\*------------------------\*

\* PSM \*

\*------------------------\*

Algunos puntos antes de hacer el análisis:

En propensity score matching utilizamos el programa "psmatch2". Dado que el paquete básico de Stata no contiene el comando "psmatch2" es necesario instalarlo:

Instalación "psmatch2"

ssc install psmatch2, replace

Sobre la base de datos: Hay dos observaciones para la variable talla para la edad. ha\_nchs1 indica la talla para la edad del individuo en el periodo 1 (pre-tratamiento) y ha\_nchs2 indica la talla para la edad en el segundo periodo (post-tratamiento). Todas las otras variables son observaciones del periodo 1.

.

. \*------------------------------------\*

. \*1. Probabilidad de participación \*

. \*------------------------------------\*

.

Dado que el primer paso para hacer correctamente "propensity score matching"

es estimar las probabilidades de participación en el programa, en este do-file

lo primero que haremos es mostrar métodos de estimación del propensity score.

Primero debemos determinar qué variables incluir en el modelo. Sabemos que es importante no omitir ninguna variable ni sobreespecificar el modelo, por lo tanto se debe ser cuidadoso en el momento de decidir qué variables incluir en el modelo. En este caso seguiremos la metodología propuesta en el libro, incluir variable por variable y dejar únicamente aquellas que son significativas a un nivel de significancia del 5%. Resulta intuitivo suponer que a mayor ingreso, la probabilidad de participar aumenta, veamos:

.

. dprobit D ingresos\_hogar\_jefe

Iteration 0: log likelihood = -2771.4366

Iteration 1: log likelihood = -2768.2099

Iteration 2: log likelihood = -2768.2099

Probit regression, reporting marginal effects Number of obs = 4000

LR chi2(1) = 6.45

Prob > chi2 = 0.0111

Log likelihood = -2768.2099 Pseudo R2 = 0.0012

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

D | dF/dx Std. Err. z P>|z| x-bar [ 95% C.I. ]

---------+--------------------------------------------------------------------

ingres~e | .000229 .0000904 2.53 0.011 72.9454 .000052 .000406

---------+--------------------------------------------------------------------

obs. P | .488

pred. P | .4880026 (at x-bar)

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

z and P>|z| correspond to the test of the underlying coefficient being 0

.

Incluimos variables que consideramos razonables:

.

.

. dprobit D ingresos\_hogar\_jefe personas

Iteration 0: log likelihood = -2771.4366

Iteration 1: log likelihood = -2757.2371

Iteration 2: log likelihood = -2757.2345

Probit regression, reporting marginal effects Number of obs = 4000

LR chi2(2) = 28.40

Prob > chi2 = 0.0000

Log likelihood = -2757.2345 Pseudo R2 = 0.0051

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

D | dF/dx Std. Err. z P>|z| x-bar [ 95% C.I. ]

---------+--------------------------------------------------------------------

ingres~e | .0003117 .0000928 3.36 0.001 72.9454 .00013 .000494

personas | -.0186682 .0040003 -4.67 0.000 5.04525 -.026509 -.010828

---------+--------------------------------------------------------------------

obs. P | .488

pred. P | .4879382 (at x-bar)

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

z and P>|z| correspond to the test of the underlying coefficient being 0

.

. dprobit D ingresos\_hogar\_jefe personas orden\_n

Iteration 0: log likelihood = -2771.4366

Iteration 1: log likelihood = -2750.1087

Iteration 2: log likelihood = -2750.1035

Probit regression, reporting marginal effects Number of obs = 4000

LR chi2(3) = 42.67

Prob > chi2 = 0.0000

Log likelihood = -2750.1035 Pseudo R2 = 0.0077

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

D | dF/dx Std. Err. z P>|z| x-bar [ 95% C.I. ]

---------+--------------------------------------------------------------------

ingres~e | .0003243 .000093 3.49 0.000 72.9454 .000142 .000507

personas | -.0204805 .0040357 -5.07 0.000 5.04525 -.02839 -.012571

orden\_n | .0926076 .0246454 3.76 0.000 1.10675 .044304 .140912

---------+--------------------------------------------------------------------

obs. P | .488

pred. P | .4879522 (at x-bar)

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

z and P>|z| correspond to the test of the underlying coefficient being 0

.

. dprobit D ingresos\_hogar\_jefe personas orden\_n educa\_jefe

Iteration 0: log likelihood = -2771.4366

Iteration 1: log likelihood = -2747.4264

Iteration 2: log likelihood = -2747.4166

Probit regression, reporting marginal effects Number of obs = 4000

LR chi2(4) = 48.04

Prob > chi2 = 0.0000

Log likelihood = -2747.4166 Pseudo R2 = 0.0087

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

D | dF/dx Std. Err. z P>|z| x-bar [ 95% C.I. ]

---------+--------------------------------------------------------------------

ingres~e | .000359 .0000946 3.80 0.000 72.9454 .000174 .000544

personas | -.0234871 .0042473 -5.53 0.000 5.04525 -.031812 -.015163

orden\_n | .0924182 .0246811 3.74 0.000 1.10675 .044044 .140792

educa\_~e | -.0049789 .002149 -2.32 0.021 6.57575 -.009191 -.000767

---------+--------------------------------------------------------------------

obs. P | .488

pred. P | .4879516 (at x-bar)

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

z and P>|z| correspond to the test of the underlying coefficient being 0

.

. dprobit D ingresos\_hogar\_jefe personas orden\_n educa\_jefe ocupado\_jefe

Iteration 0: log likelihood = -2771.4366

Iteration 1: log likelihood = -2739.6891

Iteration 2: log likelihood = -2739.6749

Probit regression, reporting marginal effects Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | dF/dx Std. Err. z P>|z| x-bar [ 95% C.I. ]

---------+--------------------------------------------------------------------

ingres~e | .0003087 .0000954 3.24 0.001 72.9454 .000122 .000496

personas | -.0218441 .0042743 -5.11 0.000 5.04525 -.030221 -.013467

orden\_n | .0913258 .024677 3.70 0.000 1.10675 .04296 .139692

educa\_~e | -.0060351 .0021692 -2.78 0.005 6.57575 -.010287 -.001784

ocupad~e\*| .0814302 .020538 3.93 0.000 .809 .041176 .121684

---------+--------------------------------------------------------------------

obs. P | .488

pred. P | .4878084 (at x-bar)

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

(\*) dF/dx is for discrete change of dummy variable from 0 to 1

z and P>|z| correspond to the test of the underlying coefficient being 0

.

. dprobit D ingresos\_hogar\_jefe personas orden\_n educa\_jefe ocupado\_jefe hombre

Iteration 0: log likelihood = -2771.4366

Iteration 1: log likelihood = -2739.1529

Iteration 2: log likelihood = -2739.1378

Probit regression, reporting marginal effects Number of obs = 4000

LR chi2(6) = 64.60

Prob > chi2 = 0.0000

Log likelihood = -2739.1378 Pseudo R2 = 0.0117

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

D | dF/dx Std. Err. z P>|z| x-bar [ 95% C.I. ]

---------+--------------------------------------------------------------------

ingres~e | .0003089 .0000954 3.24 0.001 72.9454 .000122 .000496

personas | -.0217877 .0042754 -5.10 0.000 5.04525 -.030167 -.013408

orden\_n | .0912844 .0246782 3.70 0.000 1.10675 .042916 .139653

educa\_~e | -.0060159 .0021695 -2.77 0.006 6.57575 -.010268 -.001764

ocupad~e\*| .0814328 .0205396 3.93 0.000 .809 .041176 .12169

hombre\*| .016465 .015883 1.04 0.300 .511 -.014665 .047595

---------+--------------------------------------------------------------------

obs. P | .488

pred. P | .4877964 (at x-bar)

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

(\*) dF/dx is for discrete change of dummy variable from 0 to 1

z and P>|z| correspond to the test of the underlying coefficient being 0

.

El coeficiente asociado a la variable "hombre" no es significativo. Esto resulta razonable dado que, en principio,no hay razón para focalizar el tratamiento hacia un género en particular.

Entonces, nuestro modelo que tiene como objetivo determinar la probabilidad de participación en el programa incluye las variables ingresos del jefe del hogar, personas en el hogar, orden de nacimiento del individuo, la educación del jefe del hogar y una dummy que indica si el jefe de hogar está desempleado o no. Definimos un vector que incluya estas variables para simplificar el análisis:

.

.

. global X "personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe"

.

. dprobit D $X

Iteration 0: log likelihood = -2771.4366

Iteration 1: log likelihood = -2739.6891

Iteration 2: log likelihood = -2739.6749

Probit regression, reporting marginal effects Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | dF/dx Std. Err. z P>|z| x-bar [ 95% C.I. ]

---------+--------------------------------------------------------------------

personas | -.0218441 .0042743 -5.11 0.000 5.04525 -.030221 -.013467

orden\_n | .0913258 .024677 3.70 0.000 1.10675 .04296 .139692

ocupad~e\*| .0814302 .020538 3.93 0.000 .809 .041176 .121684

educa\_~e | -.0060351 .0021692 -2.78 0.005 6.57575 -.010287 -.001784

ingres~e | .0003087 .0000954 3.24 0.001 72.9454 .000122 .000496

---------+--------------------------------------------------------------------

obs. P | .488

pred. P | .4878084 (at x-bar)

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

(\*) dF/dx is for discrete change of dummy variable from 0 to 1

z and P>|z| correspond to the test of the underlying coefficient being 0

.

Utilizamos las probabilidades predichas por este modelo para generar nuestro propensity score

predict pscore

(option pr assumed; Pr(D))

Veamos un histograma de las probabilidades predichas:

histogram pscore, by(D)



histogram pscore if D==1, bin(100) color(blue) addplot(kdensity pscore if D==1)



kdensity pscore if D==1, epanechnikov generate(x1 y1)



histogram pscore if D==0, bin(100) color(blue) addplot(kdensity pscore if D==0)



kdensity pscore if D==0, epanechnikov generate(x0 y0)



twoway (line y1 x1) (line y0 x0, lpattern(dash)), ytitle(Densidad) xtitle(Probabilidad de ser tratado) title(Propensity Score ) legend(order(1 "Participante=1" 2 "No participante=0"))



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. \*2. Soporte común \*

. \*-----------------\*

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Gráficamente vemos que las probabilidades predichas son similares. Sin embargo, resulta evidente que hay probabilidades de participación el grupo de tratamiento superiores a la máxima probabilidad del grupo de control y, de la misma manera, probabilidades en el grupo de control inferiores a la mínima probabilidad del grupo de tratamiento. Para solucionar este problema imponemos el soporte común mediante el máximo y el mínimo.

.

. gen pscore\_sc=pscore

.

Encontramos la máxima probabilidad predicha para el grupo de control:

. sum pscore\_sc if D==0

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

pscore\_sc | 2048 .4803669 .062551 .2061071 .7454204

. scalar max\_control=r(max)

Encontramos la mínima probabilidad predicha para el grupo de tratamiento:

. sum pscore\_sc if D==1

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

pscore\_sc | 1952 .4960458 .0616513 .2522204 .7564646

. scalar min\_D=r(min)

.

.

Ahora, no serán tenidas en cuenta probabilidades del grupo de tratamiento que superen la máxima probabilidad del grupo de control ni probabilidades del grupo de control inferiores a la mínima probabilidad del grupo de tratamiento:

. replace pscore\_sc=. if D==1&pscore\_sc>max\_control

(2 real changes made, 2 to missing)

. replace pscore\_sc=. if D==0&pscore\_sc<min\_D

(3 real changes made, 3 to missing)

.

Vemos cuantas observaciones perdemos al imponer esta restricción:

. count if pscore!=.&pscore\_sc==.

5

Veamos el resultado gráficamente:

.

. drop x1 y1 x0 y0

histogram pscore\_sc, by(D)



histogram pscore\_sc if D==1, bin(100) color(blue) addplot(kdensity pscore\_sc if D==1)



kdensity pscore\_sc if D==1, epanechnikov generate(x1 y1)



histogram pscore\_sc if D==0, bin(100) color(blue) addplot(kdensity pscore\_sc if D==0)



kdensity pscore\_sc if D==0, epanechnikov generate(x0 y0)



twoway (line y1 x1) (line y0 x0, lpattern(dash)), ytitle(Densidad) xtitle(Probabilidad de ser tratado) title(Propensity Score con Soporte Común ) legend(order(1 "Participante=1" 2 "No participante=0"))



Las probabilidades almacenadas en la variable "pscore\_sc" cumplen con la propiedad del soporte común mediante el máximo y el mínimo.

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. \*------------------------------\*

. \*3. Calidad del emparejamiento \*

. \*------------------------------\*

.

Otra posibilidad para estimar la probabilidad de participación es utilizar directamente el comando "pscore". El comando "pscore" primero determina la probabilidad de participación para cada individuo de acuerdo con el modelo que uno especifique. Posterior a esto, se dividen las observaciones en un número óptimo de bloques de manera que dentro de éstos la probabilidad media del grupo de control no es estadísticamente diferente de la probabilidad me dia del grupo de tratamiento. Este es el primer paso para balancear la probabilidad de participación. Si se encuentra que dentro de un mismo bloque la probabilidad de

participación es estadísticamente diferente, se divide el bloque en dos. Una vez se determina el número de bloques mediante este procedimiento, el programa prueba, bloque por bloque, que no existan diferencias estadísticamente significativas entre los individuos de tratamiento y control para las variables incluidas para predecir la probabilidad de participación. Luego de esto, impone el soporte común.

.

.

. pscore D $X, pscore(pscore\_b) blockid(id) comsup det

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Algorithm to estimate the propensity score

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

The treatment is D

1 si |

tratado, 0 |

caso |

contrario | Freq. Percent Cum.

------------+-----------------------------------

0 | 2,048 51.20 51.20

1 | 1,952 48.80 100.00

------------+-----------------------------------

Total | 4,000 100.00

Estimation of the propensity score

Iteration 0: log likelihood = -2771.4366

Iteration 1: log likelihood = -2739.6891

Iteration 2: log likelihood = -2739.6749

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

Note: the common support option has been selected

The region of common support is [.25222035, .75646462]

Description of the estimated propensity score

in region of common support

Estimated propensity score

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

Percentiles Smallest

1% .3218006 .2522203

5% .3797705 .2550815

10% .4065612 .2563262 Obs 3997

25% .4541614 .26279 Sum of Wgt. 3997

50% .4941047 Mean .4882224

Largest Std. Dev. .062176

75% .5242778 .742403

90% .5556115 .7454204 Variance .0038659

95% .5850035 .7558656 Skewness -.1441604

99% .6484939 .7564646 Kurtosis 4.377455

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Step 1: Identification of the optimal number of blocks

Use option detail if you want more detailed output

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Distribution of treated and controls across blocks

Blocks of |

the pscore |

for | 1 si tratado, 0 caso

treatment | contrario

D | 0 1 | Total

-----------+----------------------+----------

2 | 207 137 | 344

3 | 1,799 1,723 | 3,522

4 | 39 92 | 131

-----------+----------------------+----------

Total | 2,045 1,952 | 3,997

Test that the mean propensity score is not different for treated and controls

Test in block 1

Observations in block 1

obs: 0, control: 0, treated: 0

Block 1 does not have observations

Move to next block

Test in block 2

Observations in block 2

obs: 344, control: 207, treated: 137

Test for block 2

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 207 .3631226 .0024041 .0345893 .3583828 .3678624

1 | 137 .3667202 .0025609 .0299742 .361656 .3717845

---------+--------------------------------------------------------------------

combined | 344 .3645554 .0017701 .0328313 .3610737 .3680371

---------+--------------------------------------------------------------------

diff | -.0035976 .003616 -.01071 .0035148

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

diff = mean(0) - mean(1) t = -0.9949

Ho: diff = 0 degrees of freedom = 342

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.1602 Pr(|T| > |t|) = 0.3205 Pr(T > t) = 0.8398

The mean propensity score is not different for

treated and controls in block 2

Test in block 3

Observations in block 3

obs: 3522, control: 1799, treated: 1723

Test for block 3

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 1799 .4909128 .0010395 .0440895 .4888741 .4929515

1 | 1723 .4986874 .0009965 .0413636 .496733 .5006419

---------+--------------------------------------------------------------------

combined | 3522 .4947162 .0007237 .0429478 .4932974 .4961351

---------+--------------------------------------------------------------------

diff | -.0077746 .001442 -.0106018 -.0049475

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

diff = mean(0) - mean(1) t = -5.3917

Ho: diff = 0 degrees of freedom = 3520

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

The mean propensity score is different for

treated and controls in block 3

Split the block 3 and retest

Check that blocks have shifted

Blocks of |

the pscore |

for | 1 si tratado, 0 caso

treatment | contrario

D | 0 1 | Total

-----------+----------------------+----------

2 | 207 137 | 344

3 | 1,799 1,723 | 3,522

5 | 39 92 | 131

-----------+----------------------+----------

Total | 2,045 1,952 | 3,997

Test in block 3

Observations in block 3

obs: 1852, control: 1001, treated: 851

Test for block 3

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 1001 .4595007 .0008852 .0280069 .4577636 .4612378

1 | 851 .4655367 .0009165 .0267352 .4637379 .4673355

---------+--------------------------------------------------------------------

combined | 1852 .4622743 .000641 .0275871 .461017 .4635315

---------+--------------------------------------------------------------------

diff | -.006036 .001279 -.0085443 -.0035276

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

diff = mean(0) - mean(1) t = -4.7194

Ho: diff = 0 degrees of freedom = 1850

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

The mean propensity score is different for

treated and controls in block 3

Split the block 3 and retest

Check that blocks have shifted

Blocks of |

the pscore |

for | 1 si tratado, 0 caso

treatment | contrario

D | 0 1 | Total

-----------+----------------------+----------

2 | 207 137 | 344

3 | 1,001 851 | 1,852

5 | 798 872 | 1,670

6 | 39 92 | 131

-----------+----------------------+----------

Total | 2,045 1,952 | 3,997

Test in block 3

Observations in block 3

obs: 582, control: 356, treated: 226

Test for block 3

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 356 .4272617 .0007527 .0142026 .4257813 .4287421

1 | 226 .4272277 .0009172 .013789 .4254203 .4290352

---------+--------------------------------------------------------------------

combined | 582 .4272485 .0005816 .0140315 .4261062 .4283909

---------+--------------------------------------------------------------------

diff | .000034 .0011944 -.0023119 .0023799

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

diff = mean(0) - mean(1) t = 0.0285

Ho: diff = 0 degrees of freedom = 580

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.5114 Pr(|T| > |t|) = 0.9773 Pr(T > t) = 0.4886

The mean propensity score is not different for

treated and controls in block 3

Test in block 4

Observations in block 4

obs: 1270, control: 645, treated: 625

Test for block 4

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 645 .4772946 .0005775 .0146675 .4761606 .4784287

1 | 625 .4793892 .0005387 .013467 .4783313 .480447

---------+--------------------------------------------------------------------

combined | 1270 .4783254 .0003963 .0141229 .4775479 .4791029

---------+--------------------------------------------------------------------

diff | -.0020945 .0007908 -.003646 -.0005431

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

diff = mean(0) - mean(1) t = -2.6486

Ho: diff = 0 degrees of freedom = 1268

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.0041 Pr(|T| > |t|) = 0.0082 Pr(T > t) = 0.9959

The mean propensity score is different for

treated and controls in block 4

Split the block 4 and retest

Check that blocks have shifted

Blocks of |

the pscore |

for | 1 si tratado, 0 caso

treatment | contrario

D | 0 1 | Total

-----------+----------------------+----------

2 | 207 137 | 344

3 | 356 226 | 582

4 | 645 625 | 1,270

6 | 798 872 | 1,670

7 | 39 92 | 131

-----------+----------------------+----------

Total | 2,045 1,952 | 3,997

Test in block 4

Observations in block 4

obs: 505, control: 274, treated: 231

Test for block 4

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 274 .4624772 .0004379 .0072485 .4616151 .4633393

1 | 231 .4643503 .0004651 .0070685 .463434 .4652667

---------+--------------------------------------------------------------------

combined | 505 .463334 .0003213 .0072203 .4627028 .4639653

---------+--------------------------------------------------------------------

diff | -.0018731 .0006402 -.0031308 -.0006154

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

diff = mean(0) - mean(1) t = -2.9260

Ho: diff = 0 degrees of freedom = 503

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.0018 Pr(|T| > |t|) = 0.0036 Pr(T > t) = 0.9982

The mean propensity score is different for

treated and controls in block 4

Split the block 4 and retest

Check that blocks have shifted

Blocks of |

the pscore |

for | 1 si tratado, 0 caso

treatment | contrario

D | 0 1 | Total

-----------+----------------------+----------

2 | 207 137 | 344

3 | 356 226 | 582

4 | 274 231 | 505

6 | 371 394 | 765

7 | 798 872 | 1,670

8 | 39 92 | 131

-----------+----------------------+----------

Total | 2,045 1,952 | 3,997

Test in block 4

Observations in block 4

obs: 229, control: 141, treated: 88

Test for block 4

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 141 .4563545 .0003002 .003565 .4557609 .4569481

1 | 88 .4565897 .000368 .0034523 .4558583 .4573212

---------+--------------------------------------------------------------------

combined | 229 .4564449 .0002324 .0035163 .455987 .4569028

---------+--------------------------------------------------------------------

diff | -.0002352 .0004785 -.0011781 .0007076

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

diff = mean(0) - mean(1) t = -0.4916

Ho: diff = 0 degrees of freedom = 227

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.3117 Pr(|T| > |t|) = 0.6235 Pr(T > t) = 0.6883

The mean propensity score is not different for

treated and controls in block 4

Test in block 5

Observations in block 5

obs: 276, control: 133, treated: 143

Test for block 5

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 133 .4689682 .0003089 .0035621 .4683572 .4695792

1 | 143 .4691261 .0003053 .0036514 .4685225 .4697297

---------+--------------------------------------------------------------------

combined | 276 .46905 .0002169 .003603 .468623 .4694769

---------+--------------------------------------------------------------------

diff | -.0001579 .0004347 -.0010137 .0006979

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

diff = mean(0) - mean(1) t = -0.3632

Ho: diff = 0 degrees of freedom = 274

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.3584 Pr(|T| > |t|) = 0.7167 Pr(T > t) = 0.6416

The mean propensity score is not different for

treated and controls in block 5

Test in block 6

Observations in block 6

obs: 765, control: 371, treated: 394

Test for block 6

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 371 .488238 .000378 .0072812 .4874946 .4889813

1 | 394 .4882064 .0003485 .0069169 .4875213 .4888915

---------+--------------------------------------------------------------------

combined | 765 .4882217 .0002564 .0070912 .4877184 .488725

---------+--------------------------------------------------------------------

diff | .0000316 .0005133 -.0009761 .0010393

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

diff = mean(0) - mean(1) t = 0.0615

Ho: diff = 0 degrees of freedom = 763

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.5245 Pr(|T| > |t|) = 0.9509 Pr(T > t) = 0.4755

The mean propensity score is not different for

treated and controls in block 6

Test in block 7

Observations in block 7

obs: 1670, control: 798, treated: 872

Test for block 7

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 798 .5303157 .0008724 .024644 .5286032 .5320281

1 | 872 .5310399 .0008038 .0237371 .5294622 .5326175

---------+--------------------------------------------------------------------

combined | 1670 .5306938 .0005915 .0241701 .5295337 .5318539

---------+--------------------------------------------------------------------

diff | -.0007242 .0011843 -.003047 .0015987

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

diff = mean(0) - mean(1) t = -0.6115

Ho: diff = 0 degrees of freedom = 1668

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.2705 Pr(|T| > |t|) = 0.5410 Pr(T > t) = 0.7295

The mean propensity score is not different for

treated and controls in block 7

Test in block 8

Observations in block 8

obs: 131, control: 39, treated: 92

Test for block 8

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 39 .6365369 .0064119 .0400421 .6235567 .649517

1 | 92 .6391557 .0043651 .0418686 .6304849 .6478264

---------+--------------------------------------------------------------------

combined | 131 .638376 .0035994 .0411972 .631255 .645497

---------+--------------------------------------------------------------------

diff | -.0026188 .0078989 -.0182471 .0130094

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

diff = mean(0) - mean(1) t = -0.3315

Ho: diff = 0 degrees of freedom = 129

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.3704 Pr(|T| > |t|) = 0.7408 Pr(T > t) = 0.6296

The mean propensity score is not different for

treated and controls in block 8

Test in block 9

Observations in block 9

obs: 0, control: 0, treated: 0

Block 9 does not have observations

Move to next block

The final number of blocks is 8

This number of blocks ensures that the mean propensity score

is not different for treated and controls in each blocks

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Step 2: Test of balancing property of the propensity score

Use option detail if you want more detailed output

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Testing the balancing property in block 1

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

obs: 0, control: 0, treated: 0

Block 1 does not have observations

Move to next block

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Testing the balancing property in block 2

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

obs: 344, control: 207, treated: 137

Testing the balancing property for variable personas in block 2

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 207 8.05314 .1940931 2.792514 7.670476 8.435804

1 | 137 8.167883 .2233112 2.613791 7.726272 8.609495

---------+--------------------------------------------------------------------

combined | 344 8.098837 .1466233 2.719458 7.810443 8.387231

---------+--------------------------------------------------------------------

diff | -.1147431 .2998867 -.7045976 .4751114

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

diff = mean(0) - mean(1) t = -0.3826

Ho: diff = 0 degrees of freedom = 342

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.3511 Pr(|T| > |t|) = 0.7022 Pr(T > t) = 0.6489

Variable personas is balanced in block 2

Testing the balancing property for variable orden\_n in block 2

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 207 1.024155 .0106969 .1539012 1.003065 1.045244

1 | 137 1 0 0 1 1

---------+--------------------------------------------------------------------

combined | 344 1.014535 .0064622 .1198557 1.001824 1.027245

---------+--------------------------------------------------------------------

diff | .0241546 .0131552 -.0017206 .0500298

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

diff = mean(0) - mean(1) t = 1.8361

Ho: diff = 0 degrees of freedom = 342

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.9664 Pr(|T| > |t|) = 0.0672 Pr(T > t) = 0.0336

Variable orden\_n is balanced in block 2

Testing the balancing property for variable ocupado\_jefe in block 2

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 207 .2173913 .0287382 .4134709 .1607326 .27405

1 | 137 .2335766 .036281 .4246586 .1618287 .3053246

---------+--------------------------------------------------------------------

combined | 344 .2238372 .0225059 .4174214 .1795703 .2681041

---------+--------------------------------------------------------------------

diff | -.0161853 .0460324 -.1067277 .074357

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

diff = mean(0) - mean(1) t = -0.3516

Ho: diff = 0 degrees of freedom = 342

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.3627 Pr(|T| > |t|) = 0.7253 Pr(T > t) = 0.6373

Variable ocupado\_jefe is balanced in block 2

Testing the balancing property for variable educa\_jefe in block 2

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 207 6.599034 .2851696 4.102876 6.036809 7.161259

1 | 137 5.824818 .3537655 4.140719 5.125225 6.52441

---------+--------------------------------------------------------------------

combined | 344 6.290698 .2226445 4.12944 5.852777 6.728618

---------+--------------------------------------------------------------------

diff | .7742163 .453541 -.1178647 1.666297

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

diff = mean(0) - mean(1) t = 1.7070

Ho: diff = 0 degrees of freedom = 342

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.9556 Pr(|T| > |t|) = 0.0887 Pr(T > t) = 0.0444

Variable educa\_jefe is balanced in block 2

Testing the balancing property for variable ingresos\_hogar\_jefe in block 2

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 207 52.60962 4.031004 57.99605 44.66231 60.55694

1 | 137 61.45214 6.141266 71.88168 49.30742 73.59687

---------+--------------------------------------------------------------------

combined | 344 56.13121 3.447106 63.93428 49.35108 62.91134

---------+--------------------------------------------------------------------

diff | -8.842521 7.035597 -22.68101 4.995968

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

diff = mean(0) - mean(1) t = -1.2568

Ho: diff = 0 degrees of freedom = 342

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.1048 Pr(|T| > |t|) = 0.2097 Pr(T > t) = 0.8952

Variable ingresos\_hogar\_jefe is balanced in block 2

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Testing the balancing property in block 3

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

obs: 582, control: 356, treated: 226

Testing the balancing property for variable personas in block 3

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 356 5.786517 .1215691 2.293761 5.547431 6.025603

1 | 226 5.880531 .1469302 2.208845 5.590996 6.170066

---------+--------------------------------------------------------------------

combined | 582 5.823024 .0936683 2.259717 5.639054 6.006994

---------+--------------------------------------------------------------------

diff | -.0940141 .1923184 -.4717395 .2837113

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

diff = mean(0) - mean(1) t = -0.4888

Ho: diff = 0 degrees of freedom = 580

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.3126 Pr(|T| > |t|) = 0.6251 Pr(T > t) = 0.6874

Variable personas is balanced in block 3

Testing the balancing property for variable orden\_n in block 3

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 356 1.02809 .0087695 .1654622 1.010843 1.045337

1 | 226 1.030973 .0115497 .1736303 1.008214 1.053733

---------+--------------------------------------------------------------------

combined | 582 1.02921 .0069861 .1685385 1.015488 1.042931

---------+--------------------------------------------------------------------

diff | -.0028836 .0143463 -.0310606 .0252935

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

diff = mean(0) - mean(1) t = -0.2010

Ho: diff = 0 degrees of freedom = 580

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.4204 Pr(|T| > |t|) = 0.8408 Pr(T > t) = 0.5796

Variable orden\_n is balanced in block 3

Testing the balancing property for variable ocupado\_jefe in block 3

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 356 .3932584 .0259255 .4891609 .3422716 .4442453

1 | 226 .4380531 .0330765 .4972491 .3728737 .5032325

---------+--------------------------------------------------------------------

combined | 582 .4106529 .0204096 .4923755 .3705673 .4507385

---------+--------------------------------------------------------------------

diff | -.0447947 .0418721 -.1270341 .0374448

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

diff = mean(0) - mean(1) t = -1.0698

Ho: diff = 0 degrees of freedom = 580

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.1426 Pr(|T| > |t|) = 0.2852 Pr(T > t) = 0.8574

Variable ocupado\_jefe is balanced in block 3

Testing the balancing property for variable educa\_jefe in block 3

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 356 6.101124 .2141231 4.040067 5.680014 6.522233

1 | 226 6.362832 .2654192 3.990125 5.839807 6.885857

---------+--------------------------------------------------------------------

combined | 582 6.202749 .1666067 4.019333 5.875524 6.529974

---------+--------------------------------------------------------------------

diff | -.2617083 .3419725 -.9333636 .409947

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

diff = mean(0) - mean(1) t = -0.7653

Ho: diff = 0 degrees of freedom = 580

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.2222 Pr(|T| > |t|) = 0.4444 Pr(T > t) = 0.7778

Variable educa\_jefe is balanced in block 3

Testing the balancing property for variable ingresos\_hogar\_jefe in block 3

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 356 52.16681 3.772466 71.17875 44.74762 59.586

1 | 226 51.09703 3.642251 54.75503 43.91974 58.27431

---------+--------------------------------------------------------------------

combined | 582 51.7514 2.704518 65.24561 46.43957 57.06322

---------+--------------------------------------------------------------------

diff | 1.069781 5.553845 -9.838318 11.97788

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

diff = mean(0) - mean(1) t = 0.1926

Ho: diff = 0 degrees of freedom = 580

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.5763 Pr(|T| > |t|) = 0.8473 Pr(T > t) = 0.4237

Variable ingresos\_hogar\_jefe is balanced in block 3

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Testing the balancing property in block 4

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

obs: 229, control: 141, treated: 88

Testing the balancing property for variable personas in block 4

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 141 5.638298 .130573 1.550468 5.380148 5.896448

1 | 88 5.818182 .1853753 1.738975 5.449728 6.186635

---------+--------------------------------------------------------------------

combined | 229 5.707424 .1073237 1.624102 5.49595 5.918897

---------+--------------------------------------------------------------------

diff | -.1798839 .2208008 -.6149653 .2551974

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

diff = mean(0) - mean(1) t = -0.8147

Ho: diff = 0 degrees of freedom = 227

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.2081 Pr(|T| > |t|) = 0.4161 Pr(T > t) = 0.7919

Variable personas is balanced in block 4

Testing the balancing property for variable orden\_n in block 4

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 141 1.014184 .009994 .1186722 .9944257 1.033943

1 | 88 1.034091 .0194548 .1825026 .9954223 1.07276

---------+--------------------------------------------------------------------

combined | 229 1.021834 .0096785 .1464616 1.002763 1.040905

---------+--------------------------------------------------------------------

diff | -.0199065 .0198971 -.0591131 .0193001

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

diff = mean(0) - mean(1) t = -1.0005

Ho: diff = 0 degrees of freedom = 227

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.1591 Pr(|T| > |t|) = 0.3181 Pr(T > t) = 0.8409

Variable orden\_n is balanced in block 4

Testing the balancing property for variable ocupado\_jefe in block 4

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 141 .822695 .0322787 .3832882 .7588783 .8865117

1 | 88 .7840909 .0441122 .4138094 .6964131 .8717687

---------+--------------------------------------------------------------------

combined | 229 .8078603 .0260921 .3948454 .7564478 .8592728

---------+--------------------------------------------------------------------

diff | .0386041 .0536976 -.0672053 .1444135

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

diff = mean(0) - mean(1) t = 0.7189

Ho: diff = 0 degrees of freedom = 227

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.7635 Pr(|T| > |t|) = 0.4729 Pr(T > t) = 0.2365

Variable ocupado\_jefe is balanced in block 4

Testing the balancing property for variable educa\_jefe in block 4

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 141 7.87234 .3771394 4.478283 7.126716 8.617965

1 | 88 6.670455 .4837273 4.537764 5.708994 7.631915

---------+--------------------------------------------------------------------

combined | 229 7.41048 .2993076 4.529346 6.820718 8.000243

---------+--------------------------------------------------------------------

diff | 1.201886 .6114944 -.0030452 2.406817

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

diff = mean(0) - mean(1) t = 1.9655

Ho: diff = 0 degrees of freedom = 227

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.9747 Pr(|T| > |t|) = 0.0506 Pr(T > t) = 0.0253

Variable educa\_jefe is balanced in block 4

Testing the balancing property for variable ingresos\_hogar\_jefe in block 4

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 141 61.88327 4.471493 53.09603 53.04289 70.72365

1 | 88 56.2335 5.073023 47.58917 46.15032 66.31668

---------+--------------------------------------------------------------------

combined | 229 59.71218 3.371366 51.01803 53.06916 66.3552

---------+--------------------------------------------------------------------

diff | 5.649764 6.936035 -8.017481 19.31701

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

diff = mean(0) - mean(1) t = 0.8146

Ho: diff = 0 degrees of freedom = 227

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.7919 Pr(|T| > |t|) = 0.4162 Pr(T > t) = 0.2081

Variable ingresos\_hogar\_jefe is balanced in block 4

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Testing the balancing property in block 5

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

obs: 276, control: 133, treated: 143

Testing the balancing property for variable personas in block 5

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 133 5.421053 .1099983 1.268562 5.203465 5.63864

1 | 143 5.34965 .1275807 1.525643 5.097447 5.601853

---------+--------------------------------------------------------------------

combined | 276 5.384058 .0846048 1.40556 5.217503 5.550613

---------+--------------------------------------------------------------------

diff | .0714023 .1695746 -.2624324 .4052369

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

diff = mean(0) - mean(1) t = 0.4211

Ho: diff = 0 degrees of freedom = 274

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.6630 Pr(|T| > |t|) = 0.6740 Pr(T > t) = 0.3370

Variable personas is balanced in block 5

Testing the balancing property for variable orden\_n in block 5

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 133 1.007519 .0075188 .086711 .9926459 1.022392

1 | 143 1.020979 .0120266 .1438177 .9972046 1.044753

---------+--------------------------------------------------------------------

combined | 276 1.014493 .0072067 .1197274 1.000305 1.02868

---------+--------------------------------------------------------------------

diff | -.0134602 .0144264 -.0418608 .0149404

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

diff = mean(0) - mean(1) t = -0.9330

Ho: diff = 0 degrees of freedom = 274

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.1758 Pr(|T| > |t|) = 0.3516 Pr(T > t) = 0.8242

Variable orden\_n is balanced in block 5

Testing the balancing property for variable ocupado\_jefe in block 5

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 133 .9172932 .0239738 .2764798 .8698706 .9647159

1 | 143 .8391608 .0308301 .3686739 .7782156 .900106

---------+--------------------------------------------------------------------

combined | 276 .8768116 .0198185 .3292504 .8377963 .9158269

---------+--------------------------------------------------------------------

diff | .0781324 .0394541 .0004607 .1558041

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

diff = mean(0) - mean(1) t = 1.9803

Ho: diff = 0 degrees of freedom = 274

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.9757 Pr(|T| > |t|) = 0.0487 Pr(T > t) = 0.0243

Variable ocupado\_jefe is balanced in block 5

Testing the balancing property for variable educa\_jefe in block 5

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 133 7.578947 .3400794 3.921986 6.906237 8.251658

1 | 143 7.391608 .3586577 4.288923 6.68261 8.100607

---------+--------------------------------------------------------------------

combined | 276 7.481884 .2473818 4.109815 6.994881 7.968887

---------+--------------------------------------------------------------------

diff | .187339 .4958621 -.7888448 1.163523

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

diff = mean(0) - mean(1) t = 0.3778

Ho: diff = 0 degrees of freedom = 274

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.6471 Pr(|T| > |t|) = 0.7059 Pr(T > t) = 0.3529

Variable educa\_jefe is balanced in block 5

Testing the balancing property for variable ingresos\_hogar\_jefe in block 5

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 133 58.67524 3.760072 43.36327 51.23745 66.11304

1 | 143 67.21906 5.03367 60.19394 57.26845 77.16968

---------+--------------------------------------------------------------------

combined | 276 63.10193 3.180452 52.83764 56.84081 69.36306

---------+--------------------------------------------------------------------

diff | -8.543821 6.355764 -21.05616 3.968515

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

diff = mean(0) - mean(1) t = -1.3443

Ho: diff = 0 degrees of freedom = 274

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.0900 Pr(|T| > |t|) = 0.1800 Pr(T > t) = 0.9100

Variable ingresos\_hogar\_jefe is balanced in block 5

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Testing the balancing property in block 6

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

obs: 765, control: 371, treated: 394

Testing the balancing property for variable personas in block 6

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 371 4.946092 .0661639 1.274407 4.815987 5.076196

1 | 394 4.883249 .0621777 1.234192 4.761006 5.005491

---------+--------------------------------------------------------------------

combined | 765 4.913725 .0453178 1.253428 4.824763 5.002688

---------+--------------------------------------------------------------------

diff | .0628429 .0907074 -.1152228 .2409086

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

diff = mean(0) - mean(1) t = 0.6928

Ho: diff = 0 degrees of freedom = 763

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.7557 Pr(|T| > |t|) = 0.4886 Pr(T > t) = 0.2443

Variable personas is balanced in block 6

Testing the balancing property for variable orden\_n in block 6

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 371 1.024259 .0079984 .1540592 1.008531 1.039987

1 | 394 1.040609 .0099567 .1976339 1.021034 1.060184

---------+--------------------------------------------------------------------

combined | 765 1.03268 .0064325 .1779133 1.020052 1.045307

---------+--------------------------------------------------------------------

diff | -.0163504 .0128656 -.0416065 .0089058

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

diff = mean(0) - mean(1) t = -1.2709

Ho: diff = 0 degrees of freedom = 763

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.1021 Pr(|T| > |t|) = 0.2042 Pr(T > t) = 0.8979

Variable orden\_n is balanced in block 6

Testing the balancing property for variable ocupado\_jefe in block 6

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 371 .9595687 .0102399 .1972345 .939433 .9797044

1 | 394 .9543147 .0105327 .2090671 .9336073 .9750221

---------+--------------------------------------------------------------------

combined | 765 .9568627 .0073503 .2032989 .9424336 .9712919

---------+--------------------------------------------------------------------

diff | .005254 .0147156 -.0236339 .0341419

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

diff = mean(0) - mean(1) t = 0.3570

Ho: diff = 0 degrees of freedom = 763

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.6394 Pr(|T| > |t|) = 0.7212 Pr(T > t) = 0.3606

Variable ocupado\_jefe is balanced in block 6

Testing the balancing property for variable educa\_jefe in block 6

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 371 7.301887 .1913514 3.685688 6.925614 7.678159

1 | 394 7.771574 .1839142 3.650592 7.409995 8.133152

---------+--------------------------------------------------------------------

combined | 765 7.543791 .1327893 3.672771 7.283116 7.804466

---------+--------------------------------------------------------------------

diff | -.4696868 .2653285 -.9905473 .0511737

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

diff = mean(0) - mean(1) t = -1.7702

Ho: diff = 0 degrees of freedom = 763

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.0385 Pr(|T| > |t|) = 0.0771 Pr(T > t) = 0.9615

Variable educa\_jefe is balanced in block 6

Testing the balancing property for variable ingresos\_hogar\_jefe in block 6

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 371 65.96931 3.017683 58.12468 60.03535 71.90327

1 | 394 67.16 2.784124 55.26328 61.68636 72.63364

---------+--------------------------------------------------------------------

combined | 765 66.58255 2.04764 56.63493 62.56288 70.60222

---------+--------------------------------------------------------------------

diff | -1.190685 4.09959 -9.238501 6.85713

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

diff = mean(0) - mean(1) t = -0.2904

Ho: diff = 0 degrees of freedom = 763

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.3858 Pr(|T| > |t|) = 0.7716 Pr(T > t) = 0.6142

Variable ingresos\_hogar\_jefe is balanced in block 6

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Testing the balancing property in block 7

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

obs: 1670, control: 798, treated: 872

Testing the balancing property for variable personas in block 7

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 798 4.112782 .0451036 1.274127 4.024246 4.201318

1 | 872 4.02867 .0449747 1.328087 3.940398 4.116941

---------+--------------------------------------------------------------------

combined | 1670 4.068862 .0318818 1.302871 4.00633 4.131395

---------+--------------------------------------------------------------------

diff | .0841122 .0638122 -.0410483 .2092727

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

diff = mean(0) - mean(1) t = 1.3181

Ho: diff = 0 degrees of freedom = 1668

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.9062 Pr(|T| > |t|) = 0.1876 Pr(T > t) = 0.0938

Variable personas is balanced in block 7

Testing the balancing property for variable orden\_n in block 7

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 798 1.160401 .012999 .3672077 1.134885 1.185917

1 | 872 1.150229 .0124285 .3670091 1.125836 1.174623

---------+--------------------------------------------------------------------

combined | 1670 1.15509 .0089814 .3670292 1.137474 1.172706

---------+--------------------------------------------------------------------

diff | .0101716 .0179841 -.0251021 .0454453

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

diff = mean(0) - mean(1) t = 0.5656

Ho: diff = 0 degrees of freedom = 1668

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.7141 Pr(|T| > |t|) = 0.5717 Pr(T > t) = 0.2859

Variable orden\_n is balanced in block 7

Testing the balancing property for variable ocupado\_jefe in block 7

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 798 .9799499 .0049651 .1402597 .9702036 .9896962

1 | 872 .9759174 .0051946 .1533936 .9657221 .9861128

---------+--------------------------------------------------------------------

combined | 1670 .9778443 .0036029 .1472338 .9707777 .9849109

---------+--------------------------------------------------------------------

diff | .0040324 .0072143 -.0101176 .0181825

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

diff = mean(0) - mean(1) t = 0.5589

Ho: diff = 0 degrees of freedom = 1668

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.7119 Pr(|T| > |t|) = 0.5763 Pr(T > t) = 0.2881

Variable ocupado\_jefe is balanced in block 7

Testing the balancing property for variable educa\_jefe in block 7

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 798 6.190476 .1340523 3.78683 5.927339 6.453614

1 | 872 6.146789 .1194515 3.527359 5.912343 6.381235

---------+--------------------------------------------------------------------

combined | 1670 6.167665 .089381 3.652609 5.992354 6.342975

---------+--------------------------------------------------------------------

diff | .0436872 .1789881 -.3073778 .3947522

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

diff = mean(0) - mean(1) t = 0.2441

Ho: diff = 0 degrees of freedom = 1668

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.5964 Pr(|T| > |t|) = 0.8072 Pr(T > t) = 0.4036

Variable educa\_jefe is balanced in block 7

Testing the balancing property for variable ingresos\_hogar\_jefe in block 7

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 798 76.18016 2.522753 71.26499 71.22814 81.13219

1 | 872 75.78625 2.15592 63.66355 71.55484 80.01765

---------+--------------------------------------------------------------------

combined | 1670 75.97448 1.648886 67.38277 72.74038 79.20858

---------+--------------------------------------------------------------------

diff | .3939131 3.30199 -6.082567 6.870394

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

diff = mean(0) - mean(1) t = 0.1193

Ho: diff = 0 degrees of freedom = 1668

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.5475 Pr(|T| > |t|) = 0.9051 Pr(T > t) = 0.4525

Variable ingresos\_hogar\_jefe is balanced in block 7

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Testing the balancing property in block 8

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

obs: 131, control: 39, treated: 92

Testing the balancing property for variable personas in block 8

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 39 4.948718 .262215 1.637532 4.417891 5.479544

1 | 92 4.586957 .1339896 1.285183 4.320803 4.85311

---------+--------------------------------------------------------------------

combined | 131 4.694656 .1225551 1.402707 4.452196 4.937117

---------+--------------------------------------------------------------------

diff | .3617614 .2671706 -.1668421 .890365

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

diff = mean(0) - mean(1) t = 1.3540

Ho: diff = 0 degrees of freedom = 129

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.9110 Pr(|T| > |t|) = 0.1781 Pr(T > t) = 0.0890

Variable personas is balanced in block 8

Testing the balancing property for variable orden\_n in block 8

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 39 1.794872 .0984323 .6147095 1.595606 1.994138

1 | 92 1.880435 .0705625 .676812 1.740271 2.020599

---------+--------------------------------------------------------------------

combined | 131 1.854962 .0574688 .65776 1.741267 1.968657

---------+--------------------------------------------------------------------

diff | -.085563 .1259442 -.3347467 .1636207

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

diff = mean(0) - mean(1) t = -0.6794

Ho: diff = 0 degrees of freedom = 129

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.2491 Pr(|T| > |t|) = 0.4981 Pr(T > t) = 0.7509

Variable orden\_n is balanced in block 8

Testing the balancing property for variable ocupado\_jefe in block 8

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 39 1 0 0 1 1

1 | 92 .9673913 .0186186 .1785834 .9304077 1.004375

---------+--------------------------------------------------------------------

combined | 131 .9770992 .0131197 .1501614 .9511436 1.003055

---------+--------------------------------------------------------------------

diff | .0326087 .02866 -.0240958 .0893132

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

diff = mean(0) - mean(1) t = 1.1378

Ho: diff = 0 degrees of freedom = 129

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.8713 Pr(|T| > |t|) = 0.2573 Pr(T > t) = 0.1287

Variable ocupado\_jefe is balanced in block 8

Testing the balancing property for variable educa\_jefe in block 8

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 39 5.384615 .6219288 3.883944 4.125586 6.643644

1 | 92 5.065217 .389115 3.73226 4.292288 5.838147

---------+--------------------------------------------------------------------

combined | 131 5.160305 .3290258 3.765873 4.509367 5.811244

---------+--------------------------------------------------------------------

diff | .319398 .7218094 -1.10872 1.747516

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

diff = mean(0) - mean(1) t = 0.4425

Ho: diff = 0 degrees of freedom = 129

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.6706 Pr(|T| > |t|) = 0.6589 Pr(T > t) = 0.3294

Variable educa\_jefe is balanced in block 8

Testing the balancing property for variable ingresos\_hogar\_jefe in block 8

Two-sample t test with equal variances

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

Group | Obs Mean Std. Err. Std. Dev. [95% Conf. Interval]

---------+--------------------------------------------------------------------

0 | 39 282.2048 54.54868 340.6564 171.7768 392.6329

1 | 92 243.1169 27.53134 264.0714 188.4292 297.8045

---------+--------------------------------------------------------------------

combined | 131 254.7537 25.17979 288.1958 204.9385 304.5689

---------+--------------------------------------------------------------------

diff | 39.08799 55.17352 -70.07418 148.2502

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

diff = mean(0) - mean(1) t = 0.7085

Ho: diff = 0 degrees of freedom = 129

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.7600 Pr(|T| > |t|) = 0.4799 Pr(T > t) = 0.2400

Variable ingresos\_hogar\_jefe is balanced in block 8

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Testing the balancing property in block 9

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

obs: 0, control: 0, treated: 0

Block 9 does not have observations

Move to next block

The balancing property is satisfied

This table shows the inferior bound, the number of treated

and the number of controls for each block

Inferior | 1 si tratado, 0 caso

of block | contrario

of pscore | 0 1 | Total

-----------+----------------------+----------

.2 | 207 137 | 344

.4 | 356 226 | 582

.45 | 141 88 | 229

.4625 | 133 143 | 276

.475 | 371 394 | 765

.5 | 798 872 | 1,670

.6 | 39 92 | 131

-----------+----------------------+----------

Total | 2,045 1,952 | 3,997

Note: the common support option has been selected

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

End of the algorithm to estimate the pscore

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Veamos las diferencias entre el soporte común calculado manualmente y el estimado por "pscore":

.

. sum pscore\_sc, detail

pscore\_sc

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

Percentiles Smallest

1% .3218006 .2522204

5% .3797705 .2550815

10% .4065612 .2563262 Obs 3995

25% .4541271 .26279 Sum of Wgt. 3995

50% .4941047 Mean .4880882

Largest Std. Dev. .0619017

75% .5242749 .7392166

90% .5555345 .7407326 Variance .0038318

95% .5845093 .742403 Skewness -.1802725

99% .6465815 .7454204 Kurtosis 4.280369

.

. sum pscore\_b, detail

Estimated propensity score

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

Percentiles Smallest

1% .3175183 .206107

5% .3797005 .2129523

10% .4056086 .2289244 Obs 4000

25% .4539765 .2522203 Sum of Wgt. 4000

50% .4940985 Mean .4880182

Largest Std. Dev. .0625985

75% .5242764 .742403

90% .5556041 .7454204 Variance .0039186

95% .5848776 .7558656 Skewness -.1933022

99% .6482297 .7564646 Kurtosis 4.525021

.

Gráficamente, veamos las diferencias: ya teníamos la gráfica del soporte común haciéndolo manualmente. Ahora veamos el soporte común estimado por "pscore"

.

.

. drop x1 y1 x0 y0

.

. histogram pscore\_b if comsup==1, by(D)



.

. histogram pscore\_b if D==1 & comsup==1, bin(100) color(blue) addplot(kdensity pscore\_b if D==1 & comsu

> p==1)

(bin=100, start=.25222035, width=.00504244)



.

.

kdensity pscore\_b if D==1 & comsup==1, epanechnikov generate(x1 y1)



.

. histogram pscore\_b if D==0 & comsup==1, bin(100) color(blue) addplot(kdensity pscore\_b if D==0 & comsu

> p==1)

(bin=100, start=.2550815, width=.00490339)



.

. kdensity pscore\_b if D==0 & comsup==1, epanechnikov generate(x0 y0)



.

. twoway (line y1 x1) (line y0 x0, lpattern(dash)), ytitle(Densidad) xtitle(Probabilidad de ser tratado)

> title("pscore" ) legend(order(1 "Participante=1" 2 "No participante=0"))



.

Resulta evidente que hay observaciones pertenecientes al grupo de control que tienen una probabilidad predicha inferior al mínimo del grupo de tratamiento.

.

. sum pscore\_b if D==1 & comsup==1

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

pscore\_b | 1952 .4960458 .0616513 .2522203 .7564646

.

. sum pscore\_b if D==0 & comsup==1

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

pscore\_b | 2045 .4807547 .0617698 .2550815 .7454204

.

. sum pscore\_sc if D==1

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

pscore\_sc | 1950 .495779 .0611169 .2522204 .7407326

.

. sum pscore\_sc if D==0

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

pscore\_sc | 2045 .4807547 .0617698 .2550815 .7454204

.

Otro procedimiento para garantizar la calidad del emparejamiento consiste en estimar el modelo probit con las características especificadas controlando por la probabilidad predicha. En teoría, los coeficientes asociados a las características de los individuos no deben ser estadísticamente significativos:

.

. dprobit D pscore $X

Iteration 0: log likelihood = -2771.4366

Iteration 1: log likelihood = -2739.7035

Iteration 2: log likelihood = -2739.6749

Iteration 3: log likelihood = -2739.6749

Probit regression, reporting marginal effects Number of obs = 4000

LR chi2(6) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | dF/dx Std. Err. z P>|z| x-bar [ 95% C.I. ]

---------+--------------------------------------------------------------------

pscore | -.0722217 6.664421 -0.01 0.991 .488018 -13.1342 12.9898

personas | -.0233864 .1423828 -0.16 0.870 5.04525 -.302452 .255679

orden\_n | .0978208 .5998447 0.16 0.870 1.10675 -1.07785 1.27349

ocupad~e\*| .0871644 .5290165 0.16 0.871 .809 -.949689 1.12402

educa\_~e | -.0064632 .039564 -0.16 0.870 6.57575 -.084007 .071081

ingres~e | .0003303 .0019992 0.17 0.869 72.9454 -.003588 .004249

---------+--------------------------------------------------------------------

obs. P | .488

pred. P | .4878079 (at x-bar)

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

(\*) dF/dx is for discrete change of dummy variable from 0 to 1

z and P>|z| correspond to the test of the underlying coefficient being 0

.

Entonces, dado que ningún coeficiente es significativo, podemos estar seguros de que el emparejamiento es adecuado.

.

. \*-------------------------------------------------------------------\*

. \*4. Selección de un algoritmo de emparejamiento (talla para la edad)\*

. \*-------------------------------------------------------------------\*

.

4.1 Al utilizar el emparejamiento por vecino más cercano, el programa "psmatch2" empareja a cada individuo del grupo de tratamiento con el individuo del grupo de control que tiene una probabilidad más cercana. Sin embargo, cuando se presentan casos en los que hay varios individuos en el grupo de control a la misma distancia de un solo individuo de tratamientodebemos asegurarnos de que el orden en el que se presentan los datos en nuestra base sea aleatorio. Definimos la semilla en 10 arbitrariamente con el objetivo de poder replicar los resultados.

.

. set seed 50

. drawnorm orden

. sort orden

.

4.1 Estimador PSM por vecino más cercano. El comando "psmatch2" calcula el propensity score y tiene en cuenta únicamente a quienes están dentro del soporte común, o nosotros podemos indicarle qué variable debe utilizar como propensity score:

.

. psmatch2 D $X, outcome(ha\_nchs2) n(1) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.643655504 -.925526755 .28187125 .047863197 5.89

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

. drop x1 y1 x0 y0

.

. histogram pscore if \_support==1, by(D)



.

. histogram pscore if D==1 & \_support==1, bin(100) color(blue) addplot(kdensity pscore\_b if D==1 & \_supp

> ort==1)

(bin=100, start=.25222036, width=.00488512)



.

. kdensity pscore if D==1 & \_support==1, epanechnikov generate(x1 y1)



.

. histogram pscore if D==0 & \_support==1, bin(100) color(blue) addplot(kdensity pscore\_b if D==0 & \_supp

> ort==1)

(bin=100, start=.20610705, width=.00539313)



.

. kdensity pscore if D==0 & \_support==1, epanechnikov generate(x0 y0)



.

. twoway (line y1 x1) (line y0 x0, lpattern(dash)), ytitle(Densidad) xtitle(Probabilidad de ser tratado)

> title("psmatch2" ) legend(order(1 "Participante=1" 2 "No participante=0"))



.

. sum pscore if D==1 & \_support==1

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

pscore | 1950 .495779 .0611169 .2522204 .7407326

.

. sum pscore if D==0 & \_support==1

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

pscore | 2048 .4803669 .062551 .2061071 .7454204

.

.

Ahora imponemos el soporte común mediante trimming:

.

. psmatch2 D $X, outcome(ha\_nchs2) n(1) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.612519085 -.884940643 .272421557 .053026018 5.14

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

4.2 Matching con 5 vecinos

.

.

4.2.1 Imponiendo el soporte común del comando.

.

psmatch2 D $X, outcome(ha\_nchs2) n(5) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.643655504 -.959505019 .315849515 .037339187 8.46

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

4.2.1 Imponiendo el soporte común mediante trimming.

.

. psmatch2 D $X, outcome(ha\_nchs2) n(5) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.612519085 -.926395355 .313876269 .041149041 7.63

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

.

4.3 Matching con 10 vecinos

.

4.3.1 Imponiendo el soporte común del comando:

.

. psmatch2 D $X, outcome(ha\_nchs2) n(10) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.643655504 -.966110715 .322455211 .035977696 8.96

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

4.3.2 Imponiendo el soporte común mediante trimming:

.

. psmatch2 D $X, outcome(ha\_nchs2) n(10) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.612519085 -.929413358 .316894273 .039648973 7.99

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

4.4.1 Emparejamiento de distancia máxima soporte común com

.

. psmatch2 D $X, outcome(ha\_nchs2) radius caliper(0.001) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.641183051 -.974255085 .333072035 .036037969 9.24

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 49 1,903 | 1,952

-----------+----------------------+----------

Total | 49 3,951 | 4,000

.

. psmatch2 D $X, outcome(ha\_nchs2) radius caliper(0.005) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.643518692 -.96961713 .326098438 .034812745 9.37

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 7 1,945 | 1,952

-----------+----------------------+----------

Total | 7 3,993 | 4,000

.

4.4.2 Emparejamiento de distancia máxima soporte común trimming

.

. psmatch2 D $X, outcome(ha\_nchs2) radius caliper(0.001) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.612519085 -.938951078 .326431992 .038860977 8.40

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

. psmatch2 D $X, outcome(ha\_nchs2) radius caliper(0.005) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.612519085 -.93473748 .322218395 .037886966 8.50

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

4.5.1 Emparejamiento por kernel soporte común com

.

. psmatch2 D $X, outcome(ha\_nchs2) com kernel

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.643655504 -.966638589 .322983085 .034286897 9.42

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

bootstrap r(att) : psmatch2 D $X, out(ha\_nchs2) com kernel

(running psmatch2 on estimation sample)

Note: S.E. for ATT does not take into account that the propensity score is estimated.

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe, out(ha\_nchs2)

com kernel

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | .3229831 .0430993 7.49 0.000 .23851 .4074561

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

.

4.5.2 Emparejamiento por kernel soporte común trimming

.

.

. psmatch2 D $X, outcome(ha\_nchs2) trim(20) kernel

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.612519085 -.942835514 .330316428 .03746906 8.82

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

bootstrap r(att) : psmatch2 D $X, out(ha\_nchs2) trim(20) kernel

(running psmatch2 on estimation sample)

Note: S.E. for ATT does not take into account that the propensity score is estimated.

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe,

out(ha\_nchs2) trim(20) kernel

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | .3303164 .0349033 9.46 0.000 .2619073 .3987256

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

4.6.1 Estimador por lineal local soporte común com

.

. psmatch2 D $X, llr outcome(ha\_nchs2) common

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.643655504 -.963352645 .31969714 . .

----------------------------+-----------------------------------------------------------

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

bootstrap r(att) : psmatch2 D $X, llr outcome(ha\_nchs2) common

(running psmatch2 on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe,

llr outcome(ha\_nchs2) common

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | .3196971 .0303986 10.52 0.000 .2601171 .3792772

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

4.6.2 Estimador por lineal local soporte común trimming(20)

.

. psmatch2 D $X, llr outcome(ha\_nchs2) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

ha\_nchs2 Unmatched |-.643956823 -.976453845 .332497022 .03380015 9.84

ATT |-.612519085 -.932322071 .319802985 . .

----------------------------+-----------------------------------------------------------

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

bootstrap r(att) : psmatch2 D $X, llr outcome(ha\_nchs2) trim(20)

(running psmatch2 on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe, llr

outcome(ha\_nchs2) trim(20)

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | .319803 .0399588 8.00 0.000 .2414851 .3981209

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

.

. \*---------------------------------------------------------------------\*

. \*5. Selección de un algoritmo de emparejamiento (desnutrición crónica)\*

. \*---------------------------------------------------------------------\*

.

.

.

5.1 Estimador PSM por vecino más cercano.

.

5.1.1 Imponiendo el soporte común mediante el comando:

.

. psmatch2 D $X, outcome(desn\_cr) n(1) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .088205128 .148205128 -.06 .01514466 -3.96

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

5.1.2 Ahora imponemos el soporte común mediante trimming:

.

. psmatch2 D $X, outcome(desn\_cr) n(1) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .083866837 .135083227 -.051216389 .016361347 -3.13

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

5.2 Matching con 5 vecinos

.

5.2.1 Imponiendo el soporte común mediante el comando:

.

. psmatch2 D $X, outcome(desn\_cr) n(5) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .088205128 .153333333 -.065128205 .011586288 -5.62

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

5.2.2 Ahora imponemos el soporte común mediante trimming:

.

. psmatch2 D $X, outcome(desn\_cr) n(5) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .083866837 .14084507 -.056978233 .012540765 -4.54

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

5.3 Matching con 10 vecinos

5.3.1 Imponiendo el soporte común mediante el comando:

psmatch2 D $X, outcome(desn\_cr) n(10) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .088205128 .154410256 -.066205128 .011077461 -5.98

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

5.3.2 Ahora imponemos el soporte común mediante trimming:

.

. psmatch2 D $X, outcome(desn\_cr) n(10) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .083866837 .142381562 -.058514725 .012011523 -4.87

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

5.4.1 Emparejamiento de distancia máxima soporte común com

.

. psmatch2 D $X, outcome(desn\_cr) radius caliper(0.001) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .087230688 .156357183 -.069126495 .011051064 -6.26

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 49 1,903 | 1,952

-----------+----------------------+----------

Total | 49 3,951 | 4,000

.

. psmatch2 D $X, outcome(desn\_cr) radius caliper(0.005) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .088431877 .153600147 -.06516827 .010639748 -6.12

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 7 1,945 | 1,952

-----------+----------------------+----------

Total | 7 3,993 | 4,000

.

5.4.2 Emparejamiento de distancia máxima soporte común trimming

.

. psmatch2 D $X, outcome(desn\_cr) radius caliper(0.001) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .083866837 .145442667 -.061575829 .011719446 -5.25

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

. psmatch2 D $X, outcome(desn\_cr) radius caliper(0.005) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .083866837 .142489114 -.058622277 .01138132 -5.15

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

5.5.1 Emparejamiento por kernel soporte común com

.

. psmatch2 D $X, outcome(desn\_cr) com kernel

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .088205128 .154040893 -.065835765 .010452309 -6.30

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

bootstrap r(att) : psmatch2 D $X, out(desn\_cr) com kernel

(running psmatch2 on estimation sample)

Note: S.E. for ATT does not take into account that the propensity score is estimated.

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe, out(desn\_cr)

com kernel

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | -.0658358 .0123907 -5.31 0.000 -.0901211 -.0415504

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

.

5.5.2 Emparejamiento por kernel soporte común trimming

.

. psmatch2 D $X, outcome(desn\_cr) trim(20) kernel

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .083866837 .146191248 -.062324411 .01129533 -5.52

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

. bootstrap r(att) : psmatch2 D $X, out(desn\_cr) trim(20) kernel

(running psmatch2 on estimation sample)

Note: S.E. for ATT does not take into account that the propensity score is estimated.

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe, out(desn\_cr)

trim(20) kernel

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | -.0623244 .0109591 -5.69 0.000 -.0838038 -.040845

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

.

5.6.1 Estimador por lineal local soporte común com

.

. psmatch2 D $X, llr outcome(desn\_cr) common

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .088205128 .151741159 -.063536031 . .

----------------------------+-----------------------------------------------------------

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

bootstrap r(att) : psmatch2 D $X, llr outcome(desn\_cr) common

(running psmatch2 on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe, llr

outcome(desn\_cr) common

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | -.063536 .0111186 -5.71 0.000 -.0853281 -.0417439

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

.

5.6.2 Estimador por lineal local soporte común trimming

.

. psmatch2 D $X, llr outcome(desn\_cr) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

desn\_cr Unmatched | .088114754 .155761719 -.067646965 .010327333 -6.55

ATT | .083866837 .140383882 -.056517045 . .

----------------------------+-----------------------------------------------------------

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

. bootstrap r(att) : psmatch2 D $X, llr outcome(desn\_cr) trim(20)

(running psmatch2 on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe, llr

outcome(desn\_cr) trim(20)

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | -.056517 .0098776 -5.72 0.000 -.0758768 -.0371573

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

.

.

. \*-----------------------------------\*

. \* 6. Dobles diferencias emparejadas \*

. \*-----------------------------------\*

.

En este capítulo utilizaremos la metodología de dobles diferencias emparejadas para evaluar la evolución de la variable "talla para la edad" de los individuos en dos periodos.

.

Lo primero que debemos hacer es generar la variable de diferencia entre las dos observaciones:

.

. gen delta\_ha=ha\_nchs2-ha\_nchs1

.

Ahora utilizamos propensity score matching para evaluar la diferencia en la evolución de la talla para la edad entre individuos tratados y no tratados:

.

.

6.1 Estimador PSM por vecino más cercano.

.

6.1.1 Imponiendo el soporte común mediante el comando:

.

. psmatch2 D $X, outcome(delta\_ha) n(1) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .073512081 -.160510007 .234022088 .004715737 49.63

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

6.1.2 Ahora imponemos el soporte común mediante trimming:

.

. psmatch2 D $X, outcome(delta\_ha) n(1) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .072849653 -.160201651 .233051304 .005226799 44.59

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

6.2 Matching con 5 vecinos

.

6.2.1 Imponiendo el soporte común mediante el comando:

.

. psmatch2 D $X, outcome(delta\_ha) n(5) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .073512081 -.162664932 .236177013 .003576705 66.03

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

6.2.2 Ahora imponemos el soporte común mediante trimming:

.

. psmatch2 D $X, outcome(delta\_ha) n(5) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .072849653 -.16366318 .236512833 .003913639 60.43

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

.

6.3 Matching con 10 vecinos

.

6.3.1 Imponiendo el soporte común mediante el comando:

.

. psmatch2 D $X, outcome(delta\_ha) n(10) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .073512081 -.164531007 .238043088 .003390145 70.22

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

6.3.2 Ahora imponemos el soporte común mediante trimming:

.

. psmatch2 D $X, outcome(delta\_ha) n(10) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .072849653 -.16487437 .237724024 .003709351 64.09

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

6.4.1 Emparejamiento de distancia máxima soporte común com

.

. psmatch2 D $X, outcome(delta\_ha) radius caliper(0.001) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .073405952 -.163566991 .236972943 .003362903 70.47

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 49 1,903 | 1,952

-----------+----------------------+----------

Total | 49 3,951 | 4,000

psmatch2 D $X, outcome(delta\_ha) radius caliper(0.005) com

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .073394825 -.165743311 .239138137 .003222413 74.21

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 7 1,945 | 1,952

-----------+----------------------+----------

Total | 7 3,993 | 4,000

.

6.4.2 Emparejamiento de distancia máxima soporte común trimming

.

. psmatch2 D $X, outcome(delta\_ha) radius caliper(0.001) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .072849653 -.165046699 .237896352 .003600997 66.06

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

. psmatch2 D $X, outcome(delta\_ha) radius caliper(0.005) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .072849653 -.166399381 .239249034 .003476326 68.82

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

.

6.5.1 Emparejamiento por kernel soporte común com

.

. psmatch2 D $X, outcome(delta\_ha) com kernel

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .073512081 -.164696283 .238208364 .003151489 75.59

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

. bootstrap r(att) : psmatch2 D $X, out(delta\_ha) com kernel

(running psmatch2 on estimation sample)

Note: S.E. for ATT does not take into account that the propensity score is estimated.

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe, out(delta\_ha)

com kernel

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | .2382084 .0025498 93.42 0.000 .2332108 .2432059

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

.

6.5.2 Emparejamiento por kernel soporte común trimming

.

. psmatch2 D $X, outcome(delta\_ha) trim(20) kernel

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .072849653 -.165531539 .238381193 .003425919 69.58

----------------------------+-----------------------------------------------------------

Note: S.E. for ATT does not take into account that the propensity score is estimated.

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

. bootstrap r(att) : psmatch2 D $X, out(delta\_ha) trim(20) kernel

(running psmatch2 on estimation sample)

Note: S.E. for ATT does not take into account that the propensity score is estimated.

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe, out(delta\_ha)

trim(20) kernel

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | .2383812 .0031672 75.27 0.000 .2321736 .2445888

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

6.6.1 Estimador por lineal local soporte común com

.

. psmatch2 D $X, llr outcome(delta\_ha) common

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .073512081 -.16464385 .238155931 . .

----------------------------+-----------------------------------------------------------

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 2 1,950 | 1,952

-----------+----------------------+----------

Total | 2 3,998 | 4,000

.

. bootstrap r(att) : psmatch2 D $X, llr outcome(delta\_ha) common

(running psmatch2 on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe, llr

outcome(delta\_ha) common

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | .2381559 .0031997 74.43 0.000 .2318847 .2444271

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

.

. \*\*\*\*\* 6.6.2 Estimador por lineal local soporte común trimming

.

. psmatch2 D $X, llr outcome(delta\_ha) trim(20)

Probit regression Number of obs = 4000

LR chi2(5) = 63.52

Prob > chi2 = 0.0000

Log likelihood = -2739.6749 Pseudo R2 = 0.0115

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

D | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

personas | -.0547807 .0107191 -5.11 0.000 -.0757897 -.0337717

orden\_n | .2290269 .0618843 3.70 0.000 .1077359 .3503178

ocupado\_jefe | .2053767 .0522936 3.93 0.000 .102883 .3078703

educa\_jefe | -.0151349 .00544 -2.78 0.005 -.0257972 -.0044727

ingresos\_h~e | .0007741 .0002392 3.24 0.001 .0003054 .0012429

\_cons | -.1307518 .104657 -1.25 0.212 -.3358758 .0743721

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

There are observations with identical propensity score values.

The sort order of the data could affect your results.

Make sure that the sort order is random before calling psmatch2.

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

Variable Sample | Treated Controls Difference S.E. T-stat

----------------------------+-----------------------------------------------------------

delta\_ha Unmatched | .07353641 -.164157113 .237693523 .003124728 76.07

ATT | .072849653 -.165715492 .238565145 . .

----------------------------+-----------------------------------------------------------

psmatch2: | psmatch2: Common

Treatment | support

assignment | Off suppo On suppor | Total

-----------+----------------------+----------

Untreated | 0 2,048 | 2,048

Treated | 390 1,562 | 1,952

-----------+----------------------+----------

Total | 390 3,610 | 4,000

.

. bootstrap r(att) : psmatch2 D $X, llr outcome(delta\_ha) trim(20)

(running psmatch2 on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

Bootstrap results Number of obs = 4000

Replications = 50

command: psmatch2 D personas orden\_n ocupado\_jefe educa\_jefe ingresos\_hogar\_jefe, llr

outcome(delta\_ha) trim(20)

\_bs\_1: r(att)

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

| Observed Bootstrap Normal-based

| Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_bs\_1 | .2385651 .0036094 66.10 0.000 .2314908 .2456395

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

.

.

7. Utilización de pesos muestrales en matching.

.

La metodología de propensity score matching también permite incluir pesos muestrales en sus estimaciones. Con el comando presentado en este archivo (psmatch2) se puede dar la opción de utilizar pesos muestrales mediante el siguiente comando:

.

psmatch2 t x, outcome(y) w(Z) n(1) com

.

En este caso, Z sería la matriz de pesos a utilizar. Otra posibilidad es utilizar el comando "attnd". Su instalación también se hace en la pestaña de búsqueda de Stata. Una vez instalado, el comando para hacer matching con pesos es el siguiente:

.

attnd y t x, [pweight=z]

En este caso z sería la variable que indica el peso muestral otorgado a cada observación.