```
-------------------------------------------------------------------------------
      name:  <unnamed>
       log:  /Users/julietafigliolia/Downloads/MEAN/TP3/TP3.log
  log type:  text
 opened on:  31 Oct 2017, 23:37:14

. *Abrir base de datos del PUNTO1
. use PESCA.dta

. *Renombrar variables para respetar las consignas
. rename lquan lnQ

. rename lprice lnP

. rename stormy TOR

. rename mon LUN

. rename tue MAR

. rename wed MIER

. rename thu JUE

. *PUNTO 1A: estimar modelo de demanda de pescadilla por MCO
. eststo demandaMCO: reg lnQ lnP LUN MAR MIER JUE, robust

Linear regression                               Number of obs     =
111
                                                F(5, 105)         =
9.40
                                                Prob > F          =
0.0000
                                                R-squared         =
0.2205
                                                Root MSE
=     .67023

------------------------------------------------------------------------------
             |               Robust
         lnQ |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------
+----------------------------------------------------------------
         lnP |  -.5625496   .1521747    -3.70   0.000     -.864284
-.2608153
         LUN |   .0143165   .2057287     0.07   0.945    -.
3936055    .4222384
```

```
         MAR |  -.5162417   .1897271    -2.72   0.008    -.8924354
-.140048
        MIER |  -.5553729   .1937012    -2.87   0.005    -.9394466
-.1712992
         JUE |   .0816213   .1620358     0.50   0.616    -.
2396658    .4029084
       _cons |   8.606893   .1183165    72.74   0.000     8.372293
8.841493
------------------------------------------------------------------------
--------

. *PUNTO 1A: estimar modelo de oferta de pescadilla por MCO
. eststo ofertaMCO: reg lnQ lnP TOR, robust

Linear regression                               Number of obs     =
111
                                                F(2, 108)         =
6.52
                                                Prob > F          =
0.0021
                                                R-squared         =
0.0923
                                                Root MSE
=     .71311

------------------------------------------------------------------------
--------
             |               Robust
         lnQ |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------
+----------------------------------------------------------------
         lnP |   -.438081   .1826097    -2.40   0.018    -.8000451
-.0761169
         TOR |  -.2160189    .167632    -1.29   0.200    -.
5482947    .1162569
       _cons |   8.500857   .0999959    85.01   0.000     8.302648
8.699067
------------------------------------------------------------------------
--------

. *PUNTO 2D: estimar función de demanda 2SLS con errores robustos y
primer etapa
. eststo demanda2SLS: ivregress 2sls lnQ (lnP = TOR) LUN MAR MIER JUE,
vce(robust) first

First-stage regressions
-----------------------

                                                Number of obs     =
```

```
111
                                                F(   5,    105)   =
5.90
                                                Prob > F          =
0.0001
                                                R-squared         =
0.1789
                                                Adj R-squared     =
0.1398
                                                Root MSE          =
0.3542

------------------------------------------------------------------------------
             |               Robust
         lnP |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------
+----------------------------------------------------------------
         LUN |  -.1129225    .115432    -0.98   0.330    -.
3418028    .1159579
         MAR |  -.0411493   .1164417    -0.35   0.725    -.
2720317    .1897331
        MIER |   -.011825   .1135417    -0.10   0.917    -.
2369572    .2133072
         JUE |   .0496456   .1155551     0.43   0.668    -.
1794788    .2787701
         TOR |   .3464055   .0723428     4.79   0.000     .
2029631     .489848
       _cons |  -.2717054   .0952016    -2.85   0.005    -.4604727
-.0829382
------------------------------------------------------------------------------


Instrumental variables (2SLS) regression          Number of obs   =
111
                                                  Wald chi2(5)    =
24.95
                                                  Prob > chi2     =
0.0001
                                                  R-squared       =
0.1391
                                                  Root MSE
=     .68504

------------------------------------------------------------------------------
             |               Robust
         lnQ |      Coef.   Std. Err.      z    P>|z|     [95% Conf.
```

```
Interval]
-------------
+------------------------------------------------------------------
         lnP |  -1.119417   .4310487    -2.60   0.009    -1.964257
-.2745771
         LUN |  -.0254022   .2153699    -0.12   0.906    -.
4475195    .3967151
         MAR |  -.5307694   .1965537    -2.70   0.007    -.9160076
-.1455311
        MIER |  -.5663511   .2012562    -2.81   0.005     -.960806
-.1718962
         JUE |   .1092673   .1735489     0.63   0.529    -.
2308824     .449417
       _cons |   8.505911   .1479025    57.51   0.000     8.216028
8.795795
------------------------------------------------------------------------
--------
Instrumented:  lnP
Instruments:   LUN MAR MIER JUE TOR

. *Testear la fortaleza del instrumento y ver si F>10
. estat firststage

  First-stage regression summary statistics

-------------------------------------------------------------------------
----
             |            Adjusted      Partial       Robust
    Variable |   R-sq.       R-sq.        R-sq.      F(1,105)   Prob
> F
  -------------
+-----------------------------------------------------------
          lnP |  0.1789      0.1398       0.1701       22.9287
0.0000

-------------------------------------------------------------------------
----


. *Testear si la variable lnP es endógena. Con un pvalor bajo se
rechaza la H0 de exogeneidad de la variable lnP y por lo tanto
>  es válido considerarla como endógena
. estat endogenous

  Tests of endogeneity
  Ho: variables are exogenous

  Robust score chi2(1)           =  2.24967  (p = 0.1336)
  Robust regression F(1,104)     =  2.27552  (p = 0.1345)
```

```
. *Comparar elasticidad de demanda por MCO y 2SLS
. estout demandaMCO demanda2SLS

------------------------------------
               demandaMCO  demanda2SLS
                        b            b
------------------------------------
lnP             -.5625496   -1.119417
LUN              .0143165   -.0254022
MAR             -.5162417   -.5307694
MIER            -.5553729   -.5663511
JUE              .0816213    .1092673
_cons            8.606893    8.505911
------------------------------------

. *PUNTO 2E: estimar función de oferta 2SLS con errores robustos y
primer etapa
. eststo oferta2SLS: ivregress 2sls lnQ (lnP = LUN MAR MIER JUE) TOR,
vce(robust) first

First-stage regressions
-----------------------

                                                Number of obs     =
111
                                                F(   5,    105)   =
5.90
                                                Prob > F          =
0.0001
                                                R-squared         =
0.1789
                                                Adj R-squared     =
0.1398
                                                Root MSE          =
0.3542

------------------------------------------------------------------------------
             |               Robust
         lnP |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------
+----------------------------------------------------------------
         TOR |   .3464055   .0723428     4.79   0.000     .
2029631     .489848
         LUN |  -.1129225    .115432    -0.98   0.330    -.
3418028    .1159579
         MAR |  -.0411493   .1164417    -0.35   0.725    -.
2720317    .1897331
        MIER |   -.011825   .1135417    -0.10   0.917    -.
```

```
2369572    .2133072
         JUE |   .0496456   .1155551     0.43   0.668    -.
1794788    .2787701
       _cons |  -.2717054   .0952016    -2.85   0.005    -.4604727
-.0829382
------------------------------------------------------------------------------
--------


Instrumental variables (2SLS) regression          Number of obs   =
111
                                                  Wald chi2(2)    =
6.04
                                                  Prob > chi2     =
0.0489
                                                  R-squared       =
0.0494
                                                  Root MSE
=     .71987

------------------------------------------------------------------------------
--------
             |               Robust
         lnQ |      Coef.   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------
+----------------------------------------------------------------
         lnP |   .0010593    1.27975     0.00   0.999    -2.507204
2.509323
         TOR |  -.3632461   .4710917    -0.77   0.441
-1.286569    .5600767
       _cons |   8.628354   .3751902    23.00   0.000     7.892995
9.363714
------------------------------------------------------------------------------
--------
Instrumented:  lnP
Instruments:   TOR LUN MAR MIER JUE

. *Testear la fortaleza de los instrumentos y ver si F>10
. estat firststage

  First-stage regression summary statistics

------------------------------------------------------------------------------
----
               |            Adjusted      Partial       Robust
      Variable |   R-sq.       R-sq.        R-sq.      F(4,105)   Prob
> F
  -------------
+----------------------------------------------------------
```

```
           lnP |  0.1789      0.1398       0.0230       .742598
0.5651

------------------------------------------------------------------------------
----


. *Test de sobreidentificación o exogeneidad de los instrumentos.
Queremos no rechazar la H0 para que los instrumentos sean exó
> genos
. estat overid

  Test of overidentifying restrictions:

  Score chi2(3)          =  15.3419  (p = 0.0015)

. *Testear si la variable lnP es endógena. Con un pvalor bajo se
rechaza la H0 de exogeneidad de la variable lnP y por lo tanto
>  es válido considerarla como endógena
. estat endogenous

  Tests of endogeneity
  Ho: variables are exogenous

  Robust score chi2(1)           =  .127596  (p = 0.7209)
  Robust regression F(1,107)     =  .121549  (p = 0.7280)

. *Comparar elasticidad de oferta por MCO y 2SLS
. estout ofertaMCO oferta2SLS

--------------------------------------
                ofertaMCO   oferta2SLS
                        b           b
--------------------------------------
lnP              -.438081     .0010593
TOR             -.2160189    -.3632461
_cons            8.500857     8.628354
--------------------------------------

. *Fin PUNTO1
.
. clear all

.
. *Abrir base de datos del PUNTO 2
. use PARTICIP.dta

.
. *PUNTO 2A
. sum inlf wage
```

```
    Variable |        Obs        Mean    Std. Dev.       Min
Max
-------------
+---------------------------------------------------------
        inlf |        753    .5683931    .4956295          0
1
        wage |        428    4.177682    3.310282      .1282
25

. br inlf wage

.
. *PUNTO 2B: estimar modelo de probabilidad lineal robusto
. reg inlf nwifeinc educ age exper expersq kidslt6 kidsge6, robust

Linear regression                               Number of obs     =
753
                                                F(7, 745)         =
62.48
                                                Prob > F          =
0.0000
                                                R-squared         =
0.2642
                                                Root MSE
=     .42713

------------------------------------------------------------------------
--------
             |               Robust
        inlf |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------
+------------------------------------------------------------------
    nwifeinc |  -.0034052   .0015249    -2.23   0.026    -.0063988
-.0004115
        educ |   .0379953    .007266     5.23   0.000      .
023731    .0522596
         age |  -.0160908    .002399    -6.71   0.000    -.0208004
-.0113812
       exper |   .0394924     .00581     6.80   0.000     .
0280864    .0508983
     expersq |  -.0005963     .00019    -3.14   0.002    -.0009693
-.0002233
     kidslt6 |  -.2618105   .0317832    -8.24   0.000    -.3242058
-.1994152
     kidsge6 |   .0130122   .0135329     0.96   0.337     -.
013555    .0395795
       _cons |   .5855192   .1522599     3.85   0.000     .
2866098    .8844287
```

```
------------------------------------------------------------------------
--------

. mfx compute, at (nwifeinc=50 exper=5 expersq=25 age=30 kidslt6=1
kidsge6=0 educ=0)

Marginal effects after regress
      y  = Fitted values (predict)
         = -.14671972
------------------------------------------------------------------------
--------
variable |      dy/dx    Std. Err.     z    P>|z|  [    95% C.I.   ]
X
---------
+--------------------------------------------------------------------
nwifeinc |  -.0034052      .00152   -2.23   0.026  -.006394 -.000416
50
    educ |   .0379953      .00727    5.23   0.000   .023754  .052236
0
     age |  -.0160908       .0024   -6.71   0.000  -.020793 -.011389
30
   exper |   .0394924      .00581    6.80   0.000   .028105   .05088
5
 expersq |  -.0005963      .00019   -3.14   0.002  -.000969 -.000224
25
 kidslt6 |  -.2618105      .03178   -8.24   0.000  -.324104 -.199517
1
 kidsge6 |   .0130122      .01353    0.96   0.336  -.013512  .039536
0
------------------------------------------------------------------------
--------

.
. *PUNTO 2C
. sum educ

    Variable |        Obs        Mean    Std. Dev.       Min
Max
-------------
+---------------------------------------------------------
        educ |        753    12.28685    2.280246          5
17

. hist educ, freq
(bin=27, start=5, width=.44444444)

. gen phat=-0.14672080+0.0379953*educ

. twoway (scatter phat educ) (lfit phat educ, xsc(range(0 20))),
ytitle(Predicción)
```

```
. *Crear variable educteo, cuyo valor empiece en 0 y llegue a 20,
avanzando de a 0,10.
. gen educteo=0

. replace educteo=educteo[_n-1]+0.10 if _n>1
(752 real changes made)

. replace educteo=. if educteo>20
(553 real changes made, 553 to missing)

. *Chequear valores de educteo
. sum educteo

    Variable |        Obs        Mean    Std. Dev.       Min
Max
-------------
+---------------------------------------------------------
     educteo |        200    9.950009    5.787931          0
19.90004

. tab educteo

    educteo |      Freq.     Percent        Cum.
------------+-----------------------------------
          0 |          1        0.50        0.50
         .1 |          1        0.50        1.00
         .2 |          1        0.50        1.50
         .3 |          1        0.50        2.00
         .4 |          1        0.50        2.50
         .5 |          1        0.50        3.00
         .6 |          1        0.50        3.50
         .7 |          1        0.50        4.00
   .8000001 |          1        0.50        4.50
   .9000001 |          1        0.50        5.00
          1 |          1        0.50        5.50
        1.1 |          1        0.50        6.00
        1.2 |          1        0.50        6.50
        1.3 |          1        0.50        7.00
        1.4 |          1        0.50        7.50
        1.5 |          1        0.50        8.00
        1.6 |          1        0.50        8.50
        1.7 |          1        0.50        9.00
        1.8 |          1        0.50        9.50
        1.9 |          1        0.50       10.00
          2 |          1        0.50       10.50
        2.1 |          1        0.50       11.00
        2.2 |          1        0.50       11.50
        2.3 |          1        0.50       12.00
        2.4 |          1        0.50       12.50
```

2.5	1	0.50	13.00
2.6	1	0.50	13.50
2.7	1	0.50	14.00
2.799999	1	0.50	14.50
2.899999	1	0.50	15.00
2.999999	1	0.50	15.50
3.099999	1	0.50	16.00
3.199999	1	0.50	16.50
3.299999	1	0.50	17.00
3.399999	1	0.50	17.50
3.499999	1	0.50	18.00
3.599999	1	0.50	18.50
3.699999	1	0.50	19.00
3.799999	1	0.50	19.50
3.899998	1	0.50	20.00
3.999998	1	0.50	20.50
4.099998	1	0.50	21.00
4.199998	1	0.50	21.50
4.299998	1	0.50	22.00
4.399998	1	0.50	22.50
4.499998	1	0.50	23.00
4.599998	1	0.50	23.50
4.699998	1	0.50	24.00
4.799998	1	0.50	24.50
4.899998	1	0.50	25.00
4.999998	1	0.50	25.50
5.099998	1	0.50	26.00
5.199997	1	0.50	26.50
5.299997	1	0.50	27.00
5.399997	1	0.50	27.50
5.499997	1	0.50	28.00
5.599997	1	0.50	28.50
5.699997	1	0.50	29.00
5.799997	1	0.50	29.50
5.899997	1	0.50	30.00
5.999997	1	0.50	30.50
6.099997	1	0.50	31.00
6.199996	1	0.50	31.50
6.299996	1	0.50	32.00
6.399996	1	0.50	32.50
6.499996	1	0.50	33.00
6.599996	1	0.50	33.50
6.699996	1	0.50	34.00
6.799996	1	0.50	34.50
6.899996	1	0.50	35.00
6.999996	1	0.50	35.50
7.099996	1	0.50	36.00
7.199996	1	0.50	36.50
7.299995	1	0.50	37.00
7.399995	1	0.50	37.50

7.499995	1	0.50	38.00
7.599995	1	0.50	38.50
7.699995	1	0.50	39.00
7.799995	1	0.50	39.50
7.899995	1	0.50	40.00
7.999995	1	0.50	40.50
8.099995	1	0.50	41.00
8.199995	1	0.50	41.50
8.299995	1	0.50	42.00
8.399996	1	0.50	42.50
8.499996	1	0.50	43.00
8.599997	1	0.50	43.50
8.699997	1	0.50	44.00
8.799997	1	0.50	44.50
8.899998	1	0.50	45.00
8.999998	1	0.50	45.50
9.099998	1	0.50	46.00
9.199999	1	0.50	46.50
9.299999	1	0.50	47.00
9.4	1	0.50	47.50
9.5	1	0.50	48.00
9.6	1	0.50	48.50
9.700001	1	0.50	49.00
9.800001	1	0.50	49.50
9.900002	1	0.50	50.00
10	1	0.50	50.50
10.1	1	0.50	51.00
10.2	1	0.50	51.50
10.3	1	0.50	52.00
10.4	1	0.50	52.50
10.5	1	0.50	53.00
10.6	1	0.50	53.50
10.7	1	0.50	54.00
10.8	1	0.50	54.50
10.90001	1	0.50	55.00
11.00001	1	0.50	55.50
11.10001	1	0.50	56.00
11.20001	1	0.50	56.50
11.30001	1	0.50	57.00
11.40001	1	0.50	57.50
11.50001	1	0.50	58.00
11.60001	1	0.50	58.50
11.70001	1	0.50	59.00
11.80001	1	0.50	59.50
11.90001	1	0.50	60.00
12.00001	1	0.50	60.50
12.10001	1	0.50	61.00
12.20001	1	0.50	61.50
12.30001	1	0.50	62.00
12.40001	1	0.50	62.50

12.50001	1	0.50	63.00
12.60001	1	0.50	63.50
12.70001	1	0.50	64.00
12.80001	1	0.50	64.50
12.90001	1	0.50	65.00
13.00001	1	0.50	65.50
13.10001	1	0.50	66.00
13.20001	1	0.50	66.50
13.30001	1	0.50	67.00
13.40001	1	0.50	67.50
13.50002	1	0.50	68.00
13.60002	1	0.50	68.50
13.70002	1	0.50	69.00
13.80002	1	0.50	69.50
13.90002	1	0.50	70.00
14.00002	1	0.50	70.50
14.10002	1	0.50	71.00
14.20002	1	0.50	71.50
14.30002	1	0.50	72.00
14.40002	1	0.50	72.50
14.50002	1	0.50	73.00
14.60002	1	0.50	73.50
14.70002	1	0.50	74.00
14.80002	1	0.50	74.50
14.90002	1	0.50	75.00
15.00002	1	0.50	75.50
15.10002	1	0.50	76.00
15.20002	1	0.50	76.50
15.30002	1	0.50	77.00
15.40002	1	0.50	77.50
15.50002	1	0.50	78.00
15.60002	1	0.50	78.50
15.70002	1	0.50	79.00
15.80002	1	0.50	79.50
15.90002	1	0.50	80.00
16.00002	1	0.50	80.50
16.10003	1	0.50	81.00
16.20003	1	0.50	81.50
16.30003	1	0.50	82.00
16.40003	1	0.50	82.50
16.50003	1	0.50	83.00
16.60003	1	0.50	83.50
16.70003	1	0.50	84.00
16.80003	1	0.50	84.50
16.90003	1	0.50	85.00
17.00003	1	0.50	85.50
17.10003	1	0.50	86.00
17.20003	1	0.50	86.50
17.30003	1	0.50	87.00
17.40003	1	0.50	87.50

```
   17.50003 |          1        0.50       88.00
   17.60003 |          1        0.50       88.50
   17.70003 |          1        0.50       89.00
   17.80003 |          1        0.50       89.50
   17.90003 |          1        0.50       90.00
   18.00003 |          1        0.50       90.50
   18.10003 |          1        0.50       91.00
   18.20003 |          1        0.50       91.50
   18.30003 |          1        0.50       92.00
   18.40003 |          1        0.50       92.50
   18.50003 |          1        0.50       93.00
   18.60003 |          1        0.50       93.50
   18.70004 |          1        0.50       94.00
   18.80004 |          1        0.50       94.50
   18.90004 |          1        0.50       95.00
   19.00004 |          1        0.50       95.50
   19.10004 |          1        0.50       96.00
   19.20004 |          1        0.50       96.50
   19.30004 |          1        0.50       97.00
   19.40004 |          1        0.50       97.50
   19.50004 |          1        0.50       98.00
   19.60004 |          1        0.50       98.50
   19.70004 |          1        0.50       99.00
   19.80004 |          1        0.50       99.50
   19.90004 |          1        0.50      100.00
------------+-----------------------------------
      Total |        200      100.00

. *Crear probest, probabilidad estimada de estar trabajar usando los
coeficientes estimados en el punto 2b y asumiendo los valo
> res de todas las demás variables fijos en (nwifeinc=50 exper=5
expersq=25 age=30 kidslt6=1 kidsge6=0 educ=0)
. gen probest = _b[_cons] + _b[nwifeinc]*50 + _b[exper]*5 +
_b[expersq]*25 + _b[age]*30 + _b[kidslt6]*1 + _b[kidsge6]*0 + _b[ed
> uc]*educteo
(553 missing values generated)

. display probest
-.14671972

. *Graficar probest en función de educteo cuando educteo abarca
valores entre 0 y 20.
. twoway (scatter probest educteo) (lfit probest educteo, xsc(range(0
20))), title(Relación entre probabilidad de estar trabaja
> ndo y educteo) ytitle(probest)

. graph export probest_educteo.png, replace
(file probest_educteo.png written in PNG format)

.
```

```
. *PUNTO 2D: comparar y estimar los 3 modelos lineal, probit y logit
. qui reg inlf nwifeinc educ age exper expersq kidslt6 kidsge6 /
*modelo lineal*/

. outreg2 using outreg.doc, replace ctitle(MLP) adjr2
outreg.doc
dir : seeout

.
. qui probit inlf nwifeinc educ age exper expersq kidslt6 kidsge6 /
*Modelo probit. Opción append para se anexen las tablas en u
> n solo cuadro*/

. outreg2 using outreg.doc, append ctitle(Probit) e(r2_p)
outreg.doc
dir : seeout

.
. qui logit inlf nwifeinc educ age exper expersq kidslt6 kidsge6 /
*Modelo logit*/

. outreg2 using outreg.doc, append ctitle(Logit) e(r2_p)
outreg.doc
dir : seeout

.
. shellout using `"outreg.doc"'
shellout probably will not work with MacOSX

/bin/bash: outreg.doc: command not found

. *abre el archivo Word
.
.
. *PUNTO 2E: Se resolvio de dos maneras OPCION1 y OPCION2
. *PUNTO 2E OPCION1: estudiar el efecto de la experiencia
. qui reg inlf nwifeinc educ age exper expersq kidslt6 kidsge6

. mfx, at(exper=20,expersq=400)

warning: no value assigned in at() for variables nwifeinc educ age
kidslt6 kidsge6;
   means used for nwifeinc educ age kidslt6 kidsge6

Marginal effects after regress
      y  = Fitted values (predict)
         =  .80604651
------------------------------------------------------------------------
--------
variable |      dy/dx    Std. Err.     z    P>|z|  [    95% C.I.   ]
```

```
X
---------
+------------------------------------------------------------------------
nwifeinc |  -.0034052      .00145   -2.35   0.019  -.006244 -.000566
20.129
    educ |   .0379953      .00738    5.15   0.000   .023539  .052452
12.2869
     age |  -.0160908      .00248   -6.48   0.000  -.020961 -.011221
42.5378
   exper |   .0394924      .00567    6.96   0.000   .028374  .050611
20
 expersq |  -.0005963      .00018   -3.23   0.001  -.000958 -.000234
400
 kidslt6 |  -.2618105      .03351   -7.81   0.000  -.327481  -.
19614   .237716
 kidsge6 |   .0130122       .0132    0.99   0.324  -.012851  .038876
1.35325
------------------------------------------------------------------------
--------

. outreg2 using margins, replace ctitle(MPL exper=20)
dir : seeout

. mfx, at(exper=25, expersq=625)

warning: no value assigned in at() for variables nwifeinc educ age
kidslt6 kidsge6;
   means used for nwifeinc educ age kidslt6 kidsge6

Marginal effects after regress
      y  = Fitted values (predict)
         =  .86933828
------------------------------------------------------------------------
--------
variable |      dy/dx    Std. Err.     z    P>|z|  [    95% C.I.   ]
X
---------
+------------------------------------------------------------------------
nwifeinc |  -.0034052      .00145   -2.35   0.019  -.006244 -.000566
20.129
    educ |   .0379953      .00738    5.15   0.000   .023539  .052452
12.2869
     age |  -.0160908      .00248   -6.48   0.000  -.020961 -.011221
42.5378
   exper |   .0394924      .00567    6.96   0.000   .028374  .050611
25
 expersq |  -.0005963      .00018   -3.23   0.001  -.000958 -.000234
625
 kidslt6 |  -.2618105      .03351   -7.81   0.000  -.327481  -.
19614   .237716
```

```
 kidsge6 |   .0130122       .0132    0.99   0.324  -.012851  .038876
1.35325
------------------------------------------------------------------------
--------

. outreg2 using margins, append ctitle(MPL exper=25)
dir : seeout

.
. qui probit inlf nwifeinc educ age exper expersq kidslt6 kidsge6

. mfx, at(exper=20, expersq=400)

warning: no value assigned in at() for variables nwifeinc educ age
kidslt6 kidsge6;
   means used for nwifeinc educ age kidslt6 kidsge6

Marginal effects after probit
      y  = Pr(inlf) (predict)
         =  .82706946
------------------------------------------------------------------------
--------
variable |      dy/dx    Std. Err.     z    P>|z|  [    95% C.I.   ]
X
---------
+--------------------------------------------------------------------
nwifeinc |  -.0030761       .0013   -2.37   0.018  -.005625 -.000528
20.129
    educ |   .0334897      .00716    4.67   0.000   .019449   .04753
12.2869
     age |  -.0135214      .00222   -6.09   0.000  -.017873  -.00917
42.5378
   exper |   .0315564      .00392    8.05   0.000   .023871  .039242
20
 expersq |  -.0004828      .00015   -3.28   0.001  -.000771 -.000194
400
 kidslt6 |   -.222147      .03557   -6.25   0.000  -.291853  -.
15244   .237716
 kidsge6 |   .0092113      .01105    0.83   0.404   -.01244  .030862
1.35325
------------------------------------------------------------------------
--------

. outreg2 using margins, append ctitle(Probit exper=20)
dir : seeout

. mfx, at(exper=25, expersq=625)

warning: no value assigned in at() for variables nwifeinc educ age
kidslt6 kidsge6;
```

```
   means used for nwifeinc educ age kidslt6 kidsge6

Marginal effects after probit
      y  = Pr(inlf) (predict)
         =  .87176891
------------------------------------------------------------------------------
variable |      dy/dx    Std. Err.     z    P>|z|  [    95% C.I.   ]
X
---------+--------------------------------------------------------------------
nwifeinc |  -.0025195      .00113   -2.23   0.026  -.004733 -.000306
20.129
    educ |   .0274305      .00662    4.14   0.000   .014449  .040412
12.2869
     age |   -.011075      .00197   -5.61   0.000  -.014945 -.007205
42.5378
   exper |   .0258469      .00482    5.36   0.000   .016398  .035296
25
 expersq |  -.0003954      .00015   -2.70   0.007  -.000683 -.000108
625
 kidslt6 |  -.1819541      .03507   -5.19   0.000   -.25069 -.
113218   .237716
 kidsge6 |   .0075447      .00901    0.84   0.403  -.010122  .025211
1.35325
------------------------------------------------------------------------------

. outreg2 using margins, append ctitle(probit exper=25)
dir : seeout

.
. qui logit inlf nwifeinc educ age exper expersq kidslt6 kidsge6

. mfx, at(exper=20, expersq=400)

warning: no value assigned in at() for variables nwifeinc educ age
kidslt6 kidsge6;
   means used for nwifeinc educ age kidslt6 kidsge6

Marginal effects after logit
      y  = Pr(inlf) (predict)
         =  .82676971
------------------------------------------------------------------------------
variable |      dy/dx    Std. Err.     z    P>|z|  [    95% C.I.   ]
X
---------+--------------------------------------------------------------------
nwifeinc |  -.0030571      .00128   -2.39   0.017  -.005564 -.000551
```

```
20.129
    educ |   .0316764      .00703    4.51   0.000   .017896  .045457
12.2869
     age |   -.012607      .00217   -5.82   0.000  -.016855 -.008359
42.5378
   exper |    .029485      .00376    7.85   0.000   .022123  .036847
20
 expersq |  -.0004517      .00014   -3.23   0.001  -.000726 -.000178
400
 kidslt6 |  -.2067194      .03523   -5.87   0.000  -.275774 -.
137665   .237716
 kidsge6 |   .0086094      .01062    0.81   0.418  -.012209  .029427
1.35325
------------------------------------------------------------------------
--------

. outreg2 using margins, append ctitle(Logit exper=20)
dir : seeout

. mfx, at(exper=25, expersq=625)

warning: no value assigned in at() for variables nwifeinc educ age
kidslt6 kidsge6;
   means used for nwifeinc educ age kidslt6 kidsge6

Marginal effects after logit
      y  = Pr(inlf) (predict)
         =  .86790703
------------------------------------------------------------------------
--------
variable |      dy/dx    Std. Err.     z    P>|z|  [    95% C.I.   ]
X
---------
+--------------------------------------------------------------------
nwifeinc |  -.0024471      .00109   -2.24   0.025  -.004584  -.00031
20.129
    educ |   .0253559      .00634    4.00   0.000   .012923  .037788
12.2869
     age |  -.0100915      .00191   -5.29   0.000  -.013834 -.006349
42.5378
   exper |   .0236018      .00466    5.07   0.000   .014477  .032727
25
 expersq |  -.0003616      .00014   -2.62   0.009  -.000632 -.000091
625
 kidslt6 |  -.1654725      .03398   -4.87   0.000  -.232063 -.
098882   .237716
 kidsge6 |   .0068915      .00848    0.81   0.416  -.009719  .023502
1.35325
------------------------------------------------------------------------
--------
```

```
.
. *PUNTO 2E OPCION2: estudiar el efecto de la experiencia
. reg inlf nwifeinc educ age exper expersq kidslt6 kidsge6

      Source |       SS           df       MS      Number of obs   =
753
-------------+----------------------------------   F(7, 745)       =
38.22
       Model |  48.8080578         7  6.97257969   Prob > F        =
0.0000
    Residual |  135.919698       745  .182442547   R-squared       =
0.2642
-------------+----------------------------------   Adj R-squared   =
0.2573
       Total |  184.727756       752  .245648611   Root MSE
=    .42713

------------------------------------------------------------------------
--------
        inlf |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------
+----------------------------------------------------------------
    nwifeinc |  -.0034052   .0014485    -2.35   0.019    -.0062488
-.0005616
       educ |   .0379953    .007376     5.15   0.000      .
023515    .0524756
        age |  -.0160908   .0024847    -6.48   0.000    -.0209686
-.011213
       exper |   .0394924   .0056727     6.96   0.000     .
0283561    .0506287
     expersq |  -.0005963   .0001848    -3.23   0.001    -.0009591
-.0002335
     kidslt6 |  -.2618105   .0335058    -7.81   0.000    -.3275875
-.1960335
     kidsge6 |   .0130122    .013196     0.99   0.324    -.
0128935    .0389179
       _cons |   .5855192    .154178     3.80   0.000     .
2828442    .8881943
------------------------------------------------------------------------
--------

. *Calcular la probabilidad estimada LINEAL cuando exper=20 y el resto
de las variables en valor promedio
. prvalue, x(exper=20 expersq=400) save brief

regress: Predictions for inlf

                                  95% Conf. Interval
```

```
  Predicted y:        .80605   [ .75347,    .85862]

. *Calcular el cambio en las probabilidades cuando exper=20 y exper=25
. prvalue, x(exper=25 expersq=625) diff brief

regress: Change in Predictions for inlf

                                95% Conf. Interval
  Predicted y:        .86934   [ .79969,    .93898]
        Saved:        .80605   [ .75347,    .85862]
   Difference:        .06329   [ .02646,    .10012]

. *Se ve que difference=.06329 es decir que el cambio fue de 6 puntos
porcentuales
. *Se hace el calculo a mano del cambio en la probabilidad LINEAL
cuando exper=20 y exper=25
. *Estimar modelo lineal probabilidad
. qui reg inlf nwifeinc educ exper expersq age kidslt6 kidsge6, robust
coeflegend

. *Estimar efectos marginales del modelo lineal
. margins, at(exper = (20 25) expersq= (400 625)) atmeans post
coeflegend

Adjusted predictions                            Number of obs     =
753
Model VCE    : Robust

Expression   : Linear prediction, predict()

1._at        : nwifeinc        =    20.12896 (mean)
               educ            =    12.28685 (mean)
               exper           =          20
               expersq         =         400
               age             =    42.53785 (mean)
               kidslt6         =    .2377158 (mean)
               kidsge6         =    1.353254 (mean)

2._at        : nwifeinc        =    20.12896 (mean)
               educ            =    12.28685 (mean)
               exper           =          20
               expersq         =         625
               age             =    42.53785 (mean)
               kidslt6         =    .2377158 (mean)
               kidsge6         =    1.353254 (mean)

3._at        : nwifeinc        =    20.12896 (mean)
               educ            =    12.28685 (mean)
               exper           =          25
               expersq         =         400
```

```
                age             =    42.53785 (mean)
                kidslt6         =    .2377158 (mean)
                kidsge6         =    1.353254 (mean)

4._at         : nwifeinc        =    20.12896 (mean)
                educ            =    12.28685 (mean)
                exper           =          25
                expersq         =         625
                age             =    42.53785 (mean)
                kidslt6         =    .2377158 (mean)
                kidsge6         =    1.353254 (mean)

------------------------------------------------------------------------------
--------
             |     Margin  Legend
-------------
+----------------------------------------------------------------
         _at |
          1  |   .8060465  _b[1bn._at]
          2  |   .6718763  _b[2._at]
          3  |   1.003508  _b[3._at]
          4  |   .8693383  _b[4._at]
------------------------------------------------------------------------------
--------

. eststo model1, title ("LP_mfx")

. *Probabilidad estimada lineal de una mujer con exper=20 y el resto
de las características constantes
. generate LP_pr_exper20 = _b[1bn._at]

. display LP_pr_exper20
.80604649

. *Probabilidad estimada lineal de una mujer con exper=25 y el resto
de las características constantes
. generate LP_pr_exper25 = _b[4._at]

. display LP_pr_exper25
.86933827

. *Cambio de la probabilidad estimada lineal de una mujer con exper=20
y exper=25  y el resto de las características constantes
. generate LP_pr_exper2025 = LP_pr_exper25 - LP_pr_exper20

. display LP_pr_exper2025
.06329179

. *Se ve que coinciden LP_pr_exper2025=.06329 con difference=.06329
.
```

```
. *Se hace el cálculo del cambio en la probabilidad LOGÍSTICA cuando
exper=20 y exper=25
. *Estimar modelo logit
. qui logit inlf nwifeinc educ exper expersq age kidslt6 kidsge6,
coeflegend

. *Calcular la probabilidad estimada LOGIT cuando exper=20 y el resto
de las variables en valor promedio
. prvalue, x(exper=20 expersq=400) save brief

logit: Predictions for inlf

                                 95% Conf. Interval
  Pr(y=1|x):          0.8268   [ 0.7813,    0.8723]
  Pr(y=0|x):          0.1732   [ 0.1277,    0.2187]

. *Calcular el cambio en las probabilidades cuando exper=20 y exper=25
. prvalue, x(exper=25 expersq=625) diff brief

logit: Change in Predictions for inlf

                     Current     Saved    Change   95% CI for Change
  Pr(y=1|x):          0.8679    0.8268    0.0411  [ 0.0183,   0.0639]
  Pr(y=0|x):          0.1321    0.1732   -0.0411  [-0.0639,  -0.0183]

. *Se ve que change=.0411 es decir que el cambio fue de 4 puntos
porcentuales
.
. *Se hace el cálculo A MANO del cambio en la probabilidad LOGIT
cuando exper=20 y exper=25
. *Estimar modelo logit
. qui logit inlf nwifeinc educ exper expersq age kidslt6 kidsge6,
coeflegend

. *Estimar efectos marginales del modelo logit
. margins, at(exper = (20 25) expersq= (400 625)) atmeans post
coeflegend

Adjusted predictions                              Number of obs     =
753
Model VCE    : OIM

Expression   : Pr(inlf), predict()

1._at        : nwifeinc        =    20.12896 (mean)
               educ            =    12.28685 (mean)
               exper           =          20
               expersq         =         400
               age             =    42.53785 (mean)
               kidslt6         =    .2377158 (mean)
```

```
                kidsge6         =    1.353254 (mean)

2._at         : nwifeinc        =    20.12896 (mean)
                educ            =    12.28685 (mean)
                exper           =          20
                expersq         =         625
                age             =    42.53785 (mean)
                kidslt6         =    .2377158 (mean)
                kidsge6         =    1.353254 (mean)

3._at         : nwifeinc        =    20.12896 (mean)
                educ            =    12.28685 (mean)
                exper           =          25
                expersq         =         400
                age             =    42.53785 (mean)
                kidslt6         =    .2377158 (mean)
                kidsge6         =    1.353254 (mean)

4._at         : nwifeinc        =    20.12896 (mean)
                educ            =    12.28685 (mean)
                exper           =          25
                expersq         =         625
                age             =    42.53785 (mean)
                kidslt6         =    .2377158 (mean)
                kidsge6         =    1.353254 (mean)

------------------------------------------------------------------------
--------
             |     Margin  Legend
-------------
+----------------------------------------------------------------
         _at |
          1  |   .8267697  _b[1bn._at]
          2  |   .7012445  _b[2._at]
          3  |   .9303613  _b[3._at]
          4  |    .867907  _b[4._at]
------------------------------------------------------------------------
--------

. est store model2, title ("logit_mfx")

. *Probabilidad estimada logística de una mujer con exper=20 y el
resto de las características constantes
. generate logit_pr_exper20 = _b[1bn._at]

. display logit_pr_exper20
.82676971

. *Probabilidad estimada logística de una mujer con exper=25 y el
resto de las características constantes
```

```
. generate logit_pr_exper25 = _b[4._at]

. display logit_pr_exper25
.86790705

. *Cambio de la probabilidad estimada logística de una mujer con
exper=20 y exper=25  y el resto de las características constan
> tes
. generate logit_pr_exper2025 = logit_pr_exper25 - logit_pr_exper20

. display logit_pr_exper2025
.04113734

. *Se ve que coinciden logit_pr_exper2025=.06329 con change=.0411
.
. *Estimar modelo probit
. qui probit inlf nwifeinc educ exper expersq age kidslt6 kidsge6,
coeflegend

. *Calcular la probabilidad estimada PROBIT cuando exper=20 y el resto
de las variables en valor promedio
. prvalue, x(exper=20 expersq=400) save brief

probit: Predictions for inlf

                                 95% Conf. Interval
  Pr(y=1|x):          0.8271   [ 0.7805,    0.8737]
  Pr(y=0|x):          0.1729   [ 0.1263,    0.2195]

. *Calcular el cambio en las probabilidades cuando exper=20 y exper=25
. prvalue, x(exper=25 expersq=625) diff brief

probit: Change in Predictions for inlf

                     Current     Saved    Change   95% CI for Change
  Pr(y=1|x):          0.8718    0.8271    0.0447  [ 0.0200,   0.0694]
  Pr(y=0|x):          0.1282    0.1729   -0.0447  [-0.0694,  -0.0200]

. *Se ve que difference=.0446 es decir que el cambio fue también de 4
puntos porcentuales
. *Se hace el cálculo A MANO del cambio en la probabilidad PROBIT
cuando exper=20 y exper=25
. *Estimar efectos marginales del modelo probit
. probit inlf nwifeinc educ exper expersq age kidslt6 kidsge6,
coeflegend

Iteration 0:   log likelihood =  -514.8732
Iteration 1:   log likelihood = -402.06651
Iteration 2:   log likelihood = -401.30273
Iteration 3:   log likelihood = -401.30219
```

```
Iteration 4:   log likelihood = -401.30219

Probit regression                                 Number of obs     =
753
                                                  LR chi2(7)        =
227.14
                                                  Prob > chi2       =
0.0000
Log likelihood = -401.30219                       Pseudo R2         =
0.2206

------------------------------------------------------------------------
--------
        inlf |      Coef.  Legend
-------------
+----------------------------------------------------------------
    nwifeinc |  -.0120237  _b[nwifeinc]
        educ |   .1309047  _b[educ]
       exper |   .1233476  _b[exper]
     expersq |  -.0018871  _b[expersq]
         age |  -.0528527  _b[age]
     kidslt6 |  -.8683285  _b[kidslt6]
     kidsge6 |    .036005  _b[kidsge6]
       _cons |   .2700768  _b[_cons]
------------------------------------------------------------------------
--------

. margins, at(exper = (20 25) expersq= (400 625)) atmeans post
coeflegend

Adjusted predictions                              Number of obs     =
753
Model VCE    : OIM

Expression   : Pr(inlf), predict()

1._at        : nwifeinc        =    20.12896 (mean)
               educ            =    12.28685 (mean)
               exper           =          20
               expersq         =         400
               age             =    42.53785 (mean)
               kidslt6         =    .2377158 (mean)
               kidsge6         =    1.353254 (mean)

2._at        : nwifeinc        =    20.12896 (mean)
               educ            =    12.28685 (mean)
               exper           =          20
               expersq         =         625
               age             =    42.53785 (mean)
               kidslt6         =    .2377158 (mean)
```

```
                kidsge6         =    1.353254 (mean)

3._at         : nwifeinc        =    20.12896 (mean)
                educ            =    12.28685 (mean)
                exper           =          25
                expersq         =         400
                age             =    42.53785 (mean)
                kidslt6         =    .2377158 (mean)
                kidsge6         =    1.353254 (mean)

4._at         : nwifeinc        =    20.12896 (mean)
                educ            =    12.28685 (mean)
                exper           =          25
                expersq         =         625
                age             =    42.53785 (mean)
                kidslt6         =    .2377158 (mean)
                kidsge6         =    1.353254 (mean)

------------------------------------------------------------------------------
--------
             |     Margin  Legend
-------------
+----------------------------------------------------------------
         _at |
          1  |   .8270695  _b[1bn._at]
          2  |     .69779  _b[2._at]
          3  |   .9405474  _b[3._at]
          4  |   .8717689  _b[4._at]
------------------------------------------------------------------------------
--------

. est store model3, title ("probit_mfx")

. *Probabilidad estimada normal de una mujer con exper=20 y el resto
de las características constantes
. generate probit_pr_exper20 = _b[1bn._at]

. display probit_pr_exper20
.82706946

. *Probabilidad estimada normal de una mujer con exper=25 y el resto
de las características constantes
. generate probit_pr_exper25 = _b[4._at]

. display probit_pr_exper25
.87176889

. *Cambio de la probabilidad estimada normal de una mujer con exper=20
y exper=25  y el resto de las características constantes
. generate probit_pr_exper2025 = probit_pr_exper25 - probit_pr_exper20
```

```
. display probit_pr_exper2025
.04469943

. *Comparar cambios marginales de los 3 modelos: lineal logit probit
. estout model*, label

------------------------------------------------------------
                          LP_mfx    logit_mfx   probit_mfx
                               b            b            b
------------------------------------------------------------
1._at                   .8060465     .8267697     .8270695
2._at                   .6718763     .7012445       .69779
3._at                   1.003508     .9303613     .9405474
4._at                   .8693383      .867907     .8717689
------------------------------------------------------------

. *Comparar el efecto de la experiencia según los 3 modelos con
comando sum
. sum LP_pr_exper20 logit_pr_exper20 probit_pr_exper20

    Variable |        Obs        Mean    Std. Dev.       Min
Max
-------------
+---------------------------------------------------------
LP_pr_exp~20 |        753    .8060465           0   .8060465   .
8060465
logit_pr_~20 |        753    .8267697           0   .8267697   .
8267697
probit_pr~20 |        753    .8270695           0   .8270695   .
8270695

. sum LP_pr_exper25 logit_pr_exper25 probit_pr_exper25

    Variable |        Obs        Mean    Std. Dev.       Min
Max
-------------
+---------------------------------------------------------
LP_pr_ex~r25 |        753    .8693383           0   .8693383   .
8693383
logit_pr~r25 |        753     .867907           0    .867907    .
867907
probit_p~r25 |        753    .8717689           0   .8717689   .
8717689

. sum LP_pr_exper2025 logit_pr_exper2025 probit_pr_exper2025

    Variable |        Obs        Mean    Std. Dev.       Min
Max
-------------
```

```
+---------------------------------------------------------
LP_pr_e~2025 |        753    .0632918           0   .0632918   .
0632918
logit_p~2025 |        753    .0411373           0   .0411373   .
0411373
probit_~2025 |        753    .0446994           0   .0446994   .
0446994

.
. *PUNTO 2F: calcular y graficar las probabilidades en función de
exper
. *Calcular probabilidad lineal con valores promedios excepto exper y
expersq
. reg inlf nwifeinc educ exper expersq age kidslt6 kidsge6, robust
coeflegend

Linear regression                               Number of obs     =
753
                                                F(7, 745)         =
62.48
                                                Prob > F          =
0.0000
                                                R-squared         =
0.2642
                                                Root MSE
=     .42713

------------------------------------------------------------------------
--------
        inlf |      Coef.  Legend
-------------
+----------------------------------------------------------------
    nwifeinc |  -.0034052  _b[nwifeinc]
        educ |   .0379953  _b[educ]
       exper |   .0394924  _b[exper]
     expersq |  -.0005963  _b[expersq]
         age |  -.0160908  _b[age]
     kidslt6 |  -.2618105  _b[kidslt6]
     kidsge6 |   .0130122  _b[kidsge6]
       _cons |   .5855192  _b[_cons]
------------------------------------------------------------------------
--------

. mfx

Marginal effects after regress
      y  = Fitted values (predict)
         =  .56839309
------------------------------------------------------------------------
--------
```

```
variable |      dy/dx    Std. Err.     z    P>|z|  [    95% C.I.   ]
X
---------
+------------------------------------------------------------------------
nwifeinc |  -.0034052      .00152   -2.23   0.026  -.006394 -.000416
20.129
    educ |   .0379953      .00727    5.23   0.000   .023754  .052236
12.2869
   exper |   .0394924      .00581    6.80   0.000   .028105   .05088
10.6308
 expersq |  -.0005963      .00019   -3.14   0.002  -.000969 -.000224
178.039
     age |  -.0160908       .0024   -6.71   0.000  -.020793 -.011389
42.5378
 kidslt6 |  -.2618105      .03178   -8.24   0.000  -.324104 -.
199517   .237716
 kidsge6 |   .0130122      .01353    0.96   0.336  -.013512  .039536
1.35325
------------------------------------------------------------------------
--------

. sum nwifeinc educ exper expersq age kidslt6 kidsge6

    Variable |        Obs        Mean    Std. Dev.       Min
Max
-------------
+---------------------------------------------------------
    nwifeinc |        753    20.12896     11.6348  -.0290575
96
        educ |        753    12.28685    2.280246          5
17
       exper |        753    10.63081     8.06913          0
45
     expersq |        753    178.0385    249.6308          0
2025
         age |        753    42.53785    8.072574         30
60
-------------
+---------------------------------------------------------
     kidslt6 |        753    .2377158     .523959          0
3
     kidsge6 |        753    1.353254    1.319874          0
8

. gen probpml =_b[_cons] + _b[exper]*exper + _b[expersq]*expersq +
_b[nwifeinc]*20.12896 + _b[educ]*12.28685 + _b[age]*42.53785
>  + _b[kidslt6]*0.2377158+  _b[kidsge6]*1.353254

. *Graficar probpml en función de exper
. twoway (scatter probpml exper) (lfit probpml exper), title(Relación
```

```
entre probabilidad LINEAL de estar trabajando y exper) yt
> itle(probpml)

. graph export probpml_exper.png, replace
(file probpml_exper.png written in PNG format)

. *Calcular probabilidad logit con valores promedios excepto exper y
expersq
. logit inlf nwifeinc educ exper expersq age kidslt6 kidsge6, robust
coeflegend

Iteration 0:   log pseudolikelihood =  -514.8732
Iteration 1:   log pseudolikelihood = -402.38502
Iteration 2:   log pseudolikelihood = -401.76569
Iteration 3:   log pseudolikelihood = -401.76515
Iteration 4:   log pseudolikelihood = -401.76515

Logistic regression                             Number of obs     =
753
                                                Wald chi2(7)      =
158.48
                                                Prob > chi2       =
0.0000
Log pseudolikelihood = -401.76515               Pseudo R2         =
0.2197

------------------------------------------------------------------------
--------
        inlf |      Coef.  Legend
-------------
+----------------------------------------------------------------
    nwifeinc |  -.0213452  _b[nwifeinc]
        educ |   .2211704  _b[educ]
       exper |   .2058695  _b[exper]
     expersq |  -.0031541  _b[expersq]
         age |  -.0880244  _b[age]
     kidslt6 |  -1.443354  _b[kidslt6]
     kidsge6 |   .0601122  _b[kidsge6]
       _cons |   .4254524  _b[_cons]
------------------------------------------------------------------------
--------

. mfx

Marginal effects after logit
      y  = Pr(inlf) (predict)
         =  .58277201
------------------------------------------------------------------------
--------
variable |      dy/dx    Std. Err.     z    P>|z|  [    95% C.I.   ]
```

```
X
---------
+------------------------------------------------------------------------
nwifeinc |  -.0051901      .00221   -2.35   0.019  -.009523 -.000857
20.129
    educ |   .0537773      .01086    4.95   0.000   .032498  .075057
12.2869
   exper |   .0500569      .00788    6.35   0.000   .034604   .06551
10.6308
 expersq |  -.0007669      .00025   -3.11   0.002  -.001251 -.000283
178.039
     age |   -.021403      .00353   -6.07   0.000  -.028317 -.014489
42.5378
 kidslt6 |  -.3509498      .04988   -7.04   0.000  -.448718 -.
253182   .237716
 kidsge6 |   .0146162      .01941    0.75   0.451  -.023428   .05266
1.35325
------------------------------------------------------------------------
--------

. sum nwifeinc educ exper expersq age kidslt6 kidsge6

    Variable |        Obs        Mean    Std. Dev.       Min
Max
-------------
+---------------------------------------------------------
    nwifeinc |        753    20.12896     11.6348  -.0290575
96
        educ |        753    12.28685    2.280246          5
17
       exper |        753    10.63081     8.06913          0
45
     expersq |        753    178.0385    249.6308          0
2025
         age |        753    42.53785    8.072574         30
60
-------------
+---------------------------------------------------------
     kidslt6 |        753    .2377158     .523959          0
3
     kidsge6 |        753    1.353254    1.319874          0
8

. gen a=exp(_b[_cons] + _b[exper]*exper + _b[expersq]*expersq +
_b[nwifeinc]*20.12896 + _b[educ]*12.28685 + _b[age]*42.53785 +
> _b[kidslt6]*0.2377158+  _b[kidsge6]*1.353254)

. gen problogit =a/(1+a)

. *Graficar probpml en función de exper
```

```
. twoway (scatter problogit exper), title("Relación entre probabilidad
LOGIT de estar trabajando y exper", size(4)) ytitle(prob
> logit)

. graph export problogit_exper.png, replace
(file problogit_exper.png written in PNG format)

. *Calcular probabilidad probit con valores promedios excepto exper y
expersq
. probit inlf nwifeinc educ exper expersq age kidslt6 kidsge6, robust
coeflegend

Iteration 0:   log pseudolikelihood =  -514.8732
Iteration 1:   log pseudolikelihood = -402.06651
Iteration 2:   log pseudolikelihood = -401.30273
Iteration 3:   log pseudolikelihood = -401.30219
Iteration 4:   log pseudolikelihood = -401.30219

Probit regression                                 Number of obs     =
753
                                                  Wald chi2(7)      =
185.10
                                                  Prob > chi2       =
0.0000
Log pseudolikelihood = -401.30219                 Pseudo R2         =
0.2206

------------------------------------------------------------------------
--------
        inlf |      Coef.  Legend
-------------
+----------------------------------------------------------------
    nwifeinc |  -.0120237  _b[nwifeinc]
        educ |   .1309047  _b[educ]
       exper |   .1233476  _b[exper]
     expersq |  -.0018871  _b[expersq]
         age |  -.0528527  _b[age]
     kidslt6 |  -.8683285  _b[kidslt6]
     kidsge6 |    .036005  _b[kidsge6]
       _cons |   .2700768  _b[_cons]
------------------------------------------------------------------------
--------

. mfx

Marginal effects after probit
      y  = Pr(inlf) (predict)
         =  .58154201
------------------------------------------------------------------------
--------
```

```
variable |      dy/dx    Std. Err.     z    P>|z|  [    95% C.I.   ]
X
---------
+------------------------------------------------------------------------
nwifeinc |  -.0046962      .00208   -2.26   0.024  -.008766 -.000626
20.129
    educ |   .0511287      .01011    5.06   0.000   .031308   .07095
12.2869
   exper |   .0481771      .00739    6.52   0.000   .033694   .06266
10.6308
 expersq |  -.0007371      .00024   -3.14   0.002  -.001198 -.000276
178.039
     age |  -.0206432      .00327   -6.31   0.000  -.027056 -.014231
42.5378
 kidslt6 |  -.3391514      .04565   -7.43   0.000  -.428628 -.
249675   .237716
 kidsge6 |   .0140628      .01769    0.80   0.427  -.020603  .048729
1.35325
------------------------------------------------------------------------
--------

. sum nwifeinc educ exper expersq age kidslt6 kidsge6

    Variable |        Obs        Mean    Std. Dev.       Min
Max
-------------
+---------------------------------------------------------
    nwifeinc |        753    20.12896     11.6348  -.0290575
96
        educ |        753    12.28685    2.280246          5
17
       exper |        753    10.63081     8.06913          0
45
     expersq |        753    178.0385    249.6308          0
2025
         age |        753    42.53785    8.072574         30
60
-------------
+---------------------------------------------------------
     kidslt6 |        753    .2377158     .523959          0
3
     kidsge6 |        753    1.353254    1.319874          0
8

. gen probprobit =normal(_b[_cons] + _b[exper]*exper +
_b[expersq]*expersq + _b[nwifeinc]*20.12896 + _b[educ]*12.28685 +
_b[age
> ]*42.53785 + _b[kidslt6]*0.2377158+  _b[kidsge6]*1.353254)

. *Graficar probprobit en función de exper
```

```
. twoway (scatter probprobit exper), title("Relación entre
probabilidad PROBIT de estar trabajando y exper", size(4)) ytitle(pr
> obprobit)

. graph export probprobit_exper.png, replace
(file probprobit_exper.png written in PNG format)


. twoway (scatter probpml exper) (scatter problogit exper) (scatter
probprobit exper)

.
.
. *PUNTO 2G
. *test LR usando comandos
. probit inlf nwifeinc educ age exper expersq kidslt6 kidsge6 /*modelo
irrestricto*/

Iteration 0:   log likelihood =  -514.8732
Iteration 1:   log likelihood = -402.06651
Iteration 2:   log likelihood = -401.30273
Iteration 3:   log likelihood = -401.30219
Iteration 4:   log likelihood = -401.30219

Probit regression                                 Number of obs     =
753
                                                  LR chi2(7)        =
227.14
                                                  Prob > chi2       =
0.0000
Log likelihood = -401.30219                       Pseudo R2         =
0.2206

------------------------------------------------------------------------
--------
        inlf |      Coef.   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------
+----------------------------------------------------------------
    nwifeinc |  -.0120237   .0048398    -2.48   0.013    -.0215096
-.0025378
        educ |   .1309047   .0252542     5.18   0.000     .
0814074     .180402
         age |  -.0528527   .0084772    -6.23   0.000    -.0694678
-.0362376
       exper |   .1233476   .0187164     6.59   0.000     .
0866641    .1600311
     expersq |  -.0018871      .0006    -3.15   0.002     -.003063
-.0007111
     kidslt6 |  -.8683285   .1185223    -7.33   0.000    -1.100628
```

```
-.636029
     kidsge6 |    .036005   .0434768     0.83   0.408     -.
049208    .1212179
       _cons |   .2700768    .508593     0.53   0.595    -.7267473
1.266901
------------------------------------------------------------------------
--------

. eststo modelo_i /*guardo el model irrestricto*/

. probit inlf nwifeinc exper expersq kidslt6 kidsge6 /*modelo
restringido suponiendo que la educación y la edad son iguales a 0
> */

Iteration 0:   log likelihood =  -514.8732
Iteration 1:   log likelihood = -441.45904
Iteration 2:   log likelihood =  -441.3952
Iteration 3:   log likelihood =  -441.3952

Probit regression                                 Number of obs     =
753
                                                  LR chi2(5)        =
146.96
                                                  Prob > chi2       =
0.0000
Log likelihood =  -441.3952                       Pseudo R2         =
0.1427

------------------------------------------------------------------------
--------
        inlf |      Coef.   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------
+----------------------------------------------------------------
    nwifeinc |  -.0078125   .0043229    -1.81   0.071    -.
0162852    .0006602
       exper |   .1339221   .0178808     7.49   0.000     .
0988764    .1689679
     expersq |  -.0026308   .0005777    -4.55   0.000    -.0037631
-.0014985
     kidslt6 |  -.4371003   .0989862    -4.42   0.000    -.6311096
-.2430909
     kidsge6 |   .1129023   .0392098     2.88   0.004     .
0360524    .1897521
       _cons |   -.658117   .1672093    -3.94   0.000    -.9858412
-.3303929
------------------------------------------------------------------------
--------

. eststo modelo_r /*guardo el modelo restringido*/
```

```
. lrtest modelo_i modelo_r /*uso comando lrtest para hacer el test*/

Likelihood-ratio test                                     LR chi2(2)  =
80.19
(Assumption: modelo_r nested in modelo_i)                 Prob > chi2 =
0.0000


.
. *Test LR a mano
. qui probit inlf nwifeinc educ age exper expersq kidslt6 kidsge6

. scalar ll_i=e(ll)

. qui probit inlf nwifeinc exper expersq kidslt6 kidsge6

. scalar ll_r=e(ll)

. scalar LRTest=2*(ll_i-ll_r)

. display "prob>chi" =invchi2tail(2,0.05)
prob>chi5.9914645

. display "ChiSq(2)" =2*(ll_i-ll_r)
ChiSq(2)80.186005

.
.
.
end of do-file

. do "/var/folders/rj/sy8tgphd0n111tsbx9g0hybh0000gn/T//
SD00297.000000"

. log close
      name:  <unnamed>
       log:  /Users/julietafigliolia/Downloads/MEAN/TP3/TP3.log
  log type:  text
 closed on:  31 Oct 2017, 23:38:10
-------------------------------------------------------------------------
-------------------------------------------------------
```