```
names city  sex  ahs  un4gy  distcat  agxcat  agecat  dcat  time  subjects
      upyr  pyr  gdist  agex  age  year
      solid  nmskin  skbasal  sksquam  bowens  thyroid
      cola02w10  cola02g  cola02n  skia02w10  thya02w10  trunc02  adjust02
@

tran if cola02w10 < 0 then delete endif @

skip 1 @
input lssinc07ahs.csv @

Input from lssinc07ahs.csv

       44371 records read       42040 records used
                                 2331 records rejected

31 variables defined  At least 500 additional variables can be created.


levels city sex un4gy distcat agxcat agecat dcat time @

city has 2 levels from 1 to 2
sex has 2 levels from 1 to 2
un4gy has 2 levels from 0 to 1
distcat has 3 levels from 1 to 3
agxcat has 15 levels from 1 to 15
agecat has 16 levels from 3 to 18
dcat has 22 levels from 2 to 23
time has 10 levels from 1 to 10

tran msex = 2*sex - 3 ; lage50sp = log(age/50)*(age >= 50) ;
     py10k = pyr/10000 ; iage35 = age < 35 ;  distal = distcat == 2 ;
     nic = distcat == 3 ; inahs = ahs == 2 ;
     hiro = city == 1 ; naga = city == 2 ;
     unkdose = cola02w10 < 0 ;
     hidose = cola02w10 > 2 ; lodose = 1 - hidose ;
     if (unkdose) then cola02w10 = 0  endif
      cola02wsq = 1.12*cola02w10^2 ;
      skia02wsq = 1.12*skia02w10^2 ;
      thya02wsq = 1.12*thya02w10^2 ;
      e30 = (agex - 30)/10 ; e30sq = e30^2 ;
      lage70 = log(age/70) ; lage70sq = lage70^2 ; lage70sp = lage70^2*(age > 70) ;

@

categ thya02w10 as tbdcat_t < 0.005 0.1 0.2 0.5 1 2 > @
tbdcat_t has 7 levels from 1 to 7
tran if nic then tbdcat_t = 0 endif @
leve tbdcat_t @

tbdcat_t has 8 levels from 0 to 7

categ skia02w10 as tbdcat_s < 0.005 0.1 0.2 0.5 1 2 > @
tbdcat_s has 7 levels from 1 to 7
tran if nic then tbdcat_s = 0 endif @
leve tbdcat_s @

tbdcat_s has 8 levels from 0 to 7

excess @
 *** WARNING: Fit model again to compute statistics

! Skin cancer models
nomodel
rrisk @
cases nmskin @
pyr py10k @

tran      ski1Gyth = (skia02w10 - 1) * (skia02w10 > 1) ;
@

!  ERR linear spline with knot at 1 Gy

line 1 skia02w10 ski1Gyth @
logl 1 e30 lage70 @
pline 1 %con=1 msex @

fit sex:2 naga nic*hiro nic*naga
    sex*lage70:4 sex*lage70sq sex*lage70sp
    sex*e30 sex*e30sq inahs  - %con
@

          Iter  Step      Deviance

             0     0     3191.016
             1     0     2466.741
             2     0     2445.695
             3     0     2293.608
             4     0     2270.673
             5     0     2267.698
             6     0     2267.508
             7     0     2267.504
             8     0     2267.504

Piece-wise exponential regression
Product additive excess model { T0 * ( 1 + T1 + T2 + ...) }

   nmskin is used for cases
    py10k is used for person years


                              Parameter Summary Table

 # Name                          Estimate     Std.Err.  Test Stat.  P value
-- ----------------------------  ----------  ---------  ----------  --------
Log-linear term 0
 1 sex_1.....................       0.8992      0.1633       5.508    < 0.001
 2 sex_2.....................       0.5401      0.1258       4.292    < 0.001
 3 naga......................       0.1004      0.1336      0.7516      0.452
 4 inahs.....................       0.2973      0.1359       2.187     0.0287
 5 nic * hiro................      -0.3120      0.1671      -1.868     0.0618
 6 nic * naga................      -0.5908      0.3543      -1.667     0.0954
 7 sex_1 * lage70............       5.356       1.085       4.937    < 0.001
 8 sex_2 * lage70............       8.032      0.9097       8.829    < 0.001
 9 sex_1 * lage70sq..........       2.068       1.166       1.774     0.0761
10 sex_2 * lage70sq..........       4.886      0.8353       5.849    < 0.001
11 sex_1 * lage70sp..........       6.247       7.249      0.8618      0.389
12 sex_2 * lage70sp..........      -9.528       5.406      -1.762      0.078
13 sex_1 * e30...............     -0.02996     0.09937     -0.3015      > 0.5
14 sex_2 * e30...............       0.1697      0.1106       1.534      0.125
15 sex_1 * e30sq.............     -0.07983     0.04179      -1.91     0.0561
16 sex_2 * e30sq.............     -0.09127     0.04003      -2.28     0.0226

Linear term 1
17 skia02w10.................       0.1813      0.1644       1.103       0.27
18 ski1Gyth..................        1.084      0.5138       2.109     0.0349

Log-linear term 1
19 e30.......................      -1.291      0.3283      -3.933    < 0.001
20 lage70....................       0.2771       1.082      0.2561      > 0.5

Linear product term 1
21 %CON......................        1.000     Aliased
22 msex......................       0.3774      0.2346       1.608      0.108

            Records used        42040

                Deviance     2267.504
            Pearson Chi2     41873.57      Degrees of freedom   42019


! Slope for 1+ Gy doses
lincomb  17 + 18 @

                         Estimate     Std.Error         95% Wald Bounds

              MLE :      1.2651      0.54540       0.19617        2.3341
```

```
sum subjects pyr nmskin %bk %ex @

           Summary for subjects

               Sum         Count      Minimum      Maximum
            105427         42040            0          625

           Summary for pyr

               Sum         Count      Minimum      Maximum
       2.76473e+06         42040   0.00054000       2883.3

           Summary for nmskin

               Sum         Count      Minimum      Maximum
               330         42040            0            2

           Summary for %BK

               Sum         Count      Minimum      Maximum
           295.218         42040   9.3570e-09      0.59527

           Summary for %EX

               Sum         Count      Minimum      Maximum
           34.7822         42040            0      0.17871

sum subjects pyr nmskin %bk %ex by sex @

           Summary for subjects

  sex          Sum         Count      Minimum      Maximum
    1        42902         19814            0          619
    2        62525         22226            0          625

           Summary for pyr

  sex          Sum         Count      Minimum      Maximum
    1   1.04027e+06         19814   0.00054000       2704.6
    2   1.72445e+06         22226   0.00059000       2883.3

           Summary for nmskin

  sex          Sum         Count      Minimum      Maximum
    1          123         19814            0            2
    2          207         22226            0            2

           Summary for %BK

  sex          Sum         Count      Minimum      Maximum
    1      108.298         19814   9.3570e-09      0.27008
    2      186.920         22226   1.5756e-08      0.59527

           Summary for %EX

  sex          Sum         Count      Minimum      Maximum
    1      14.7023         19814            0      0.10863
    2      20.0798         22226            0      0.17871

sum subjects pyr nmskin %bk %ex by sex tbdcat_s @
For sex = 1

           Summary for subjects

tbdcat_s          Sum         Count      Minimum      Maximum
    0           10491          1235            0          619
    1           14415          2336            0          437
    2            9843          3369            0          390
    3            2439          2550            0          112
    4            2320          3897            0           37
    5            1668          1669            0           63
    6            1069          1914            0           30
    7             657          2844            0           20

           Summary for pyr

tbdcat_s          Sum         Count      Minimum      Maximum
    0          261594.          1235     0.040190       2704.6
    1          342498.          2336    0.0018700       1822.7
    2          241849.          3369   0.00092000       1919.4
    3          58613.9          2550    0.0044600       429.91
    4          56069.7          3897   0.00054000       178.78
    5          39406.8          1669   0.00066000       309.95
    6          25002.6          1914   0.00055000       111.06
    7          15241.1          2844   0.00066000       81.467

           Summary for nmskin

tbdcat_s          Sum         Count      Minimum      Maximum
    0             20          1235            0            2
    1             37          2336            0            2
    2             27          3369            0            1
    3             11          2550            0            1
    4              6          3897            0            1
    5              4          1669            0            1
    6              6          1914            0            1
    7             12          2844            0            1

           Summary for %BK

tbdcat_s          Sum         Count      Minimum      Maximum
    0         21.6225          1235   2.4486e-06      0.27008
    1         38.5746          2336   1.3645e-06      0.18158
    2         24.1767          3369   1.4815e-08      0.14270
    3         6.38551          2550   1.1328e-07     0.038424
    4         6.87603          3897   9.3570e-09     0.022398
    5         4.81281          1669   9.3776e-08     0.036060
    6         3.83478          1914   1.0400e-08     0.026837
    7         2.01466          2844   1.3407e-07     0.020883

           Summary for %EX

tbdcat_s          Sum         Count      Minimum      Maximum
    0               0          1235            0            0
    1      0.0140208          2336            0   0.00028868
    2       0.269949          3369   2.9933e-10    0.0036874
    3       0.262040          2550   1.0816e-10    0.0044504
    4       0.535314          3897   2.4717e-10    0.0058735
    5       0.932398          1669   2.0981e-09     0.016326
    6        3.44020          1914   9.7670e-09     0.049091
    7        9.24841          2844   6.4754e-08      0.10863

For sex = 2

           Summary for subjects

tbdcat_s          Sum         Count      Minimum      Maximum
    0          14756          1274            0          625
    1          21127          2447            0          418
    2          14541          3767            0          380
    3           3286          2990            0           75
    4           3830          4532            0           41
    5           2741          1869            0           78
    6           1387          2037            0           40
    7            857          3310            0           23

           Summary for pyr

tbdcat_s          Sum         Count      Minimum      Maximum
    0          419150.          1274     0.015560       2883.3
    1          575693.          2447    0.0025900       2121.3
    2          399485.          3767    0.0039900       1995.3
    3          91469.3          2990    0.0019900       321.20
    4          104237.          4532   0.00066000       209.29
    5          74149.0          1869    0.0075100       393.57
    6          38805.3          2037    0.0025100       214.68
    7          21462.9          3310   0.00059000       87.184

           Summary for nmskin
```

```
tbdcat_s            Sum         Count       Minimum       Maximum
    0              35          1274             0             2
    1              71          2447             0             2
    2              42          3767             0             2
    3              14          2990             0             1
    4              10          4532             0             1
    5              10          1869             0             1
    6              11          2037             0             1
    7              14          3310             0             1

           Summary for %BK

tbdcat_s            Sum         Count       Minimum       Maximum
    0         33.3775          1274   1.2672e-06       0.59527
    1         68.0317          2447   3.4155e-07       0.49163
    2         44.1303          3767   8.3634e-08       0.50145
    3         10.8346          2990   2.7800e-07      0.080412
    4         13.9076          4532   1.5756e-08      0.057296
    5         8.98134          1869   5.5152e-08       0.10240
    6         5.36369          2037   1.2298e-07       0.10075
    7         2.29333          3310   8.0030e-08      0.023269

           Summary for %EX

tbdcat_s            Sum         Count       Minimum       Maximum
    0               0          1274             0             0
    1       0.0227026          2447             0   0.00027962
    2        0.376533          3767   7.7852e-10    0.0025352
    3        0.362966          2990   1.1918e-09    0.0023178
    4        0.922526          4532   1.6741e-09    0.0037049
    5         1.66682          1869   1.9145e-08     0.017920
    6         5.10418          2037   2.2304e-08     0.058197
    7         11.6241          3310   8.2450e-07      0.17871
```

```
! EAR model linear spline with knot at 1 Gy (excess cases per 10,000 PYGy)

add @
fit @

          Iter  Step      Deviance

             0     0     2408.680
             1     0     2310.300
             2     0     2281.788
             3     0     2274.042
             4     0     2272.659
             5     0     2272.387
             6     0     2272.289
             7     0     2272.250
             8     0     2272.235
             9     0     2272.230
            10     0     2272.229
            11     0     2272.228
            12     0     2272.228

Piece-wise exponential regression
Additive model { T0 + T1 + T2 + ... }

   nmskin is used for cases
    py10k is used for person years


                                Parameter Summary Table

 # Name                              Estimate     Std.Err.  Test Stat.  P value
-- ------------------------------   ----------   ---------  ----------  --------
Log-linear term 0
 1 sex_1.....................          0.8471       0.1704        4.97    < 0.001
 2 sex_2.....................          0.5702       0.1273       4.479    < 0.001
 3 naga......................         0.07079       0.1458      0.4853      > 0.5
 4 inahs.....................          0.2960       0.1415       2.092     0.0364
 5 nic * hiro................         -0.3257       0.1676      -1.944     0.0519
 6 nic * naga................         -0.5691       0.3568      -1.595      0.111
 7 sex_1 * lage70............           5.224        1.143       4.571    < 0.001
 8 sex_2 * lage70............           8.536        1.047       8.157    < 0.001
 9 sex_1 * lage70sq..........           2.454        1.119       2.194     0.0283
10 sex_2 * lage70sq..........           5.488       0.9786       5.608    < 0.001
11 sex_1 * lage70sp..........           6.806        7.359      0.9248      0.355
12 sex_2 * lage70sp..........          -11.99        5.992      -2.001     0.0453
13 sex_1 * e30...............         -0.02534       0.1032     -0.2456      > 0.5
14 sex_2 * e30...............          0.1850       0.1196       1.547      0.122
15 sex_1 * e30sq.............         -0.06904      0.04315        -1.6       0.11
16 sex_2 * e30sq.............          -0.1068      0.04448      -2.402     0.0163

Linear term 1
17 skia02w10.................          0.3636       0.3376       1.077      0.281
18 ski1Gyth..................           2.819          1.2       2.348     0.0189

Log-linear term 1
19 e30.......................         -0.9044       0.2565      -3.526    < 0.001
20 lage70....................           4.159        1.108       3.753    < 0.001

Linear product term 1
21 %CON......................           1.000      Aliased
22 msex......................         -0.07835       0.2036     -0.3849      > 0.5

            Records used        42040

                Deviance      2272.228
            Pearson Chi2      51133.68      Degrees of freedom    42019

! Slope for 1+ Gy doses
lincomb  17 + 18 @

                         Estimate      Std.Error          95% Wald Bounds

              MLE :      3.1823        1.2560        0.72066         5.6440
```

```
! Thyroid cancer models

nomodel
rrisk @
cases thyroid @
pyr py10k @

! ERR linear dose response

line 1 thya02w10  @
logl 1 e30 lage70 inahs=0 @
pline 1 %con=1 msex @

fit sex:1 naga nic*hiro nic*naga inahs
    sex*lage70:2 sex*lage70sq sex*lage70sp
    sex*e30 sex*e30sq - %con
@

          Iter  Step      Deviance

             0     0     3268.077
             1     0     3089.787
             2     0     3043.849
             3     0     3038.148
             4     0     3037.971
             5     0     3037.968
             6     0     3037.968
             7     0     3037.968

Piece-wise exponential regression
Product additive excess model { T0 * ( 1 + T1 + T2 + ...) }

  thyroid is used for cases
    py10k is used for person years

                            Parameter Summary Table

 # Name                            Estimate     Std.Err.  Test Stat.  P value
-- ------------------------------  ----------  ---------  ----------  --------
Log-linear term 0
 1 sex_1.....................         0.3380      0.2188       1.545     0.122
 2 sex_2.....................         0.9200      0.1067       8.621   < 0.001
 3 naga......................        -0.2026      0.1157      -1.751      0.08
 4 inahs.....................         0.3392       0.116       2.925   0.00345
 5 nic * hiro................        -0.4320      0.1469      -2.942   0.00326
 6 nic * naga................        -0.5900      0.3202      -1.842    0.0654
 7 sex_1 * lage70............         2.711       1.163       2.332    0.0197
 8 sex_2 * lage70............         1.471      0.5605       2.625   0.00867
 9 sex_1 * lage70sq..........        0.9752       0.944       1.033     0.302
10 sex_2 * lage70sq..........       -0.5265       0.585     -0.9001     0.368
11 sex_1 * lage70sp..........        -31.06       16.05      -1.935     0.053
12 sex_2 * lage70sp..........        -10.81       6.111      -1.768     0.077
13 sex_1 * e30...............        0.1750     0.09794       1.787     0.074
14 sex_2 * e30...............       0.03362     0.05159      0.6517      > 0.5
15 sex_1 * e30sq.............       0.05053     0.04093       1.234     0.217
16 sex_2 * e30sq.............       0.09530      0.0194       4.913   < 0.001

Linear term 1
17 thya02w10................         0.5767      0.2636       2.188     0.0287

Log-linear term 1
18 e30......................        -0.3739      0.2258      -1.656     0.0978
19 lage70...................         -1.445      0.8157      -1.772     0.0765
20 inahs....................          0.000       Fixed       0.6535      > 0.5

Linear product term 1
21 %CON.....................          1.000     Aliased
22 msex.....................         0.1433      0.2871      0.4994      > 0.5

           Records used        42040

               Deviance      3037.968
           Pearson Chi2      33681.27      Degrees of freedom   42020


sum subjects pyr thyroid  %bk %ex @

          Summary for subjects

               Sum         Count      Minimum      Maximum
            105427         42040            0          625

          Summary for pyr

               Sum         Count      Minimum      Maximum
       2.76473e+06         42040   0.00054000       2883.3

          Summary for thyroid

               Sum         Count      Minimum      Maximum
               471         42040            0            3

          Summary for %BK

               Sum         Count      Minimum      Maximum
           407.843         42040   1.3770e-08      0.47375

          Summary for %EX

               Sum         Count      Minimum      Maximum
           63.1565         42040            0      0.10644

sum subjects pyr thyroid %bk %ex by sex @

          Summary for subjects

  sex          Sum         Count      Minimum      Maximum
    1        42902         19814            0          619
    2        62525         22226            0          625

          Summary for pyr

  sex          Sum         Count      Minimum      Maximum
    1   1.04027e+06         19814   0.00054000       2704.6
    2   1.72445e+06         22226   0.00059000       2883.3

          Summary for thyroid

  sex          Sum         Count      Minimum      Maximum
    1         90         19814            0            2
    2        381         22226            0            3

          Summary for %BK

  sex          Sum         Count      Minimum      Maximum
    1       79.6828         19814   1.3770e-08      0.19567
    2       328.161         22226   1.5565e-07      0.47375

          Summary for %EX

  sex          Sum         Count      Minimum      Maximum
    1       10.3172         19814            0     0.021514
    2       52.8394         22226            0      0.10644

sum subjects pyr thyroid %bk %ex by sex tbdcat_t @
For sex = 1

          Summary for subjects

tbdcat_t          Sum         Count      Minimum      Maximum
    0           10491          1235            0          619
    1           14418          2348            0          437
    2           10661          3976            0          390
    3            2405          3050            0          112
    4            2496          3469            0           63
    5            1057          1502            0           38
    6             975          2320            0           30
    7             399          1914            0           20
```

Summary for pyr

tbdcat_t	Sum	Count	Minimum	Maximum
0	261594.	1235	0.040190	2704.6
1	342504.	2348	0.0018700	1822.7
2	260362.	3976	0.00092000	1919.4
3	59197.3	3050	0.010890	429.91
4	61272.7	3469	0.00054000	309.95
5	23338.5	1502	0.00066000	148.66
6	22951.4	2320	0.00055000	105.53
7	9054.97	1914	0.00066000	81.467

Summary for thyroid

tbdcat_t	Sum	Count	Minimum	Maximum
0	9	1235	0	1
1	33	2348	0	2
2	27	3976	0	1
3	5	3050	0	1
4	3	3469	0	1
5	5	1502	0	1
6	5	2320	0	1
7	3	1914	0	1

Summary for %BK

tbdcat_t	Sum	Count	Minimum	Maximum
0	14.3296	1235	8.9922e-07	0.15602
1	28.1515	2348	1.9956e-07	0.19567
2	20.2869	3976	2.7735e-08	0.13007
3	5.27835	3050	4.5732e-07	0.029267
4	5.67668	3469	1.3770e-08	0.030416
5	2.45884	1502	1.1981e-07	0.021282
6	2.59054	2320	2.2736e-08	0.018629
7	0.910483	1914	1.3238e-07	0.0084907

Summary for %EX

tbdcat_t	Sum	Count	Minimum	Maximum
0	0	1235	0	0
1	0.0278411	2348	0	0.00040145
2	0.712214	3976	1.5026e-09	0.0039434
3	0.709343	3050	5.5370e-08	0.0052926
4	1.84679	3469	7.0810e-09	0.021514
5	1.61609	1502	2.2550e-08	0.016789
6	2.87436	2320	5.4513e-08	0.018271
7	2.53053	1914	1.2102e-07	0.020615

For sex = 2

Summary for subjects

tbdcat_t	Sum	Count	Minimum	Maximum
0	14756	1274	0	625
1	21127	2451	0	418
2	15622	4422	0	380
3	3630	3598	0	53
4	4159	4086	0	78
5	1534	1645	0	40
6	1212	2361	0	39
7	485	2389	0	23

Summary for pyr

tbdcat_t	Sum	Count	Minimum	Maximum
0	419150.	1274	0.015560	2883.3
1	575694.	2451	0.0025900	2121.3
2	429883.	4422	0.0039900	1995.3
3	100449.	3598	0.00066000	247.20
4	113438.	4086	0.0035100	393.57
5	40843.4	1645	0.0062800	214.68
6	32763.9	2361	0.0025100	144.12
7	12229.6	2389	0.00059000	87.184

Summary for thyroid

tbdcat_t	Sum	Count	Minimum	Maximum
0	61	1274	0	3
1	103	2451	0	2
2	89	4422	0	2
3	29	3598	0	2
4	47	4086	0	1
5	21	1645	0	1
6	19	2361	0	1
7	12	2389	0	1

Summary for %BK

tbdcat_t	Sum	Count	Minimum	Maximum
0	55.6704	1274	3.4016e-06	0.42579
1	117.143	2451	3.2133e-07	0.47375
2	85.9528	4422	7.7290e-07	0.45349
3	22.4461	3598	2.5263e-07	0.070182
4	25.8524	4086	1.5565e-07	0.088871
5	10.1467	1645	6.4838e-07	0.081015
6	8.01496	2361	6.9630e-07	0.035672
7	2.93383	2389	1.8199e-07	0.025364

Summary for %EX

tbdcat_t	Sum	Count	Minimum	Maximum
0	0	1274	0	0
1	0.155775	2451	0	0.0013889
2	3.59025	4422	3.4622e-08	0.015760
3	3.84421	3598	1.9224e-08	0.018730
4	11.0654	4086	1.7198e-07	0.10093
5	9.65366	1645	4.4667e-07	0.061778
6	13.3916	2361	3.6903e-07	0.051201
7	11.1385	2389	3.9397e-07	0.10644

```
! EAR linear dose response (excess cases per 10,000 PYGy)

add @
fit @

          Iter  Step      Deviance

             0     0     3062.860
             1     0     3043.953
             2     0     3042.087
             3     0     3041.999
             4     0     3041.989
             5     0     3041.988
             6     0     3041.987
             7     0     3041.987

Piece-wise exponential regression
Additive model { T0 + T1 + T2 + ... }

  thyroid is used for cases
    py10k is used for person years


                            Parameter Summary Table

 # Name                          Estimate     Std.Err.  Test Stat.  P value
-- ----------------------------  ----------  ---------  ----------  --------
Log-linear term 0
 1 sex_1.....................        0.3499      0.2305       1.518     0.129
 2 sex_2.....................        0.9327       0.113       8.255   < 0.001
 3 naga......................       -0.2223      0.1312      -1.694    0.0902
 4 inahs.....................        0.3673      0.1246       2.948    0.0032
 5 nic * hiro................       -0.4459       0.147      -3.033   0.00242
 6 nic * naga................       -0.5851      0.3236      -1.808    0.0706
 7 sex_1 * lage70............         2.712       1.367       1.984    0.0473
 8 sex_2 * lage70............         1.594      0.6463       2.466    0.0136
 9 sex_1 * lage70sq..........        0.8689        1.25       0.695     0.487
10 sex_2 * lage70sq..........       -0.2664      0.6894      -0.3865     > 0.5
11 sex_1 * lage70sp..........        -31.32       17.08      -1.834    0.0667
12 sex_2 * lage70sp..........        -11.81        6.56      -1.801    0.0718
13 sex_1 * e30...............        0.1810       0.106       1.708    0.0877
14 sex_2 * e30...............       0.04014     0.05293      0.7583     0.448
15 sex_1 * e30sq.............       0.05206     0.04416       1.179     0.238
16 sex_2 * e30sq.............       0.09309     0.02056       4.529   < 0.001

Linear term 1
17 thya02w10.................         1.232      0.5061       2.434    0.0149

Log-linear term 1
18 e30.......................       -0.5903      0.2385      -2.475    0.0133
19 lage70....................        0.5921      0.6191      0.9565     0.339
20 inahs.....................         0.000       Fixed       1.276     0.202

Linear product term 1
21 %CON......................         1.000     Aliased
22 msex......................        0.5699      0.1649       3.456   < 0.001

            Records used        42040

                Deviance      3041.987
            Pearson Chi2      34650.86      Degrees of freedom   42020
```