

```

1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
2      ;
3      /***** CarCalisReg.sas *****/
4      title 'Try to fit a non-identified model';
5      title2 'Jerry Brunner: Student Number 999999999';
6
7      data Bizarre;
8          infile '/folders/myfolders/431s15/Circle.data.txt' firstobs=2 ; /* Skipping the header */
9          input id Y1-Y4;
10
11

```

NOTE: The infile '/folders/myfolders/431s15/Circle.data.txt' is:
 Filename=/folders/myfolders/431s15/Circle.data.txt,
 Owner Name=root,Group Name=vboxsf,
 Access Permission=-rwxrwx---,
 Last Modified=30Jan2015:16:40:51,
 File Size (bytes)=15311

NOTE: 250 records were read from the infile '/folders/myfolders/431s15/Circle.data.txt'.
 The minimum record length was 59.
 The maximum record length was 59.

NOTE: The data set WORK.BIZARRE has 250 observations and 5 variables.

NOTE: DATA statement used (Total process time):
 real time 0.04 seconds
 cpu time 0.02 seconds

```

52      proc calis pshort nostand vardef=n pcorr;
53          title3 'True beta1 = 0.7071068, beta2 = -0.7071068, psi1 = psi2 = 1';
54          title4 'With psi1 neq psi2, fails parameter count rule';
55          var Y1 Y2; /* Declare observed variables */
56          lineqs
57              /* Latent variables must begin with F for Factor.
58              Error terms must begin with e or d (for disturbance) */
59              Y1 = beta1*F1 + beta2*F2 + epsilon1,
60              Y2 = beta1*F1 + beta2*F2 + epsilon2;
61          variance /* Declare variance parameters. */
62              epsilon1 = psi1, epsilon2 = psi2,
63              F1 = 1, F2 = 1;
64          cov
65              F1 F2 = 0;
66          /* Other unmentioned covariances are assumed zero. */
67          /* If no means or intercepts are given, model is assumed to
68          be in centered form. Unmentioned means and intercepts are
69          re-parameterized and disappear from the likelihood. */
70

```

WARNING: The estimation problem is not identified: There are more parameters to estimate (4) than the total number of mean and covariance elements (3).

NOTE: Convergence criterion (GCONV2=0) satisfied.

NOTE: The Moore-Penrose inverse is used in computing the covariance matrix for parameter estimates.

WARNING: Standard errors and t values might not be accurate with the use of the Moore-Penrose inverse.

WARNING: Critical N is not computable for df= -1.

NOTE: The PROCEDURE CALIS printed pages 1-6.

NOTE: PROCEDURE CALIS used (Total process time):
 real time 0.43 seconds
 cpu time 0.48 seconds

```

71      proc calis pshort nostand vardef=n pcorr;
72          title3 'True beta1 = 0.7071068, beta2 = -0.7071068, psi1 = psi2 = 1';
73          title4 'Passes parameter count rule with psi1=psi2=psi';
74          var Y1 Y2; /* Declare observed variables */
75          lineqs
76              /* Latent variables must begin with F for Factor.
77              Error terms must begin with e or d (for disturbance) */
78              Y1 = beta1*F1 + beta2*F2 + epsilon1,
79              Y2 = beta1*F1 + beta2*F2 + epsilon2;
80          variance /* Declare variance parameters. */
81              epsilon1 = psi, epsilon2 = psi,
82              F1 = 1, F2 = 1;
83          cov
84              F1 F2 = 0;
85

```

NOTE: Convergence criterion (ABSGCONV=0.00001) satisfied.

NOTE: The Moore-Penrose inverse is used in computing the covariance matrix for parameter estimates.

WARNING: Standard errors and t values might not be accurate with the use of the Moore-Penrose inverse.

WARNING: Critical N is not computable for df= 0.
 NOTE: The PROCEDURE CALIS printed pages 7-12.
 NOTE: PROCEDURE CALIS used (Total process time):
 real time 0.38 seconds
 cpu time 0.42 seconds

```

86     proc calis pshort nostand vardef=n pcorr;
87         title3 'True betal = 0.7071068, beta2 = -0.7071068, psi1 = psi2 = 1';
88         title4 'Psi1 neq psi2 again, start at betal = -0.9824205, beta2=0';
89         var Y1 Y2; /* Declare observed variables */
90         lineqs
91             /* Latent variables must begin with F for Factor.
92              Error terms must begin with e or d (for disturbance) */
93             Y1 = betal(-0.9824205)*F1 + beta2(0)*F2 + epsilon1,
94             Y2 = betal(-0.9824205)*F1 + beta2(0)*F2 + epsilon2;
95         variance /* Declare variance parameters. */
96             epsilon1 = psi1(0.75731), epsilon2 = psi2(1.19528),
97             F1 = 1, F2 = 1;
98         cov
99             F1 F2 = 0;
100

```

WARNING: The estimation problem is not identified: There are more parameters to estimate (4) than the total number of mean and covariance elements (3).
 NOTE: Convergence criterion (ABSGCONV=0.00001) satisfied.
 NOTE: The Moore-Penrose inverse is used in computing the covariance matrix for parameter estimates.
 WARNING: Standard errors and t values might not be accurate with the use of the Moore-Penrose inverse.
 WARNING: Critical N is not computable for df= -1.
 NOTE: The PROCEDURE CALIS printed pages 13-18.
 NOTE: PROCEDURE CALIS used (Total process time):
 real time 0.34 seconds
 cpu time 0.39 seconds

```

101     proc calis pshort nostand vardef=n pcorr;
102         title3 'True betal = beta2 = 0, psi1 = psi2 = 1';
103         title4 'Fails parameter count rule';
104         var Y3 Y4; /* Declare observed variables */
105         lineqs
106             /* Latent variables must begin with F for Factor.
107              Error terms must begin with e or d (for disturbance) */
108             Y3 = betal*F1 + beta2*F2 + epsilon1,
109             Y4 = betal*F1 + beta2*F2 + epsilon2;
110         variance /* Declare variance parameters. */
111             epsilon1 = psi1, epsilon2 = psi2,
112             F1 = 1, F2 = 1;
113         cov
114             F1 F2 = 0;
115
116     ;
117     OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

```

WARNING: The estimation problem is not identified: There are more parameters to estimate (4) than the total number of mean and covariance elements (3).
 WARNING: Standard errors and t values might not be accurate with the use of the Moore-Penrose inverse.
 WARNING: Critical N is not computable for df= -1.
 127 ;