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/* Filename:      MLE.LIM                                     */
/* Date:          26 June 1998                                */
/* Project:       Determinants of Youth Employment           */
/* Written by:    Owen Gabbitas (Trade & Economic Studies Branch) */

/* Purpose:       Conducts SURE regressions using MLE         */

Open; output=v:\youthemp\time\limdep\mle.out $
Title; output file v:\..\mle.out $

Reset $

/* ==== Read in data - variable names in first line ==== */

Read; file = v:\youthemp\time\limdep\inputdat.wk1
      ; format = wks
      ; names = $

/* y - youth (aged 15 to 19) */
/* a - adults (aged 20 to 64) */
/* m - male */
/* f - female */
/* ie. yf - female youth */

list ; Wym, Wyf, Wam, Waf, r $

/* list; Cym, Wym, Edym, Mym $ */
/* list; Cyf, Wyf, Edyf, Myf $ */
/* list; Cam, Wam, Edam, Mam $ */
/* list; Caf, Waf, Edaf, Maf $ */
/* list; Ck, r $ */
/* list; Year, Industry, Q $ */

Create ; If (r <= 0) r = 1 $

Create ; LWym = log(Wym) $
Create ; LWyf = log(Wyf) $
Create ; LWam = log(Wam) $
Create ; LWaf = log(Waf) $
Create ; LWk  = log(r)  $

Create ; If (LWym <= 0) LWym = 0.0001 $
Create ; If (LWyf <= 0) LWyf = 0.0001 $
Create ; If (LWam <= 0) LWam = 0.0001 $
Create ; If (LWaf <= 0) LWaf = 0.0001 $
Create ; If (LWk <= 0)  LWk  = 0.0001 $

Namelist ; Wages = LWym, LWyf, LWam, LWaf
          ; Prices = LWym, LWyf, LWam, LWaf, LWk
          ; Costshar = Cym, Cyf, Cam, Caf
          ; Educate = Edym, Edyf, Edam, Edaf $

/* ==== Seemingly unrelated regressions (SURE) - MLE ==== */

/* Unconstrained */
Sure; LHS = Cym, Cyf, Cam, Caf
      ; RHS = one, Prices, Q
      ; Labels = aym, ayf, aam, aaf,
      bymym, bymyf, bymam, bymaf, bymk, bymq,

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byfym, byfyf, byfam, byfaf, byfk, byfq,
bamym, bamyf, bamam, bamaf, bamk, bamq,
bafym, bafyf, bafam, bafaf, bafk, bafq
; Pattern =
aym, bymym, bymyf, bymam, bymaf, bymk, bymq,
ayf, byfym, byfyf, byfam, byfaf, byfk, byfq,
aam, bamym, bamyf, bamam, bamaf, bamk, bamq,
aaf, bafym, bafyf, bafam, bafaf, bafk, bafq
; Cls:      B(3) - B(9) = 0,
B(4) - B(16) = 0,
B(5) - B(23) = 0,
B(11) - B(17) = 0,
B(12) - B(24) = 0,
B(19) - B(25) = 0 $

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/* Imposing Symmetry only */
Sure; LHS = Cym, Cyf, Cam, Caf
; RHS = one, Prices, Q
; Labels = aym, ayf, aam, aaf,
bymym, bymyf, bymam, bymaf, bymk, bymq,
byfym, byfyf, byfam, byfaf, byfk, byfq,
bamym, bamyf, bamam, bamaf, bamk, bamq,
bafym, bafyf, bafam, bafaf, bafk, bafq
; Pattern =
aym, bymym, bymyf, bymam, bymaf, bymk, bymq,
ayf, bymyf, byfyf, byfam, byfaf, byfk, byfq,
aam, bymam, byfam, bamam, bamaf, bamk, bamq,
aaf, bymaf, byfaf, bamaf, bafaf, bafk, bafq $

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