

```
name:
                <unnamed>
         log:
                C:\users\init5\Mis Documentos\stata\interactions.smcl
    log type:
                smcl
   opened on: 18 Oct 2020, 22:57:04
1 . do "C:\users\init5\Temp\STD2a_000000.tmp"
2 . *local dir `c(pwd)'
3 . //ON
4 . *cd "`c(pwd)'"
5 . *cd "D:\42-tiempoevento"
7 . **** Base de datos: Cáncer y muerte ****
8 . use "Z:\home\init5\Documentos\stata\bioestadistica\deaths.dta", clear
  (Written by R.
10. codebook
  sexo
                                                                                             sexo
                     type: numeric (long)
label: sexo
                                                         units: 1 missing .: 0/6,566
                     range:
                              [1,2]
            unique values:
               tabulation:
                              Freq.
                                      Numeric
                                                Label
                              3,305
                                                Men
                              3,261
                                                Women
  edad
                                                                                             edad
                      type: numeric (double)
            range: [35,108] unique values: 69
                                                         units: 1 missing .: 0/6,566
                      mean:
                               68.5618
                 std. dev:
                               13.895
                                                25%
                                                           50%
                                                                                 90%
              percentiles:
                                    10%
                                                                      75%
                                     49
                                                59
                                                           70
                                                                       79
                                                                                  86
  cid10
                                                                                            cid10
                      type: string (str3)
            unique values: 4
                                                         missing "": 0/6,566
                             Freq.
               tabulation:
                                     Value
                                     "I60"
                                674
                              1,291
                                     "I61"
                              1,765
                                     "I63"
                              2,836
                                     "I64"
  agecat
                                                                                           agecat
```

type: numeric (long)
label: agecat

units: 1 missing .: 0/6,566 range: [1,3]

unique values: 3

Numeric Label 1 <55 2 55-74 3 75+ tabulation: Freq. 1,176 2,911 2,479

level level

type: numeric (long)
label: level

range: [1,2]

units: 1 missing .: 1/6,566 unique values:

tabulation: Freq. Numeric Label 2,885 1 I, II 2 III 3,680 1

regions regions

type: numeric (long)
label: regions

range: [1,4] unique values: 4

units: 1 missing .: 0/6,566

tabulation: Freq.

Numeric Label
1 Lima/Callao
2 Resto Costa 3,080 1,795 1,110 3 Sierra 4 Selva 581

condicion condicion

type: numeric (long)
label: condicion

range: [1,2]

units: 1 missing .: 0/6,566unique values:

tabulation: Freq.

Numeric Label
1 Discharged
2 Death 5,809

757

los los

type: numeric (double)

range: [1,59]

units: 1
missing .: 0/6,566 unique values: 59

mean: 9.43558 std. dev: 8.52819

percentiles: 10% 25% 50% 75% 90% 2 19 12

anio anio Sunday October 18 22:57:24 2020

type: numeric (long)

range: [2016,2017]
ralues: 2 units: 1 missing .: 0/6,566 unique values:

tabulation: Freq. Value

3,053 2016 3,513 2017

exposure exposure

type: numeric (long)
label: exposure

[1,4] range:

units: 1 missing .: 0/6,566 unique values:

tabulation: Numeric Label Freq.

1,765 1 I63 **2** 160 674 3 I61 4 I64 1,291 2,836

survivalobj0 survivalobj0

type: numeric (double)

range: [1,59]

units: 1 missing .: 0/6,566 unique values: 59

9.43558 mean: std. dev: 8.52819

10% 25% 50% 75% 90% percentiles: 2 12 19

1 if record is to be used; 0 otherwise _st

type: numeric (byte)

range: [1,1]

units: 1 missing .: 0/6,566unique values:

Freq. Value tabulation: 6,566 1

_d 1 if failure; 0 if censored

type: numeric (byte)

range: [0,1]

units: 1 missing .: 0/6,566 unique values:

tabulation: Value Freq.

5,809 0 757 1

analysis time when record ends _t

range: [1,59]

units: 1 missing .: 0/6,566 unique values: 59

9.43558 mean: std. dev: 8.52819

percentiles: 10% 25% 50% 75% 90% 2 12 19

_t0 analysis time when record begins

type: numeric (byte)

range: [0,0]
unique values: 1

units: 1 missing .: 0/6,566

tabulation: Freq. Value 6,566 0

_est_m1 esample() from estimates store

type: numeric (byte)

range: [0,1]

units: 1 missing .: 0/6,566unique values: 2

tabulation: Freq. Value $\begin{array}{ccc} \mathbf{1} & \mathbf{0} \end{array}$

6,565 1

_est_m2 esample() from estimates store

type: numeric (byte)

range: [0,1] unique values: 2 units: 1 missing .: 0/6,566

tabulation: Freq. Value

6,565 1

esample() from estimates store _est_m3

type: numeric (byte)

range: [0,1]

units: 1 missing .: 0/6,566 unique values:

tabulation: Freq. Value

6,565 1

esample() from estimates store _est_m4

type: numeric (byte)

range: [0,1]
unique values: 2

units: 1 missing .: 0/6,566

tabulation: Freq. Value $\begin{array}{cc} & 1 & 0 \end{array}$ 6,565 1

11. 12. sum los, d

los

1% 5% 10% 25%	Percentiles 1 1 2 4	Smallest 1 1 1	Obs Sum of Wgt.	6,566 6,566
230	-	-	Bam OI Mgc.	0,500
50%	7	Largest	Mean Std. Dev.	9.435577 8.528187
75%	12	58		
90%	19	59	Variance	72.72997
95%	26	59	Skewness	2.243973
99%	44	59	Kurtosis	9.611837

- 16. *modificar base a SURVIVAL TIME 17. *SETEAR A SOBREVIDA 18. stset los, failure(condicion==2)

failure event: condicion == 2
obs. time interval: (0, los]
exit on or before: failure

	total observations exclusions	
757	observations remaining, representing failures in single-record/single-failure data total analysis time at risk and under observation at risk from t = earliest observed entry t = last observed exit t =	0 0 59

19.

20. *listar todos los eventos en tiempo y funcion SOBREVIDA por cada punto en el tiempo 21. *en el que ocurre evento de interes

- 22. sts list, survival

 $\begin{array}{ccc} & \text{failure } _d\colon & \textbf{condicion == 2} \\ & \text{analysis time } _t\colon & \textbf{los} \end{array}$

Time	Beg. Total	Fail	Net Lost	Survivor Function	Std. Error	[95% Co	nf. Int.]
1	6566	102	243	0.9845	0.0015	0.9812	0.9872
2	6221	103	376	0.9682	0.0022	0.9636	0.9722
3	5742	96	484	0.9520	0.0027	0.9464	0.9570
4	5162	73	555	0.9385	0.0031	0.9322	0.9443
5	4534	63	514	0.9255	0.0035	0.9184	0.9320
6	3957	48	450	0.9142	0.0038	0.9065	0.9214
7	3459	42	446	0.9031	0.0041	0.8948	0.9109
8	2971	29	335	0.8943	0.0044	0.8854	0.9026
9	2607	21	284	0.8871	0.0046	0.8777	0.8958
10	2302	20	253	0.8794	0.0049	0.8695	0.8886
11	2029	16	240	0.8725	0.0051	0.8620	0.8822
12	1773	21	190	0.8622	0.0056	0.8509	0.8727
13	1562	19	163	0.8517	0.0060	0.8395	0.8630
14	1380	14	159	0.8430	0.0064	0.8301	0.8550
15	1207	7	124	0.8381	0.0066	0.8248	0.8506
16	1076	4	121	0.8350	0.0067	0.8213	0.8478
17	951	7	116	0.8289	0.0071	0.8145	0.8423

18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38	828 726 649 579 529 471 423 379 341 322 297 269 250 225 208 195 181 166 148 138 129 116	8 10 2 2 5 5 4 1 2 2 1 2 2 3 0 0 3 0 1 3 2 2 3 2 3 2 3 0 1 3 0 1 3 0 1 3 2 3 0 1 3 2 3 0 1 3 2 3 0 1 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3	94 67 68 48 53 40 34 18 23 26 12 15 10 14 15 10 13	0.8209 0.8096 0.8071 0.8043 0.7967 0.7882 0.7725 0.7703 0.7655 0.7603 0.7575 0.7514 0.7340 0.7340 0.7340 0.7207 0.7207 0.7155 0.6989 0.6868	0.0076 0.0083 0.0084 0.0086 0.0092 0.0098 0.0104 0.0111 0.0113 0.0117 0.0122 0.0125 0.0131 0.0138 0.0149 0.0149 0.0149 0.0165 0.0165 0.0165 0.0172 0.0193 0.0208	0.8055 0.7928 0.7899 0.7867 0.7780 0.7682 0.7595 0.7499 0.7472 0.7416 0.7354 0.7320 0.7247 0.7165 0.7034 0.7034 0.7034 0.6869 0.6869 0.6869 0.6592 0.6592	0.8351 0.8251 0.8230 0.8205 0.8140 0.8067 0.8004 0.7934 0.7915 0.7875 0.7832 0.7760 0.7760 0.7620 0.7620 0.7516 0.7516 0.7516 0.7516 0.7516
41 42	94 84	1 3	9 5	0.6728 0.6488	0.0226 0.0257	0.6263 0.5959	0.7148 0.6965
43 44	76 73	0	3 10	0.6488 0.6488	0.0257 0.0257	0.5959 0.5959	0.6965 0.6965
45	63	0	11	0.6488	0.0257	0.5959	0.6965
46 47	52 4 9	0 0	3 2	0.6488 0.6488	0.0257 0.0257	0.5959 0.5959	0.6965 0.6965
48	47	0	2	0.6488	0.0257	0.5959	0.6965
49	45	0	1	0.6488	0.0257	0.5959	0.6965
50 51	44 39	1 2	4 7	0.6340 0.6015	0.0290 0.0355	0.5742 0.5283	0.6878 0.6671
52	30	1	3	0.5815	0.0396	0.4999	0.6544
53	26	1	8	0.5591	0.0439	0.4687	0.6401
54 55	17 15	0	2 3	0.5591 0.5591	0.0439 0.0439	0.4687 0.4687	0.6401 0.6401
56	12	ő	2	0.5591	0.0439	0.4687	0.6401
57	10	0	4	0.5591	0.0439	0.4687	0.6401
58	6	0	3 3	0.5591	0.0439	0.4687	0.6401
59	3	0	3	0.5591	0.0439	0.4687	0.6401

23. sts list, failure

failure _d: condicion == 2
analysis time _t: los

Time	Beg. Total	Fail	Net Lost	Failure Function	Std. Error	[95% Co	nf. Int.]
1	6566	102	243	0.0155	0.0015	0.0128	0.0188
2	6221	103	376	0.0318	0.0022	0.0278	0.0364
3	5742	96	484	0.0480	0.0027	0.0430	0.0536
4	5162	73	555	0.0615	0.0031	0.0557	0.0678
5	4534	63	514	0.0745	0.0035	0.0680	0.0816
6	3957	48	450	0.0858	0.0038	0.0786	0.0935
7	3459	42	446	0.0969	0.0041	0.0891	0.1052
8	2971	29	335	0.1057	0.0044	0.0974	0.1146
9	2607	21	284	0.1129	0.0046	0.1042	0.1223
10	2302	20	253	0.1206	0.0049	0.1114	0.1305
11	2029	16	240	0.1275	0.0051	0.1178	0.1380
12	1773	21	190	0.1378	0.0056	0.1273	0.1491
13	1562	19	163	0.1483	0.0060	0.1370	0.1605
14	1380	14	159	0.1570	0.0064	0.1450	0.1699
15	1207	7	124	0.1619	0.0066	0.1494	0.1752
16	1076	4	121	0.1650	0.0067	0.1522	0.1787
17	951	7	116	0.1711	0.0071	0.1577	0.1855
18	828	8	94	0.1791	0.0076	0.1649	0.1945
19	726	10	67	0.1904	0.0083	0.1749	0.2072
20	649	2	68	0.1929	0.0084	0.1770	0.2101

31 2: 32 36 37 38 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57	50 2 2 2 3 8 3 3 0 5 5 6 6 3 3 8 8 1 3 8 8 1 2 9 1 1 2 4 4 1 1 3 4 5 6 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	18 23 15 10 14 15 10 8 10 11 3 2 2 14 7 3 8 2 3 4 4 7 3 8 2 4 4 7 3 8 4 4 7 3 8 4 7 3 8 4 7 3 8 4 7 3 8 8 4 7 3 8 7 3 8 8 4 7 3 8 7 3 8 7 8 7 8 8 7 8 7 8 7 8 7 8 7	0.2425 0.2486 0.2552 0.2660 0.2660 0.2660 0.2793 0.2793 0.2845 0.3011 0.3132 0.3202 0.3512 0.3512 0.3512 0.3512 0.3512 0.3512 0.3512 0.3660 0.3985 0.4185 0.4409 0.4409 0.4409	0.0125 0.0131 0.0138 0.0149 0.0149 0.0165 0.0165 0.0172 0.0193 0.0208 0.0216 0.0257 0.0257 0.0257 0.0257 0.0257 0.0257 0.0257 0.0257 0.0257 0.0257 0.0257 0.0257 0.0257 0.0396 0.0439 0.0439 0.0439	0.2191 0.2240 0.2294 0.2380 0.2380 0.2388 0.2484 0.2484 0.2523 0.2651 0.2745 0.2797 0.2852 0.3035 0.3035 0.3035 0.3035 0.3035 0.3035 0.3035 0.3035 0.3035 0.3035 0.3035 0.3035	0.2680 0.2753 0.2835 0.2966 0.2966 0.3131 0.3131 0.3198 0.3408 0.3558 0.3645 0.3737 0.4041 0.4041 0.4041 0.4041 0.4041 0.4041 0.4041 0.4041 0.5313 0.5313 0.5313
57 : 58 59		2 4 3 3	0.4409 0.4409 0.4409	0.0439 0.0439 0.0439	0.3599 0.3599 0.3599	0.5313 0.5313 0.5313

```
24.
25. **************
28. *AM:
29. *Y=B0 + B1.Level + B2.Exposure + B3.confusores
30. streg i.level i.exposure edad sexo regions, strata(level) d(weibull)
          failure _d: condicion == 2
    analysis time _t: los
 Fitting constant-only model:
  Iteration 0:
                log likelihood = -2929.1917
  Iteration 1:
                log likelihood = -2919.8551
                log likelihood = -2880.9267
  Iteration 2:
                log likelihood = -2880.2076
log likelihood = -2880.2059
  Iteration 3:
 Iteration 4:
                log likelihood = -2880.2059
 Iteration 5:
 Fitting full model:
                log likelihood = -2880.2059
log likelihood = -2823.3566
 Iteration 0:
  Iteration 1:
  Iteration 2:
                log likelihood = -2819.4306
  Iteration 3:
                log likelihood = -2819.4189
  Iteration 4:
                log likelihood = -2819.4189
  Weibull PH regression
```

Log likelihood = -2817.1438

```
No. of subjects =
                           6,565
                                                  Number of obs =
                                                                            6,565
  No. of failures =
                              757
  Time at risk
                           61951
                                                   LR chi2(7)
                                                                            121.57
  Log likelihood =
                      -2819.4189
                                                   Prob > chi2
                                                                            0.0000
            _t
                      Coef.
                              Std. Err.
                                              z
                                                   P> | z |
                                                             [95% Conf. Interval]
  _t
         level
          III
                  -.3619585
                              .1783177
                                        -2.03
                                                   0.042
                                                             -.7114548
                                                                         -.0124622
      exposure
                   .9117641
                                            7.22
                                                   0.000
                                                              .6642112
                               .1263048
                                                                          1.159317
          T60
          I61
                   .6621304
                              .1160787
                                            5.70
                                                   0.000
                                                              .4346202
                                                                          .8896405
          I64
                   .3227619
                               .1122407
                                            2.88
                                                   0.004
                                                              .1027741
                                                                          .5427496
          edad
                   .0120413
                               .0027566
                                            4.37
                                                   0.000
                                                              .0066384
                                                                          .0174442
                   .1973987
                                                   0.008
                                                              .0515382
                                                                          .3432592
                                 .07442
                                            2.65
          sexo
       regions
                   .1730589
                               .0449346
                                            3.85
                                                   0.000
                                                              .0849887
                                                                          .2611292
                  -6.107922
                               .289156
         _cons
                                          -21.12
                                                   0.000
                                                             -6.674657
                                                                         -5.541187
  ln_p
         level
         III
                   -.089429
                               .0576808
                                           -1.55
                                                   0.121
                                                             -.2024814
                                                                          .0236233
                   .0676713
                               .0392324
                                            1.72
                                                   0.085
                                                             -.0092229
                                                                          .1445654
         _cons
31.
32. *AM + Interaction:
33. *Y = B0 + B1.Level + B2.Exposure + B3.Level.Exposure + B4.confusores
34. streg i.level i.exposure i.level#i.exposure edad sexo regions, strata(level) d(weibu
           failure _d: condicion == 2
     analysis time _t: los
 Fitting constant-only model:
  Iteration 0:
                 log likelihood = -2929.1917
                 log likelihood = -2919.8551
  Iteration 1:
  Iteration 2:
                 log likelihood = -2880.9267
                 log likelihood = -2880.2076 log likelihood = -2880.2059
  Iteration 3:
  Iteration 4:
  Iteration 5:
                 log likelihood = -2880.2059
  Fitting full model:
                 log likelihood = -2880.2059
  Iteration 0:
  Iteration 1:
                 log likelihood = -2821.4962
                 log likelihood = -2817.154
  Iteration 2:
  Iteration 3:
                 log likelihood = -2817.1438
  Iteration 4:
                 log likelihood = -2817.1438
  Weibull PH regression
  No. of subjects =
                           6,565
                                                   Number of obs
                                                                             6,565
  No. of failures =
                             757
  Time at risk
                            61951
                                                   LR chi2(10)
                                                                            126.12
```

0.0000

Prob > chi2

t	Coef.	_				
+		Std. Err.	z	P> z	[95% Conf.	Interval]
level III	6143757	.2433084	-2.53	0.012	-1.091251	1375
exposure I60 I61 I64	.5569273 .4902353 .1498568	.2091909 .1844673 .1594725	2.66 2.66 0.94	0.008 0.008 0.347	.1469207 .128686 1627036	.9669339 .8517846 .4624172
level#exposure III#I60 III#I61 III#I64	.5495682 .2695937 .2630245	.2587048 .2369246 .2276341	2.12 1.14 1.16	0.034 0.255 0.248	.0425161 19477 1831302	1.05662 .7339574 .7091792
edad sexo regions _cons	.0122116 .1940838 .1760252 -5.953974	.0027649 .0744387 .0447454 .3071989	4.42 2.61 3.93 -19.38	0.000 0.009 0.000 0.000	.0067925 .0481866 .0883258 -6.556072	.0176308 .339981 .2637246 -5.351875
ln_p level III _cons	0973017 .07073 4 2	.0579075 .0392434	-1.68 1.80	0.093 0.071	2107983 0061815	.0161949 .1476499
35. 36. ***********B: xR 37. *AM: Y = B0 + B 38. streg i.regions failure analysis time Fitting constant-	1.regions + i.exposure _d: condici _t: los	B2.Exposure			ons) d(weibul	1)

```
Iteration 0:
                 log likelihood = -2929.1917
                 log likelihood = -2884.2214
Iteration 1:
                 log likelihood = -2878.7258
log likelihood = -2878.6955
Iteration 2:
Iteration 3:
                 log likelihood = -2878.6955
Iteration 4:
```

log likelihood = -2878.6955 log likelihood = -2814.8524 log likelihood = -2810.9673 Iteration 0: Iteration 1: Iteration 2: log likelihood = -2810.9536 log likelihood = -2810.9536Iteration 3: Iteration 4:

Weibull PH regression

Fitting full model:

6,565 757 No. of subjects = Number of obs = 6,565 No. of failures = Time at risk 61951 135.48 Prob > chi2 LR chi2(9) Log likelihood = -2810.9536 0.0000

_t	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
_t regions Resto Costa Sierra Selva	0794902 .0470416 1436643	.2099071 .2226808 .2960632	-0.38 0.21 -0.49	0.705 0.833 0.627	4909006 3894047 7239374	.3319203 .4834879 .4366089
exposure I60 I61	.9008532 .6781191	.1262031 .1165153	7.14 5.82	0.000	.6534997 .4497532	1.148207 .906485

.3350844

.1122055

2.99 0.003

.1151656

.5550032

I64

regions#exposure

Resto Costa#I60

Resto Costa#I61

Resto Costa#I64

Sierra#I60

Sierra#I61

Sierra#I64

Selva#I60

Selva#I61

-.2137281

.5209254

.114274

-.522009

-.225574

-.2990957

-.6258732

-.017875

.3649618

.3079435

.3026056

.3201502

.3112808

.2790259

.4365807

.468409

-0.59

1.69

0.38

-1.63 -0.72

-1.07

-1.43

-0.04

0.558

0.091

0.706

0.103

0.469

0.284

0.152

0.970

-.9290401

-.0826328

-.4788221

-1.149492

-.8356731

-.8459765

-1.481556

-.9359397

.5015839

1.124484

.1054738

.384525

.2477851 .2298092

.9001896

.70737

101	'	3330011	.1122033	4.77	0.0	• • • • • • • • • • • • • • • • • • • •	.131030	.5550052
edad sexo level _cons	_;	0115871 2006856 6273912 1.964694	.0027683 .0744163 .0955668 .3220454	4.19 2.70 -6.56 -15.42	0.0 0.0	07 .0 008		.0170128 .3465389 .4400837 4.333497
ln_p regions Resto Costa Sierra Selva		0131409 1598568 .192744	.0726636 .0730365 .0996989	0.18 2.19 1.93	0.0	29 .0	.292772 0167079 0026622	.155559 .3030057 .3881502
_cons	-	029825	.0460428	-0.65	0.5	171	.200673	.0604173
39. 40. *AM + Intera > usores 41. streg i.regi > eibull)	lons	i.exposure	e i.regions					
failı analysis ti		_d: condi c _t: los	cion == 2					
Fitting consta	ant-c	only model:	:					
Iteration 0: Iteration 1: Iteration 2: Iteration 3: Iteration 4:	log log	g likelihoo g likelihoo g likelihoo	od = -2929 od = -2884 od = -2878 od = -2878 od = -2878	.2214 .7258 .6955				
Fitting full m	nodel	.:						
Iteration 0: Iteration 1: Iteration 2: Iteration 3: Iteration 4:	log log	g likelihoo g likelihoo g likelihoo	od = -2878 od = -2810 od = -2804 od = -2804 od = -2804	.2459 .9526 .9396				
Weibull PH reg	gress	sion						
No. of subject No. of failure Time at risk	es =	•	565 757 951		Num	ber of ob	os =	6,565
Log likelihood	d =	-2804.93	396			chi2(18) b > chi2	= =	147.51 0.0000
	_t	Coei	f. Std. 1	Err.	z	P> z	[95% Con	f. Interval]
regic Resto Cost Siern Selv	a a	271448 .291820 .206267	04 .3076	709	0.86 0.95 0.47	0.391 0.343 0.641	8911799 3112034 6603495	.8948442
exposi I6 I6	50 51	1.09100 .580443 .416233	35 .1675	475	6.52 3.46 2.54	0.000 0.001 0.011	.7632222 .2520564 .0945329	.9088307

Selva#I64	4647523	.4052912	-1.15	0.252	-1.259108	.3296039
edad	.0117606	.0027799	4.23	0.000	.006312	.0172091
sexo	.1974269	.0747155	2.64	0.008	.0509872	.3438666
level	6383702	.0980461	-6.51	0.000	8305371	4462034
_cons	-4.984867	.3302563	-15.09	0.000	-5.632158	-4.337577
.n_p regions Resto Costa	.0145426	.0731539	0.20	0.842	1288364	.1579215
Sierra	.1680622	.0733918	2.29	0.022	.0242169	.3119074
Selva	.1888735	.1023588	1.85	0.065	011746	.389493

```
42
43. *******COMPARISONS*******
```

 $\begin{array}{cccc} & \text{failure } _d\colon & \textbf{condicion == 2} \\ & \text{analysis time } _t\colon & \textbf{los} \end{array}$

Fitting constant-only model:

Iteration 0: log likelihood = -2929.1917Iteration 1: log likelihood = -2919.8551Iteration 2: log likelihood = -2880.9267Iteration 3: log likelihood = -2880.2076log likelihood = -2880.2059Iteration 4: Iteration 5: log likelihood = -2880.2059

Fitting full model:

log likelihood = -2880.2059Iteration 0: log likelihood = -2821.4962 log likelihood = -2817.154 Iteration 1: Iteration 2: log likelihood = -2817.1438 log likelihood = -2817.1438 Iteration 3: Iteration 4:

-2817.1438

Weibull PH regression

Log likelihood =

6,565 No. of subjects = No. of failures = 757 Time at risk 61951

LR chi2(10) 126.12 Prob > chi2 0.0000

6,565

Number of obs

_t	Coef.	Std. Err.	z	P> z	[95% Conf	. Interval]
t						
level						
III	6143757	.2433084	-2.53	0.012	-1.091251	1375
exposure						
I60	.5569273	.2091909	2.66	0.008	.1469207	.9669339
I61	.4902353	.1844673	2.66	0.008	.128686	.8517846
164	.1498568	.1594725	0.94	0.347	1627036	.4624172
level#exposure						
III#I60	.5495682	.2587048	2.12	0.034	.0425161	1.05662
III#I61	.2695937	.2369246	1.14	0.255	19477	.7339574
III#I64	.2630245	.2276341	1.16	0.248	1831302	.7091792
edad	.0122116	.0027649	4.42	0.000	.0067925	.0176308
sexo	.1940838	.0744387	2.61	0.009	.0481866	.339981
regions	.1760252	.0447454	3.93	0.000	.0883258	.2637246
_cons	-5.953974	.3071989	-19.38	0.000	-6.556072	-5.351875

^{44. *}XLEVEL

^{45.} streg i.level i.exposure i.level#i.exposure edad sexo regions, strata(level) d(weibu > 11)

ln_p							
	level						
	III	0973017	.0579075	-1.68	0.093	2107983	.0161949
	_cons	.0707342	.0392434	1.80	0.071	0061815	.1476499

- 46. estimates store m1
- 47. streg i.level i.exposure edad sexo regions, strata(level) d(weibull)

failure _d: condicion == 2
analysis time _t: los

Fitting constant-only model:

Iteration 0: log likelihood = -2929.1917
Iteration 1: log likelihood = -2919.8551
Iteration 2: log likelihood = -2880.9267
Iteration 3: log likelihood = -2880.2076
Iteration 4: log likelihood = -2880.2059
Iteration 5: log likelihood = -2880.2059

Fitting full model:

Iteration 0: log likelihood = -2880.2059
Iteration 1: log likelihood = -2823.3566
Iteration 2: log likelihood = -2819.4306
Iteration 3: log likelihood = -2819.4189
Iteration 4: log likelihood = -2819.4189

Weibull PH regression

LR chi2(7) = 121.57 Log likelihood = -2819.4189 Prob > chi2 = 0.0000

_t	Coef.	Std. Err.	Z	P> z	[95% Conf.	Interval]
level						
III	3619585	.1783177	-2.03	0.042	7114548	0124622
ogura						
	9117641	1263048	7.22	0.000	6642112	1.159317
						.8896405
164	.3227619	.1122407	2.88	0.004	.1027741	.5427496
edad	.0120413	.0027566	4.37	0.000	.0066384	.0174442
sexo	.1973987	.07442	2.65	0.008	.0515382	.3432592
gions	.1730589	.0449346	3.85	0.000	.0849887	.2611292
_cons	-6.107922	.289156	-21.12	0.000	-6.674657	-5.541187
level						
III	089429	.0576808	-1.55	0.121	2024814	.0236233
_cons	.0676713	.0392324	1.72	0.085	0092229	.1445654
	level III osure I60 I61 I64 edad sexo gions _cons	level III3619585 sosure I60 .9117641 I61 .6621304 I64 .3227619 edad .0120413 sexo .1973987 .1730589 _cons -6.107922 level III089429	level III3619585 .1783177 posure I60 .9117641 .1263048 .161 .6621304 .1160787 .164 .3227619 .1122407 edad .0120413 .0027566 .1973987 .07442 .09ions .1730589 .0449346 .1730589 .0449346 .1008 .10	level III3619585 .1783177 -2.03 cosure I60 .9117641 .1263048 7.22 I61 .6621304 .1160787 5.70 I64 .3227619 .1122407 2.88 edad .0120413 .0027566 4.37 sexo .1973987 .07442 2.65 .1730589 .0449346 3.85 _cons -6.107922 .289156 -21.12 level III089429 .0576808 -1.55	level III3619585 .1783177 -2.03 0.042 cosure I60	level III3619585 .1783177 -2.03 0.0427114548 sosure

48. lrtest . m1

49.

50. streg i.level i.exposure i.level#i.exposure edad sexo i.regions, strata(regions) d(w
> eibull)

failure _d: condicion == 2
analysis time _t: los

Fitting constant-only model:

Iteration 0: log likelihood = -2929.1917
Iteration 1: log likelihood = -2884.2214
Iteration 2: log likelihood = -2878.7258
Iteration 3: log likelihood = -2878.6955
Iteration 4: log likelihood = -2878.6955

Fitting full model:

Iteration 0: log likelihood = -2878.6955
Iteration 1: log likelihood = -2813.517
Iteration 2: log likelihood = -2808.7138
Iteration 3: log likelihood = -2808.7042
Iteration 4: log likelihood = -2808.7042

Weibull PH regression

No. of subjects = 6,565 N No. of failures = 757 Time at risk = 61951

Log likelihood = -2808.7042

Number of obs = 6,565

LR chi2(12) = 139.98 Prob > chi2 = 0.0000

	r					
_t	Coef.	Std. Err.	Z	P> z	[95% Conf.	<pre>Interval]</pre>
	8786449	.1929721	-4.55	0.000	-1.256863	5004265
exposure 160 161 164	.5594234 .4942215 .1878392	.209149 .1849231 .1603953	2.67 2.67 1.17	0.007 0.008 0.242	.1494989 .1317789 1265299	.9693479 .8566642 .5022083
level#exposure III#I60 III#I61 III#I64	.5293625 .2916557 .1967712	.258609 .2370072 .2286256	2.05 1.23 0.86	0.041 0.218 0.389	.0224982 1728699 2513267	1.036227 .7561812 .6448691
edad sexo	.0118124 .1971312	.0027767 .0744485	4.25 2.65	0.000 0.008	.0063702 .0512148	.0172546 .3430476
regions Resto Costa Sierra Selva	0842596 .0349221 1410102	.2101502 .2226912 .2951122	-0.40 0.16 -0.48	0.688 0.875 0.633	4961463 4015447 7194194	.3276272 .4713889 .437399
_cons	-5.437332	.2963848	-18.35	0.000	-6.018236	-4.856429
ln_p regions Resto Costa Sierra Selva	.0155264 .1675501 .1938713	.0727205 .0731081 .0993669	0.21 2.29 1.95	0.831 0.022 0.051	1270031 .0242609 0008843	.1580559 .3108393 .3886268
_cons	0327523	.0460896	-0.71	0.477	1230863	.0575817

51. estimates store m2

52. streg i.level i.exposure edad sexo i.regions, strata(regions) d(weibull)

failure _d: condicion == 2
analysis time _t: los

Fitting constant-only model:

Iteration 0: log likelihood = -2929.1917
Iteration 1: log likelihood = -2884.2214
Iteration 2: log likelihood = -2878.7258
Iteration 3: log likelihood = -2878.6955
Iteration 4: log likelihood = -2878.6955

Fitting full model:

Iteration 0: log likelihood = -2878.6955
Iteration 1: log likelihood = -2814.8524
Iteration 2: log likelihood = -2810.9673
Iteration 3: log likelihood = -2810.9536
Iteration 4: log likelihood = -2810.9536

Weibull PH regression

LR chi2(9) = 135.48 Log likelihood = -2810.9536 Prob > chi2 = 0.0000

	т					
_t	Coef.	Std. Err.	Z	P> z	[95% Conf.	Interval]
_t level III	6273912	.0955668	-6.56	0.000	8146987	4400837
exposure 160 161 164	.9008532 .6781191 .3350844	.1262031 .1165153 .1122055	7.14 5.82 2.99	0.000 0.000 0.003	.6534997 .4497532 .1151656	1.148207 .906485 .5550032
edad sexo	.0115871 .2006856	.0027683 .0744163	4.19 2.70	0.000 0.007	.0061614 .0548322	.0170128 .3465389
regions Resto Costa Sierra Selva	0794902 .0470416 1436643	.2099071 .2226808 .2960632	-0.38 0.21 -0.49	0.705 0.833 0.627	4909006 3894047 7239374	.3319203 .4834879 .4366089
_cons	-5.592085	.2782639	-20.10	0.000	-6.137473	-5.046698
ln_p regions Resto Costa	.0131409	.0726636	0.18	0.856	1292772	.155559
Sierra Selva	.1598568	.0726636 .0730365 .0996989	2.19 1.93	0.029 0.053	.0167079 0026622	.3030057
_cons	029825	.0460428	-0.65	0.517	1200673	.0604173

53. lrtest . m2

LR chi2(3) = 4.5U ~hi? = 0.2124 Likelihood-ratio test (Assumption: <u>.</u> nested in <u>m2</u>)

55. *xREGIONS 56. streg i.regions i.exposure i.regions#i.exposure edad sexo level, strata(regions) d(w > eibull)

failure _d: condicion == 2
analysis time _t: los

Fitting constant-only model:

Iteration 0: log likelihood = -2929.1917log likelihood = -2884.2214 log likelihood = -2878.7258 Iteration 1: Iteration 2: log likelihood = -2878.6955 log likelihood = -2878.6955Iteration 3: Iteration 4:

Fitting full model:

Iteration 0: log likelihood = -2878.6955
log likelihood = -2810.2459 Iteration 1: Iteration 2: log likelihood = -2804.9526log likelihood = -2804.9396 log likelihood = -2804.9396 Iteration 3: Iteration 4:

Weibull PH regression

No. of subjects = 6,565 Number of obs = 6,565 No. of failures = 757 Time at risk = 61951

LR chi2(**18**) = Prob > chi2 = 147.51 Log likelihood = -2804.93960.0000

t	Coef.	Std. Err.	z	P> z	[95% Conf	. Interval]
_t regions Resto Costa Sierra Selva	2714482 .2918204 .2062672	.3161954 .3076709 .4421595	-0.86 0.95 0.47	0.391 0.343 0.641	8911799 3112034 6603495	.3482835 .8948442 1.072884
exposure 160 161 164	1.091008 .5804435 .4162338	.1672407 .1675475 .1641362	6.52 3.46 2.54	0.000 0.001 0.011	.7632222 .2520564 .0945329	1.418794 .9088307 .7379348
regions#exposure Resto Costa#160 Resto Costa#161 Resto Costa#164 Sierra#160 Sierra#164 Selva#160 Selva#161 Selva#161	2137281 .5209254 .114274 522009 225574 2990957 6258732 017875 4647523	.3649618 .3079435 .3026056 .3201502 .3112808 .2790259 .4365807 .468409	-0.59 1.69 0.38 -1.63 -0.72 -1.07 -1.43 -0.04 -1.15	0.558 0.091 0.706 0.103 0.469 0.284 0.152 0.970	9290401 0826328 4788221 -1.149492 8356731 8459765 -1.481556 9359397 -1.259108	.5015839 1.124484 .70737 .1054738 .384525 .2477851 .2298092 .9001896 .3296039
edad sexo level _cons	.0117606 .1974269 6383702 -4.984867	.0027799 .0747155 .0980461 .3302563	4.23 2.64 -6.51 -15.09	0.000 0.008 0.000 0.000	.006312 .0509872 8305371 -5.632158	.0172091 .3438666 4462034 -4.337577
ln_p regions Resto Costa Sierra Selva	.0145426 .1680622 .1888735	.0731539 .0733918 .1023588	0.20 2.29 1.85	0.842 0.022 0.065	1288364 .0242169 011746	.1579215 .3119074 .389493

Fitting constant-only model:

Iteration 0: log likelihood = -2929.1917
Iteration 1: log likelihood = -2884.2214
Iteration 2: log likelihood = -2878.7258
Iteration 3: log likelihood = -2878.6955
Iteration 4: log likelihood = -2878.6955

Fitting full model:

Iteration 0: log likelihood = -2878.6955
Iteration 1: log likelihood = -2814.8524
Iteration 2: log likelihood = -2810.9673
Iteration 3: log likelihood = -2810.9536
Iteration 4: log likelihood = -2810.9536

Weibull PH regression

No. of subjects = 6,565 No. of failures = 757 Time at risk = 61951

LR chi2(9) = 135.48 Log likelihood = -2810.9536 Prob > chi2 = 0.0000

t	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
regions Resto Costa Sierra Selva	0794902 .0470416 1436643	.2099071 .2226808 .2960632	-0.38 0.21 -0.49	0.705 0.833 0.627	4909006 3894047 7239374	.3319203 .4834879 .4366089
exposure 160 161 164	.9008532 .6781191 .3350844	.1262031 .1165153 .1122055	7.14 5.82 2.99	0.000 0.000 0.003	.6534997 .4497532 .1151656	1.148207 .906485 .5550032
edad sexo level _cons	.0115871 .2006856 6273912 -4.964694	.0027683 .0744163 .0955668 .3220454	4.19 2.70 -6.56 -15.42	0.000 0.007 0.000 0.000	.0061614 .0548322 8146987 -5.595892	.0170128 .3465389 4400837 -4.333497
ln_p regions Resto Costa Sierra	.0131409 .1598568	.0726636	0.18 2.19	0.856 0.029	1292772 .0167079	.155559
Selva _cons	.192744 029825	.0996989	1.93 -0.65	0.053	0026622 1200673	.3881502

59. lrtest . m3, force

LR chi2(9) =Likelihood-ratio test 12.03 (Assumption: _ nested in m3) Prob > chi2 = 0.2117

61. streq i.regions i.exposure i.regions#i.exposure edad sexo level, strata(regions) d(w > eibull)

failure _d: condicion == 2
analysis time _t: los

Fitting constant-only model:

Iteration 0: log likelihood = -2929.1917Iteration 1: log likelihood = -2884.2214Iteration 2: log likelihood = -2878.7258Iteration 3: log likelihood = -2878.6955Iteration 4: log likelihood = -2878.6955

Fitting full model:

Iteration 0: log likelihood = -2878.6955Iteration 1: log likelihood = -2810.2459log likelihood = -2804.9526Iteration 2: Iteration 3: log likelihood = -2804.9396Iteration 4: log likelihood = -2804.9396

Weibull PH regression

No. of subjects = 6,565 Number of obs No. of failures = 757 Time at risk 61951

.0145426

.1680622

.1888735

.0733918

.1023588

2.29

1.85

0.022

0.065

Sierra

Selva

LR chi2(18) Log likelihood = -2804.9396 Prob > chi2

0.0000 [95% Conf. Interval] _t Coef. Std. Err. P> | z | _t regions -0.86 -.2714482 .3161954 .3482835 Resto Costa 0.391 -.8911799 .2918204 .3076709 Sierra 0.95 0.343 -.3112034 .8948442 -.6603495 Selva .2062672 .4421595 0.47 0.641 1.072884 exposure 0.000 .1672407 .7632222 1.418794 1.091008 6.52 T60 I61 .5804435 .1675475 3.46 0.001 .2520564 .9088307 2.54 0.011 I64 .4162338 .1641362 .0945329 .7379348 regions#exposure -.2137281 Resto Costa#I60 .3649618 -0.59 0.558 -.9290401 .5015839 .3079435 Resto Costa#I61 .5209254 1.69 0.091 -.0826328 1.124484 .3026056 Resto Costa#I64 .114274 0.38 0.706 .70737 -.4788221 Sierra#I60 -.522009 .3201502 -1.63 0.103 -1.149492.1054738 .3112808 Sierra#I61 -.225574 -0.720.469 -.8356731 .384525 -.2990957 .2790259 -.8459765 -1.07 0.284 Sierra#I64 .2477851 Selva#I60 -.6258732 .4365807 -1.430.152 -1.481556 .2298092 0.970 -0.04 Selva#I61 -.017875.468409 -.9359397 .9001896 Selva#I64 -.4647523 .4052912 -1.150.252 -1.259108 .3296039 .0117606 .0027799 0.000 edad 4.23 .006312 .0172091 sexo .1974269 .0747155 2.64 0.008 .0509872 .3438666 .0980461 0.000 level -.6383702 -.8305371 -.4462034 -6.51 _cons -4.984867 .3302563 -15.090.000 -5.632158 -4.337577 ln_p regions 0.20 Resto Costa .0731539 0.842 .1579215

6,565

147.51

-.1288364

.0242169

-.011746

.3119074

.389493

_cons -.0333308 .0463084 -0.72 0.472 -.1240935 .057432

62. estimates store m4

63. streg i.regions i.exposure edad sexo level, strata(regions) d(weibull)

failure _d: condicion == 2
analysis time _t: los

Fitting constant-only model:

Iteration 0: log likelihood = -2929.1917
Iteration 1: log likelihood = -2884.2214
Iteration 2: log likelihood = -2878.7258
Iteration 3: log likelihood = -2878.6955
Iteration 4: log likelihood = -2878.6955

Fitting full model:

Weibull PH regression

No. of subjects = 6,565 No. of failures = 757 Time at risk = 61951

Log likelihood = -2810.9536

Number of obs = 6,565

LR chi2(9) = 135.48 Prob > chi2 = 0.0000

	Coef.	Std. Err.	z	P> z	[95% Conf.	. Interval]
regions Resto Costa Sierra Selva	0794902 .0470416 1436643	.2099071 .2226808 .2960632	-0.38 0.21 -0.49	0.705 0.833 0.627	4909006 3894047 7239374	.3319203 .4834879 .4366089
exposure 160 161 164	.9008532 .6781191 .3350844	.1262031 .1165153 .1122055	7.14 5.82 2.99	0.000 0.000 0.003	.6534997 .4497532 .1151656	1.148207 .906485 .5550032
edad sexo level _cons	.0115871 .2006856 6273912 -4.964694	.0027683 .0744163 .0955668 .3220454	4.19 2.70 -6.56 -15.42	0.000 0.007 0.000 0.000	.0061614 .0548322 8146987 -5.595892	.0170128 .3465389 4400837 -4.333497
ln_p regions Resto Costa Sierra Selva	.0131409 .1598568 .192744	.0726636 .0730365 .0996989	0.18 2.19 1.93	0.856 0.029 0.053	1292772 .0167079 0026622	.155559 .3030057 .3881502
_cons	029825	.0460428	-0.65	0.517	1200673	.0604173

64. lrtest . m4, force

Likelihood-ratio test (Assumption: $\underline{.}$ nested in $\underline{m4}$)

LR chi2(9) = 12.03 Prob > chi2 = 0.2117