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

/* Purpose:       Conducts SURE regressions using GLS       */

Open; output=v:\youthemp\time\limdep\gls.out $
Title; output file v:\..\gls.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; 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; LWym=log(Wym)
      ; LWyf=log(Wyf)
      ; LWam=log(Wam)
      ; LWaf=log(Waf)
      ; LWk=log(r)
      ; LQ = log (Q) $

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

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

/* Unconstrained */
Sure; LHS = Cym, Cyf, Cam, Caf
      ; Eq1 = one, Prices, LQ
      ; Eq2 = one, Prices, LQ
      ; Eq3 = one, Prices, LQ
      ; Eq4 = one, Prices, LQ $

/* Imposing Symmetry only */
Sure; LHS = Cym, Cyf, Cam, Caf
      ; Eq1 = one, Prices, LQ
      ; Eq2 = one, Prices, LQ
      ; Eq3 = one, Prices, LQ
      ; Eq4 = one, Prices, LQ
      ; Cls:      B(3) - B(9) = 0,

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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 $

/* Imposing homogeneity only */
Sure; LHS = Cym, Cyf, Cam, Caf
; Eq1 = one, Prices, LQ
; Eq2 = one, Prices, LQ
; Eq3 = one, Prices, LQ
; Eq4 = one, Prices, LQ
; Cls:      B(1) + B(8) + B(15) + B(22)          = 1,
B(2) + B(3) + B(4) + B(5) + B(6) = 0,
B(9) + B(10) + B(11) + B(12) + B(13) = 0,
B(16) + B(17) + B(18) + B(19) + B(20) = 0,
B(23) + B(24) + B(25) + B(26) + B(27) = 0,
B(7) + B(14) + B(21) + B(28)          = 0 $

/* Imposing both symmetry and homogeneity */
Sure; LHS = Cym, Cyf, Cam, Caf
; Eq1 = one, Prices, LQ
; Eq2 = one, Prices, LQ
; Eq3 = one, Prices, LQ
; Eq4 = one, Prices, LQ
; 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,
B(1) + B(8) + B(15) + B(22)                      = 1,
B(2) + B(3) + B(4) + B(5) + B(6) = 0,
B(9) + B(10) + B(11) + B(12) + B(13) = 0,
B(16) + B(17) + B(18) + B(19) + B(20) = 0,
B(23) + B(24) + B(25) + B(26) + B(27) = 0,
B(7) + B(14) + B(21) + B(28)          = 0 $

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