	0.000085	0.000344	0.001394	0.005654	0.02294	0.0

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2867	-4.2960	5.4021	-2.1977
2	agects1	1	-4.2960	48.7318	-81.6114	39.7326
3	agects12	1	5.4021	-81.6114	147.38	-75.1507

4	agects13	1	-2.1977	39.7326	-75.1507	39.5350

Covariance Parameter Estimates		
Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2867
UN(2,1)	subjidN	-4.2960
UN(2,2)	subjidN	48.7318
UN(3,1)	subjidN	5.4021
UN(3,2)	subjidN	-81.6114
UN(3,3)	subjidN	147.38
UN(4,1)	subjidN	-2.1977
UN(4,2)	subjidN	39.7326
UN(4,3)	subjidN	-75.1507
UN(4,4)	subjidN	39.5350
AR(1)	subjidN	0.2465
Residual		0.3775

Fit Statistics	
-2 Log Likelihood	21878.9
AIC (Smaller is Better)	21916.9
AICC (Smaller is Better)	21917.0
BIC (Smaller is Better)	21995.4

Null Model Likelihood Ratio Test		
DF	Chi-Square	Pr > ChiSq
11	10748.81	<.0001

Information Criteria						
Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
21878.9	19	21916.9	21917.0	21947.8	21995.4	22014.4

Solution for Fixed Effects						
Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		1.1493	0.07915	458	14.52	<.0001
agects1		-3.7429	0.4310	459	-8.68	<.0001
agects12		4.4108	0.8727	458	5.05	<.0001
agects13		-1.7002	0.5363	458	-3.17	0.0016
country	SA	0.04398	0.09468	8776	0.46	0.6423
country	TZ	0	.	.	.	.
agects12*country	SA	0.1960	0.4692	8776	0.42	0.6761
agects12*country	TZ	0	.	.	.	.
agects13*country	SA	0.2174	0.4410	8776	0.49	0.6220
agects13*country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	459	75.40	<.0001
agects12	1	458	28.66	<.0001
agects13	1	458	10.48	0.0013
country	1	8776	0.22	0.6423
agects12*country	1	8776	0.17	0.6761
agects13*country	1	8776	0.24	0.6220

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cubic lmm + country*agects1

The Mixed Procedure

Model Information	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
country	2	SA TZ

Dimensions	
Covariance Parameters	12
Columns in X	6
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations	
Number of Observations Read	10616
Number of Observations Used	10616

Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Log Like	Criterion
0	1	32634.75231872	
1	2	21882.82502342	0.00009955
2	1	21882.70384644	0.00000018
3	1	21882.70363792	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19	C
1	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.258E-6	3.099E-7	7.633E-8	1.88E-8	4.63E-9	1.14E-9	2.81E-10	6.92E-11	1.7E-11	4.2E-12	
2	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.258E-6	3.099E-7	7.633E-8	1.88E-8	4.63E-9	1.14E-9	2.81E-10	6.92E-11	1.7E-11	4.2
3	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.258E-6	3.099E-7	7.633E-8	1.88E-8	4.63E-9	1.14E-9	2.81E-10	6.92E-11	1.7
4	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.258E-6	3.099E-7	7.633E-8	1.88E-8	4.63E-9	1.14E-9	2.81E-10	6.92
5	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.258E-6	3.099E-7	7.633E-8	1.88E-8	4.63E-9	1.14E-9	2.81
6	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.258E-6	3.099E-7	7.633E-8	1.88E-8	4.63E-9	1.1
7	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.258E-6	3.099E-7	7.633E-8	1.88E-8	4.6
8	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.258E-6	3.099E-7	7.633E-8	1.8
9	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.258E-6	3.099E-7	7.63
10	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.258E-6	3.09
11	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.109E-6	1.25
12	7.633E-8	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.000021	5.10
13	1.88E-8	7.633E-8	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.000084	0.00
14	4.63E-9	1.88E-8	7.633E-8	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.000342	0.00
15	1.14E-9	4.63E-9	1.88E-8	7.633E-8	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.001389	0.00
16	2.81E-10	1.14E-9	4.63E-9	1.88E-8	7.633E-8	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.005639	0.00
17	6.92E-11	2.81E-10	1.14E-9	4.63E-9	1.88E-8	7.633E-8	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.02289	0.00
18	1.7E-11	6.92E-11	2.81E-10	1.14E-9	4.63E-9	1.88E-8	7.633E-8	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.09296	0.0
19	4.2E-12	1.7E-11	6.92E-11	2.81E-10	1.14E-9	4.63E-9	1.88E-8	7.633E-8	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.3774	0.0
20		4.2E-12	1.7E-11	6.92E-11	2.81E-10	1.14E-9	4.63E-9	1.88E-8	7.633E-8	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.09296	0.
21			4.2E-12	1.7E-11	6.92E-11	2.81E-10	1.14E-9	4.63E-9	1.88E-8	7.633E-8	3.099E-7	1.258E-6	5.109E-6	0.000021	0.000084	0.000342	0.001389	0.005639	0.02289	0.0

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2885	-4.3136	5.4191	-2.1985
2	agects1	1	-4.3136	48.9174	-81.8081	39.7611
3	agects12	1	5.4191	-81.8081	147.57	-75.1609
4	agects13	1	-2.1985	39.7611	-75.1609	39.5172

Covariance Parameter Estimates		
Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2885
UN(2,1)	subjidN	-4.3136
UN(2,2)	subjidN	48.9174
UN(3,1)	subjidN	5.4191
UN(3,2)	subjidN	-81.8081
UN(3,3)	subjidN	147.57
UN(4,1)	subjidN	-2.1985
UN(4,2)	subjidN	39.7611
UN(4,3)	subjidN	-75.1609
UN(4,4)	subjidN	39.5172
AR(1)	subjidN	0.2463
Residual		0.3774

Fit Statistics	
-2 Log Likelihood	21882.7
AIC (Smaller is Better)	21916.7
AICC (Smaller is Better)	21916.8
BIC (Smaller is Better)	21986.9

Null Model Likelihood Ratio Test		
DF	Chi-Square	Pr > ChiSq
11	10752.05	<.0001

Information Criteria						
Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
21882.7	17	21916.7	21916.8	21944.4	21986.9	22003.9

Solution for Fixed Effects						
Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		1.1724	0.06336	459	18.50	<.0001
agects1		-3.9784	0.4328	458	-9.19	<.0001
agects12		4.5361	0.8420	459	5.39	<.0001
agects13		-1.6071	0.4912	459	-3.27	0.0011
agects1*country	SA	0.4422	0.07784	8776	5.68	<.0001
agects1*country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
agects1	1	458	75.90	<.0001
agects12	1	459	29.02	<.0001
agects13	1	459	10.70	0.0011
agects1*country	1	8776	32.27	<.0001

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cubic lmm + country*agects13

The Mixed Procedure

Model Information	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
country	2	SA TZ

Dimensions	
Covariance Parameters	12
Columns in X	6
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations	
Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Log Like	Criterion
0	1	32629.29910359	
1	2	21879.76121564	0.00010504
2	1	21879.63344698	0.00000019
3	1	21879.63321738	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1																			
Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13	Col14	Col15	Col16	Col17	Col18	Col19
1	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6	1.282E-6	3.164E-7	7.809E-8	1.927E-8	4.756E-9	1.174E-9	2.9E-10	7.15E-11	1.76E-11	4.35E-12
2	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6	1.282E-6	3.164E-7	7.809E-8	1.927E-8	4.756E-9	1.174E-9	2.9E-10	7.15E-11	1.76E-11
3	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6	1.282E-6	3.164E-7	7.809E-8	1.927E-8	4.756E-9	1.174E-9	2.9E-10	7.15E-11
4	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6	1.282E-6	3.164E-7	7.809E-8	1.927E-8	4.756E-9	1.174E-9	2.9E-10
5	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6	1.282E-6	3.164E-7	7.809E-8	1.927E-8	4.756E-9	1.174E-9
6	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6	1.282E-6	3.164E-7	7.809E-8	1.927E-8	4.756E-9
7	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6	1.282E-6	3.164E-7	7.809E-8	1.927E-8
8	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6	1.282E-6	3.164E-7	7.809E-8
9	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6	1.282E-6	3.164E-7
10	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6	1.282E-6
11	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021	5.196E-6
12	7.809E-8	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085	0.000021
13	1.927E-8	7.809E-8	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346	0.000085
14	4.756E-9	1.927E-8	7.809E-8	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401	0.000346
15	1.174E-9	4.756E-9	1.927E-8	7.809E-8	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676	0.001401
16	2.9E-10	1.174E-9	4.756E-9	1.927E-8	7.809E-8	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300	0.005676
17	7.15E-11	2.9E-10	1.174E-9	4.756E-9	1.927E-8	7.809E-8	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319	0.02300
18	1.76E-11	7.15E-11	2.9E-10	1.174E-9	4.756E-9	1.927E-8	7.809E-8	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776	0.09319
19	4.35E-12	1.76E-11	7.15E-11	2.9E-10	1.174E-9	4.756E-9	1.927E-8	7.809E-8	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319	0.3776
20		4.35E-12	1.76E-11	7.15E-11	2.9E-10	1.174E-9	4.756E-9	1.927E-8	7.809E-8	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300	0.09319
21			4.35E-12	1.76E-11	7.15E-11	2.9E-10	1.174E-9	4.756E-9	1.927E-8	7.809E-8	3.164E-7	1.282E-6	5.196E-6	0.000021	0.000085	0.000346	0.001401	0.005676	0.02300

Estimated G Matrix						
Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2872	-4.2945	5.4056	-2.2026
2	agects1	1	-4.2945	48.6763	-81.5352	39.7050
3	agects12	1	5.4056	-81.5352	147.29	-75.1286
4	agects13	1	-2.2026	39.7050	-75.1286	39.5386

Covariance Parameter Estimates		
Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2872
UN(2,1)	subjidN	-4.2945
UN(2,2)	subjidN	48.6763

UN(3,1)	subjidN	5.4056
UN(3,2)	subjidN	-81.5352
UN(3,3)	subjidN	147.29
UN(4,1)	subjidN	-2.2026
UN(4,2)	subjidN	39.7050
UN(4,3)	subjidN	-75.1286
UN(4,4)	subjidN	39.5386
AR(1)	subjidN	0.2468
Residual		0.3776

Fit Statistics	
-2 Log Likelihood	21879.6
AIC (Smaller is Better)	21913.6
AICC (Smaller is Better)	21913.7
BIC (Smaller is Better)	21983.9

Null Model Likelihood Ratio Test		
DF	**Chi-Square**	**Pr > ChiSq**
11	10749.67	<.0001

Information Criteria						
Neg2LogLike	**Parms**	**AIC**	**AICC**	**HQIC**	**BIC**	**CAIC**
21879.6	17	21913.6	21913.7	21941.3	21983.9	22000.9

Solution for Fixed Effects						
Effect	**country**	**Estimate**	**Standard Error**	**DF**	**t Value**	**Pr > |t|**
Intercept		1.1706	0.06335	459	18.48	<.0001
agects1		-3.7329	0.4308	459	-8.66	<.0001
agects12		4.4898	0.8420	459	5.33	<.0001
agects13		-1.7945	0.4920	458	-3.65	0.0003
agects13*country	SA	0.4276	0.07190	8776	5.95	<.0001
agects13*country	TZ	0	.	.	.	.

Type 3 Tests of Fixed Effects				
Effect	**Num DF**	**Den DF**	**F Value**	**Pr > F**
agects1	1	459	75.08	<.0001
agects12	1	459	28.44	<.0001
agects13	1	458	10.34	0.0014
agects13*country	1	8776	35.37	<.0001

cubic lmm + country*agects12

The Mixed Procedure

Model Information	
Data Set	WORK.COMBINED
Dependent Variable	zwfl1
Covariance Structures	Unstructured, Autoregressive
Subject Effects	subjidN, subjidN
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	**Levels**	**Values**
country	2	SA TZ

Dimensions	
Covariance Parameters	12
Columns in X	6
Columns in Z per Subject	4
Subjects	460
Max Obs per Subject	24

Number of Observations	
Number of Observations Read	10616
Number of Observations Used	10616
Number of Observations Not Used	0

Iteration History			
Iteration	**Evaluations**	**-2 Log Like**	**Criterion**
0	1	32628.40855034	
1	2	21879.35515868	0.00009444
2	1	21879.24047823	0.00000015
3	1	21879.24029535	0.00000000

Convergence criteria met.

Estimated R Matrix for Subject 1																				
Row	**Col1**	**Col2**	**Col3**	**Col4**	**Col5**	**Col6**	**Col7**	**Col8**	**Col9**	**Col10**	**Col11**	**Col12**	**Col13**	**Col14**	**Col15**	**Col16**	**Col17**	**Col18**	**Col19**	**C**

1	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.267E-6	3.122E-7	7.694E-8	1.896E-8	4.674E-9	1.152E-9	2.84E-10	7E-11	1.72E-11	4.25E-12	
2	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.267E-6	3.122E-7	7.694E-8	1.896E-8	4.674E-9	1.152E-9	2.84E-10	7E-11	1.72E-11	4.25
3	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.267E-6	3.122E-7	7.694E-8	1.896E-8	4.674E-9	1.152E-9	2.84E-10	7E-11	1.72
4	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.267E-6	3.122E-7	7.694E-8	1.896E-8	4.674E-9	1.152E-9	2.84E-10	7
5	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.267E-6	3.122E-7	7.694E-8	1.896E-8	4.674E-9	1.152E-9	2.84
6	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.267E-6	3.122E-7	7.694E-8	1.896E-8	4.674E-9	1.15
7	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.267E-6	3.122E-7	7.694E-8	1.896E-8	4.67
8	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.267E-6	3.122E-7	7.694E-8	1.89
9	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.267E-6	3.122E-7	7.69
10	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.267E-6	3.12
11	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.14E-6	1.26
12	7.694E-8	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.000021	5.1
13	1.896E-8	7.694E-8	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.000085	0.00
14	4.674E-9	1.896E-8	7.694E-8	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.000343	0.00
15	1.152E-9	4.674E-9	1.896E-8	7.694E-8	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.001393	0.00
16	2.84E-10	1.152E-9	4.674E-9	1.896E-8	7.694E-8	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.005652	0.00
17	7E-11	2.84E-10	1.152E-9	4.674E-9	1.896E-8	7.694E-8	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.02293	0.00
18	1.72E-11	7E-11	2.84E-10	1.152E-9	4.674E-9	1.896E-8	7.694E-8	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.09304	0.0
19	4.25E-12	1.72E-11	7E-11	2.84E-10	1.152E-9	4.674E-9	1.896E-8	7.694E-8	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.3775	0.0
20		4.25E-12	1.72E-11	7E-11	2.84E-10	1.152E-9	4.674E-9	1.896E-8	7.694E-8	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.09304	0.
21			4.25E-12	1.72E-11	7E-11	2.84E-10	1.152E-9	4.674E-9	1.896E-8	7.694E-8	3.122E-7	1.267E-6	5.14E-6	0.000021	0.000085	0.000343	0.001393	0.005652	0.02293	0.0

Estimated G Matrix

Row	Effect	Subject	Col1	Col2	Col3	Col4
1	Intercept	1	1.2881	-4.3003	5.4046	-2.1970
2	agects1	1	-4.3003	48.7240	-81.5674	39.6984
3	agects12	1	5.4046	-81.5674	147.26	-75.0701
4	agects13	1	-2.1970	39.6984	-75.0701	39.4855

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	subjidN	1.2881
UN(2,1)	subjidN	-4.3003
UN(2,2)	subjidN	48.7240
UN(3,1)	subjidN	5.4046
UN(3,2)	subjidN	-81.5674
UN(3,3)	subjidN	147.26
UN(4,1)	subjidN	-2.1970
UN(4,2)	subjidN	39.6984
UN(4,3)	subjidN	-75.0701
UN(4,4)	subjidN	39.4855
AR(1)	subjidN	0.2465
Residual		0.3775

Fit Statistics

-2 Log Likelihood	21879.2
AIC (Smaller is Better)	21913.2
AICC (Smaller is Better)	21913.3
BIC (Smaller is Better)	21983.5

Null Model Likelihood Ratio Test

DF	Chi-Square	Pr > ChiSq
11	10749.17	<.0001

Information Criteria

Neg2LogLike	Parms	AIC	AICC	HQIC	BIC	CAIC
21879.2	17	21913.2	21913.3	21940.9	21983.5	22000.5

Solution for Fixed Effects

Effect	country	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		1.1717	0.06336	459	18.49	<.0001
agects1		-3.7429	0.4308	459	-8.69	<.0001
agects12		4.2887	0.8431	458	5.09	<.0001
agects13		-1.5907	0.4912	459	-3.24	0.0013
agects12*country	SA	0.4375	0.07317	8776	5.98	<.0001
agects12*country	TZ	0	.	.	.	.