

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

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\* STATA 10.0 CODE  
\* copyright C 2008 by Tito Boeri & Jan van Ours  
\* "THE ECONOMICS OF IMPERFECT LABOR MARKETS"  
\* 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

Current memory allocation

settable	current value	description	memory usage (1M = 1024k)
set maxvar	5000	max. variables allowed	1.733M
set memory	120M	max. data space	120.000M
set matsize	400	max. RHS vars in models	1.254M
			-----
			122.987M

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\*Article:  
. \*How Shortening the Potential Duration of Unemployment Benefits Affects  
. \*the Duration of Unemployment:  
. \*Evidence from a Natural Experiment, by Jan C. van Ours and Milan Vodopivec,  
. \*Journal of Labor Economics, vol.24(2)

. \*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

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. program define mlJoLE
1.          args lnf theta1 ben eff03 eff06 eff09 c2 c3 c4 c5 c6 c9 c12 c18
c18p cm1
2.          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 cd
> 19 cd20 cd21 cd22 cd23 cd24 cd25 cd26 odum11 odum12 odum13 odum14 odum15 odum1
vdum1 p1 p2
3.          quietly gen double `theta' = exp(`theta1')
4.          quietly gen double `dis03' =
after*(g3*`eff03'+(g4+g5)*`eff06'+g6*`eff09')
5.          quietly gen double `dis06' =
before*`ben'*(g2)+after*((g4+g5)*`eff06'+g6*`eff09')+after*(`ben'*(g2+g3))
6.          quietly gen double `dis09' =
before*`ben'*(g2+g3)+after*g6*`eff09'+after*`ben'*(g2+g3+g4+g5)
7.          quietly gen double `dis012' =
before*`ben'*(g2+g3+g4)+after*`ben'*(g2+g3+g4+g5+g6)
8.          quietly gen double `dis018' =
before*`ben'*(g2+g3+g4+g5)+after*`ben'*(g2+g3+g4+g5+g6)
9.          quietly gen double `diszz' = `ben'*(g2+g3+g4+g5+g6)
10.         quietly gen double `cd1' = `dis03'
11.         quietly gen double `cd2' = `dis03'+`c2'
12.         quietly gen double `cd3' = `cm1'*(g2+after*g3)+`dis03'+`c3'
13.         quietly gen double `cd4' = `dis06'+`c4'
14.         quietly gen double `cd5' = `dis06'+`c5'
15.         quietly gen double `cd6' =
`cm1'*(before*g3+after*(g4+g5))+`dis06'+`c6'
16.         quietly gen double `cd7' = `dis09'+`c9'
17.         quietly gen double `cd8' = `dis09'+`c9'
18.         quietly gen double `cd9' =
`cm1'*(before*g4+after*g6)+`dis09'+`c9'
19.         quietly gen double `cd10' = `dis012'+`c12'
20.         quietly gen double `cd11' = `dis012'+`c12'
21.         quietly gen double `cd12' = `cm1'*before*g5+`dis012'+`c12'
22.         quietly gen double `cd13' = `dis018'+`c18'
23.         quietly gen double `cd14' = `dis018'+`c18'
24.         quietly gen double `cd15' = `dis018'+`c18'
25.         quietly gen double `cd16' = `dis018'+`c18'
26.         quietly gen double `cd17' = `dis018'+`c18'
27.         quietly gen double `cd18' = `cm1'*before*g6+`dis018'+`c18'
28.         quietly gen double `cd19' = `diszz'+`c18p'
29.         quietly gen double `cd20' = `diszz'+`c18p'
30.         quietly gen double `cd21' = `diszz'+`c18p'
31.         quietly gen double `cd22' = `diszz'+`c18p'
32.         quietly gen double `cd23' = `diszz'+`c18p'
33.         quietly gen double `cd24' = `diszz'+`c18p'
34.         quietly gen double `cd25' = `diszz'+`c18p'
35.         quietly gen double `cd26' = `diszz'+`c18p'
36.         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')*3
> 1+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')*3
> 1+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')*3
> 1+exp(`cd9')*(duurt-244))

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37.          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+ex
> p(`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(`cd
>
4')*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*(ex
>
p(`cd1')*30+exp(`cd2')*30+exp(`cd3')*31+exp(`cd4')*30+exp(`cd5')*31+exp(`cd6')*3
1+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))
38.          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+ex
>
p(`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(`c
> d13')*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+e
>
xp(`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(`cd1
> 7')*(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(`c
>
d10')*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(`c
d7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')*30+exp(`cd1
>
2')*30+exp(`cd13')*30+exp(`cd14')*30+exp(`cd15')*31+exp(`cd16')*31+exp(`cd17')*3
1+exp(`cd18')*31+exp(`cd19')*(duurt-549))
39.          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+ex
>
p(`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(`cd1
> 8')*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(`

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>
cd7')*30+exp(`cd8')*31+exp(`cd9')*31+exp(`cd10')*30+exp(`cd11')*30+exp(`cd12')*3
0+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')*(duur
t-640))
40.
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+ex
>
p(`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(`cd1
>
8')*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+e
>
xp(`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+ex
p(`cd17')*31+exp(`cd18')*31+exp(`cd19')*30+exp(`cd20')*31+exp(`cd21')*30+e
>
xp(`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(`cd2
2')*31+exp(`cd23')*30+exp(`cd24')*30+exp(`cd25')*31+exp(`cd26')*(duurt-762
> ))
41.
quietly gen double `odum1' =
`odum11'+`odum12'+`odum13'+`odum14'+`odum15'
42.
quietly gen double `vdum1' =
(d1*exp(`cd1')+d2*exp(`cd2')+d3*exp(`cd3')+d4*exp(`cd4')+d5*exp(`cd5')+d6*exp(`c
d6')+d7*exp(`cd7')+d8*exp(
>
`cd8')+d9*exp(`cd9')+d10*exp(`cd10')+d11*exp(`cd11')+d12*exp(`cd12')+d13*exp(`cd
13')+d14*exp(`cd14')+d15*exp(`cd15')+d16*exp(`cd16')+d17*exp(`cd17')+d18*e
>
xp(`cd18')+d19*exp(`cd19')+d20*exp(`cd20')+d21*exp(`cd21')+d22*exp(`cd22')+d23*e
xp(`cd23')+d24*exp(`cd24')+d25*exp(`cd25')+d26*exp(`cd26'))
43.
quietly gen double `p1' = 0.5
44.
quietly gen double `p2' = 1-`p1'
45.
replace `lnf' = log(`p1'*((1-
rechts)*(`vdum1')*`theta'*exp(-(`odum1')*`theta'))+rechts*exp(-
(`odum1')*`theta'))+`p2'*((1-rechts)*(`vd
>
um1')*`theta'*exp(-(`odum1')*`theta'))+rechts*exp(-(`odum1')*`theta'))
46. end

. ml model lf mlJoLE (theta1: after age educ2 educ3 educ4 family1 family2 illh
g3 g4 g5 g6) /ben /eff03 /eff06 /eff09 /c2 /c3 /c4 /c5 /c6 /c9 /c12 /c18 /c18
> p /cml, vce(robust)

. ml init theta1:_cons=-5

. ml maximize

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eff03	_cons	.0019479	.0806635	0.02	0.981	-.1561498	.1600455
eff06	_cons	.1822652	.0543678	3.35	0.001	.0757063	.2888241
eff09	_cons	.2727879	.0663712	4.11	0.000	.1427028	.4028731
c2	_cons	.0840035	.0487326	1.72	0.085	-.0115106	.1795176
c3	_cons	.1993186	.0496519	4.01	0.000	.1020027	.2966344
c4	_cons	.0559151	.0546785	1.02	0.306	-.0512528	.1630831
c5	_cons	.0046489	.0567408	0.08	0.935	-.1065611	.1158588
c6	_cons	-.2340267	.0631705	-3.70	0.000	-.3578386	-.1102148
c9	_cons	-.4604751	.0568874	-8.09	0.000	-.5719724	-.3489778
c12	_cons	-.628107	.067469	-9.31	0.000	-.7603438	-.4958701
c18	_cons	-.7897854	.0700023	-11.28	0.000	-.9269874	-.6525833
c18p	_cons	-1.741714	.0855925	-20.35	0.000	-1.909473	-1.573956
cm1	_cons	.8231229	.0491737	16.74	0.000	.7267442	.9195017

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