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/* Filename:   MLE6.LIM                                          */
/* Date:       06 July 1998                                      */
/* Project:    Determinants of Youth Employment                  */
/* Written by: Owen Gabbitas (Trade & Economic Studies Branch) */

/* Purpose:    Conducts SURE regressions using MLE               */
/*             with aggregated youth                             */
/*             and data in first differences                     */

Open; output=v:\youthemp\time\limdep\mle6.out $
Title; output file v:\..\mle6.out $

Reset $

/* ==== Read in data - variable names in first line ==== */
Read; file = v:\youthemp\time\limdep\input4.wk1
    ; format = wks
    ; names = $

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

/* Variables read from the input file in the following order:      */
/* Industry Year dlnQ dlnr dlnWy dlnWam dlnWaf dEdy dEdam dEdaf    */
/* dMy dMam dMaf dCy dCam dCaf dCk, dlnrWy, dlnrWam, dlnrWaf */

/* list; dCy, dWy, dEdy, dMy $                */
/* list; dCam, dWam, dEdam, dMam $            */
/* list; dCaf, dWaf, dEdaf, dMaf $            */
/* list; dCk, dlnr $                          */
/* list; dlnWy, dlnWam, dlnWaf, dlnr ; file $ */
/* list; Year, Industry, dlnQ $               */


/* ============ Create industry dummy variables ============= */
/*                                                            */
/*   A - Agriculture, forestry, fishing & hunting             */
/*   C - Manufacturing                                        */
/*   E - Construction                                         */
/*   F - Wholesale trade                                      */
/*   G - Retail trade (ommitted as biggest employer of youth) */
/*   H - Acommodation, cafes & restuarants                    */
/*   I - Transport, storage & communication services          */
/*   P - Cultural & personal services                         */
/*   Indx respresents the industry dummy for industry X       */
/*                                                            */
/* ========================================================== */

Create; if (Industry = 1) Inda = 1; (Else) Inda = 0
 ; if (Industry = 2) Indc = 1; (Else) Indc = 0
 ; if (Industry = 3) Inde = 1; (Else) Inde = 0
 ; if (Industry = 4) Indf = 1; (Else) Indf = 0
 ; if (Industry = 6) Indh = 1; (Else) Indh = 0
 ; if (Industry = 7) Indi = 1; (Else) Indi = 0
 ; if (Industry = 8) Indp = 1; (Else) Indp = 0 $
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/* variables first differenced and logged in Excel owing to panel data
*/
/* r has already been converted to an index with base 1984=50
*/
Create ; dlnWk = dlnr $


/* list  ; dlnWy, dlnWam, dlnWaf, dlnWk, dlnQ ; file $  */
Namelist ; Price = dlnWy, dlnWam, dlnWaf, dlnWk
    ; relPrice = dlnrWy, dlnrWam, dlnrWaf
    ; Costshar = dCy, dCam, dCaf
    ; Educate = dEdy, dEdam, dEdaf
    ; Ind = Inda, Indc, Inde, Indf, Indh, Indi, Indp $


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

/* (a) Unconstrained */
Sure; LHS = Costshar
    ; Labels =
     ay,  byy,  byam,  byaf,  byk,   byq,
     aam, bamy, bamam, bamaf, bamk,  bamq,
     aaf, bafy, bafam, bafaf, bafk,  bafq
    ; RHS = one, Price, dlnQ
    ; Pattern =
     ay,   byy,   byam,  byaf,  byk,  byq,
     aam,  bamy,  bamam, bamaf, bamk, bamq,
     aaf,  bafy,  bafam, bafaf, bafk, bafq $
    ; output = 3
    ; printvc


/* (b) Imposing symmetry only */
Sure; LHS = Costshar
    ; Labels = ay, aam, aaf, byy, byam, byaf, byk, byq, bamam, bamaf,
bamk,
     bamq, bafaf, bafk, bafq
    ; RHS = one, Price, dlnQ
    ; Pattern =
     ay,  byy,  byam,  byaf,  byk,  byq,
     aam, byam, bamam, bamaf, bamk, bamq,
     aaf, byaf, bamaf, bafaf, bafk, bafq $
    ; output = 3
    ; printvc


/* (c) Imposing homogeneity only */
Sure; LHS = Costshar
    ; Labels = ay,  byy,  byam,  byaf,  byq,
              aam, bamy, bamam, bamaf, bamq,
     aaf, bafy, bafam, bafaf, bafq
    ; RHS = one, relPrice, dlnQ
    ; Pattern =
     ay,  byy,   byam,  byaf,  byq,
     aam, bamy,  bamam, bamaf, bamq,
     aaf, bafy,  bafam, bafaf, bafq $
    ; output = 3
    ; printvc
```

```
/* (d) Imposing symmetry & homogeneity only */
Sure; LHS = Costshar
    ; Labels = ay, byy, byam, byaf, byq,
     aam, bamam, bamaf, bamq,
     aaf, bafaf, bafq
    ; RHS = one, relPrice, dlnQ
    ; Pattern =
     ay,  byy,  byam,  byaf,  byq,
     aam, byam, bamam, bamaf, bamq,
     aaf, byaf, bamaf, bafaf, bafq $
    ; output = 3
    ; printvc


Stop $

/* ==== Incorporating additional environmental variables ==== */

/* (e) Industry dummy variables */
Sure; LHS = Costshar
    ; Labels = ay, byy, byam, byaf, byq,
     aam, bamam, bamaf, bamq,
     aaf, bafaf, bafq,
     Da, Dc, De, Df, Dh, Di, Dp
    ; RHS = one, relPrice, dlnQ, Ind
    ; Pattern =
     ay,  byy,  byam,  byaf,  byq,  Da, Dc, De, Df, Dh, Di, Dp,
     aam, byam, bamam, bamaf, bamq, Da, Dc, De, Df, Dh, Di, Dp,
     aaf, byaf, bamaf, bafaf, bafq, Da, Dc, De, Df, Dh, Di, Dp $


/* (f) Industry dummy & environmental variables */
Sure; LHS = Costshar
    ; Labels = ay, byy, byam, byaf, byq,
     aam, bamam, bamaf, bamq,
     aaf, bafaf, bafq,
     Da, Dc, De, Df, Dh, Di, Dp,
     Ey, Eam, Eaf
    ; RHS = one, relPrice, dlnQ, Ind, Educate
    ; Pattern =
   ay, byy, byam,  byaf,  byq,  Da, Dc, De, Df, Dh, Di, Dp, Ey, Eam,
Eaf,
   aam, byam, bamam, bamaf, bamq, Da, Dc, De, Df, Dh, Di, Dp, Ey, Eam,
Eaf,
   aaf, byaf, bamaf, bafaf, bafq, Da, Dc, De, Df, Dh, Di, Dp, Ey, Eam,
Eaf
 $
```