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? This file is Peconic Survey Programs.txt
? It contains Limdep programs for the Peconic data.
? Written by Marisa Mazzotta for Abt Associates, 2003.



?**************************************************************************
? Read data. . .
? Read in the ASCII data set that was output by SAS.

?All Second Home Residents
READ   ; nvar=57
     ; file=c:\pec_data\limdep\abt_sec.dat
     ; nobs=3255$



?All Primary Residents
READ   ; nvar=57
     ; file=c:\pec_data\limdep\abt_prim.dat
     ; nobs=8202$

RENAME ;
 X1=y ; X2=farm ; X3=undev ; X4=wet ; X5=shell ; X6=eel ; X7=cost
; X8=ed123_f ; X9=ed123_u ; X10=ed123_w
; X11=ed123_s ; X12=ed123_e ; X13=ed123_c
; X14=ed4_f ; X15=ed4_u ; X16=ed4_w
; X17=ed4_s ; X18=ed4_e ; X19=ed4_c
; X20=ed567_f ; X21=ed567_u ; X22=ed567_w
; X23=ed567_s ; X24=ed567_e ; X25=ed567_c
; X26=inc12_f ; X27=inc12_u ; X28=inc12_w
; X29=inc12_s ; X30=inc12_e ; X31=inc12_c
; X32=inc34_f ; X33=inc34_u ; X34=inc34_w
; X35=inc34_s ; X36=inc34_e ; X37=inc34_c
; X38=inc567_f ; X39=inc567_u ; X40=inc567_w
; X41=inc567_s ; X42=inc567_e ; X43=inc567_c
; X44=inc8_f ; X45=inc8_u ; X46=inc8_w
; X47=inc8_s ; X48=inc8_e ; X49=inc8_c
; X50=fisher ; X51=sheller ; X52=bch_user ; X53=boater ; X54 = oth_user
; X55=N ; X56=A ; X57=B $



? Create namelists for regressions:
Namelist
 ; attrib=farm, undev, wet, shell, eel, cost
 ; educ=ed4_*, ed567_*
 ; inc=inc34_*, inc567_*, inc8_*
$
```

```
?Create interaction variables for users, nonusers
Create
  ; farm_U=0 ; undev_U=0 ; wet_U=0
  ; shell_U=0 ; eel_U=0 ; cost_U=0
  ; farm_NU=0 ; undev_NU=0 ; wet_NU=0
  ; shell_NU=0 ; eel_NU=0 ; cost_NU=0
  ; If (fisher=1 | sheller=1 )
    | farm_U=farm ; undev_U=undev ; wet_U=wet
      ; shell_U=shell ; eel_U=eel ; cost_U=cost
  ; (ELSE) | farm_NU=farm ; undev_NU=undev ; wet_NU=wet
                    ; shell_NU=shell ; eel_NU=eel ; cost_NU=cost
$

?Create constants for each alternative and for action vs. no action
Create

  ; J=trn(-3,0)
  ; No=(J=1)
  ; PA=(J=2)
  ; PB=(J=3)
  ; AB= PA+PB
$



?*****************************************************************************
****
?Model USERS AND NON-USERS, with constants
Discrete choice
  ; Lhs=y
  ; Rhs=AB, PB, farm_U, undev_U, wet_U, shell_U, eel_U, cost_U,
      farm_NU, undev_NU, wet_NU, shell_NU, eel_NU, cost_NU,
      educ, inc
  ; Tlf
  ; printvc
  ; choices=No_Act, Prog_A, Prog_B
$
?Save coeff. vector and var/covar. matrix:
Matrix  ; Bsave=B  ; VCsave=VarB  $


?****Weighting*********
?**** USING POPULATION WEIGHTS AND 1 FOR FIRST CATEGORY ***

?Primary Homes
Type ; Step 1, Read in weights. $
```

Matrix ;list ; E13I12p=1 $
Matrix ;list ; Ed4p=.1835 $
Matrix ;list ; Ed567p=.3090 $
Matrix ;list ; Inc34p=.3194 $
Matrix ;list ; Inc567p=.3087 $
Matrix ;list ; Inc8p=.0341 $

?Second Homes
Type ; Step 1, Read in weights. $
Matrix ;list ; E13I12s=1 $
Matrix ;list ; Ed4s=.1172 $
Matrix ;list ; Ed567s=.701$
Matrix ;list ; Inc34s=.153 $
Matrix ;list ; Inc567s=.4642 $
Matrix ;list ; Inc8s=.2849 $

Type; Step 1a, Remove 1st two coefficients and their var-covar $
Matrix ; list ; B5s = part(Bsave, 3, 44) ;VC5s = part(VCsave, 3, 44, 3, 44) $

Type; Step 1b, Separate Users and NonUsers $
?Users
Matrix ;list ; B5sU1 = part(B5s, 1, 6) $
Matrix ;list ; B5sU2 = part(B5s, 13, 42) $
Matrix ;list ; B5sU = [B5sU1 / B5sU2] $
Matrix ;list ; VC5sU1 = part(VC5s, 1, 6, 1, 6) $
Matrix ;list ; VC5sU2 = part(VC5s, 1, 6, 13, 42) $
Matrix ;list ; VC5sU3 = part(VC5s, 13, 42, 1, 6) $
Matrix ;list ; VC5sU4 = part(VC5s, 13, 42, 13, 42) $
Matrix ;list ; VC5sUa = [VC5sU1,VC5sU2] $
Matrix ;list ; VC5sUb = [VC5sU3,VC5sU4] $
Matrix ;list ; VC5sU = [VC5sUa / VC5sUb] $

?Non-Users
Matrix ;list ; B5sNU1 = part(B5s, 7, 12) $
Matrix ;list ; B5sNU2 = part(B5s, 13, 42) $
Matrix ;list ; B5sNU = [B5sNU1 / B5sNU2] $
Matrix ;list ; VC5sNU1 = part(VC5s, 7, 12, 7, 12) $
Matrix ;list ; VC5sNU2 = part(VC5s, 7, 12, 13, 42) $
Matrix ;list ; VC5sNU3 = part(VC5s, 13, 42, 7, 12) $
Matrix ;list ; VC5sNU4 = part(VC5s, 13, 42, 13, 42) $
Matrix ;list ; VC5sNUa = [VC5sNU1,VC5sNU2] $
Matrix ;list ; VC5sNUb = [VC5sNU3,VC5sNU4] $
Matrix ;list ; VC5sNU = [VC5sNUa / VC5sNUb] $

?Primary homes
Type ; Step 2, Create 6x36matrix of weights. $
Matrix ;list ; I6=Iden(6) $
Matrix ;list ; W1s=E13I12p|I6 $
Matrix ;list ; W2s=Ed4p|I6 $
Matrix ;list ; W3s=Ed567p|I6 $
Matrix ;list ; W4s=Inc34p|I6 $
Matrix ;list ; W5s=Inc567p|I6 $
Matrix ;list ; W6s=Inc8p|I6 $
Matrix ;list ; Ws=[W1s,W2s,W3s,W4s,W5s,W6s] $

?Second homes
Type ; Step 2, Create 6x36matrix of weights. $
Matrix ;list ; I6=Iden(6) $
Matrix ;list ; W1s=E13I12s|I6 $
Matrix ;list ; W2s=Ed4s|I6 $
Matrix ;list ; W3s=Ed567s|I6 $
Matrix ;list ; W4s=Inc34s|I6 $
Matrix ;list ; W5s=Inc567s|I6 $
Matrix ;list ; W6s=Inc8s|I6 $
Matrix ;list ; Ws=[W1s,W2s,W3s,W4s,W5s,W6s] $

Type ; Step 3, Calculate weighted coefficents and std. errors. $
Type ; Weighted Coefficients, Users $
Matrix ;list ; NewB5sU=Ws|B5sU $
Type ; Weighted var/covar. matrix $
Matrix ;list ; NewVCsU=Ws|VC5sU|Ws' $
Type ; Variance of Wtd. Coefficients $
Matrix ;list ; VB5sU=Vecd(NewVCsU) $

Type ; Weighted Coefficients, NON-Users $
Matrix ;list ; NewB5sNU=Ws|B5sNU $
Type ; Weighted var/covar. matrix $
Matrix ;list ; NewVCsNU=Ws|VC5sNU|Ws' $
Type ; Variance of Wtd. Coefficients $
Matrix ;list ; VB5sNU=Vecd(NewVCsNU) $

Type ; Step 4, Calculate WTP values and confidence intervals. $
?USERS
? separate attributes from cost
Matrix ; list ; WBs=part(NewB5sU, 1, 5) ; WCs=part(NewB5sU, 6,6) $
? create a scalar for k
Calc ; alphas=0 $ initialize

Matrix; list ; alphas=WCs $

Calc ; Ks=-1/alphas $

? calculate vector of dollar values

Matrix ; list ; WTPsU=Ks * WBs $

? create info. matrix

Matrix ; list ; I1s=Ginv(NewVCsU) $ takes the inverse

? create J matrix

Matrix ; list ; I5=Iden(5) ; J1s=1/Ks * I5 $

Matrix ; list ; J2s=Init(5,1,0) ; J3s=[J1s,J2s] $

Matrix ; list ; J4s=alphas * NewB5sU $

Matrix ; list ; J4s=J4s' $

Matrix ; list ; Js=[J3s/J4s] $

? create info. matrix for wtp

Matrix ; list ; I2s=Js|I1s|Js' $

? create var-cov. matrices and vector of variances for WTP

Matrix ; list ; VCBKs=Ginv(I2s) ; VCWTPs=part(VCBKs, 1, 5, 1,5)
        ; VWTPsU=vecd(VCWTPs) $

?NON-USERS

? separate attributes from cost

Matrix ; list ; WBs=part(NewB5sNU, 1, 5) ; WCs=part(NewB5sNU, 6,6) $

? create a scalar for k

Calc ; alphas=0 $ initialize

Matrix; list ; alphas=WCs $

Calc ; Ks=-1/alphas $

? calculate vector of dollar values

Matrix ; list ; WTPsNU=Ks * WBs $

? create info. matrix

Matrix ; list ; I1s=Ginv(NewVCsNU) $ takes the inverse

? create J matrix

Matrix ; list ; I5=Iden(5) ; J1s=1/Ks * I5 $

Matrix ; list ; J2s=Init(5,1,0) ; J3s=[J1s,J2s] $

Matrix ; list ; J4s=alphas * NewB5sNU $

Matrix ; list ; J4s=J4s' $

Matrix ; list ; Js=[J3s/J4s] $

? create info. matrix for wtp

Matrix ; list ; I2s=Js|I1s|Js' $

? create var-cov. matrices and vector of variances for WTP

Matrix ; list ; VCBKs=Ginv(I2s) ; VCWTPs=part(VCBKs, 1, 5, 1,5)
        ; VWTPsNU=vecd(VCWTPs) $