APPENDIX F

SELECTED OUTPUT PAGES

Selected Output of CFA for the Initial Measurement Model

Output page 1

The CALIS Procedure

Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	2.0672
Goodness of Fit Index (GFI)	0.8464
GFI Adjusted for Degrees of Freedom (AGFI)	0.7477
Root Mean Square Residual (RMR)	0.0504
Parsimonious GFI (Mulaik, 1989)	0.5643
Chi-Square	531.2720
Chi-Square DF	154
Pr > Chi-Square	<.0001
Independence Model Chi-Square	4791.1
Independence Model Chi-Square DF	231
RMSEA Estimate	0.0976
RMSEA 90% Lower Confidence Limit	0.0886
RMSEA 90% Upper Confidence Limit	0.1068
ECVI Estimate	2.9134
ECVI 90% Lower Confidence Limit	2.6460
ECVI 90% Upper Confidence Limit	3.2133
Probability of Close Fit	0.0000
Bentler's Comparative Fit Index	0.9173
Normal Theory Reweighted LS Chi-Square	512.9943
Akaike's Information Criterion	223.2720
Bozdogan's (1987) CAIC	-477.8838
Schwarz's Bayesian Criterion	-323.8838
McDonald's (1989) Centrality	0.4814
Bentler & Bonett's (1980) Non-normed Index	0.8759
Bentler & Bonett's (1980) NFI	0.8891
James, Mulaik, & Brett (1982) Parsimonious NFI	0.5927
Z-Test of Wilson & Hilferty (1931)	13.4901
Bollen (1986) Normed Index Rho1	0.8337
Bollen (1988) Non-normed Index Delta2	0.9186
Hoelter's (1983) Critical N	90

Output page 2

Manifest Variable Equations with Estimates

EP	=	0.8721*F1	+ 1.0000 E1
Std Err		0.0911 LEPF1	
t Value		9.5737	
A1	=	0.8632*F2	+ 1.0000 E2
Std Err		0.1367 LA1F2	
t Value		6.3158	
A2	=	0.8549*F2	+ 1.0000 E3
Std Err		0.1323 LA2F2	
t Value		6.4607	
SP1	=	0.9126*F3	+ 1.0000 E4
Std Err		0.1353 LSP1F3	
t Value		6.7455	
SP2	=	0.8154*F3	+ 1.0000 E5
Std Err		0.1178 LSP2F3	
t Value		6.9213	
EU1	=	0.9865*F4	+ 1.0000 E6
Std Err		0.1278 LEU1F4	
t Value		7.7205	
EU2	=	0.9485*F4	+ 1.0000 E7
Std Err		0.1402 LEU2F4	
t Value		6.7679	
I1	=	0.8582*F5	+ 1.0000 E8
Std Err		0.1286 LI1F5	
t Value		6.6722	
I2	=	0.9419*F5	+ 1.0000 E9
Std Err		0.1575 LI2F5	
t Value		5.9794	
I3	=	0.6920*F5	+ 1.0000 E10
Std Err		0.1118 LI3F5	
t Value		6.1910	
T1	=	0.7352*F6	+ 1.0000 E11
Std Err		0.1409 LTIF6	
t Value		5.2172	
T2	=	1.1734*F6	+ 1.0000 E12
Std Err		0.2083 LT2F6	
t Value		5.6326	
C	=	0.9370*F7	+ 1.0000 E13
Std Err		0.1188 LCF7	
t Value		7.8858	
SK1	=	0.7077*F8	+ 1.0000 E14
Std Err		0.1144 LSK1F8	
t Value		6.1878	

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SK2     =   0.7358*F8       +  1.0000 E15
Std Err     0.1106 LSK2F8
t Value     6.6500

FL1     =   0.6751*F9       +  1.0000 E16
Std Err     0.1120 LFL1F9
t Value     6.0293

FL2     =   0.8339*F9       +  1.0000 E17
Std Err     0.1386 LFL2F9
t Value     6.0177

LP1     =   0.9337*F10      +  1.0000 E18
Std Err     0.1455 LLP1F10
t Value     6.4151

LP2     =   0.9406*F10      +  1.0000 E19
Std Err     0.1382 LLP2F10
t Value     6.8047
CA1     =   0.8579*F11      +  1.0000 E20
Std Err     0.1231 LCA1F11
t Value     6.9707

CA2     =   0.7924*F11      +  1.0000 E21
Std Err     0.1120 LCA2F11
t Value     7.0772

CA3     =   0.9021*F11      +  1.0000 E22
Std Err     0.1192 LCA3F11
t Value     7.5673
```

Output page 3

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate	Standard Error	t Value
F1	F2	CF1F2	0.07133	0.18921	0.38
F1	F3	CF1F3	-0.09798	0.12431	-0.79
F2	F3	CF2F3	0.57884	0.16936	3.42
F1	F4	CF1F4	-0.01930	0.19333	-0.10
F2	F4	CF2F4	0.84935	0.13979	6.08
F3	F4	CF3F4	0.59968	0.16700	3.59
F1	F5	CF1F5	0.02457	0.18706	0.13
F2	F5	CF2F5	0.77937	0.16028	4.86
F3	F5	CF3F5	0.66346	0.15100	4.39
F4	F5	CF4F5	0.88781	0.12052	7.37
F1	F6	CF1F6	-0.04386	0.11593	-0.38
F2	F6	CF2F6	0.43831	0.20144	2.18
F3	F6	CF3F6	0.20086	0.14143	1.42
F4	F6	CF4F6	0.48036	0.20617	2.33
F5	F6	CF5F6	0.37314	0.20373	1.83
F1	F7	CF1F7	0.07195	0.15030	0.48
F2	F7	CF2F7	0.66206	0.16548	4.00
F3	F7	CF3F7	0.44293	0.15172	2.92
F4	F7	CF4F7	0.60712	0.18541	3.27
F5	F7	CF5F7	0.57598	0.18737	3.07
F6	F7	CF6F7	0.32819	0.16354	2.01
F1	F8	CF1F8	0.25875	0.10294	2.51
F2	F8	CF2F8	0.10048	0.19914	0.50

F3	F8	CF3F8	-0.01553	0.13036	-0.12
F4	F8	CF4F8	0.04688	0.20274	0.23
F5	F8	CF5F8	0.09247	0.19615	0.47
F6	F8	CF6F8	0.13164	0.12146	1.08
F7	F8	CF7F8	-0.19786	0.15905	-1.24
F1	F9	CF1F9	0.05388	0.20217	0.27
F2	F9	CF2F9	0.97860	0.12743	7.68
F3	F9	CF3F9	0.64077	0.17339	3.70
F4	F9	CF4F9	0.91268	0.14531	6.28
F5	F9	CF5F9	0.88147	0.14996	5.88
F6	F9	CF6F9	0.52604	0.21246	2.48
F7	F9	CF7F9	0.67234	0.18235	3.69
F8	F9	CF8F9	0.08976	0.21206	0.42
F1	F10	CF1F10	-0.03839	0.16225	-0.24
F2	F10	CF2F10	0.71813	0.16466	4.36
F3	F10	CF3F10	0.45199	0.16505	2.74
F4	F10	CF4F10	0.68128	0.18210	3.74
F5	F10	CF5F10	0.64391	0.18665	3.45
F6	F10	CF6F10	0.41456	0.17304	2.40
F7	F10	CF7F10	0.70621	0.12909	5.47
F8	F10	CF8F10	-0.07416	0.17078	-0.43
F9	F10	CF9F10	0.78452	0.16641	4.71
F1	F11	CF1F11	0.02752	0.15772	0.17
F2	F11	CF2F11	0.74052	0.15632	4.74
F3	F11	CF3F11	0.43679	0.16394	2.66
F4	F11	CF4F11	0.64577	0.19392	3.33
F5	F11	CF5F11	0.65772	0.18094	3.64
F6	F11	CF6F11	0.45978	0.16751	2.74
F7	F11	CF7F11	0.63835	0.14539	4.39
F8	F11	CF8F11	0.19704	0.16681	1.18
F9	F11	CF9F11	0.80674	0.15843	5.09
F10	F11	CF10F11	0.79639	0.11926	6.68

Output page 4

Manifest Variable Equations with Standardized Estimates

```
EP      =   0.9987*F1      +  0.0513 E1
                  LEPF1
A1      =   0.9141*F2      +  0.4055 E2
                  LA1F2
A2      =   0.8978*F2      +  0.4404 E3
                  LA2F2
SP1     =   0.9464*F3      +  0.3230 E4
                  LSP1F3
SP2     =   0.7943*F3      +  0.6075 E5
                  LSP2F3
EU1     =   0.8783*F4      +  0.4781 E6
                  LEU1F4
EU2     =   0.9245*F4      +  0.3811 E7
                  LEU2F4
I1      =   0.8664*F5      +  0.4994 E8
                  LI1F5
I2      =   0.9596*F5      +  0.2814 E9
                  LI2F5
I3      =   0.7738*F5      +  0.6334 E10
                  LI3F5
T1      =   0.6615*F6      +  0.7500 E11
                  LTIF6
T2      =   1.0674*F6      +  1.0000 E12
                  LT2F6
```

```
C       =   1.0191*F7       +  1.0000 E13
                LCF7
SK1     =   0.6934*F8       +  0.7205 E14
                LSK1F8
SK2     =   0.6675*F8       +  0.7446 E15
                LSK2F8
FL1     =   0.7343*F9       +  0.6788 E16
                LFL1F9
FL2     =   0.8606*F9       +  0.5092 E17
                LFL2F9
LP1     =   0.9438*F10      +  0.3305 E18
                LLP1F10
LP2     =   0.9100*F10      +  0.4146 E19
                LLP2F10
CA1     =   0.8797*F11      +  0.4756 E20
                LCA1F11
CA2     =   0.8058*F11      +  0.5921 E21
                LCA2F11
CA3     =   0.8568*F11      +  0.5156 E22
                LCA3F11
```

Output page 5

The CALIS Procedure

Covariance Structure Analysis: Maximum Likelihood Estimation

Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	EP	0.00201	0.76257	0.9974
2	A1	0.14667	0.89183	0.8355
3	A2	0.17584	0.90666	0.8061
4	SP1	0.09700	0.92980	0.8957
5	SP2	0.38886	1.05373	0.6310
6	EU1	0.28843	1.26170	0.7714
7	EU2	0.15292	1.05267	0.8547
8	I1	0.24473	0.98122	0.7506
9	I2	0.07627	0.96342	0.9208
10	I3	0.32084	0.79964	0.5988
11	T1	0.69496	1.23554	0.4375
12	T2	-0.16828	1.20854	1.1392
13	C	-0.03267	0.84529	1.0386
14	SK1	0.54074	1.04164	0.4809
15	SK2	0.67380	1.21522	0.4455
16	FL1	0.38952	0.84529	0.5392
17	FL2	0.24343	0.93883	0.7407
18	LP1	0.10691	0.97866	0.8908
19	LP2	0.18365	1.06838	0.8281
20	CA1	0.21516	0.95118	0.7738
21	CA2	0.33901	0.96692	0.6494
22	CA3	0.29473	1.10857	0.7341

Output page 6

Correlations Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F1	F2	CF1F2	0.07133
F1	F3	CF1F3	-0.09798
F2	F3	CF2F3	0.57884
F1	F4	CF1F4	-0.01930
F2	F4	CF2F4	0.84935
F3	F4	CF3F4	0.59968
F1	F5	CF1F5	0.02457
F2	F5	CF2F5	0.77937
F3	F5	CF3F5	0.66346
F4	F5	CF4F5	0.88781
F1	F6	CF1F6	-0.04386
F2	F6	CF2F6	0.43831
F3	F6	CF3F6	0.20086
F4	F6	CF4F6	0.48036
F5	F6	CF5F6	0.37314
F1	F7	CF1F7	0.07195
F2	F7	CF2F7	0.66206
F3	F7	CF3F7	0.44293
F4	F7	CF4F7	0.60712
F5	F7	CF5F7	0.57598
F6	F7	CF6F7	0.32819
F1	F8	CF1F8	0.25875
F2	F8	CF2F8	0.10048
F3	F8	CF3F8	-0.01553
F4	F8	CF4F8	0.04688
F5	F8	CF5F8	0.09247
F6	F8	CF6F8	0.13164
F7	F8	CF7F8	-0.19786
F1	F9	CF1F9	0.05388
F2	F9	CF2F9	0.97860
F3	F9	CF3F9	0.64077
F4	F9	CF4F9	0.91268
F5	F9	CF5F9	0.88147
F6	F9	CF6F9	0.52604
F7	F9	CF7F9	0.67234
F8	F9	CF8F9	0.08976
F1	F10	CF1F10	-0.03839
F2	F10	CF2F10	0.71813
F3	F10	CF3F10	0.45199
F4	F10	CF4F10	0.68128
F5	F10	CF5F10	0.64391
F6	F10	CF6F10	0.41456
F7	F10	CF7F10	0.70621
F8	F10	CF8F10	-0.07416
F9	F10	CF9F10	0.78452
F1	F11	CF1F11	0.02752
F2	F11	CF2F11	0.74052
F3	F11	CF3F11	0.43679
F4	F11	CF4F11	0.64577
F5	F11	CF5F11	0.65772
F6	F11	CF6F11	0.45978
F7	F11	CF7F11	0.63835
F8	F11	CF8F11	0.19704
F9	F11	CF9F11	0.80674
F10	F11	CF10F11	0.79639

Output page 7

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Normalized Residuals

Each * Represents 3 Residuals

Range		Freq	Percent	
-1.75000	-1.50000	1	0.40	
-1.50000	-1.25000	1	0.40	
-1.25000	-1.00000	3	1.19	*
-1.00000	-0.75000	10	3.95	***
-0.75000	-0.50000	17	6.72	*****
-0.50000	-0.25000	35	13.83	***********
-0.25000	0	61	24.11	********************
0	0.25000	44	17.39	**************
0.25000	0.50000	26	10.28	********
0.50000	0.75000	22	8.70	*******
0.75000	1.00000	8	3.16	**
1.00000	1.25000	9	3.56	***
1.25000	1.50000	4	1.58	*
1.50000	1.75000	5	1.98	*
1.75000	2.00000	2	0.79	
2.00000	2.25000	0	0.00	
2.25000	2.50000	0	0.00	
2.50000	2.75000	1	0.40	
2.75000	3.00000	1	0.40	
3.00000	3.25000	1	0.40	
3.25000	3.50000	0	0.00	
3.50000	3.75000	0	0.00	
3.75000	4.00000	0	0.00	
4.00000	4.25000	1	0.40	
4.25000	4.50000	1	0.40	

Rank Order of the 10 Largest Normalized Residuals

Row	Column	Residual
FL1	T1	4.30175
I3	SP1	4.22465
I3	SP2	3.03264
T1	SP1	2.92608
T1	SP2	2.67105
FL1	T2	1.95497
CA2	SP2	1.80190
CA2	EU2	1.74840
CA2	A1	1.71197
CA3	SK1	1.70765

Output page 8

Covariances

	EP	A1	A2	SP1	SP2	EU1
EP	0.7625855880	0.0723011492	0.0306457937	-.0912436280	-0.010164993	0.019696558
A1	0.0723011492	0.8918197448	0.7379422677	0.4586010316	0.455117184	0.724414080
A2	0.0306457937	0.7379422677	0.9066449492	0.4334751003	0.412843483	0.768467409
SP1	-.0912436280	0.4586010316	0.4334751003	0.9298102736	0.744125720	0.462250777
SP2	-.0101649926	0.4551171840	0.4128434832	0.7441257201	1.053735710	0.497858414
EU1	0.0196965584	0.7244140802	0.7684674087	0.4622507767	0.497858414	1.261680693
EU2	-.0359846771	0.6646004886	0.6965583808	0.5517751033	0.500784243	0.935767502
I1	0.0047054565	0.5764636684	0.5629354810	0.4710885893	0.440729346	0.726314361
I2	0.0252164208	0.6166410280	0.6414200826	0.5406147257	0.480484421	0.807694628
I3	0.0082647121	0.5091394444	0.4630048563	0.6715832655	0.561864688	0.490287455
T1	-.0521521431	0.3428648991	0.2909540615	0.3319458269	0.311585679	0.333122191
T2	-.0485325612	0.4581033391	0.4366422345	0.2384701234	0.250279009	0.581289778
C	0.0587880433	0.5561487648	0.5053238018	0.3663318553	0.394112147	0.581968449
SK1	0.1606491117	0.1021174554	0.0634030103	-.0026543601	0.024628239	-0.002518626
SK2	0.1649322837	0.0095918921	0.0665399813	-.0263022954	-0.018248726	0.102916780
FL1	0.0047657829	0.5411274998	0.4933791814	0.4689470033	0.429493560	0.599613911
FL2	0.0528157331	0.7159080626	0.7377009622	0.4421620969	0.432524960	0.798464694
LP1	-.0326968902	0.5880010859	0.5438723494	0.3903115857	0.381624589	0.671643592
LP2	-.0290773082	0.6254185142	0.5572648026	0.3552016409	0.390356830	0.666892891
CA1	-.0473863602	0.5182336440	0.5041776008	0.3417488613	0.297499472	0.520284740
CA2	0.0934153772	0.6194914487	0.5605525895	0.3899797907	0.400024131	0.626338491
CA3	0.0533285072	0.5702198896	0.5277953730	0.2974994721	0.267954635	0.504584804

Covariances

	EU2	I1	I2	I3	T1	T2
EP	-0.035984677	0.0047054565	0.0252164208	0.0082647121	-0.052152143	-0.048532561
A1	0.664600489	0.5764636684	0.6166410280	0.5091394444	0.342864899	0.458103339
A2	0.696558381	0.5629354810	0.6414200826	0.4630048563	0.290954061	0.436642234
SP1	0.551775103	0.4710885893	0.5406147257	0.6715832655	0.331945827	0.238470123
SP2	0.500784243	0.4407293458	0.4804844207	0.5618646880	0.311585679	0.250279009
EU1	0.935767502	0.7263143607	0.8076946279	0.4902874551	0.333122191	0.581289778
EU2	1.052649836	0.7036919736	0.8295327723	0.5466322806	0.321207734	0.517253341
I1	0.703691974	0.9812234187	0.8132748168	0.5907610171	0.270201792	0.355578681
I2	0.829532772	0.8132748168	0.9634271408	0.6445721353	0.282086086	0.432524960
I3	0.546632281	0.5907610171	0.6445721353	0.7996410581	0.273248273	0.261801345
T1	0.321207734	0.2702017917	0.2820860857	0.2732482732	1.235483968	0.862667029
T2	0.517253341	0.3555786807	0.4325249600	0.2618013453	0.862667029	1.208472838
C	0.528157331	0.4806804814	0.5005278557	0.3896178325	0.189967725	0.355292130
SK1	-0.019108376	0.0549724007	0.0296051639	0.0591650831	0.141857449	0.104078062
SK2	0.078605254	0.0691340150	0.1011069888	0.0229541821	0.085904745	0.135493017
FL1	0.582089102	0.5465568727	0.5993424426	0.5066208186	0.544143818	0.550025639
FL2	0.699137333	0.6410732060	0.6642686936	0.4626881429	0.283714898	0.463019938
LP1	0.593581275	0.5698126866	0.5544596266	0.4405634483	0.223810817	0.422978313
LP2	0.563945948	0.5423491087	0.5531475281	0.4057702169	0.271227340	0.492519531
CA1	0.510300727	0.5015835671	0.5312339758	0.3946550840	0.343830121	0.474949477
CA2	0.607486502	0.5346122523	0.5632672760	0.4316653093	0.343196694	0.446445269
CA3	0.485551835	0.4571079540	0.4888396224	0.3768738877	0.363194884	0.484496124

Covariances

	C	SK1	SK2	FL1	FL2	LP1
EP	0.0587880433	0.160649112	0.164932284	0.0047657829	0.0528157331	-.0326968902
A1	0.5561487648	0.102117455	0.009591892	0.5411274998	0.7159080626	0.5880010859
A2	0.5053238018	0.063403010	0.066539981	0.4933791814	0.7377009622	0.5438723494
SP1	0.3663318553	-0.002654360	-0.026302295	0.4689470033	0.4421620969	0.3903115857
SP2	0.3941121467	0.024628239	-0.018248726	0.4294935602	0.4325249600	0.3816245890
EU1	0.5819684493	-0.002518626	0.102916780	0.5996139113	0.7984646940	0.6716435918
EU2	0.5281573312	-0.019108376	0.078605254	0.5820891020	0.6991373330	0.5935812747
I1	0.4806804814	0.054972401	0.069134015	0.5465568727	0.6410732060	0.5698126866
I2	0.5005278557	0.029605164	0.101106989	0.5993424426	0.6642686936	0.5544596266
I3	0.3896178325	0.059165083	0.022954182	0.5066208186	0.4626881429	0.4405634483
T1	0.1899677254	0.141857449	0.085904745	0.5441438181	0.2837148976	0.2238108165
T2	0.3552921304	0.104078062	0.135493017	0.5500256387	0.4630199379	0.4229783127
C	0.8452930353	-0.112870630	-0.158417036	0.4024371852	0.5369046542	0.6102011884
SK1	-.1128706301	1.041610111	0.520737188	0.0635839894	0.0423641903	-.0215666757

	C	SK1	SK2	FL1	FL2	LP1
SK2	-.1584170362	0.520737188	1.215214309	0.0870811088	0.0336922752	-.0736283293
FL1	0.4024371852	0.063583989	0.087081109	0.8452930353	0.5629656441	0.5091243628
FL2	0.5369046542	0.042364190	0.033692275	0.5629656441	0.9388139837	0.5988899949
LP1	0.6102011884	-0.021566676	-0.073628329	0.5091243628	0.5988899949	0.9786746297
LP2	0.6354477724	-0.008762405	-0.117425271	0.4838777788	0.6303351130	0.8782312310
CA1	0.5068017977	0.096492022	0.044581184	0.4478026121	0.5587427985	0.6706783700
CA2	0.5134075348	0.133683226	0.131541640	0.5151268362	0.6136699545	0.6272433867
CA3	0.5177510331	0.241049075	0.098693934	0.4368533768	0.5774288903	0.6238952734

Covariances

	LP2	CA1	CA2	CA3
EP	-0.029077308	-.0473863602	0.0934153772	0.053328507
A1	0.625418514	0.5182336440	0.6194914487	0.570219890
A2	0.557264803	0.5041776008	0.5605525895	0.527795373
SP1	0.355201641	0.3417488613	0.3899797907	0.297499472
SP2	0.390356830	0.2974994721	0.4000241305	0.267954635
EU1	0.666892891	0.5202847404	0.6263384912	0.504584804
EU2	0.563945948	0.5103007269	0.6074865020	0.485551835
I1	0.542349109	0.5015835671	0.5346122523	0.457107954
I2	0.553147528	0.5312339758	0.5632672760	0.488839622
I3	0.405770217	0.3946550840	0.4316653093	0.376873888
T1	0.271227340	0.3438301210	0.3431966941	0.363194884
T2	0.492519531	0.4749494767	0.4464452689	0.484496124
C	0.635447772	0.5068017977	0.5134075348	0.517751033
SK1	-0.008762405	0.0964920218	0.1336832263	0.241049075
SK2	-0.117425271	0.0445811842	0.1315416403	0.098693934
FL1	0.483877779	0.4478026121	0.5151268362	0.436853377
FL2	0.630335113	0.5587427985	0.6136699545	0.577428890
LP1	0.878231231	0.6706783700	0.6272433867	0.623895273
LP2	1.068395017	0.6422646518	0.6059783428	0.624573945
CA1	0.642264652	0.9511658070	0.6482067988	0.803939312
CA2	0.605978343	0.6482067988	0.9669109884	0.704853256
CA3	0.624573945	0.8039393117	0.7048532561	1.108572377

Output page 9

Predicted Model Matrix

	EP	A1	A2	SP1	SP2	EU1
EP	0.7625742764	0.0537002150	0.0531811068	-.0779758174	-0.069671757	-0.016603778
A1	0.0537002150	0.8918287435	0.7379525138	0.4559873608	0.407426838	0.723317692
A2	0.0531811068	0.7379525138	0.9066557976	0.4515794304	0.403488332	0.716325538
SP1	-.0779758174	0.4559873608	0.4515794304	0.9298041308	0.744116230	0.539894611

SP2	-.0696717574	0.4074268382	0.4034883318	0.7441162303	1.053726565	0.482398358
EU1	-.0166037777	0.7233176924	0.7163255379	0.5398946106	0.482398358	1.261703301
EU2	-.0159642251	0.6954565837	0.6887337565	0.5190986830	0.463817100	0.935789008
I1	0.0183904986	0.5773654691	0.5717842029	0.5196004375	0.464265420	0.751664447
I2	0.0201841197	0.6336757893	0.6275501836	0.5702769477	0.509545118	0.824974106
I3	0.0148281674	0.4655269007	0.4610267536	0.4189512437	0.374334894	0.606063298
T1	-.0281220853	0.2781876357	0.2754984565	0.1347714279	0.120418901	0.348431953
T2	-.0448803477	0.4439627314	0.4396710404	0.2150832156	0.192177858	0.556066416
C	0.0587969871	0.5354960228	0.5303194995	0.3787377949	0.338403990	0.561217352
SK1	0.1597082477	0.0613857588	0.0607923561	-.0100305556	-0.008962348	0.032733720
SK2	0.1660438586	0.0638209260	0.0632039830	-.0104284668	-0.009317884	0.034032264
FL1	0.0317245943	0.5702944767	0.5647815643	0.3947736238	0.352732078	0.607868017
FL2	0.0391867814	0.7044378498	0.6976282026	0.4876313800	0.435700917	0.750849353
LP1	-.0312617879	0.5787967946	0.5732016921	0.3851222482	0.344108529	0.627543860
LP2	-.0314934570	0.5830860349	0.5774494693	0.3879762410	0.346658585	0.632194346
CA1	0.0205890950	0.5484043995	0.5431030937	0.3419661387	0.305548343	0.546561698
CA2	0.0190170149	0.5065309888	0.5016344641	0.3158553187	0.282218204	0.504828987
CA3	0.0216503630	0.5766719856	0.5710974232	0.3595928341	0.321297878	0.574734302
EP	-0.015964225	0.0183904986	0.0201841197	0.0148281674	-0.028122085	-0.044880348
A1	0.695456584	0.5773654691	0.6336757893	0.4655269007	0.278187636	0.443962731
A2	0.688733756	0.5717842029	0.6275501836	0.4610267536	0.275498456	0.439671040
SP1	0.519098683	0.5196004375	0.5702769477	0.4189512437	0.134771428	0.215083216
SP2	0.463817100	0.4642654196	0.5095451183	0.3743348944	0.120418901	0.192177858

Predicted Model Matrix

	EU2	I1	I2	I3	T1	T2
EU1	0.935789008	0.7516644470	0.8249741061	0.6060632981	0.348431953	0.556066416
EU2	1.052665040	0.7227114640	0.7931973454	0.5827186522	0.335010879	0.534647574
I1	0.722711464	0.9812181190	0.8083183795	0.5938272479	0.235445446	0.375749997
I2	0.793197345	0.8083183795	0.9634228383	0.6517430816	0.258408386	0.412396808
I3	0.582718652	0.5938272479	0.6517430816	0.7996365051	0.189838490	0.302965351

T1	0.335010879	0.2354454463	0.2584083860	0.1898384901	1.235538060	0.862718735
T2	0.534647574	0.3757499974	0.4123968075	0.3029653506	0.862718735	1.208543625
C	0.539600104	0.4631527256	0.5083239034	0.3734377348	0.226093203	0.360824649
SK1	0.031472866	0.0561625244	0.0616400424	0.0452835636	0.068497849	0.109316477
SK2	0.032721392	0.0583904864	0.0640852970	0.0470799582	0.071215152	0.113653051
FL1	0.584453856	0.5106986780	0.5605070016	0.4117737993	0.261108072	0.416705267
FL2	0.721927766	0.6308240625	0.6923481870	0.5086302983	0.322525321	0.514721734
LP1	0.603371815	0.5159459837	0.5662660757	0.4160046757	0.284585292	0.454172822
LP2	0.607843171	0.5197694608	0.5704624558	0.4190875263	0.286694244	0.457538522
CA1	0.525508965	0.4842496638	0.5314784212	0.3904480910	0.290017570	0.462842254
CA2	0.485383734	0.4472747871	0.4908973934	0.3606354322	0.267873282	0.427501940
CA3	0.552596402	0.5092103846	0.5588735553	0.4105737957	0.304966568	0.486699527

	C	SK1	SK2	FL1	FL2	LP1
EP	0.0587969871	0.159708248	0.166043859	0.0317245943	0.0391867814	-.0312617879
A1	0.5354960228	0.061385759	0.063820926	0.5702944767	0.7044378498	0.5787967946
A2	0.5303194995	0.060792356	0.063203983	0.5647815643	0.6976282026	0.5732016921
SP1	0.3787377949	-0.010030556	-0.010428467	0.3947736238	0.4876313800	0.3851222482
SP2	0.3384039900	-0.008962348	-0.009317884	0.3527320780	0.4357009172	0.3441085289
EU1	0.5612173516	0.032733720	0.034032264	0.6078680168	0.7508493528	0.6275438599
EU2	0.5396001040	0.031472866	0.032721392	0.5844538559	0.7219277660	0.6033718151
I1	0.4631527256	0.056162524	0.058390486	0.5106986780	0.6308240625	0.5159459837
I2	0.5083239034	0.061640042	0.064085297	0.5605070016	0.6923481870	0.5662660757
I3	0.3734377348	0.045283564	0.047079958	0.4117737993	0.5086302983	0.4160046757
T1	0.2260932032	0.068497849	0.071215152	0.2611080723	0.3225253208	0.2845852918
T2	0.3608246490	0.109316477	0.113653051	0.4167052668	0.5147217344	0.4541728216
C	0.8452872719	-0.131211566	-0.136416716	0.4253004922	0.5253387092	0.6178293050
SK1	-.1312115657	1.041637636	0.520764394	0.0428881434	0.0529761952	-.0490022662
SK2	-.1364167160	0.520764394	1.215221748	0.0445895119	0.0550777558	-.0509461814
FL1	0.4253004922	0.042888143	0.044589512	0.8452899767	0.5629726173	0.4945075248
FL2	0.5253387092	0.052976195	0.055077756	0.5629726173	0.9388281509	0.6108244630
LP1	0.6178293050	-0.049002266	-0.050946181	0.4945075248	0.6108244630	0.9786620760
LP2	0.6224078002	-0.049365403	-0.051323724	0.4981721298	0.6153510481	0.8782166468

CA1	0.5131413812	0.119636111	0.124382064	0.4672473769	0.5771522450	0.6379189461
CA2	0.4739604778	0.110501297	0.114884873	0.4315707096	0.5330837929	0.5892106534
CA3	0.5395913298	0.125802772	0.130793356	0.4913317123	0.6069016430	0.6708005728

	LP2	CA1	CA2	CA3
EP	-0.031493457	0.0205890950	0.0190170149	0.021650363
A1	0.583086035	0.5484043995	0.5065309888	0.576671986
A2	0.577449469	0.5431030937	0.5016344641	0.571097423
SP1	0.387976241	0.3419661387	0.3158553187	0.359592834
SP2	0.346658585	0.3055483433	0.2822182036	0.321297878
EU1	0.632194346	0.5465616984	0.5048289871	0.574734302
EU2	0.607843171	0.5255089645	0.4853837345	0.552596402
I1	0.519769461	0.4842496638	0.4472747871	0.509210385
I2	0.570462456	0.5314784212	0.4908973934	0.558873555
I3	0.419087526	0.3904480910	0.3606354322	0.410573796
T1	0.286694244	0.2900175697	0.2678732820	0.304966568
T2	0.457538522	0.4628422541	0.4275019399	0.486699527
C	0.622407800	0.5131413812	0.4739604778	0.539591330
SK1	-0.049365403	0.1196361111	0.1105012974	0.125802772
SK2	-0.051323724	0.1243820642	0.1148848733	0.130793356
FL1	0.498172130	0.4672473769	0.4315707096	0.491331712
FL2	0.615351048	0.5771522450	0.5330837929	0.606901643
LP1	0.878216647	0.6379189461	0.5892106534	0.670800573
LP2	1.068375793	0.6426463180	0.5935770669	0.675771618
CA1	0.642646318	0.9511753589	0.6798148800	0.773951062
CA2	0.593577067	0.6798148800	0.9669220647	0.714856039
CA3	0.675771618	0.7739510619	0.7148560388	1.108570433

Selected Output of CFA for Revised Measurement Model A

Output page 10

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	0.9931
Goodness of Fit Index (GFI)	0.9083
GFI Adjusted for Degrees of Freedom (AGFI)	0.8204
Root Mean Square Residual (RMR)	0.0375
Parsimonious GFI (Mulaik, 1989)	0.5152
Chi-Square	255.2268
Chi-Square DF	97
Pr > Chi-Square	<.0001
Independence Model Chi-Square	3871.2
Independence Model Chi-Square DF	171
RMSEA Estimate	0.0797
RMSEA 90% Lower Confidence Limit	0.0678
RMSEA 90% Upper Confidence Limit	0.0917
ECVI Estimate	1.7779
ECVI 90% Lower Confidence Limit	1.6042
ECVI 90% Upper Confidence Limit	1.9841
Probability of Close Fit	0.0000
Bentler's Comparative Fit Index	0.9572
Normal Theory Reweighted LS Chi-Square	246.4843
Akaike's Information Criterion	61.2268
Bozdogan's (1987) CAIC	-380.4102
Schwarz's Bayesian Criterion	-283.4102
McDonald's (1989) Centrality	0.7359
Bentler & Bonett's (1980) Non-normed Index	0.9246
Bentler & Bonett's (1980) NFI	0.9341
James, Mulaik, & Brett (1982) Parsimonious NFI	0.5299
Z-Test of Wilson & Hilferty (1931)	7.9985
Bollen (1986) Normed Index Rho1	0.8838
Bollen (1988) Non-normed Index Delta2	0.9581
Hoelter's (1983) Critical N	123

Output page 11

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Estimates

EP	=	0.8716*F1	+ 1.0000 E1
Std Err		0.0905 LEPF1	
t Value		9.6261	
A1	=	0.8629*F2	+ 1.0000 E2
Std Err		0.1366 LA1F2	
t Value		6.3181	
A2	=	0.8551*F2	+ 1.0000 E3
Std Err		0.1324 LA2F2	
t Value		6.4595	
SP2	=	1.0322*F3	+ 1.0000 E5
Std Err		0.0971 LSP2F3	
t Value		10.6306	
EU1	=	0.9861*F4	+ 1.0000 E6
Std Err		0.1281 LEU1F4	
t Value		7.6983	
EU2	=	0.9489*F4	+ 1.0000 E7
Std Err		0.1412 LEU2F4	
t Value		6.7212	
I1	=	0.8546*F5	+ 1.0000 E8
Std Err		0.1294 LI1F5	
t Value		6.6045	
I2	=	0.9516*F5	+ 1.0000 E9
Std Err		0.1560 LI2F5	
t Value		6.0979	
T2	=	1.1049*F6	+ 1.0000 E12
Std Err		0 LT2F6	
t Value		.	
C	=	0.9351*F7	+ 1.0000 E13
Std Err		0.1189 LCF7	
t Value		7.8635	
SK1	=	0.7148*F8	+ 1.0000 E14
Std Err		0.1155 LSK1F8	
t Value		6.1875	
SK2	=	0.7285*F8	+ 1.0000 E15
Std Err		0.1098 LSK2F8	
t Value		6.6327	
FL1	=	0.6743*F9	+ 1.0000 E16
Std Err		0.1117 LFL1F9	
t Value		6.0348	
FL2	=	0.8349*F9	+ 1.0000 E17

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                        Std Err     0.1387 LFL2F9
                        t Value     6.0213

                        LP1     =   0.9350*F10      +  1.0000 E18
                        Std Err     0.1459 LLP1F10
                        t Value     6.4078

                        LP2     =   0.9393*F10      +  1.0000 E19
                        Std Err     0.1381 LLP2F10
                        t Value     6.8036

                        CA1     =   0.8587*F11      +  1.0000 E20
                        Std Err     0.1233 LCA1F11
                        t Value     6.9626

                        CA2     =   0.7908*F11      +  1.0000 E21
                        Std Err     0.1118 LCA2F11
                        t Value     7.0722

                        CA3     =   0.9029*F11      +  1.0000 E22
                        Std Err     0.1194 LCA3F11
                        t Value     7.5608
```

Output page 12

The CALIS Procedure

Covariance Structure Analysis: Maximum Likelihood Estimation

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate	Standard Error	t Value
F1	F2	CF1F2	0.07113	0.18696	0.38
F1	F3	CF1F3	-0.01138	0.11056	-0.10
F2	F3	CF2F3	0.49138	0.16354	3.00
F1	F4	CF1F4	-0.01959	0.19487	-0.10
F2	F4	CF2F4	0.84926	0.14247	5.96
F3	F4	CF3F4	0.50321	0.16696	3.01
F1	F5	CF1F5	0.02648	0.17922	0.15
F2	F5	CF2F5	0.76912	0.16166	4.76
F3	F5	CF3F5	0.49075	0.15616	3.14
F4	F5	CF4F5	0.89261	0.12249	7.29
F1	F6	CF1F6	-0.05049	0.11386	-0.44
F2	F6	CF2F6	0.47213	0.20431	2.31
F3	F6	CF3F6	0.21940	0.12682	1.73
F4	F6	CF4F6	0.50783	0.21283	2.39
F5	F6	CF5F6	0.40585	0.20064	2.02
F1	F7	CF1F7	0.07198	0.14896	0.48
F2	F7	CF2F7	0.66331	0.16582	4.00
F3	F7	CF3F7	0.40829	0.13942	2.93
F4	F7	CF4F7	0.60820	0.18941	3.21
F5	F7	CF5F7	0.56859	0.18527	3.07
F6	F7	CF6F7	0.34383	0.16636	2.07
F1	F8	CF1F8	0.25871	0.10192	2.54
F2	F8	CF2F8	0.10127	0.19911	0.51
F3	F8	CF3F8	0.00752	0.11771	0.06
F4	F8	CF4F8	0.04462	0.20667	0.22
F5	F8	CF5F8	0.09056	0.19027	0.48
F6	F8	CF6F8	0.14795	0.12095	1.22
F7	F8	CF7F8	-0.19746	0.15975	-1.24
F1	F9	CF1F9	0.05388	0.19965	0.27
F2	F9	CF2F9	0.97843	0.12764	7.67

F3	F9	CF3F9	0.53498	0.17042	3.14
F4	F9	CF4F9	0.91200	0.14793	6.16
F5	F9	CF5F9	0.87186	0.15223	5.73
F6	F9	CF6F9	0.56983	0.21400	2.66
F7	F9	CF7F9	0.67346	0.18271	3.69
F8	F9	CF8F9	0.08914	0.21201	0.42
F1	F10	CF1F10	-0.03861	0.16023	-0.24
F2	F10	CF2F10	0.71754	0.16465	4.36
F3	F10	CF3F10	0.39799	0.15284	2.60
F4	F10	CF4F10	0.68105	0.18556	3.67
F5	F10	CF5F10	0.63382	0.18482	3.43
F6	F10	CF6F10	0.43297	0.17595	2.46
F7	F10	CF7F10	0.70716	0.12921	5.47
F8	F10	CF8F10	-0.07269	0.17059	-0.43

Output page 13

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Standardized Estimates

EP	=	0.9981*F1	+	0.0608 E1
		LEPF1		
A1	=	0.9138*F2	+	0.4063 E2
		LA1F2		
A2	=	0.8981*F2	+	0.4398 E3
		LA2F2		
SP2	=	1.0056*F3	+	1.0000 E5
		LSP2F3		
EU1	=	0.8779*F4	+	0.4789 E6
		LEU1F4		
EU2	=	0.9249*F4	+	0.3802 E7
		LEU2F4		
I1	=	0.8628*F5	+	0.5056 E8
		LI1F5		
I2	=	0.9695*F5	+	0.2451 E9
		LI2F5		
T2	=	1.0051*F6	+	1.0000 E12
		LT2F6		
C	=	1.0171*F7	+	1.0000 E13
		LCF7		
SK1	=	0.7003*F8	+	0.7138 E14
		LSK1F8		
SK2	=	0.6609*F8	+	0.7505 E15
		LSK2F8		
FL1	=	0.7334*F9	+	0.6798 E16
		LFL1F9		
FL2	=	0.8617*F9	+	0.5075 E17
		LFL2F9		
LP1	=	0.9451*F10	+	0.3268 E18
		LLP1F10		
LP2	=	0.9087*F10	+	0.4173 E19
		LLP2F10		
CA1	=	0.8805*F11	+	0.4740 E20
		LCA1F11		
CA2	=	0.8043*F11	+	0.5943 E21
		LCA2F11		
CA3	=	0.8575*F11	+	0.5144 E22
		LCA3F11		

Output page 14

Correlations Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F1	F2	CF1F2	0.07113
F1	F3	CF1F3	-0.01138
F2	F3	CF2F3	0.49138
F1	F4	CF1F4	-0.01959
F2	F4	CF2F4	0.84926
F3	F4	CF3F4	0.50321
F1	F5	CF1F5	0.02648
F2	F5	CF2F5	0.76912
F3	F5	CF3F5	0.49075
F4	F5	CF4F5	0.89261
F1	F6	CF1F6	-0.05049
F2	F6	CF2F6	0.47213
F3	F6	CF3F6	0.21940
F4	F6	CF4F6	0.50783
F5	F6	CF5F6	0.40585
F1	F7	CF1F7	0.07198
F2	F7	CF2F7	0.66331
F3	F7	CF3F7	0.40829
F4	F7	CF4F7	0.60820
F5	F7	CF5F7	0.56859
F6	F7	CF6F7	0.34383
F1	F8	CF1F8	0.25871
F2	F8	CF2F8	0.10127
F3	F8	CF3F8	0.00752
F4	F8	CF4F8	0.04462
F5	F8	CF5F8	0.09056
F6	F8	CF6F8	0.14795
F7	F8	CF7F8	-0.19746
F1	F9	CF1F9	0.05388
F2	F9	CF2F9	0.97843
F3	F9	CF3F9	0.53498
F4	F9	CF4F9	0.91200
F5	F9	CF5F9	0.87186
F6	F9	CF6F9	0.56983
F7	F9	CF7F9	0.67346
F8	F9	CF8F9	0.08914
F1	F10	CF1F10	-0.03861
F2	F10	CF2F10	0.71754
F3	F10	CF3F10	0.39799
F4	F10	CF4F10	0.68105
F5	F10	CF5F10	0.63382
F6	F10	CF6F10	0.43297
F7	F10	CF7F10	0.70716
F8	F10	CF8F10	-0.07269
F9	F10	CF9F10	0.78369
F1	F11	CF1F11	0.02692
F2	F11	CF2F11	0.73979
F3	F11	CF3F11	0.35408
F4	F11	CF4F11	0.64495
F5	F11	CF5F11	0.64945
F6	F11	CF6F11	0.49773
F7	F11	CF7F11	0.63927
F8	F11	CF8F11	0.19800
F9	F11	CF9F11	0.80566
F10	F11	CF10F11	0.79602

Output page 15

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation
Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	EP	0.00282	0.76259	0.9963
2	A1	0.14718	0.89176	0.8350
3	A2	0.17534	0.90660	0.8066
4	SP2	-0.01177	1.05373	1.0112
5	EU1	0.28929	1.26160	0.7707
6	EU2	0.15215	1.05260	0.8555
7	I1	0.25083	0.98113	0.7443
8	I2	0.05787	0.96334	0.9399
9	T2	-0.01241	1.20845	1.0103
10	C	-0.02916	0.84532	1.0345
11	SK1	0.53073	1.04164	0.4905
12	SK2	0.68445	1.21523	0.4368
13	FL1	0.39063	0.84526	0.5379
14	FL2	0.24174	0.93877	0.7425
15	LP1	0.10450	0.97866	0.8932
16	LP2	0.18609	1.06840	0.8258
17	CA1	0.21374	0.95113	0.7753
18	CA2	0.34146	0.96688	0.6468
19	CA3	0.29335	1.10853	0.7354

Output page 16

The CALIS Procedure

Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Normalized Residuals

Each * Represents 3 Residuals

Range		Freq	Percent	
-1.50000	-1.25000	1	0.53	
-1.25000	-1.00000	2	1.05	
-1.00000	-0.75000	9	4.74	***
-0.75000	-0.50000	8	4.21	**
-0.50000	-0.25000	32	16.84	**********
-0.25000	0	33	17.37	**********
0	0.25000	53	27.89	******************
0.25000	0.50000	20	10.53	******
0.50000	0.75000	17	8.95	*****
0.75000	1.00000	4	2.11	*
1.00000	1.25000	2	1.05	
1.25000	1.50000	3	1.58	*
1.50000	1.75000	4	2.11	*
1.75000	2.00000	2	1.05	

Rank Order of the 10 Largest Normalized Residuals

Row	Column	Residual
FL1	T2	1.83536
CA2	EU2	1.76921
CA2	A1	1.73903
CA2	SP2	1.69449
CA3	SK1	1.67801
CA2	EU1	1.63001
CA2	I1	1.43602
CA2	EP	1.39730
CA2	FL1	1.36984
CA1	EP	-1.27086

Selected Output for the Initial Structural Model

Output page 17

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	1.5330
Goodness of Fit Index (GFI)	0.8656
GFI Adjusted for Degrees of Freedom (AGFI)	0.8080
Root Mean Square Residual (RMR)	0.0635
Parsimonious GFI (Mulaik, 1989)	0.6733
Chi-Square	393.9842
Chi-Square DF	133
Pr > Chi-Square	<.0001
Independence Model Chi-Square	3871.2
Independence Model Chi-Square DF	171
RMSEA Estimate	0.0874
RMSEA 90% Lower Confidence Limit	0.0775
RMSEA 90% Upper Confidence Limit	0.0974
ECVI Estimate	2.0140
ECVI 90% Lower Confidence Limit	1.7909
ECVI 90% Upper Confidence Limit	2.2695
Probability of Close Fit	0.0000
Bentler's Comparative Fit Index	0.9295
Normal Theory Reweighted LS Chi-Square	378.9531
Akaike's Information Criterion	127.9842
Bozdogan's (1987) CAIC	-477.5595
Schwarz's Bayesian Criterion	-344.5595
McDonald's (1989) Centrality	0.6030
Bentler & Bonett's (1980) Non-normed Index	0.9093
Bentler & Bonett's (1980) NFI	0.8982
James, Mulaik, & Brett (1982) Parsimonious NFI	0.6986
Z-Test of Wilson & Hilferty (1931)	10.7117
Bollen (1986) Normed Index Rho1	0.8691
Bollen (1988) Non-normed Index Delta2	0.9302
Hoelter's (1983) Critical N	106

Output page 18

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Estimates

EP	=	1.0000 F1	+	1.0000 E1
A1	=	1.0000 F2	+	1.0000 E2
A2	=	0.9885*F2	+	1.0000 E3
Std Err		0.0450 LA2F2		
t Value		21.9583		
SP2	=	0.7177*F3	+	1.0000 E5
Std Err		0.6130 LSP2F3		
t Value		1.1707		
EU1	=	1.0000 F4	+	1.0000 E6
EU2	=	0.9659*F4	+	1.0000 E7
Std Err		0.0451 LEU2F4		
t Value		21.4019		
I1	=	1.0000 F5	+	1.0000 E8
I2	=	1.1117*F5	+	1.0000 E9
Std Err		0.0506 LI2F5		
t Value		21.9730		
T2	=	0.2133*F6	+	1.0000 E12
Std Err		0.0281 LT2F6		
t Value		7.5872		
C	=	1.0000 F7	+	1.0000 E13
SK1	=	1.0000 F8	+	1.0000 E14
SK2	=	1.3285*F8	+	1.0000 E15
Std Err		0.3558 LSK2F8		
t Value		3.7334		
FL1	=	1.0000 F9	+	1.0000 E16
FL2	=	1.2446*F9	+	1.0000 E17
Std Err		0.0870 LFL2F9		
t Value		14.3111		
LP1	=	1.0000 F10	+	1.0000 E18
LP2	=	1.0143*F10	+	1.0000 E19
Std Err		0.0437 LLP2F10		
t Value		23.2146		
CA1	=	1.0000 F11	+	1.0000 E20
CA2	=	0.8878*F11	+	1.0000 E21
Std Err		0.0563 LCA2F11		
t Value		15.7584		
CA3	=	1.0294*F11	+	1.0000 E22
Std Err		0.0574 LCA3F11		
t Value		17.9404		

Output page 19

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Latent Variable Equations with Estimates

```
F2      =  21.7218*F1       +  1.0000 D2
Std Err    32.8290 PF1F2
t Value     0.6617

F4      =  23.2376*F1       +  1.0000 D4
Std Err    35.1265 PF1F4
t Value     0.6615

F5      =   0.7434*F4       +  0.0491*F3       +  1.0000 D5
Std Err     0.1085 PF4F5       0.0898 PF3F5
t Value     6.8536             0.5471

F6      =   2.2709*F2       +  0.8229*F5       +  1.0000 D6
Std Err     0.3515 PF2F6       0.2115 PF5F6
t Value     6.4605             3.8916

F9      =   0.2575*F6 +   0.0165*F7 +    -0.0610*F8   +  1.0000 D9
Std Err     0.0680 PF6F9  0.3181 PF7F9    0.1326 PF8F9
t Value     3.7892        0.0517          -0.4603

F10     =   1.1071*F9       +  1.0000 D10
Std Err     0.0893 PF9F10
t Value    12.3914

F11     =   0.7772*F10      +  1.0000 D11
Std Err     0.0504 PF10F11
t Value    15.4237
```

Output page 20

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate	Standard Error	t Value
F1	F3	CF1F3	0.02910	0.05059	0.58
F1	F7	CF1F7	0.02458	0.03724	0.66
F3	F7	CF3F7	0.54652	0.47140	1.16
F1	F8	CF1F8	0.00224	0.00393	0.57
F3	F8	CF3F8	-0.00257	0.06890	-0.04
F7	F8	CF7F8	-0.11722	0.04977	-2.36

Output page 21

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Standardized Estimates

```
EP      =   0.0434 F1      +  0.9991 E1
A1      =   0.9130 F2      +  0.4081 E2
A2      =   0.8951*F2      +  0.4459 E3
                   LA2F2
SP2     =   0.9167*F3      +  0.3995 E5
                   LSP2F3
EU1     =   0.8756 F4      +  0.4831 E6
EU2     =   0.9255*F4      +  0.3788 E7
                   LEU2F4
I1      =   0.8629 F5      +  0.5053 E8
I2      =   0.9683*F5      +  0.2499 E9
                   LI2F5
T2      =   0.5356*F6      +  0.8445 E12
                   LT2F6
C       =   1.7661 F7      +  1.0000 E13
SK1     =   0.6134 F8      +  0.7898 E14
SK2     =   0.7543*F8      +  0.6565 E15
                   LSK2F8
FL1     =   0.7330 F9      +  0.6803 E16
FL2     =   0.8656*F9      +  0.5007 E17
                   LFL2F9
LP1     =   0.9338 F10     +  0.3578 E18
LP2     =   0.9065*F10     +  0.4221 E19
                   LLP2F10
CA1     =   0.8959 F11     +  0.4442 E20
CA2     =   0.7890*F11     +  0.6144 E21
                   LCA2F11
CA3     =   0.8544*F11     +  0.5197 E22
                   LCA3F11
```

Output page 22

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Latent Variable Equations with Standardized Estimates

```
F2      =   0.9539*F1      +  0.3001 D2
                   PF1F2
F4      =   0.8956*F1      +  0.4449 D4
                   PF1F4
F5      =   0.8555*F4      +  0.0755*F3      +  0.4413 D5
                   PF4F5              PF3F5
F6      =   0.7093*F2      +  0.2545*F5      +  0.3912 D6
                   PF2F6              PF5F6
F9      =   1.0553*F6  +  0.0397*F7  + -0.0567*F8      +  1.0000 D9
                   PF6F9         PF7F9          PF8F9
F10     =   0.8079*F9      +  0.5894 D10
                   PF9F10
F11     =   0.8215*F10     +  0.5701 D11
                   PF10F11
```

Output page 23

Correlations Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F1	F3	CF1F3	0.58529
F1	F7	CF1F7	0.39956
F3	F7	CF3F7	0.25634
F1	F8	CF1F8	0.09446
F3	F8	CF3F8	-0.00313
F7	F8	CF7F8	-0.11531

Output page 24

Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	EP	0.76054	0.76197	0.00188
2	A1	0.14866	0.89276	0.8335
3	A2	0.18042	0.90751	0.8012
4	SP2	0.16854	1.05611	0.8404
5	EU1	0.29408	1.26023	0.7666
6	EU2	0.15098	1.05231	0.8565
7	I1	0.25017	0.97971	0.7446
8	I2	0.06008	0.96176	0.9375
9	T2	0.86236	1.20928	0.2869
10	C	-1.79218	0.84574	3.1191
11	SK1	0.64957	1.04133	0.3762
12	SK2	0.52379	1.21516	0.5690
13	FL1	0.39125	0.84545	0.5372
14	FL2	0.23539	0.93897	0.7493
15	LP1	0.12524	0.97820	0.8720
16	LP2	0.19026	1.06784	0.8218
17	CA1	0.18763	0.95099	0.8027
18	CA2	0.36491	0.96655	0.6225
19	CA3	0.29926	1.10817	0.7300
20	F2	0.06700	0.74411	0.9100
21	F4	0.19123	0.96614	0.8021
22	F5	0.14205	0.72953	0.8053
23	F6	1.16694	7.62695	0.8470
24	F9	-0.06297	0.45419	1.1386
25	F10	0.29630	0.85296	0.6526
26	F11	0.24814	0.76336	0.6749

Output page 25

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Normalized Residuals

Each * Represents 2 Residuals

Range		Freq	Percent	
-2.00000	-1.75000	1	0.53	
-1.75000	-1.50000	0	0.00	
-1.50000	-1.25000	2	1.05	*
-1.25000	-1.00000	5	2.63	**
-1.00000	-0.75000	11	5.79	*****
-0.75000	-0.50000	9	4.74	****
-0.50000	-0.25000	19	10.00	*********
-0.25000	0	28	14.74	**************
0	0.25000	43	22.63	**********************
0.25000	0.50000	19	10.00	*********
0.50000	0.75000	10	5.26	*****
0.75000	1.00000	8	4.21	****
1.00000	1.25000	9	4.74	****
1.25000	1.50000	4	2.11	**
1.50000	1.75000	3	1.58	*
1.75000	2.00000	6	3.16	***
2.00000	2.25000	3	1.58	*
2.25000	2.50000	2	1.05	*
2.75000	3.00000	4	2.11	**
3.00000	3.25000	0	0.00	
3.25000	3.50000	1	0.53	

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Average Normalized Residual	0.650362
Average Off-diagonal Normalized Residual	0.721724

Rank Order of the 10 Largest Normalized Residuals

Row	Column	Residual
CA3	SK1	3.45466
CA2	A1	2.98407
SK1	EP	2.85090
CA2	FL2	2.78747
CA2	FL1	2.78470
SK2	EP	2.69822
CA2	C	2.69750
CA2	EU2	2.52363
CA2	I1	2.43117
CA2	EU1	2.37230

Output page 26

Covariances

	EP	A1	A2	SP2	EU1
EP	0.7625855880	0.0723011492	0.0306457937	-0.010164993	0.019696558
A1	0.0723011492	0.8918197448	0.7379422677	0.455117184	0.724414080
A2	0.0306457937	0.7379422677	0.9066449492	0.412843483	0.768467409
SP2	-.0101649926	0.4551171840	0.4128434832	1.053735710	0.497858414
EU1	0.0196965584	0.7244140802	0.7684674087	0.497858414	1.261680693
EU2	-.0359846771	0.6646004886	0.6965583808	0.500784243	0.935767502
I1	0.0047054565	0.5764636684	0.5629354810	0.440729346	0.726314361
I2	0.0252164208	0.6166410280	0.6414200826	0.480484421	0.807694628
T2	-.0485325612	0.4581033391	0.4366422345	0.250279009	0.581289778
C	0.0587880433	0.5561487648	0.5053238018	0.394112147	0.581968449
SK1	0.1606491117	0.1021174554	0.0634030103	0.024628239	-0.002518626
SK2	0.1649322837	0.0095918921	0.0665399813	-0.018248726	0.102916780
FL1	0.0047657829	0.5411274998	0.4933791814	0.429493560	0.599613911
FL2	0.0528157331	0.7159080626	0.7377009622	0.432524960	0.798464694
LP1	-.0326968902	0.5880010859	0.5438723494	0.381624589	0.671643592
LP2	-.0290773082	0.6254185142	0.5572648026	0.390356830	0.666892891
CA1	-.0473863602	0.5182336440	0.5041776008	0.297499472	0.520284740
CA2	0.0934153772	0.6194914487	0.5605525895	0.400024131	0.626338491
CA3	0.0533285072	0.5702198896	0.5277953730	0.267954635	0.504584804

Covariances

	EU2	I1	I2	T2	C
EP	-0.035984677	0.0047054565	0.0252164208	-0.048532561	0.0587880433
A1	0.664600489	0.5764636684	0.6166410280	0.458103339	0.5561487648
A2	0.696558381	0.5629354810	0.6414200826	0.436642234	0.5053238018
SP2	0.500784243	0.4407293458	0.4804844207	0.250279009	0.3941121467
EU1	0.935767502	0.7263143607	0.8076946279	0.581289778	0.5819684493
EU2	1.052649836	0.7036919736	0.8295327723	0.517253341	0.5281573312
I1	0.703691974	0.9812234187	0.8132748168	0.355578681	0.4806804814
I2	0.829532772	0.8132748168	0.9634271408	0.432524960	0.5005278557
T2	0.517253341	0.3555786807	0.4325249600	1.208472838	0.3552921304
C	0.528157331	0.4806804814	0.5005278557	0.355292130	0.8452930353
SK1	-0.019108376	0.0549724007	0.0296051639	0.104078062	-.1128706301
SK2	0.078605254	0.0691340150	0.1011069888	0.135493017	-.1584170362
FL1	0.582089102	0.5465568727	0.5993424426	0.550025639	0.4024371852
FL2	0.699137333	0.6410732060	0.6642686936	0.463019938	0.5369046542
LP1	0.593581275	0.5698126866	0.5544596266	0.422978313	0.6102011884
LP2	0.563945948	0.5423491087	0.5531475281	0.492519531	0.6354477724
CA1	0.510300727	0.5015835671	0.5312339758	0.474949477	0.5068017977
CA2	0.607486502	0.5346122523	0.5632672760	0.446445269	0.5134075348
CA3	0.485551835	0.4571079540	0.4888396224	0.484496124	0.5177510331

Covariances

	SK1	SK2	FL1	FL2	LP1
EP	0.160649112	0.164932284	0.0047657829	0.0528157331	-.0326968902
A1	0.102117455	0.009591892	0.5411274998	0.7159080626	0.5880010859
A2	0.063403010	0.066539981	0.4933791814	0.7377009622	0.5438723494
SP2	0.024628239	-0.018248726	0.4294935602	0.4325249600	0.3816245890
EU1	-0.002518626	0.102916780	0.5996139113	0.7984646940	0.6716435918
EU2	-0.019108376	0.078605254	0.5820891020	0.6991373330	0.5935812747
I1	0.054972401	0.069134015	0.5465568727	0.6410732060	0.5698126866
I2	0.029605164	0.101106989	0.5993424426	0.6642686936	0.5544596266
T2	0.104078062	0.135493017	0.5500256387	0.4630199379	0.4229783127
C	-0.112870630	-0.158417036	0.4024371852	0.5369046542	0.6102011884
SK1	1.041610111	0.520737188	0.0635839894	0.0423641903	-.0215666757
SK2	0.520737188	1.215214309	0.0870811088	0.0336922752	-.0736283293
FL1	0.063583989	0.087081109	0.8452930353	0.5629656441	0.5091243628
FL2	0.042364190	0.033692275	0.5629656441	0.9388139837	0.5988899949
LP1	-0.021566676	-0.073628329	0.5091243628	0.5988899949	0.9786746297

Covariances

	SK1	SK2	FL1	FL2	LP1
LP2	-0.008762405	-0.117425271	0.4838777788	0.6303351130	0.8782312310
CA1	0.096492022	0.044581184	0.4478026121	0.5587427985	0.6706783700
CA2	0.133683226	0.131541640	0.5151268362	0.6136699545	0.6272433867
CA3	**0.241049075**	0.098693934	0.4368533768	0.5774288903	0.6238952734

Covariances

		LP2	CA1	CA2	CA3
EP	EP	-0.029077308	-.0473863602	0.0934153772	0.053328507
A1	A1	0.625418514	0.5182336440	0.6194914487	0.570219890
A2	A2	0.557264803	0.5041776008	0.5605525895	0.527795373
SP2	SP2	0.390356830	0.2974994721	0.4000241305	0.267954635
EU1	EU1	0.666892891	0.5202847404	0.6263384912	0.504584804
EU2	EU2	0.563945948	0.5103007269	0.6074865020	0.485551835
I1	I1	0.542349109	0.5015835671	0.5346122523	0.457107954
I2	I2	0.553147528	0.5312339758	0.5632672760	0.488839622
T2	T2	0.492519531	0.4749494767	0.4464452689	0.484496124
C	C	0.635447772	0.5068017977	0.5134075348	0.517751033
SK1	SK1	-0.008762405	0.0964920218	0.1336832263	0.241049075
SK2	SK2	-0.117425271	0.0445811842	0.1315416403	0.098693934
FL1	FL1	0.483877779	0.4478026121	0.5151268362	0.436853377
FL2	FL2	0.630335113	0.5587427985	0.6136699545	0.577428890
LP1	LP1	0.878231231	0.6706783700	0.6272433867	0.623895273
LP2	LP2	1.068395017	0.6422646518	0.6059783428	0.624573945
CA1	CA1	0.642264652	0.9511658070	0.6482067988	0.803939312
CA2	CA2	0.605978343	0.6482067988	0.9669109884	0.704853256
CA3	CA3	0.624573945	0.8039393117	0.7048532561	1.108572377

Output page 27

Predicted Model Matrix

	EP	A1	A2	SP2	EU1
EP	0.7619720704	0.0311719072	0.0308132807	0.020888355	0.033347183
A1	0.0311719072	0.8927645421	0.7355459010	0.453732643	0.724360789
A2	0.0308132807	0.7355459010	0.9075055014	0.448512539	0.716027162
SP2	0.0208883551	0.4537326428	0.4485125390	1.056108360	0.485395559
EU1	0.0333471827	0.7243607887	0.7160271620	0.485395559	1.260227439
EU2	0.0322092171	0.6996421283	0.6915928848	0.468831537	0.933173874
I1	0.0262197720	0.5695406074	0.5629881561	0.421578340	0.751449563
I2	0.0291496797	0.6331834741	0.6258988242	0.468687280	0.835419702
T2	0.0196987751	0.4603401497	0.4550440279	0.293739630	0.482704028
C	0.0245834071	0.5339958195	0.5278523039	0.392234286	0.571259757
SK1	0.0022397658	0.0486517428	0.0480920141	-0.001845868	0.052046817
SK2	0.0029754258	0.0646315991	0.0638880254	-0.002452150	0.069141799
FL1	0.0240536344	0.5616673938	0.5552055222	0.361251242	0.589077271
FL2	0.0299376683	0.6990632641	0.6910206804	0.449621031	0.733178184
LP1	0.0266290166	0.6218041791	0.6146504458	0.399929807	0.652148786
LP2	0.0270106945	0.6307165969	0.6234603280	0.405662064	0.661496138
CA1	0.0206959651	0.4832637171	0.4777038642	0.310823844	0.506847424
CA2	0.0183733666	0.4290295924	0.4240936923	0.275941732	0.449966625
CA3	0.0213044844	0.4974730242	0.4917496961	0.319962935	0.521750158

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Predicted Model Matrix

	EU2	I1	I2	T2	C
EP	0.032209217	0.0262197720	0.0291496797	0.019698775	0.0245834071
A1	0.699642128	0.5695406074	0.6331834741	0.460340150	0.5339958195
A2	0.691592885	0.5629881561	0.6258988242	0.455044028	0.5278523039
SP2	0.468831537	0.4215783402	0.4686872799	0.293739630	0.3922342856
EU1	0.933173874	0.7514495625	0.8354197021	0.482704028	0.5712597572
EU2	1.052306745	0.7258065034	0.8069111795	0.466231854	0.5517656374
I1	0.725806503	0.9797052134	0.8110521375	0.403875927	0.4515164261
I2	0.806911180	0.8110521375	0.9617648973	0.449006724	0.5019707736
T2	0.466231854	0.4038759268	0.4490067241	1.209275305	0.3378664767
C	0.551765637	0.4515164261	0.5019707736	0.337866477	0.8457374467
SK1	0.050270730	0.0385655720	0.0428750514	0.030331286	-.1172207710
SK2	0.066782350	0.0512325858	0.0569575307	0.040293716	-.1557223944
FL1	0.568975132	0.4927465168	0.5478080883	0.422594779	0.4585423494
FL2	0.708158632	0.6132828650	0.6818136758	0.525970510	0.5707116259
LP1	0.629894345	0.5455040595	0.6064609811	0.467841293	0.5076377093
LP2	0.638922720	0.5533228556	0.6151534824	0.474546936	0.5149137610
CA1	0.489551362	0.4239635698	0.4713390451	0.363604379	0.3945339941
CA2	0.434611608	0.3763843862	0.4184431630	0.322798987	0.3502575357
CA3	0.503945543	0.4364292865	0.4851977334	0.374295366	0.4061343988

Predicted Model Matrix

	SK1	SK2	FL1	FL2	LP1
EP	0.002239766	0.002975426	0.0240536344	0.0299376683	0.0266290166
A1	0.048651743	0.064631599	0.5616673938	0.6990632641	0.6218041791
A2	0.048092014	0.063888025	0.5552055222	0.6910206804	0.6146504458
SP2	-0.001845868	-0.002452150	0.3612512424	0.4496210310	0.3999298067
EU1	0.052046817	0.069141799	0.5890772709	0.7331781841	0.6521487858
EU2	0.050270730	0.066782350	0.5689751322	0.7081586319	0.6298943449
I1	0.038565572	0.051232586	0.4927465168	0.6132828650	0.5455040595
I2	0.042875051	0.056957531	0.5478080883	0.6818136758	0.6064609811
T2	0.030331286	0.040293716	0.4225947790	0.5259705101	0.4678412929
C	-0.117220771	-0.155722394	0.4585423494	0.5707116259	0.5076377093
SK1	1.041334236	0.520436016	0.0107795315	0.0134164357	0.0119336778
SK2	0.520436016	1.215162479	0.0143201110	0.0178231167	0.0158533412
FL1	0.010779531	0.014320111	0.8454471751	0.5652981057	0.5028224806
FL2	0.013416436	0.017823117	0.5652981057	0.9389682778	0.6258236253
LP1	0.011933678	0.015853341	0.5028224806	0.6258236253	0.9781987325
LP2	0.012104725	0.016080570	0.5100295149	0.6347936544	0.8651810323
CA1	0.009274807	0.012321153	0.3907916177	0.4863876146	0.6629135870
CA2	0.008233944	0.010938416	0.3469351464	0.4318029114	0.5885183098
CA3	**0.009547512**	0.012683430	0.4022819860	0.5006887730	0.6824051036

Output page 28

Rank Order of the 10 Largest Lagrange Multipliers in _PHI_

Row	Column	Chi-Square	Pr > ChiSq
E13	F8	34.39007	<.0001
D10	F7	30.65948	<.0001
D10	E13	30.39710	<.0001
E19	E18	28.81609	<.0001
D11	D10	28.75427	<.0001
D10	F1	20.95867	<.0001
E9	E7	18.63220	<.0001
D11	F8	16.64479	<.0001
E22	E14	15.62454	<.0001
E16	E12	15.28969	<.0001

Output page 29

Rank Order of the 10 Largest Lagrange Multipliers in _GAMMA_

Row	Column	Chi-Square	Pr > ChiSq
C	F1	340.55404	<.0001
CA2	F1	36.94140	<.0001
F10	F7	31.62210	<.0001
F11	F1	23.15882	<.0001
CA2	F3	17.01156	<.0001
F11	F8	15.48708	<.0001
FL2	F1	13.52772	0.0002
FL2	F7	11.03317	0.0009
EU2	F1	9.57598	0.0020
F10	F8	8.83329	0.0030

Output page 30

Rank Order of the 10 Largest Lagrange Multipliers in _BETA_

Row	Column	Chi-Square	Pr > ChiSq
F4	F2	67.37661	<.0001
CA2	F2	34.96148	<.0001
F10	C	34.36517	<.0001
CA2	F4	32.08169	<.0001
C	F10	31.74465	<.0001
CA2	F9	30.91481	<.0001
F10	CA2	30.24840	<.0001
CA2	A1	30.23228	<.0001

Selected Output for Revised Structural Model A

Output page 31

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	1.1824
Goodness of Fit Index (GFI)	0.8890
GFI Adjusted for Degrees of Freedom (AGFI)	0.8392
Root Mean Square Residual (RMR)	0.0540
Parsimonious GFI (Mulaik, 1989)	0.6857
Chi-Square	303.8852
Chi-Square DF	118
Pr > Chi-Square	<.0001
Independence Model Chi-Square	3828.9
Independence Model Chi-Square DF	153
RMSEA Estimate	0.0783
RMSEA 90% Lower Confidence Limit	0.0675
RMSEA 90% Upper Confidence Limit	0.0892
ECVI Estimate	1.6278
ECVI 90% Lower Confidence Limit	1.4377
ECVI 90% Upper Confidence Limit	1.8503
Probability of Close Fit	0.0000
Bentler's Comparative Fit Index	0.9494
Normal Theory Reweighted LS Chi-Square	288.7215
Akaike's Information Criterion	67.8852
Bozdogan's (1987) CAIC	-469.3640
Schwarz's Bayesian Criterion	-351.3640
McDonald's (1989) Centrality	0.6975
Bentler & Bonett's (1980) Non-normed Index	0.9344
Bentler & Bonett's (1980) NFI	0.9206
James, Mulaik, & Brett (1982) Parsimonious NFI	0.7100
Z-Test of Wilson & Hilferty (1931)	8.5856
Bollen (1986) Normed Index Rho1	0.8971
Bollen (1988) Non-normed Index Delta2	0.9499
Hoelter's (1983) Critical N	124

Output page 32

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Estimates

A1	=	1.0000 F2	+	1.0000 E2
A2	=	0.9894*F2	+	1.0000 E3
Std Err		0.0455 LA2F2		
t Value		21.7307		
SP2	=	0.9964*F3	+	1.0000 E5
Std Err		. LSP2F3		
t Value		.		
EU1	=	1.0000 F4	+	1.0000 E6
EU2	=	0.9653*F4	+	1.0000 E7
Std Err		0.0450 LEU2F4		
t Value		21.4494		

```
I1      =   1.0000 F5       +  1.0000 E8
I2      =   1.1192*F5       +  1.0000 E9
Std Err     0.0513 LI2F5
t Value    21.8307

T2      =   0.5802*F6       +  1.0000 E12
Std Err          . LT2F6
t Value          .

C       =   1.0000 F7       +  1.0000 E13
SK1     =   1.0000 F8       +  1.0000 E14
SK2     =   1.0365*F8       +  1.0000 E15
Std Err     0.2032 LSK2F8
t Value     5.1005

FL1     =   1.0000 F9       +  1.0000 E16
FL2     =   1.2398*F9       +  1.0000 E17
Std Err     0.0845 LFL2F9
t Value    14.6664

LP1     =   1.0000 F10      +  1.0000 E18
LP2     =   1.0173*F10      +  1.0000 E19
Std Err     0.0432 LLP2F10
t Value    23.5526

CA1     =   1.0000 F11      +  1.0000 E20
CA2     =   0.9094*F11      +  1.0000 E21
Std Err     0.0569 LCA2F11
t Value    15.9777

CA3     =   1.0469*F11      +  1.0000 E22
Std Err     0.0582 LCA3F11
t Value    17.9826
```

```
Output page 33
                              The CALIS Procedure
                Covariance Structure Analysis: Maximum Likelihood Estimation

                          Latent Variable Equations with Estimates


F4      =   0.9952*F2       +  1.0000 D4
Std Err     0.0620 PF2F4
t Value    16.0615

F5      =   0.7767*F4       +  1.0000 D5
Std Err     0.0505 PF4F5
t Value    15.3692

F6      =   0.2694*F5       +  0.8725*F2       +  1.0000 D6
Std Err          . PF5F6            . PF2F6
t Value          .                  .

F9      =   0.7161*F6       +  1.0000 D9
Std Err          . PF6F9
t Value          .

F10     =   0.5570*F9       +  0.5377*F7       +  1.0000 D10
Std Err     0.1618 PF9F10      0.1635 PF7F10
```

```
                t Value     3.4431             3.2886

                F11     =   0.7850*F10      +  0.3187*F8       +  1.0000 D11
                Std Err     0.0500 PF10F11     0.0756 PF8F11
                t Value    15.7002             4.2144
```

Output page 34

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate	Standard Error	t Value
F2	F3	CF2F3	0.45743	.	.
F2	F7	CF2F7	0.54137	0.06263	8.64
F3	F7	CF3F7	0.38993	.	.
F2	F8	CF2F8	0.07543	0.04983	1.51
F3	F8	CF3F8	0.00693	.	.
F7	F8	CF7F8	-0.11778	0.05229	-2.25

Output page 35

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Standardized Estimates

Manifest Variable Equations with Standardized Estimates

```
                A1      =   0.9081 F2       +  0.4188 E2
                A2      =   0.8911*F2       +  0.4537 E3
                                  LA2F2
                SP2     =   0.9958*F3       +  0.0917 E5
                                  LSP2F3
                EU1     =   0.8749 F4       +  0.4843 E6
                EU2     =   0.9246*F4       +  0.3809 E7
                                  LEU2F4
                I1      =   0.8604 F5       +  0.5096 E8
                I2      =   0.9718*F5       +  0.2357 E9
                                  LI2F5
                T2      =   0.5361*F6       +  0.8442 E12
                                  LT2F6
                C       =   0.9275 F7       +  0.3739 E13
                SK1     =   0.6926 F8       +  0.7214 E14
                SK2     =   0.6646*F8       +  0.7472 E15
                                  LSK2F8
                FL1     =   0.7431 F9       +  0.6692 E16
                FL2     =   0.8743*F9       +  0.4853 E17
                                  LFL2F9
                LP1     =   0.9318 F10      +  0.3629 E18
                LP2     =   0.9072*F10      +  0.4206 E19
                                  LLP2F10
                CA1     =   0.8856 F11      +  0.4644 E20
                CA2     =   0.7991*F11      +  0.6012 E21
                                  LCA2F11
                CA3     =   0.8589*F11      +  0.5122 E22
                                  LCA3F11
```

Output page 36

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Latent Variable Equations with Standardized Estimates

F4	=	0.8685*F2		+	0.4957 D4			
			PF2F4					
F5	=	0.8956*F4		+	0.4448 D5			
			PF4F5					
F6	=	0.2261*F5		+	0.7368*F2		+	0.3831 D6
			PF5F6			PF2F6		
F9	=	1.0649*F6		+	1.0000 D9			
			PF6F9					
F10	=	0.4133*F9		+	0.4982*F7		+	0.5335 D10
			PF9F10			PF7F10		
F11	=	0.8348*F10		+	0.2603*F8		+	0.5058 D11
			PF10F11			PF8F11		

Output page 37

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Correlations Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F2	F3	CF2F3	0.51995
F2	F7	CF2F7	0.74031
F3	F7	CF3F7	0.44576
F2	F8	CF2F8	0.12443
F3	F8	CF3F8	0.00956
F7	F8	CF7F8	-0.19542

Output page 38

Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	A1	0.15639	0.89184	0.8246
2	A2	0.18666	0.90666	0.7941
3	SP2	0.00887	1.05374	0.9916
4	EU1	0.29591	1.26168	0.7655
5	EU2	0.15273	1.05266	0.8549
6	I1	0.25486	0.98124	0.7403
7	I2	0.05351	0.96343	0.9445
8	T2	0.86079	1.20796	0.2874
9	C	0.11818	0.84529	0.8602
10	SK1	0.54201	1.04162	0.4796
11	SK2	0.67841	1.21519	0.4417
12	FL1	0.37819	0.84450	0.5522
13	FL2	0.22083	0.93761	0.7645
14	LP1	0.12845	0.97548	0.8683

15	LP2	0.18844	1.06508	0.8231
16	CA1	0.20594	0.95487	0.7843
17	CA2	0.35060	0.96998	0.6386
18	CA3	0.29189	1.11263	0.7377
19	F4	0.23733	0.96577	0.7543
20	F5	0.14371	0.72638	0.8021
21	F6	0.15134	1.03123	0.8532
22	F9	-0.06246	0.46632	1.1339
23	F10	0.24109	0.84702	0.7154
24	F11	0.19162	0.74893	0.7441

Output page 39

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Normalized Residuals

Each * Represents 2 Residuals

Range		Freq	Percent	
-1.50000	-1.25000	2	1.17	*
-1.25000	-1.00000	4	2.34	**
-1.00000	-0.75000	6	3.51	***
-0.75000	-0.50000	10	5.85	*****
-0.50000	-0.25000	21	12.28	**********
-0.25000	0	29	16.96	**************
0	0.25000	40	23.39	********************
0.25000	0.50000	16	9.36	********
0.50000	0.75000	11	6.43	*****
0.75000	1.00000	9	5.26	****
1.00000	1.25000	5	2.92	**
1.25000	1.50000	4	2.34	**
1.50000	1.75000	4	2.34	**
1.75000	2.00000	3	1.75	*
2.00000	2.25000	2	1.17	*
2.25000	2.50000	4	2.34	**
2.50000	2.75000	1	0.58	

Average Normalized Residual 0.536222
Average Off-diagonal Normalized Residual 0.597837

Rank Order of the 10 Largest Normalized Residuals

Row	Column	Residual
CA2	A1	2.52983
CA2	FL1	2.49754
CA2	FL2	2.48359
CA2	I1	2.45583
CA2	EU2	2.25553
CA2	I2	2.19219
CA2	EU1	2.11341
CA2	T2	1.87783
CA1	T2	1.83603
FL1	T2	1.77644

Output page 40

Rank Order of the 10 Largest Lagrange Multipliers in _PHI_

Row	Column	Chi-Square	Pr > ChiSq
D11	D10	24.09074	<.0001
E19	E18	24.08706	<.0001
E17	E12	20.08848	<.0001
D6	E17	18.39328	<.0001
E16	E12	17.19295	<.0001
E9	E7	16.85039	<.0001
D10	E21	13.52391	0.0002
E22	E20	13.34810	0.0003
D11	E21	13.34790	0.0003
E16	E3	12.49179	0.0004

Output page 41

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Rank Order of the 10 Largest Lagrange Multipliers in _GAMMA_

Row	Column	Chi-Square	Pr > ChiSq
CA2	F2	33.34003	<.0001
FL1	F2	25.45789	<.0001
FL2	F2	22.53041	<.0001
F11	F2	16.15274	<.0001
F11	F7	14.94507	0.0001
CA2	F3	13.34413	0.0003
CA2	F7	9.77751	0.0018
EU2	F2	9.27393	0.0023
CA1	F8	7.08763	0.0078
A2	F7	6.47679	0.0109

Output page 42

Rank Order of the 10 Largest Lagrange Multipliers in _BETA_

Row	Column	Chi-Square	Pr > ChiSq
F6	FL2	34.92801	<.0001
CA2	F9	30.64527	<.0001
CA2	F4	29.48325	<.0001
CA2	A1	27.85745	<.0001
F10	CA2	27.10155	<.0001
CA2	F6	26.50900	<.0001
CA2	EU2	26.35751	<.0001
F10	F11	26.03986	<.0001
LP2	LP1	24.07883	<.0001
LP1	LP2	24.06260	<.0001

Selected Output for Revised Structural Model B

Output page 43

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	1.1003
Goodness of Fit Index (GFI)	0.8940
GFI Adjusted for Degrees of Freedom (AGFI)	0.8438
Root Mean Square Residual (RMR)	0.0460
Parsimonious GFI (Mulaik, 1989)	0.6778
Chi-Square	282.7732
Chi-Square DF	116
Pr > Chi-Square	<.0001
Independence Model Chi-Square	3828.9
Independence Model Chi-Square DF	153
RMSEA Estimate	0.0748
RMSEA 90% Lower Confidence Limit	0.0638
RMSEA 90% Upper Confidence Limit	0.0859
ECVI Estimate	1.5625
ECVI 90% Lower Confidence Limit	1.3812
ECVI 90% Upper Confidence Limit	1.7763
Probability of Close Fit	0.0002
Bentler's Comparative Fit Index	0.9546
Normal Theory Reweighted LS Chi-Square	274.2237
Akaike's Information Criterion	50.7732
Bozdogan's (1987) CAIC	-477.3702
Schwarz's Bayesian Criterion	-361.3702
McDonald's (1989) Centrality	0.7238
Bentler & Bonett's (1980) Non-normed Index	0.9402
Bentler & Bonett's (1980) NFI	0.9261
James, Mulaik, & Brett (1982) Parsimonious NFI	0.7022
Z-Test of Wilson & Hilferty (1931)	7.9453
Bollen (1986) Normed Index Rho1	0.9026
Bollen (1988) Non-normed Index Delta2	0.9551
Hoelter's (1983) Critical N	131

Output page 44

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Estimates

A1	=	1.0000 F2	+	1.0000 E2
A2	=	0.9900*F2	+	1.0000 E3
Std Err		0.0455 LA2F2		
t Value		21.7430		
SP2	=	0.9954*F3	+	1.0000 E5
Std Err		0.0381 LSP2F3		
t Value		26.1483		
EU1	=	1.0000 F4	+	1.0000 E6
EU2	=	0.9664*F4	+	1.0000 E7
Std Err		0.0451 LEU2F4		

```
                          t Value    21.4253
                          I1      =   1.0000 F5       +  1.0000 E8
                          I2      =   1.1190*F5       +  1.0000 E9
                          Std Err     0.0513 LI2F5
                          t Value    21.8274

                          T2      =   0.6292*F6       +  1.0000 E12
                          Std Err     0.0552 LT2F6
                          t Value    11.4017

                          C       =   1.0000 F7       +  1.0000 E13
                          SK1     =   1.0000 F8       +  1.0000 E14
                          SK2     =   0.9826*F8       +  1.0000 E15
                          Std Err     0.1930 LSK2F8
                          t Value     5.0906

                          FL1     =   1.0000 F9       +  1.0000 E16
                          FL2     =   1.2451*F9       +  1.0000 E17
                          Std Err     0.0849 LFL2F9
                          t Value    14.6671

                          LP1     =   1.0000 F10      +  1.0000 E18
                          LP2     =   1.0101*F10      +  1.0000 E19
                          Std Err     0.0431 LLP2F10
                          t Value    23.4265

                          CA1     =   1.0000 F11      +  1.0000 E20
                          CA2     =   0.9379*F11      +  1.0000 E21
                          Std Err     0.0577 LCA2F11
                          t Value    16.2417

                          CA3     =   1.0578*F11      +  1.0000 E22
                          Std Err     0.0599 LCA3F11
                          t Value    17.6670
```

```
Output page 45

                          The CALIS Procedure
                  Covariance Structure Analysis: Maximum Likelihood Estimation

                          Latent Variable Equations with Estimates

      F4      =   0.9946*F2       +  1.0000 D4
      Std Err     0.0620 PF2F4
      t Value    16.0392


      F5      =   0.7779*F4       +  1.0000 D5
      Std Err     0.0506 PF4F5
      t Value    15.3696


      F6      =   0.2392*F5       +  0.8178*F2       +  1.0000 D6
      Std Err     0.0697 PF5F6       0.0560 PF2F6
      t Value     3.4297            14.6077

      F9      =   0.7717*F6       +  1.0000 D9
      Std Err     0.0393 PF6F9
      t Value    19.6579
```

```
      F10     =   0.6826*F9       +  0.3798*F7       +  1.0000 D10
      Std Err     0.1717 PF9F10       0.1718 PF7F10
      t Value     3.9748              2.2105

F11     = 0.4746*F10    +  0.2453*F2    +  0.1425*F7  +  0.2848*F8+  1.0000 D11
Std Err   0.0765 PF10F11   0.0890 PF2F11   0.1054 PF7F11    0.0821 PF8F11
t Value   6.2045           2.7555          1.3530           3.4690
```

Output page 46

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate	Standard Error	t Value
F2	F3	CF2F3	0.45617	0.05200	8.77
F2	F7	CF2F7	0.54203	0.06265	8.65
F3	F7	CF3F7	0.39648	0.05396	7.35
F2	F8	CF2F8	0.05813	0.05086	1.14
F3	F8	CF3F8	-0.00408	0.05803	-0.07
F7	F8	CF7F8	-0.13236	0.05398	-2.45

Output page 47

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Standardized Estimates

```
A1      =   0.9076 F2      +  0.4197 E2
A2      =   0.8912*F2      +  0.4535 E3
                   LA2F2
SP2     =   0.9953*F3      +  0.0970 E5
                   LSP2F3
EU1     =   0.8742 F4      +  0.4855 E6
EU2     =   0.9249*F4      +  0.3802 E7
                   LEU2F4
I1      =   0.8604 F5      +  0.5096 E8
I2      =   0.9717*F5      +  0.2362 E9
                   LI2F5
T2      =   0.5354*F6      +  0.8446 E12
                   LT2F6
C       =   1.0094 F7      +  1.0000 E13
SK1     =   0.7129 F8      +  0.7013 E14
SK2     =   0.6485*F8      +  0.7612 E15
                   LSK2F8
FL1     =   0.7420 F9      +  0.6704 E16
FL2     =   0.8768*F9      +  0.4808 E17
                   LFL2F9
LP1     =   0.9421 F10     +  0.3354 E18
LP2     =   0.9106*F10     +  0.4132 E19
                   LLP2F10
CA1     =   0.8741 F11     +  0.4858 E20
CA2     =   0.8133*F11     +  0.5818 E21
                   LCA2F11
CA3     =   0.8565*F11     +  0.5161 E22
                   LCA3F11
```

Output page 48

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Latent Variable Equations with Standardized Estimates

F4 = 0.8682*F2 + 0.4963 D4
PF2F4

F5 = 0.8962*F4 + 0.4436 D5
PF4F5

F6 = 0.2180*F5 + 0.7495*F2 + 0.3694 D6
PF5F6 PF2F6

F9 = 1.0584*F6 + 1.0000 D9
PF6F9

F10 = 0.5003*F9 + 0.3789*F7 + 0.5957 D10
PF9F10 PF7F10

F11 = 0.5170*F10 + 0.2462*F2 + 0.1549*F7 + 0.2427*F8 + 0.4945 D11
PF10F11 PF2F11 PF7F11 PF8F11

Output page 49

Correlations Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F2	F3	CF2F3	0.51855
F2	F7	CF2F7	0.68142
F3	F7	CF3F7	0.41626
F2	F8	CF2F8	0.09321
F3	F8	CF3F8	-0.00546
F7	F8	CF7F8	-0.19602

Output page 50

Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	A1	0.15710	0.89177	0.8238
2	A2	0.18649	0.90661	0.7943
3	SP2	0.00992	1.05372	0.9906
4	EU1	0.29742	1.26164	0.7643
5	EU2	0.15215	1.05261	0.8555
6	I1	0.25476	0.98119	0.7404
7	I2	0.05376	0.96339	0.9442
8	T2	0.86164	1.20786	0.2866
9	C	-0.01597	0.84527	1.0189
10	SK1	0.51228	1.04165	0.5082
11	SK2	0.70415	1.21521	0.4206
12	FL1	0.37947	0.84441	0.5506

13	FL2	0.21672	0.93745	0.7688
14	LP1	0.10973	0.97521	0.8875
15	LP2	0.18185	1.06486	0.8292
16	CA1	0.22523	0.95450	0.7640
17	CA2	0.32829	0.96984	0.6615
18	CA3	0.29630	1.11230	0.7336
19	F4	0.23746	0.96422	0.7537
20	F5	0.14297	0.72643	0.8032
21	F6	0.11932	0.87452	0.8636
22	F9	-0.05590	0.46493	1.1202
23	F10	0.30711	0.86548	0.6452
24	F11	0.17835	0.72927	0.7554

Output page 51

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Normalized Residuals

Each * Represents 2 Residuals

Range		Freq	Percent	
-1.50000	-1.25000	3	1.75	*
-1.25000	-1.00000	4	2.34	**
-1.00000	-0.75000	5	2.92	**
-0.75000	-0.50000	14	8.19	*******
-0.50000	-0.25000	19	11.11	*********
-0.25000	0	25	14.62	************
0	0.25000	46	26.90	**********************
0.25000	0.50000	13	7.60	******
0.50000	0.75000	16	9.36	********
0.75000	1.00000	7	4.09	***
1.00000	1.25000	5	2.92	**
1.25000	1.50000	10	5.85	*****
1.50000	1.75000	3	1.75	*
1.75000	2.00000	1	0.58	

Average Normalized Residual	0.476749
Average Off-diagonal Normalized Residual	0.531350

Rank Order of the 10 Largest Normalized Residuals

Row	Column	Residual
FL1	T2	1.83466
CA2	I1	1.73774
CA2	FL1	1.67755
CA2	FL2	1.50809
CA2	A1	1.47431
CA3	SP2	-1.45439
CA1	T2	1.45041
CA3	SK1	1.42056
CA2	I2	1.39985
LP2	SK2	-1.38104

Output page 52

Rank Order of the 10 Largest Lagrange Multipliers in _PHI_

Row	Column	Chi-Square	Pr > ChiSq
E22	E20	21.09926	<.0001
D11	E21	21.09858	<.0001
E17	E12	18.28213	<.0001
E16	E12	17.71463	<.0001
E9	E7	16.35260	<.0001
D6	E17	15.13574	0.0001
E16	E3	12.55754	0.0004
E21	E20	10.85430	0.0010
D11	E22	10.85427	0.0010
D4	E2	9.91067	0.0016

Output page 53

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Rank Order of the 10 Largest Lagrange Multipliers in _GAMMA_

Row	Column	Chi-Square	Pr > ChiSq
CA2	F2	29.16567	<.0001
FL1	F2	26.47787	<.0001
FL2	F2	23.90086	<.0001
CA2	F3	10.14964	0.0014
EU2	F2	9.01073	0.0027
CA3	F3	8.07110	0.0045
CA3	F2	7.06524	0.0079
F4	F3	6.63747	0.0100
EU1	F2	5.72178	0.0168
CA1	F8	5.58910	0.0181

Output page 54

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Rank Order of the 10 Largest Lagrange Multipliers in _BETA_

Row	Column	Chi-Square	Pr > ChiSq
CA2	F9	26.65140	<.0001
CA2	F4	24.47866	<.0001
CA2	F6	23.08108	<.0001
CA2	A1	22.43560	<.0001
CA2	EU2	21.65722	<.0001
FL1	A2	21.30064	<.0001
CA1	CA3	21.10022	<.0001
CA3	CA1	21.09890	<.0001
F11	CA2	21.09816	<.0001
FL2	T2	19.04790	<.0001

Selected Output for Revised Structural Model C

Output page 55

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	1.1202
Goodness of Fit Index (GFI)	0.8920
GFI Adjusted for Degrees of Freedom (AGFI)	0.8422
Root Mean Square Residual (RMR)	0.0459
Parsimonious GFI (Mulaik, 1989)	0.6821
Chi-Square	287.8907
Chi-Square DF	117
Pr > Chi-Square	<.0001
Independence Model Chi-Square	3828.9
Independence Model Chi-Square DF	153
RMSEA Estimate	0.0754
RMSEA 90% Lower Confidence Limit	0.0644
RMSEA 90% Upper Confidence Limit	0.0864
ECVI Estimate	1.5740
ECVI 90% Lower Confidence Limit	1.3906
ECVI 90% Upper Confidence Limit	1.7898
Probability of Close Fit	0.0001
Bentler's Comparative Fit Index	0.9535
Normal Theory Reweighted LS Chi-Square	280.0044
Akaike's Information Criterion	53.8907
Bozdogan's (1987) CAIC	-478.8056
Schwarz's Bayesian Criterion	-361.8056
McDonald's (1989) Centrality	0.7181
Bentler & Bonett's (1980) Non-normed Index	0.9392
Bentler & Bonett's (1980) NFI	0.9248
James, Mulaik, & Brett (1982) Parsimonious NFI	0.7072
Z-Test of Wilson & Hilferty (1931)	8.0755
Bollen (1986) Normed Index Rho1	0.9017
Bollen (1988) Non-normed Index Delta2	0.9540
Hoelter's (1983) Critical N	129

Output page 56

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Estimates

A1	=	1.0000 F2	+	1.0000 E2
A2	=	0.9891*F2	+	1.0000 E3
Std Err		0.0456 LA2F2		
t Value		21.6997		
SP2	=	0.9956*F3	+	1.0000 E5
Std Err		0.0380 LSP2F3		
t Value		26.1675		
EU1	=	1.0000 F4	+	1.0000 E6
EU2	=	0.9667*F4	+	1.0000 E7
Std Err		0.0451 LEU2F4		
t Value		21.4156		

```
                          I1       =   1.0000 F5       +  1.0000 E8
                          I2       =   1.1192*F5       +  1.0000 E9
                          Std Err     0.0513 LI2F5
                          t Value    21.8300

                          T2       =   0.6017*F6       +  1.0000 E12
                          Std Err     0.0538 LT2F6
                          t Value    11.1842

                          C        =   1.0000 F7       +  1.0000 E13
                          SK1      =   1.0000 F8       +  1.0000 E14
                          SK2      =   0.9817*F8       +  1.0000 E15
                          Std Err     0.2122 LSK2F8
                          t Value     4.6264

                          FL1      =   1.0000 F9       +  1.0000 E16
                          FL2      =   1.2443*F9       +  1.0000 E17
                          Std Err     0.0848 LFL2F9
                          t Value    14.6658

                          LP1      =   1.0000 F10      +  1.0000 E18
                          LP2      =   1.0117*F10      +  1.0000 E19
                          Std Err     0.0429 LLP2F10
                          t Value    23.5685

                          CA1      =   1.0000 F11      +  1.0000 E20
                          CA2      =   0.9358*F11      +  1.0000 E21
                          Std Err     0.0576 LCA2F11
                          t Value    16.2486

                          CA3      =   1.0536*F11      +  1.0000 E22
                          Std Err     0.0598 LCA3F11
                          t Value    17.6256
```

```
Output page 57
                                    The CALIS Procedure
                  Covariance Structure Analysis: Maximum Likelihood Estimation

                             Latent Variable Equations with Estimates


      F4       =   0.9941*F2       +  1.0000 D4
      Std Err     0.0620 PF2F4
      t Value    16.0278
      F5       =   0.7782*F4       +  1.0000 D5
      Std Err     0.0506 PF4F5
      t Value    15.3673
      F6       =   0.2523*F5       +  0.8548*F2       +  1.0000 D6
      Std Err     0.0737 PF5F6       0.0564 PF2F6
      t Value     3.4235            15.1437
      F9       =   0.7373*F6       +  1.0000 D9
      Std Err     0.0386 PF6F9
      t Value    19.0907
      F10      =   0.6335*F9       +  0.4313*F7       +  1.0000 D10
      Std Err     0.1768 PF9F10      0.1782 PF7F10
      t Value     3.5822             2.4199
F11      =   0.5361*F10      +  0.3112*F2       +  0.2265*F8       +  1.0000 D11
Std Err     0.0699 PF10F11     0.0735 PF2F11      0.0682 PF8F11
t Value     7.6730             4.2317             3.3217
```

Output page 58

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate	Standard Error	t Value
F2	F3	CF2F3	0.45600	0.05199	8.77
F2	F7	CF2F7	0.54437	0.06273	8.68
F3	F7	CF3F7	0.39514	0.05397	7.32
F2	F8	CF2F8	0.05830	0.05106	1.14
F3	F8	CF3F8	-0.0008092	0.05841	-0.01
F7	F8	CF7F8	-0.12474	0.05402	-2.31

Output page 59

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Standardized Estimates

A1	=	0.9075 F2	+	0.4200 E2	
A2	=	0.8903*F2	+	0.4554 E3	
		LA2F2			
SP2	=	0.9954*F3	+	0.0962 E5	
		LSP2F3			
EU1	=	0.8740 F4	+	0.4859 E6	
EU2	=	0.9250*F4	+	0.3800 E7	
		LEU2F4			
I1	=	0.8604 F5	+	0.5097 E8	
I2	=	0.9718*F5	+	0.2359 E9	
		LI2F5			
T2	=	0.5361*F6	+	0.8442 E12	
		LT2F6			
C	=	0.9822 F7	+	0.1876 E13	
SK1	=	0.7191 F8	+	0.6949 E14	
SK2	=	0.6536*F8	+	0.7568 E15	
		LSK2F8			
FL1	=	0.7421 F9	+	0.6703 E16	
FL2	=	0.8764*F9	+	0.4817 E17	
		LFL2F9			
LP1	=	0.9403 F10	+	0.3404 E18	
LP2	=	0.9104*F10	+	0.4137 E19	
		LLP2F10			
CA1	=	0.8758 F11	+	0.4827 E20	
CA2	=	0.8130*F11	+	0.5822 E21	
		LCA2F11			
CA3	=	0.8548*F11	+	0.5189 E22	
		LCA3F11			

Output page 60

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Latent Variable Equations with Standardized Estimates

```
        F4 =   0.8678*F2      +  0.4969 D4
               PF2F4
        F5 =   0.8964*F4      +  0.4433 D5
               PF4F5
        F6 =   0.2196*F5      +  0.7481*F2      +  0.3696 D6
               PF5F6             PF2F6
        F9 =   1.0588*F6      +  1.0000 D9
               PF6F9
        F10 =   0.4651*F9      +  0.4194*F7      +  0.5838 D10
                PF9F10            PF7F10
F11 =   0.5819*F10     +  0.3117*F2      +  0.1943*F8      +  0.5024 D11
        PF10F11           PF2F11            PF8F11
```

Output page 61

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Correlations Among Exogenous Variables

	Var1	Var2	Parameter	Estimate
	F2	F3	CF2F3	0.51845
	F2	F7	CF2F7	0.70333
	F3	F7	CF3F7	0.42636
	F2	F8	CF2F8	0.09269
	F3	F8	CF3F8	-0.00107
	F7	F8	CF7F8	-0.18819

Output page 62

Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	A1	0.15731	0.89183	0.8236
2	A2	0.18800	0.90666	0.7926
3	SP2	0.00975	1.05375	0.9907
4	EU1	0.29792	1.26169	0.7639
5	EU2	0.15203	1.05266	0.8556
6	I1	0.25489	0.98124	0.7402
7	I2	0.05362	0.96344	0.9443
8	T2	0.86071	1.20785	0.2874
9	C	0.02974	0.84531	0.9648
10	SK1	0.50292	1.04161	0.5172
11	SK2	0.69609	1.21522	0.4272
12	FL1	0.37937	0.84439	0.5507
13	FL2	0.21747	0.93741	0.7680
14	LP1	0.11305	0.97561	0.8841
15	LP2	0.18232	1.06526	0.8288
16	CA1	0.22234	0.95437	0.7670
17	CA2	0.32871	0.96972	0.6610

18	CA3	0.29951	1.11214	0.7307
19	F4	0.23792	0.96377	0.7531
20	F5	0.14275	0.72635	0.8035
21	F6	0.13099	0.95897	0.8634
22	F9	-0.05632	0.46501	1.1211
23	F10	0.29394	0.86256	0.6592
24	F11	0.18479	0.73204	0.7476

Output page 63

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Normalized Residuals

Each * Represents 2 Residuals

Range		Freq	Percent	
-1.50000	-1.25000	2	1.17	*
-1.25000	-1.00000	5	2.92	**
-1.00000	-0.75000	4	2.34	**
-0.75000	-0.50000	17	9.94	********
-0.50000	-0.25000	18	10.53	*********
-0.25000	0	31	18.13	***************
0	0.25000	37	21.64	******************
0.25000	0.50000	14	8.19	*******
0.50000	0.75000	17	9.94	********
0.75000	1.00000	6	3.51	***
1.00000	1.25000	7	4.09	***
1.25000	1.50000	9	5.26	****
1.50000	1.75000	3	1.75	*
1.75000	2.00000	1	0.58	

Average Normalized Residual	0.481934
Average Off-diagonal Normalized Residual	0.537243

Rank Order of the 10 Largest Normalized Residuals

Row	Column	Residual
FL1	T2	1.82295
CA2	I1	1.68523
CA2	FL1	1.62769
CA3	SK1	1.59071
CA2	FL2	1.45601
CA3	SP2	-1.43334
CA2	A1	1.42299
CA1	T2	1.38419
CA2	I2	1.34091
I1	SP2	1.33414

Selected Output of CFA for Revised Measurement Model B

Output page 64

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	1.0092
Goodness of Fit Index (GFI)	0.9025
GFI Adjusted for Degrees of Freedom (AGFI)	0.8316
Root Mean Square Residual (RMR)	0.0418
Parsimonious GFI (Mulaik, 1989)	0.5840
Chi-Square	259.3671
Chi-Square DF	99
Pr > Chi-Square	<.0001
Independence Model Chi-Square	3828.9
Independence Model Chi-Square DF	153
RMSEA Estimate	0.0794
RMSEA 90% Lower Confidence Limit	0.0677
RMSEA 90% Upper Confidence Limit	0.0913
ECVI Estimate	1.6143
ECVI 90% Lower Confidence Limit	1.4393
ECVI 90% Upper Confidence Limit	1.8215
Probability of Close Fit	0.0000
Bentler's Comparative Fit Index	0.9564
Normal Theory Reweighted LS Chi-Square	249.7978
Akaike's Information Criterion	61.3671
Bozdogan's (1987) CAIC	-389.3759
Schwarz's Bayesian Criterion	-290.3759
McDonald's (1989) Centrality	0.7329
Bentler & Bonett's (1980) Non-normed Index	0.9326
Bentler & Bonett's (1980) NFI	0.9323
James, Mulaik, & Brett (1982) Parsimonious NFI	0.6032
Z-Test of Wilson & Hilferty (1931)	8.0377
Bollen (1986) Normed Index Rho1	0.8953
Bollen (1988) Non-normed Index Delta2	0.9570
Hoelter's (1983) Critical N	124

Output page 65

A1	=	0.8627*F2	+ 1.0000 E2
Std Err		0.1363 LA1F2	
t Value		6.3302	
A2	=	0.8554*F2	+ 1.0000 E3
Std Err		0.1323 LA2F2	
t Value		6.4668	
SP2	=	1.0335*F3	+ 1.0000 E5
Std Err		0.0969 LSP2F3	
t Value		10.6659	
EU1	=	0.9879*F4	+ 1.0000 E6
Std Err		0.1281 LEU1F4	
t Value		7.7094	
EU2	=	0.9472*F4	+ 1.0000 E7
Std Err		0.1400 LEU2F4	
t Value		6.7664	

```
I1       =   0.8511*F5       +  1.0000 E8
Std Err      0.1295 LI1F5
t Value      6.5706

I2       =   0.9556*F5       +  1.0000 E9
Std Err      0.1570 LI2F5
t Value      6.0877

T2       =   0.5871*F9       +  1.0000 E12
Std Err      0.0957 LT2F9
t Value      6.1347

C        =   0.9361*F7       +  1.0000 E13
Std Err      0.2340 LCF7
t Value      4.0003

SK1      =   0.7363*F8       +  1.0000 E14
Std Err      0.1298 LSK1F8
t Value      5.6704

SK2      =   0.7072*F8       +  1.0000 E15
Std Err      0.1157 LSK2F8
t Value      6.1125

FL1      =   0.6727*F9       +  1.0000 E16
Std Err      0.1078 LFL1F9
t Value      6.2376

FL2      =   0.8533*F9       +  1.0000 E17
Std Err      0.1354 LFL2F9
t Value      6.3029

LP1      =   0.9349*F10      +  1.0000 E18
Std Err      0.1458 LLP1F10
t Value      6.4138

LP2      =   0.9394*F10      +  1.0000 E19
Std Err      0.1381 LLP2F10
t Value      6.8047

CA1      =   0.8556*F11      +  1.0000 E20
Std Err      0.1226 LCA1F11
t Value      6.9781

CA2      =   0.7941*F11      +  1.0000 E21
Std Err      0.1122 LCA2F11
t Value      7.0806



CA3      =   0.9029*F11      +  1.0000 E22
Std Err      0.1193 LCA3F11
t Value      7.5689
```

Output page 66

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate	Standard Error	t Value
F2	F3	CF2F3	0.49072	0.16196	3.03
F2	F4	CF2F4	0.85016	0.13840	6.14
F3	F4	CF3F4	0.50262	0.16405	3.06
F2	F5	CF2F5	0.76667	0.15887	4.83
F3	F5	CF3F5	0.48844	0.15342	3.18
F4	F5	CF4F5	0.89056	0.11995	7.42
F2	F9	CF2F9	0.96076	0.11612	8.27
F3	F9	CF3F9	0.51351	0.17048	3.01
F4	F9	CF4F9	0.90364	0.13793	6.55
F5	F9	CF5F9	0.84466	0.14868	5.68
F2	F7	CF2F7	0.66257	0	Infty
F3	F7	CF3F7	0.40735	0.12939	3.15
F4	F7	CF4F7	0.60817	0.14579	4.17
F5	F7	CF5F7	0.56544	0.15075	3.75
F9	F7	CF7F9	0.66253	0.13094	5.06
F2	F8	CF2F8	0.10402	0.19189	0.54
F3	F8	CF3F8	0.00982	0.11358	0.09
F4	F8	CF4F8	0.03902	0.19777	0.20
F5	F8	CF5F8	0.08604	0.18132	0.47
F9	F8	CF8F9	0.09965	0.20355	0.49
F7	F8	CF7F8	-0.19344	0.15572	-1.24
F2	F10	CF2F10	0.71752	0.16262	4.41
F3	F10	CF3F10	0.39751	0.15137	2.63
F4	F10	CF4F10	0.68197	0.18190	3.75
F5	F10	CF5F10	0.63024	0.18171	3.47
F9	F10	CF9F10	0.77468	0.16098	4.81
F7	F10	CF7F10	0.70646	0.14834	4.76
F8	F10	CF8F10	-0.06795	0.16499	-0.41
F2	F11	CF2F11	0.74132	0.15471	4.79
F3	F11	CF3F11	0.35467	0.15500	2.29
F4	F11	CF4F11	0.64659	0.19434	3.33
F5	F11	CF5F11	0.64757	0.17612	3.68
F9	F11	CF9F11	0.80622	0.15167	5.32
F7	F11	CF7F11	0.63931	0.13891	4.60
F8	F11	CF8F11	0.20272	0.16217	1.25
F10	F11	CF10F11	0.79634	0.11901	6.69

Output page 67

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation
Manifest Variable Equations with Standardized Estimates

A1	=	0.9135*F2	+	0.4068 E2
		LA1F2		
A2	=	0.8983*F2	+	0.4393 E3
		LA2F2		
SP2	=	1.0068*F3	+	1.0000 E5
		LSP2F3		
EU1	=	0.8795*F4	+	0.4759 E6
		LEU1F4		
EU2	=	0.9232*F4	+	0.3842 E7
		LEU2F4		

```
I1      =   0.8592*F5      +  0.5117 E8
                  LI1F5
I2      =   0.9736*F5      +  0.2284 E9
                  LI2F5
T2      =   0.5340*F9      +  0.8455 E12
                  LT2F9
C       =   1.0182*F7      +  1.0000 E13
                  LCF7
SK1     =   0.7214*F8      +  0.6925 E14
                  LSK1F8
SK2     =   0.6416*F8      +  0.7671 E15
                  LSK2F8
FL1     =   0.7316*F9      +  0.6817 E16
                  LFL1F9
FL2     =   0.8806*F9      +  0.4738 E17
                  LFL2F9
LP1     =   0.9450*F10     +  0.3270 E18
                  LLP1F10
LP2     =   0.9088*F10     +  0.4171 E19
                  LLP2F10
CA1     =   0.8773*F11     +  0.4799 E20
                  LCA1F11
CA2     =   0.8076*F11     +  0.5897 E21
                  LCA2F11
CA3     =   0.8575*F11     +  0.5144 E22
                  LCA3F11
```

Output page 68

Correlations Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F2	F3	CF2F3	0.49072
F2	F4	CF2F4	0.85016
F3	F4	CF3F4	0.50262
F2	F5	CF2F5	0.76667
F3	F5	CF3F5	0.48844
F4	F5	CF4F5	0.89056
F2	F9	CF2F9	0.96076
F3	F9	CF3F9	0.51351
F4	F9	CF4F9	0.90364
F5	F9	CF5F9	0.84466
F2	F7	CF2F7	0.66257
F3	F7	CF3F7	0.40735
F4	F7	CF4F7	0.60817
F5	F7	CF5F7	0.56544
F9	F7	CF7F9	0.66253
F2	F8	CF2F8	0.10402
F3	F8	CF3F8	0.00982
F4	F8	CF4F8	0.03902
F5	F8	CF5F8	0.08604
F9	F8	CF8F9	0.09965
F7	F8	CF7F8	-0.19344
F2	F10	CF2F10	0.71752
F3	F10	CF3F10	0.39751

Output page 69

Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	A1	0.14756	0.89181	0.8345
2	A2	0.17496	0.90663	0.8070
3	SP2	-0.01439	1.05370	1.0137
4	EU1	0.28574	1.26168	0.7735
5	EU2	0.15540	1.05264	0.8524
6	I1	0.25689	0.98120	0.7382
7	I2	0.05028	0.96342	0.9478
8	T2	0.86388	1.20852	0.2852
9	C	-0.03097	0.84530	1.0366
10	SK1	0.49950	1.04161	0.5205
11	SK2	0.71502	1.21522	0.4116
12	FL1	0.39282	0.84529	0.5353
13	FL2	0.21074	0.93881	0.7755
14	LP1	0.10468	0.97868	0.8930
15	LP2	0.18590	1.06839	0.8260
16	CA1	0.21903	0.95115	0.7697
17	CA2	0.33625	0.96690	0.6522
18	CA3	0.29335	1.10855	0.7354

Output page 70

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Normalized Residuals

Each * Represents 2 Residuals

Range		Freq	Percent	
-1.25000	-1.00000	2	1.17	*
-1.00000	-0.75000	9	5.26	****
-0.75000	-0.50000	11	6.43	*****
-0.50000	-0.25000	29	16.96	**********
-0.25000	0	28	16.37	**********
0	0.25000	40	23.39	**********
0.25000	0.50000	17	9.94	********
0.50000	0.75000	14	8.19	*******
0.75000	1.00000	10	5.85	*****
1.00000	1.25000	3	1.75	*
1.25000	1.50000	2	1.17	*
1.50000	1.75000	5	2.92	**
1.75000	2.00000	0	0.00	
2.00000	2.25000	0	0.00	
2.25000	2.50000	1	0.58	

Average Normalized Residual	0.429810
Average Off-diagonal Normalized Residual	0.480359

Rank Order of the 10 Largest Normalized Residuals

Row	Column	Residual
FL1	T2	2.29193
CA2	EU2	1.73350
CA2	A1	1.69058
CA2	SP2	1.66243
CA3	SK1	1.57335
CA2	EU1	1.57061
CA2	I1	1.45537
CA2	FL1	1.35212
SK2	T2	1.24436
CA1	SK2	-1.15696

Selected Output of CFA for Revised Measurement Model C

Output page 71

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	0.9276
Goodness of Fit Index (GFI)	0.9075
GFI Adjusted for Degrees of Freedom (AGFI)	0.8386
Root Mean Square Residual (RMR)	0.0405
Parsimonious GFI (Mulaik, 1989)	0.5813
Chi-Square	238.3964
Chi-Square DF	98
Pr > Chi-Square	<.0001
Independence Model Chi-Square	3828.9
Independence Model Chi-Square DF	153
RMSEA Estimate	0.0747
RMSEA 90% Lower Confidence Limit	0.0627
RMSEA 90% Upper Confidence Limit	0.0868
ECVI Estimate	1.5411
ECVI 90% Lower Confidence Limit	1.3759
ECVI 90% Upper Confidence Limit	1.7387
Probability of Close Fit	0.0005
Bentler's Comparative Fit Index	0.9618
Normal Theory Reweighted LS Chi-Square	235.7984
Akaike's Information Criterion	42.3964
Bozdogan's (1987) CAIC	-403.7937
Schwarz's Bayesian Criterion	-305.7937
McDonald's (1989) Centrality	0.7618
Bentler & Bonett's (1980) Non-normed Index	0.9404
Bentler & Bonett's (1980) NFI	0.9377
James, Mulaik, & Brett (1982) Parsimonious NFI	0.6006
Z-Test of Wilson & Hilferty (1931)	7.2906
Bollen (1986) Normed Index Rho1	0.9028
Bollen (1988) Non-normed Index Delta2	0.9624
Hoelter's (1983) Critical N	133

Output page 72

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Estimates

A1	=	0.8618*F2	+	1.0000 E2
Std Err		0.1363 LA1F2		
t Value		6.3225		
A2	=	0.8563*F2	+	1.0000 E3
Std Err		0.1327 LA2F2		
t Value		6.4509		
SP2	=	1.0340*F3	+	1.0000 E5
Std Err		0.0969 LSP2F3		
t Value		10.6688		
EU1	=	0.9876*F4	+	1.0000 E6
Std Err		0.1280 LEU1F4		
t Value		7.7142		

```
EU2      =   0.9475*F4       +  1.0000 E7
Std Err      0.1399 LEU2F4
t Value      6.7715

I1       =   0.8518*F5       +  1.0000 E8
Std Err      0.1295 LI1F5
t Value      6.5778

I2       =   0.9548*F5       +  1.0000 E9
Std Err      0.1567 LI2F5
t Value      6.0933

T2       =   0.5662*F9       +  1.0000 E12
Std Err      0.1006 LT2F9
t Value      5.6310

C        =   0.9369*F7       +  1.0000 E13
Std Err      0.2347 LCF7
t Value      3.9921

SK1      =   0.7377*F8       +  1.0000 E14
Std Err      0.1302 LSK1F8
t Value      5.6659

SK2      =   0.7059*F8       +  1.0000 E15
Std Err      0.1156 LSK2F8
t Value      6.1074

FL1      =   0.6604*F9       +  1.0000 E16
Std Err      0.1139 LFL1F9
t Value      5.8007

FL2      =   0.8466*F9       +  1.0000 E17
Std Err      0.1388 LFL2F9
t Value      6.0995

LP1      =   0.9352*F10      +  1.0000 E18
Std Err      0.1459 LLP1F10
t Value      6.4118

LP2      =   0.9390*F10      +  1.0000 E19
Std Err      0.1380 LLP2F10
t Value      6.8043

CA1      =   0.8555*F11      +  1.0000 E20
Std Err      0.1226 LCA1F11
t Value      6.9805

CA2      =   0.7943*F11      +  1.0000 E21
Std Err      0.1122 LCA2F11
t Value      7.0820

CA3      =   0.9029*F11      +  1.0000 E22
Std Err      0.1193 LCA3F11
t Value      7.5708
```

Output page 73

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate	Standard Error	t Value
F2	F3	CF2F3	0.49030	0.16341	3.00
F2	F4	CF2F4	0.85040	0.13914	6.11
F3	F4	CF3F4	0.50239	0.16358	3.07
F2	F5	CF2F5	0.76743	0.16025	4.79
F3	F5	CF3F5	0.48857	0.15366	3.18
F4	F5	CF4F5	0.89100	0.11955	7.45
F2	F9	CF2F9	0.97622	0.12487	7.82
F3	F9	CF3F9	0.52082	0.17069	3.05
F4	F9	CF4F9	0.91173	0.14329	6.36
F5	F9	CF5F9	0.85631	0.15174	5.64
F2	F7	CF2F7	0.66176	0	Infty
F3	F7	CF3F7	0.40682	0.12941	3.14
F4	F7	CF4F7	0.60757	0.14528	4.18
F5	F7	CF5F7	0.56549	0.15089	3.75
F9	F7	CF7F9	0.67078	0.13240	5.07
F2	F8	CF2F8	0.10421	0.19365	0.54
F3	F8	CF3F8	0.01000	0.11359	0.09
F4	F8	CF4F8	0.03864	0.19715	0.20
F5	F8	CF5F8	0.08591	0.18168	0.47
F9	F8	CF8F9	0.09283	0.20427	0.45
F7	F8	CF7F8	-0.19296	0.15573	-1.24
F2	F10	CF2F10	0.71710	0.16414	4.37
F3	F10	CF3F10	0.39727	0.15134	2.63
F4	F10	CF4F10	0.68184	0.18134	3.76
F5	F10	CF5F10	0.63093	0.18177	3.47
F9	F10	CF9F10	0.78148	0.16349	4.78
F7	F10	CF7F10	0.70572	0.14841	4.76
F8	F10	CF8F10	-0.06756	0.16490	-0.41
F2	F11	CF2F11	0.74123	0.15578	4.76
F3	F11	CF3F11	0.35456	0.15467	2.29
F4	F11	CF4F11	0.64661	0.19320	3.35
F5	F11	CF5F11	0.64815	0.17590	3.68
F9	F11	CF9F11	0.81058	0.15496	5.23
F7	F11	CF7F11	0.63880	0.13866	4.61
F8	F11	CF8F11	0.20300	0.16194	1.25
F10	F11	CF10F11	0.79633	0.11884	6.70
E12	E16	CE12E16	0.17608	0.10987	1.60

Output page 74

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Standardized Estimates

A1 = 0.9125*F2 + 0.4090 E2
LA1F2
A2 = 0.8993*F2 + 0.4373 E3
LA2F2
SP2 = 1.0073*F3 + 1.0000 E5
LSP2F3

```
EU1     =   0.8793*F4      +  0.4763 E6
                  LEU1F4
EU2     =   0.9235*F4      +  0.3837 E7
                  LEU2F4
I1      =   0.8599*F5      +  0.5105 E8
                  LI1F5
I2      =   0.9727*F5      +  0.2319 E9
                  LI2F5
T2      =   0.5151*F9      +  0.8571 E12
                  LT2F9
C       =   1.0190*F7      +  1.0000 E13
                  LCF7
SK1     =   0.7228*F8      +  0.6911 E14
                  LSK1F8
SK2     =   0.6404*F8      +  0.7681 E15
                  LSK2F8
FL1     =   0.7183*F9      +  0.6957 E16
                  LFL1F9
FL2     =   0.8737*F9      +  0.4864 E17
                  LFL2F9
LP1     =   0.9454*F10     +  0.3260 E18
                  LLP1F10
LP2     =   0.9085*F10     +  0.4179 E19
                  LLP2F10
CA1     =   0.8772*F11     +  0.4802 E20
                  LCA1F11
CA2     =   0.8078*F11     +  0.5895 E21
                  LCA2F11
CA3     =   0.8576*F11     +  0.5144 E22
                  LCA3F11
```

Output page 75

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Correlations Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F4	F10	CF4F10	0.68184
F5	F10	CF5F10	0.63093
F9	F10	CF9F10	0.78148
F7	F10	CF7F10	0.70572
F8	F10	CF8F10	-0.06756
F2	F11	CF2F11	0.74123
F3	F11	CF3F11	0.35456
F4	F11	CF4F11	0.64661
F5	F11	CF5F11	0.64815
F9	F11	CF9F11	0.81058
F7	F11	CF7F11	0.63880
F8	F11	CF8F11	0.20300
F10	F11	CF10F11	0.79633
E12	E16	CE12E16	0.29214

Output page 76

Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	A1	0.14917	0.89182	0.8327
2	A2	0.17338	0.90664	0.8088
3	SP2	-0.01541	1.05370	1.0146
4	EU1	0.28624	1.26167	0.7731
5	EU2	0.15495	1.05264	0.8528
6	I1	0.25568	0.98122	0.7394
7	I2	0.05181	0.96342	0.9462
8	T2	0.88786	1.20848	0.2653
9	C	-0.03245	0.84529	1.0384
10	SK1	0.49743	1.04160	0.5224
11	SK2	0.71691	1.21522	0.4101
12	FL1	0.40914	0.84530	0.5160
13	FL2	0.22214	0.93881	0.7634
14	LP1	0.10399	0.97868	0.8937
15	LP2	0.18661	1.06840	0.8253
16	CA1	0.21930	0.95116	0.7694
17	CA2	0.33601	0.96691	0.6525
18	CA3	0.29332	1.10857	0.7354

Outpuat page 77

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Normalized Residuals

Each * Represents 2 Residuals

----------Range----------		Freq	Percent	
-1.25000	-1.00000	2	1.17	*
-1.00000	-0.75000	7	4.09	***
-0.75000	-0.50000	12	7.02	******
-0.50000	-0.25000	26	15.20	*************
-0.25000	0	31	18.13	***************
0	0.25000	40	23.39	********************
0.25000	0.50000	20	11.70	**********
0.50000	0.75000	11	6.43	*****
0.75000	1.00000	7	4.09	***
1.00000	1.25000	7	4.09	***
1.25000	1.50000	3	1.75	*
1.50000	1.75000	5	2.92	**

Average Normalized Residual	0.415917
Average Off-diagonal Normalized Residual	0.464838

Rank Order of the 10 Largest Normalized Residuals

Row	Column	Residual
CA2	EU2	1.72990
CA2	A1	1.69861
CA2	SP2	1.66074
CA2	EU1	1.57075
CA3	SK1	1.56665
CA2	FL1	1.44290
CA2	I1	1.44216
SK2	T2	1.30095
FL1	SP2	1.17377
CA1	SK2	-1.15573

Selected Output for Revised Structural Model D

Output page 78

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	1.0521
Goodness of Fit Index (GFI)	0.8954
GFI Adjusted for Degrees of Freedom (AGFI)	0.8497
Root Mean Square Residual (RMR)	0.0463
Parsimonious GFI (Mulaik, 1989)	0.6964
Chi-Square	270.3993
Chi-Square DF	119
Pr > Chi-Square	<.0001
Independence Model Chi-Square	3828.9
Independence Model Chi-Square DF	153
RMSEA Estimate	0.0704
RMSEA 90% Lower Confidence Limit	0.0593
RMSEA 90% Upper Confidence Limit	0.0815
ECVI Estimate	1.4891
ECVI 90% Lower Confidence Limit	1.3142
ECVI 90% Upper Confidence Limit	1.6966
Probability of Close Fit	0.0017
Bentler's Comparative Fit Index	0.9588
Normal Theory Reweighted LS Chi-Square	270.1346
Akaike's Information Criterion	32.3993
Bozdogan's (1987) CAIC	-509.4029
Schwarz's Bayesian Criterion	-390.4029
McDonald's (1989) Centrality	0.7457
Bentler & Bonett's (1980) Non-normed Index	0.9470
Bentler & Bonett's (1980) NFI	0.9294
James, Mulaik, & Brett (1982) Parsimonious NFI	0.7229
Z-Test of Wilson & Hilferty (1931)	7.3251
Bollen (1986) Normed Index Rho1	0.9092
Bollen (1988) Non-normed Index Delta2	0.9592
Hoelter's (1983) Critical N	140

Output page 79

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Estimates

A1	=	1.0000 F2	+	1.0000 E2
A2	=	0.9923*F2	+	1.0000 E3
Std Err		0.0456 LA2F2		
t Value		21.7553		
SP2	=	0.5847*F3	+	1.0000 E5
Std Err		0.0637 LSP2F3		
t Value		9.1754		
EU1	=	1.0000 F4	+	1.0000 E6
EU2	=	0.9661*F4	+	1.0000 E7
Std Err		0.0451 LEU2F4		
t Value		21.4325		

```
I1      =   1.0000 F5       +  1.0000 E8
I2      =   1.1200*F5       +  1.0000 E9
Std Err     0.0514 LI2F5
t Value    21.7752

T2      =   0.8736*F9       +  1.0000 E12
Std Err     0.0818 LT2F9
t Value    10.6762

C       =   1.0000 F7       +  1.0000 E13
SK1     =   1.0000 F8       +  1.0000 E14
SK2     =   0.9595*F8       +  1.0000 E15
Std Err     0.2106 LSK2F8
t Value     4.5555

FL1     =   1.0430*F9       +  1.0000 E16
Std Err     0.0578 LFL1F9
t Value    18.0466

FL2     =   1.3502*F9       +  1.0000 E17
Std Err     0.0609 LFL2F9
t Value    22.1622

LP1     =   1.0000 F10      +  1.0000 E18
LP2     =   1.0099*F10      +  1.0000 E19
Std Err     0.0429 LLP2F10
t Value    23.5599

CA1     =   1.0000 F11      +  1.0000 E20
CA2     =   0.9358*F11      +  1.0000 E21
Std Err     0.0576 LCA2F11
t Value    16.2432

CA3     =   1.0537*F11      +  1.0000 E22
Std Err     0.0598 LCA3F11
t Value    17.6188
```

```
Output page 80


                                The CALIS Procedure
                Covariance Structure Analysis: Maximum Likelihood Estimation

                          Latent Variable Equations with Estimates


     F2      =   0.8278*F3       +  1.0000 D3
     Std Err     0.0542 PF3F2
     t Value    15.2816

     F4      =   0.9970*F2       +  1.0000 D4
     Std Err     0.0621 PF2F4
     t Value    16.0438


     F5      =   0.7772*F4       +  1.0000 D5
     Std Err     0.0507 PF4F5
     t Value    15.3452
```

```
      F9      =   0.6044*F2       +  0.1557*F5       +  1.0000 D9
      Std Err     0.0525 PF2F9       0.0474 PF5F9
      t Value    11.5207             3.2847

      F10     =   0.6852*F9       +  0.4217*F7       +  1.0000 D10
      Std Err     0.1783 PF9F10      0.1893 PF7F10
      t Value     3.8421             2.2279

F11     =   0.3151*F2       +  0.5327*F10      +  0.2237*F8       +  1.0000 D11
Std Err     0.0730 PF2F11      0.0692 PF10F11     0.0675 PF8F11
t Value     4.3177             7.6958             3.3128
```

Output page 81

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate	Standard Error	t Value
F3	F7	CF3F7	0.65776	0.05434	12.11
F3	F8	CF3F8	0.06415	0.06136	1.05
F7	F8	CF7F8	-0.12475	0.05442	-2.29
E12	E16	CE12E16	0.17706	0.04155	4.26

Output page 82

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Standardized Estimates

```
      A1      =   0.9062 F2       +  0.4229 E2
      A2      =   0.8918*F2       +  0.4524 E3
                          LA2F2
      SP2     =   0.5501*F3       +  0.8351 E5
                          LSP2F3
      EU1     =   0.8743 F4       +  0.4853 E6
      EU2     =   0.9248*F4       +  0.3804 E7
                          LEU2F4
      I1      =   0.8601 F5       +  0.5102 E8
      I2      =   0.9721*F5       +  0.2345 E9
                          LI2F5
      T2      =   0.5081*F9       +  0.8613 E12
                          LT2F9
      C       =   0.9904 F7       +  0.1379 E13
      SK1     =   0.7279 F8       +  0.6857 E14
      SK2     =   0.6466*F8       +  0.7628 E15
                          LSK2F8
      FL1     =   0.7255*F9       +  0.6882 E16
                          LFL1F9
      FL2     =   0.8914*F9       +  0.4532 E17
                          LFL2F9
      LP1     =   0.9413 F10      +  0.3375 E18
      LP2     =   0.9098*F10      +  0.4151 E19
                          LLP2F10
      CA1     =   0.8757 F11      +  0.4828 E20
      CA2     =   0.8130*F11      +  0.5823 E21
                          LCA2F11
      CA3     =   0.8548*F11      +  0.5190 E22
```

LCA3F11

Output page 83

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Latent Variable Equations with Standardized Estimates

```
        F2      =   0.9342*F3      +  0.3567 D3
                       PF3F2
        F4      =   0.8687*F2      +  0.4953 D4
                       PF2F4
        F5      =   0.8960*F4      +  0.4441 D5
                       PF4F5
        F9      =   0.8092*F2      +  0.2075*F5      +  0.2021 D9
                       PF2F9             PF5F9
        F10     =   0.4708*F9      +  0.4128*F7      +  0.5868 D10
                       PF9F10            PF7F10
F11     =   0.3153*F2      +  0.5793*F10     +  0.1942*F8      +  0.5033 D11
                  PF2F11            PF10F11           PF8F11
```

Output page 84

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Correlations Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F3	F7	CF3F7	0.74793
F3	F8	CF3F8	0.08941
F7	F8	CF7F8	-0.18441
E12	E16	CE12E16	0.29574

Output page 85

Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	A1	0.15952	0.89183	0.8211
2	A2	0.18553	0.90664	0.7954
3	SP2	0.73483	1.05373	0.3026
4	EU1	0.29716	1.26167	0.7645
5	EU2	0.15233	1.05265	0.8553
6	I1	0.25541	0.98122	0.7397
7	I2	0.05297	0.96342	0.9450
8	T2	0.89607	1.20795	0.2582
9	C	0.01608	0.84528	0.9810
10	SK1	0.48974	1.04162	0.5298
11	SK2	0.70708	1.21521	0.4181
12	FL1	0.40004	0.84455	0.5263
13	FL2	0.19257	0.93755	0.7946
14	LP1	0.11123	0.97658	0.8861
15	LP2	0.18370	1.06627	0.8277
16	CA1	0.22241	0.95400	0.7669
17	CA2	0.32867	0.96940	0.6610
18	CA3	0.29948	1.11173	0.7306

19	F2	0.09320	0.73231	0.8727
20	F4	0.23665	0.96451	0.7546
21	F5	0.14316	0.72582	0.8028
22	F9	0.01670	0.40862	0.9591
23	F10	0.29796	0.86535	0.6557
24	F11	0.18528	0.73159	0.7467

Output page 86

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Normalized Residuals

Each * Represents 2 Residuals

Range		Freq	Percent	
-1.75000	-1.50000	1	0.58	
-1.50000	-1.25000	1	0.58	
-1.25000	-1.00000	4	2.34	**
-1.00000	-0.75000	5	2.92	**
-0.75000	-0.50000	16	9.36	********
-0.50000	-0.25000	16	9.36	********
-0.25000	0	29	16.96	**********
0	0.25000	40	23.39	**********
0.25000	0.50000	18	10.53	*********
0.50000	0.75000	11	6.43	*****
0.75000	1.00000	8	4.68	****
1.00000	1.25000	7	4.09	***
1.25000	1.50000	10	5.85	*****
1.50000	1.75000	4	2.34	**
1.75000	2.00000	1	0.58	

Average Normalized Residual	0.483791
Average Off-diagonal Normalized Residual	0.539579

Rank Order of the 10 Largest Normalized Residuals

Row	Column	Residual
CA2	FL1	1.80051
CA2	I1	1.72430
CA1	T2	1.60618
CA4	SK1	1.59796
CA2	T2	1.52955
CA4	SP2	-1.50693
CA2	A1	1.45181
FL1	SP2	1.40762
CA2	I2	1.37858
SK2	T2	1.36524