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**gestim3\_boot.ado -- Source Code (version 1.5.1)**

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----- START OF PROGRAM -----

```
program gestim3_boot
version 12.0
set more off
```

```
**// Specify the local directory
local dir="c:\ado\personal\"
**!! This link to the local directory is only applicable for Windows and
needs to be generalised !!
```

```
**// Specify the number of iterations as a local variable
local reps=25
```

```
**// Save the master data
save "`dir'\master.dta", replace
```

```
**// Program loop to derive estimates for each iteration
```

```
forvalues k=1(1)`reps' {
    **// Create temporary data set k
    forvalues j=1(1)4396 {
        use "`dir'\master.dta", clear
        gen X=runiform()
        sort X
        gen start=0
        gen end=_n/4396
        replace start=end[_n-1] if _n>1
        keep if start<0.5 & end>=0.5
        capture save "`dir'\temp.dta"
        if _rc!=0 {
            append using "`dir'\temp.dta"
            save "`dir'\temp.dta", replace
        }
    }
    **// Grid search for psi1 and psi2
    local mintest=10^10
    local inc=0.01
    forvalues psi1=-2(`inc')2 {
        forvalues psi2=-2(`inc')2 {
            gen U=s0+s1*exp(`psi1')+s2*exp(`psi2')
            +s12*exp(`psi1'+`psi2')
            egen alpha=min(U/T)
            gen C=censor
            replace C=alpha*censor if alpha<1
            gen X=min(C, U)
            gen delta=1 if U<C
            replace delta=0 if delta==.
            gen start=0
            gen end=X
            stset end, id(i) failure(delta)
            sts test R
        }
    }
}
```

```

        if r(chi2)<`mintest' {
            local m01=`psi1'
            local m02=`psi2'
            local mintest=r(chi2)
        }
        drop U alpha C X delta start end _*
    }
}
**// Produce estimates for this iteration
local hr1_`k'=int(100*exp(theta*`m01')+0.5)/100
local hr2_`k'=int(100*exp(theta*`m02')+0.5)/100
local loghr1_`k'=ln(hr1_`k')
local loghr2_`k'=ln(hr2_`k')
**// Erase temporary data set
erase "`dir'\temp.dta"
}

```

```

**// Erase the master data set
erase "`dir'\master.dta"

```

```

**// Combine estimates
local sum1=0
local sum2=0
forvalues k=1(1)`reps' {
    local sum1=`sum1'+`loghr1_`k''
    local sum2=`sum2'+`loghr2_`k''
}
local mean1=`sum1'/`reps'
local mean2=`sum2'/`reps'

```

```

local sum1=0
local sum2=0
forvalues k=1(1)`reps' {
    local sum1=`sum1'+(`mean1'-`loghr1_`k'')^2
    local sum2=`sum2'+(`mean2'-`loghr2_`k'')^2
}
local var1=`sum1'/`reps'
local se1=(`var1')^0.5
local var2=`sum2'/`reps'
local se2=(`var2')^0.5

```

```

local meanhr1=exp(`mean1')
local hr1lo=exp(`mean1'-1.96*`se1')
local hr1hi=exp(`mean1'+1.96*`se1')
local meanhr2=exp(`mean2')
local hr2lo=exp(`mean2'-1.96*`se2')
local hr2hi=exp(`mean2'+1.96*`se2')

```

```

di "HR1 = `meanhr1' [`hr1lo', `hr1hi']"
di "HR2 = `meanhr2' [`hr2lo', `hr2hi']"

```

```

end

```

----- END OF PROGRAM -----