

***** OUTPUT FILE: VAN OURS VODOPIVEC DATASET*****

* STATA 10.0 CODE
* copyright C 2008 by Tito Boeri & Jan van Ours
* "LABOR MARKETS, POLICIES, AND INSTITUTIONS"
* by Tito Boeri & Jan van Ours (2008)
* Princeton University Press

*Chapter 11 Unemployment Benefit
*BOX 11.3 Shortening the Duration of Benefits, pages 241-242

clear

set memory 120m

*VARIABLE DESCRIPTION

*age	Age at start of the
*	unemployment spell
*illh	Indicator ill health
*after	Start unemployment spell after
*	policy change
*rechts	Right censored unemployment
*	spell
*duurt	Duration of the unemployment
*	spell in days
*before	Start unemployment spell before
*	policy change
*g2	Experience less than 1.5 years
*g3	Experience 1.5-5 years
*g4	Experience 5-10 years
*g5	Experience 10-15 years
*g6	Experience 15-20 years
*educ2	Education2
*educ3	Education3
*educ4	Education4
*family1	Family1
*family2	Family2

use "C:\vanours.dta", clear

capture program drop mlJoLE

program define mlJoLE

args lnf theta1 ben eff03 eff06 eff09 c2 c3 c4 c5 c6 c9
c12 c18 c18p cml

tempvar theta dis03 dis06 dis09 dis012 dis018 diszz cd1
cd2 cd3 cd4 cd5 cd6 cd7 cd8 cd9 cd10 cd11 cd12 cd13 cd14 cd15 cd16
cd17 cd18 cd19 cd20 cd21 cd22 cd23 cd24 cd25 cd26 odum11 odum12
odum13 odum14 odum15 odum1 vdum1 p1 p2

quietly gen double `theta' = exp(`theta1')
quietly gen double `dis03' = after*(g3*`eff03'+(g4+g5)
`eff06'+g6`eff09')
quietly gen double `dis06' = before*`ben'*(g2)+after*((g4
+g5)*`eff06'+g6*`eff09')+after*(`ben'*(g2+g3))
quietly gen double `dis09' = before*`ben'*(g2+g3)
+after*g6*`eff09'+after*`ben'*(g2+g3+g4+g5)
quietly gen double `dis012' = before*`ben'*(g2+g3+g4)
+after*`ben'*(g2+g3+g4+g5+g6)
quietly gen double `dis018' = before*`ben'*(g2+g3+g4+g5)
+after*`ben'*(g2+g3+g4+g5+g6)
quietly gen double `diszz' = `ben'*(g2+g3+g4+g5+g6)
quietly gen double `cd1' = `dis03'
quietly gen double `cd2' = `dis03'+`c2'
quietly gen double `cd3' = `cml'*(g2+after*g3)
+`dis03'+`c3'
quietly gen double `cd4' = `dis06'+`c4'
quietly gen double `cd5' = `dis06'+`c5'

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quietly gen double `cd6' = `cml'*(before*g3+after*(g4
+g5))+`dis06'+`c6'
quietly gen double `cd7' = `dis09'+`c9'
quietly gen double `cd8' = `dis09'+`c9'
quietly gen double `cd9' = `cml'*(before*g4+after*g6)
+`dis09'+`c9'
quietly gen double `cd10' = `dis012'+`c12'
quietly gen double `cd11' = `dis012'+`c12'
quietly gen double `cd12' = `cml'*before*g5
+`dis012'+`c12'
quietly gen double `cd13' = `dis018'+`c18'
quietly gen double `cd14' = `dis018'+`c18'
quietly gen double `cd15' = `dis018'+`c18'
quietly gen double `cd16' = `dis018'+`c18'
quietly gen double `cd17' = `dis018'+`c18'
quietly gen double `cd18' = `cml'*before*g6
+`dis018'+`c18'
quietly gen double `cd19' = `diszz'+`c18p'
quietly gen double `cd20' = `diszz'+`c18p'
quietly gen double `cd21' = `diszz'+`c18p'
quietly gen double `cd22' = `diszz'+`c18p'
quietly gen double `cd23' = `diszz'+`c18p'
quietly gen double `cd24' = `diszz'+`c18p'
quietly gen double `cd25' = `diszz'+`c18p'
quietly gen double `cd26' = `diszz'+`c18p'
quietly gen double `odum11' = d1*(exp(`cd1')*duurt)+d2*
(exp(`cd1')*30+exp(`cd2')*(duurt-30))+d3*(exp(`cd1')*30+exp(`cd2')*30
+exp(`cd3')*(duurt-60))+d4*(exp(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31
+exp(`cd4')*(duurt-91))+d5*(exp(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31
+exp(`cd4')*30+exp(`cd5')*(duurt-121))+d6*(exp(`cd1')*30+exp(`cd2')*
30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*(duurt-152))
+d7*(exp(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp
(`cd5')*31+exp(`cd6')*31+exp(`cd7')*(duurt-183))+d8*(exp(`cd1')*30
+exp(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*
31+exp(`cd7')*30+exp(`cd8')*(duurt-213))+d9*(exp(`cd1')*30+exp(`cd2')
*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31+exp
(`cd7')*30+exp(`cd8')*31+exp(`cd9')*(duurt-244))
quietly gen double `odum12' = d10*(exp(`cd1')*30+exp
(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31
+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*(duurt-275))
+d11*(exp(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp
(`cd5')*31+exp(`cd6')*31+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31
+exp(`cd10')*30+exp(`cd11')*(duurt-305))+d12*(exp(`cd1')*30+exp
(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31
+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')
*30+exp(`cd12')*(duurt-335))+d13*(exp(`cd1')*30+exp(`cd2')*30+exp
(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31+exp(`cd7')*30
+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')*30+exp
(`cd12')*30+exp(`cd13')*(duurt-365))+d14*(exp(`cd1')*30+exp(`cd2')*30
+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31+exp(`cd7')*
30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')*30+exp
(`cd12')*30+exp(`cd13')*30+exp(`cd14')*(duurt-395))
quietly gen double `odum13' = d15*(exp(`cd1')*30+exp
(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31
+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')
*30+exp(`cd12')*30+exp(`cd13')*30+exp(`cd14')*30+exp(`cd15')*(duurt-
425))+d16*(exp(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30
+exp(`cd5')*31+exp(`cd6')*31+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*
31+exp(`cd10')*30+exp(`cd11')*30+exp(`cd12')*30+exp(`cd13')*30+exp
(`cd14')*30+exp(`cd15')*31+exp(`cd16')*(duurt-456))+d17*(exp(`cd1')*
30+exp(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')
*31+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp
(`cd11')*30+exp(`cd12')*30+exp(`cd13')*30+exp(`cd14')*30+exp(`cd15')*
31+exp(`cd16')*31+exp(`cd17')*(duurt-487))+d18*(exp(`cd1')*30+exp

```

```
(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31
+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')
*30+exp(`cd12')*30+exp(`cd13')*30+exp(`cd14')*30+exp(`cd15')*31+exp
(`cd16')*31+exp(`cd17')*31+exp(`cd18')*(duurt-518))+d19*(exp(`cd1')*
30+exp(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')
*31+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp
(`cd11')*30+exp(`cd12')*30+exp(`cd13')*30+exp(`cd14')*30+exp(`cd15')*
31+exp(`cd16')*31+exp(`cd17')*31+exp(`cd18')*31+exp(`cd19')*(duurt-
549))
```

```
quietly gen double `odum14' = d20*(exp(`cd1')*30+exp
(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31
+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')
*30+exp(`cd12')*30+exp(`cd13')*30+exp(`cd14')*30+exp(`cd15')*31+exp
(`cd16')*31+exp(`cd17')*31+exp(`cd18')*31+exp(`cd19')*30+exp(`cd20')*
(duurt-579))+d21*(exp(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31+exp
(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31+exp(`cd7')*30+exp(`cd8')*31
+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')*30+exp(`cd12')*30+exp
(`cd13')*30+exp(`cd14')*30+exp(`cd15')*31+exp(`cd16')*31+exp(`cd17')*
31+exp(`cd18')*31+exp(`cd19')*30+exp(`cd20')*31+exp(`cd21')*(duurt-
610))+d22*(exp(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30
+exp(`cd5')*31+exp(`cd6')*31+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*
31+exp(`cd10')*30+exp(`cd11')*30+exp(`cd12')*30+exp(`cd13')*30+exp
(`cd14')*30+exp(`cd15')*31+exp(`cd16')*31+exp(`cd17')*31+exp(`cd18')*
31+exp(`cd19')*30+exp(`cd20')*31+exp(`cd21')*30+exp(`cd22')*(duurt-
640))
```

```
quietly gen double `odum15' = d23*(exp(`cd1')*30+exp
(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31
+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')
*30+exp(`cd12')*30+exp(`cd13')*30+exp(`cd14')*30+exp(`cd15')*31+exp
(`cd16')*31+exp(`cd17')*31+exp(`cd18')*31+exp(`cd19')*30+exp(`cd20')*
31+exp(`cd21')*30+exp(`cd22')*31+exp(`cd23')*(duurt-671))+d24*(exp
(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31
+exp(`cd6')*31+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*
30+exp(`cd11')*30+exp(`cd12')*30+exp(`cd13')*30+exp(`cd14')*30+exp
(`cd15')*31+exp(`cd16')*31+exp(`cd17')*31+exp(`cd18')*31+exp(`cd19')*
30+exp(`cd20')*31+exp(`cd21')*30+exp(`cd22')*31+exp(`cd23')*30+exp
(`cd24')*(duurt-701))+d25*(exp(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31
+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*31+exp(`cd7')*30+exp(`cd8')*
31+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')*30+exp(`cd12')*30+exp
(`cd13')*30+exp(`cd14')*30+exp(`cd15')*31+exp(`cd16')*31+exp(`cd17')*
31+exp(`cd18')*31+exp(`cd19')*30+exp(`cd20')*31+exp(`cd21')*30+exp
(`cd22')*31+exp(`cd23')*30+exp(`cd24')*30+exp(`cd25')*(duurt-731))
+d26*(exp(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp
(`cd5')*31+exp(`cd6')*31+exp(`cd7')*30+exp(`cd8')*31+exp(`cd9')*31
+exp(`cd10')*30+exp(`cd11')*30+exp(`cd12')*30+exp(`cd13')*30+exp
(`cd14')*30+exp(`cd15')*31+exp(`cd16')*31+exp(`cd17')*31+exp(`cd18')*
31+exp(`cd19')*30+exp(`cd20')*31+exp(`cd21')*30+exp(`cd22')*31+exp
(`cd23')*30+exp(`cd24')*30+exp(`cd25')*31+exp(`cd26')*(duurt-762))
```

```
quietly gen double `odum1' =
`odum11'+`odum12'+`odum13'+`odum14'+`odum15'
```

```
quietly gen double `vdum1' = (d1*exp(`cd1')+d2*exp(`cd2')
+d3*exp(`cd3')+d4*exp(`cd4')+d5*exp(`cd5')+d6*exp(`cd6')+d7*exp
(`cd7')+d8*exp(`cd8')+d9*exp(`cd9')+d10*exp(`cd10')+d11*exp(`cd11')
+d12*exp(`cd12')+d13*exp(`cd13')+d14*exp(`cd14')+d15*exp(`cd15')+d16
*exp(`cd16')+d17*exp(`cd17')+d18*exp(`cd18')+d19*exp(`cd19')+d20*exp
(`cd20')+d21*exp(`cd21')+d22*exp(`cd22')+d23*exp(`cd23')+d24*exp
(`cd24')+d25*exp(`cd25')+d26*exp(`cd26'))
```

```
quietly gen double `p1' = 0.5
```

```
quietly gen double `p2' = 1-`p1'
```

```
replace `lnf' = log(`p1'*((1-rechts)*(`vdum1')
*`theta'*exp(-(`odum1')*`theta)))+rechts*exp(-(`odum1')*`theta'))
+`p2'*((1-rechts)*(`vdum1')*`theta'*exp(-(`odum1')*`theta'))
+rechts*exp(-(`odum1')*`theta'))
```

```
end
```

```
ml model lf mlJoLE (thetal: after age educ2 educ3 educ4 family1
family2 illh g3 g4 g5 g6) /ben /eff03 /eff06 /eff09 /c2 /c3 /c4 /c5
/c6 /c9 /c12 /c18 /c18p /cml, vce(robust)
ml init thetal:_cons=-5
ml maximize
```