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

. \* Regression discontinuity \*

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

.

En regression discontinuity el programa "rd".Dado que el paquete básico de Stata no contiene el comando "psmatch2" es necesario instalarlo:

Instalación "psmatch2"

ssc install rd, replace

Sobre la base de datos: Hay dos observaciones para la variable talla para la edad. Tenemos el puntaje de sisben que va de 0 a 30. Se supone que los individuos con un puntaje sisben inferior a 10 tienen una mayor probabilidad de participar en el programa.

En este do-file presentaremos las cuatro metodologías presentadas en el texto. Estas son, Imbens Lemieux, Kernel Triangular,Metodología de Imbens y Lemieux con Kernel triangular y finalmente la metodología propuesta por el programa "RD". Como se explica en el documento, los resultados de las estimaciones dependen del ancho de banda utilizado. Por esta razón se harán estimativos para todas las metodologías y se almacenarán en una matriz de manera que al final tendremos resultados de todas las metodologías para todos los anchos de banda posibles.

.

.

. I. Metodología de Imbens y Lemieux

.

. Los resultados de la metodología Imbens y Lemieux se almacenarán en el vector IL.

.

. mat IL=J(10,1,0)

.

. Lo que hacemos es generar un ciclo para el ancho de banda. Hacemos estimativos para anchos de banda desde uno hasta diez. Debemos hacer cuatro regresiones para cada ancho de banda. Para la talla para la edad corremos una regresión a la izquierda y otra a la derecha. Lo mismo hacemos para la probabilidad de participar en el programa. Luego de correr cada regresión, el resultado de la constante queda guardado como un escalar. El subíndice utilizado para identificar la constante de la regresión del tratamiento por la izquierda es alfa\_`h'l donde `h' es el ancho de banda. Para las regresiones que se corren a la derecha, las constantes quedan guardadas como alfa\_`h'r. Cuando hacemos las regresiones por izquierda y derecha para estimar la probabilidad de participación en el programa las constantes se guardan con el nombre alfa\_d`h'l y alfa\_d`h'r respectivamente. Finalmente, se construye el estimador del efecto del programa mediante la relación de las diferencias de las constantes:

Efecto=[alfa\_`h'l-alfa\_`h'r]/[alfa\_d`h'l -alfa\_d`h'r].

.

. Debemos generar una variable que normalice el puntaje de sisben:

.

. gen sisbenalin=sisben-10

.

. local h=1

. while `h'<=10 {

2. display " Regresión talla para la edad por izquierda. Ancho de banda `h'"

3. reg ha\_nchs sisbenalin if sisben<10 & sisben>=10-`h'

4. mat define A\_10=e(b)

5. scalar define alfa\_`h'l=el(A\_10,1,2)

6. mat drop A\_10

7.

. display " Regresión talla para la edad por derecha. Ancho de banda `h'"

8. reg ha\_nchs sisbenalin if sisben>=10 & sisben<=10+`h'

9. mat define A\_10=e(b)

10. scalar define alfa\_`h'r=el(A\_10,1,2)

11. mat drop A\_10

12.

. display "Regresión talla para probabilidad de participación por izquierda. Ancho de banda `h'"

13. reg D sisbenalin if sisben<10 & sisben>=10-`h'

14. mat define A\_10=e(b)

15. scalar define alfa\_d`h'l=el(A\_10,1,2)

16. mat drop A\_10

17.

. display "Regresión talla para probabilidad de participación por derecha. Ancho de banda `h'"

18. reg D sisbenalin if sisben>=10 & sisben<=10+`h'

19. mat define A\_10=e(b)

20. scalar define alfa\_d`h'r=el(A\_10,1,2)

21. mat drop A\_10

22.

. mat IL[`h',1]=(alfa\_`h'l-alfa\_`h'r)/(alfa\_d`h'l-alfa\_d`h'r)

23.

. local h=`h'+1

24. }

Regresión talla para la edad por izquierda. Ancho de banda 1

Source | SS df MS Number of obs = 298

-------------+------------------------------ F( 0, 297) = 0.00

Model | 0 0 . Prob > F = .

Residual | 104.370944 297 .35141732 R-squared = 0.0000

-------------+------------------------------ Adj R-squared = 0.0000

Total | 104.370944 297 .35141732 Root MSE = .5928

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | (dropped)

\_cons | .4515047 .0343402 13.15 0.000 .3839237 .5190858

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

Regresión talla para la edad por derecha. Ancho de banda 1

Source | SS df MS Number of obs = 222

-------------+------------------------------ F( 1, 220) = 0.05

Model | .016694546 1 .016694546 Prob > F = 0.8239

Residual | 73.9519119 220 .336145054 R-squared = 0.0002

-------------+------------------------------ Adj R-squared = -0.0043

Total | 73.9686065 221 .334699577 Root MSE = .57978

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0204756 .0918785 0.22 0.824 -.1605989 .2015502

\_cons | .3641602 .0444671 8.19 0.000 .2765241 .4517962

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

Regresión talla para probabilidad de participación por izquierda. Ancho de banda 1

Source | SS df MS Number of obs = 298

-------------+------------------------------ F( 0, 297) = 0.00

Model | 0 0 . Prob > F = .

Residual | 68.8590604 297 .231848688 R-squared = 0.0000

-------------+------------------------------ Adj R-squared = 0.0000

Total | 68.8590604 297 .231848688 Root MSE = .48151

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

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

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

sisbenalin | (dropped)

\_cons | .6375839 .0278929 22.86 0.000 .5826911 .6924767

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

Regresión talla para probabilidad de participación por derecha. Ancho de banda 1

Source | SS df MS Number of obs = 222

-------------+------------------------------ F( 1, 220) = 2.36

Model | .319628226 1 .319628226 Prob > F = 0.1262

Residual | 29.8425339 220 .135647882 R-squared = 0.0106

-------------+------------------------------ Adj R-squared = 0.0061

Total | 30.1621622 221 .136480372 Root MSE = .3683

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

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

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

sisbenalin | .0895928 .0583656 1.54 0.126 -.0254345 .20462

\_cons | .1411765 .0282476 5.00 0.000 .0855059 .1968471

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

Regresión talla para la edad por izquierda. Ancho de banda 2

Source | SS df MS Number of obs = 492

-------------+------------------------------ F( 1, 490) = 1.13

Model | .367517343 1 .367517343 Prob > F = 0.2891

Residual | 159.877167 490 .326279932 R-squared = 0.0023

-------------+------------------------------ Adj R-squared = 0.0003

Total | 160.244684 491 .326363919 Root MSE = .57121

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0559258 .0526949 1.06 0.289 -.04761 .1594617

\_cons | .5074306 .0778553 6.52 0.000 .3544591 .660402

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

Regresión talla para la edad por derecha. Ancho de banda 2

Source | SS df MS Number of obs = 387

-------------+------------------------------ F( 1, 385) = 3.41

Model | 1.09905811 1 1.09905811 Prob > F = 0.0654

Residual | 123.92778 385 .321890337 R-squared = 0.0088

-------------+------------------------------ Adj R-squared = 0.0062

Total | 125.026838 386 .323903725 Root MSE = .56735

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0572835 .0310008 1.85 0.065 -.0036686 .1182357

\_cons | .3592775 .0420492 8.54 0.000 .2766026 .4419523

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

Regresión talla para probabilidad de participación por izquierda. Ancho de banda 2

Source | SS df MS Number of obs = 492

-------------+------------------------------ F( 1, 490) = 1.20

Model | .27053896 1 .27053896 Prob > F = 0.2743

Residual | 110.678648 490 .225874792 R-squared = 0.0024

-------------+------------------------------ Adj R-squared = 0.0004

Total | 110.949187 491 .225965758 Root MSE = .47526

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

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

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

sisbenalin | -.0479831 .0438437 -1.09 0.274 -.134128 .0381618

\_cons | .5896008 .0647779 9.10 0.000 .462324 .7168775

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

Regresión talla para probabilidad de participación por derecha. Ancho de banda 2

Source | SS df MS Number of obs = 387

-------------+------------------------------ F( 1, 385) = 0.45

Model | .054932984 1 .054932984 Prob > F = 0.5033

Residual | 47.1285295 385 .122411765 R-squared = 0.0012

-------------+------------------------------ Adj R-squared = -0.0014

Total | 47.1834625 386 .12223695 Root MSE = .34987

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

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

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

sisbenalin | -.0128067 .0191175 -0.67 0.503 -.0503944 .0247811

\_cons | .1547601 .0259308 5.97 0.000 .1037764 .2057437

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

Regresión talla para la edad por izquierda. Ancho de banda 3

Source | SS df MS Number of obs = 671

-------------+------------------------------ F( 1, 669) = 12.37

Model | 3.84203017 1 3.84203017 Prob > F = 0.0005

Residual | 207.738218 669 .310520506 R-squared = 0.0182

-------------+------------------------------ Adj R-squared = 0.0167

Total | 211.580248 670 .315791415 Root MSE = .55724

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .091801 .0260983 3.52 0.000 .0405566 .1430455

\_cons | .5521156 .0522063 10.58 0.000 .4496076 .6546237

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

Regresión talla para la edad por derecha. Ancho de banda 3

Source | SS df MS Number of obs = 421

-------------+------------------------------ F( 1, 419) = 4.41

Model | 1.47725985 1 1.47725985 Prob > F = 0.0362

Residual | 140.236497 419 .33469331 R-squared = 0.0104

-------------+------------------------------ Adj R-squared = 0.0081

Total | 141.713757 420 .337413706 Root MSE = .57853

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0565729 .026928 2.10 0.036 .0036422 .1095036

\_cons | .3596734 .0418732 8.59 0.000 .2773656 .4419812

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

Regresión talla para probabilidad de participación por izquierda. Ancho de banda 3

Source | SS df MS Number of obs = 671

-------------+------------------------------ F( 1, 669) = 0.14

Model | .03260486 1 .03260486 Prob > F = 0.7047

Residual | 151.75279 669 .226835262 R-squared = 0.0002

-------------+------------------------------ Adj R-squared = -0.0013

Total | 151.785395 670 .226545366 Root MSE = .47627

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

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

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

sisbenalin | -.0084568 .022306 -0.38 0.705 -.0522551 .0353414

\_cons | .6388335 .0446204 14.32 0.000 .5512206 .7264464

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

Regresión talla para probabilidad de participación por derecha. Ancho de banda 3

Source | SS df MS Number of obs = 421

-------------+------------------------------ F( 1, 419) = 0.08

Model | .009813229 1 .009813229 Prob > F = 0.7790

Residual | 52.151707 419 .124467081 R-squared = 0.0002

-------------+------------------------------ Adj R-squared = -0.0022

Total | 52.1615202 420 .124194096 Root MSE = .3528

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

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

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

sisbenalin | -.0046109 .0164213 -0.28 0.779 -.0368893 .0276675

\_cons | .150194 .0255353 5.88 0.000 .1000008 .2003872

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

Regresión talla para la edad por izquierda. Ancho de banda 4

Source | SS df MS Number of obs = 802

-------------+------------------------------ F( 1, 800) = 16.75

Model | 5.06878102 1 5.06878102 Prob > F = 0.0000

Residual | 242.090252 800 .302612815 R-squared = 0.0205

-------------+------------------------------ Adj R-squared = 0.0193

Total | 247.159033 801 .308563088 Root MSE = .5501

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0720838 .0176128 4.09 0.000 .0375109 .1066566

\_cons | .5223306 .0430033 12.15 0.000 .437918 .6067432

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

Regresión talla para la edad por derecha. Ancho de banda 4

Source | SS df MS Number of obs = 530

-------------+------------------------------ F( 1, 528) = 5.62

Model | 1.85761004 1 1.85761004 Prob > F = 0.0182

Residual | 174.647253 528 .330771312 R-squared = 0.0105

-------------+------------------------------ Adj R-squared = 0.0087

Total | 176.504863 529 .333657586 Root MSE = .57513

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0399311 .0168499 2.37 0.018 .00683 .0730321

\_cons | .3724044 .0384655 9.68 0.000 .2968402 .4479686

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

Regresión talla para probabilidad de participación por izquierda. Ancho de banda 4

Source | SS df MS Number of obs = 802

-------------+------------------------------ F( 1, 800) = 0.09

Model | .019758544 1 .019758544 Prob > F = 0.7679

Residual | 181.308172 800 .226635215 R-squared = 0.0001

-------------+------------------------------ Adj R-squared = -0.0011

Total | 181.32793 801 .226376942 Root MSE = .47606

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

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

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

sisbenalin | -.0045005 .0152423 -0.30 0.768 -.0344201 .025419

\_cons | .64481 .0372153 17.33 0.000 .5717588 .7178611

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

Regresión talla para probabilidad de participación por derecha. Ancho de banda 4

Source | SS df MS Number of obs = 530

-------------+------------------------------ F( 1, 528) = 0.18

Model | .02260753 1 .02260753 Prob > F = 0.6752

Residual | 67.9019208 528 .128602123 R-squared = 0.0003

-------------+------------------------------ Adj R-squared = -0.0016

Total | 67.9245283 529 .128401755 Root MSE = .35861

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

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

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

sisbenalin | .0044051 .0105065 0.42 0.675 -.0162345 .0250448

\_cons | .1432967 .0239845 5.97 0.000 .0961799 .1904136

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

Regresión talla para la edad por izquierda. Ancho de banda 5

Source | SS df MS Number of obs = 855

-------------+------------------------------ F( 1, 853) = 21.15

Model | 6.52356977 1 6.52356977 Prob > F = 0.0000

Residual | 263.142361 853 .308490458 R-squared = 0.0242

-------------+------------------------------ Adj R-squared = 0.0230

Total | 269.665931 854 .315768069 Root MSE = .55542

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0689719 .0149986 4.60 0.000 .0395334 .0984103

\_cons | .5168933 .0400816 12.90 0.000 .4382231 .5955635

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

Regresión talla para la edad por derecha. Ancho de banda 5

Source | SS df MS Number of obs = 586

-------------+------------------------------ F( 1, 584) = 13.83

Model | 4.76208687 1 4.76208687 Prob > F = 0.0002

Residual | 201.150609 584 .344435975 R-squared = 0.0231

-------------+------------------------------ Adj R-squared = 0.0215

Total | 205.912696 585 .351987515 Root MSE = .58689

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0528542 .0142146 3.72 0.000 .0249362 .0807722

\_cons | .3586745 .0378824 9.47 0.000 .2842722 .4330768

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

Regresión talla para probabilidad de participación por izquierda. Ancho de banda 5

Source | SS df MS Number of obs = 855

-------------+------------------------------ F( 1, 853) = 0.57

Model | .129548116 1 .129548116 Prob > F = 0.4520

Residual | 195.199107 853 .228838343 R-squared = 0.0007

-------------+------------------------------ Adj R-squared = -0.0005

Total | 195.328655 854 .228722078 Root MSE = .47837

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

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

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

sisbenalin | .0097195 .012918 0.75 0.452 -.0156352 .0350742

\_cons | .6696558 .0345214 19.40 0.000 .6018988 .7374127

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

Regresión talla para probabilidad de participación por derecha. Ancho de banda 5

Source | SS df MS Number of obs = 586

-------------+------------------------------ F( 1, 584) = 0.02

Model | .002609777 1 .002609777 Prob > F = 0.8855

Residual | 73.3762298 584 .125644229 R-squared = 0.0000

-------------+------------------------------ Adj R-squared = -0.0017

Total | 73.3788396 585 .125433914 Root MSE = .35446

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

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

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

sisbenalin | -.0012373 .0085852 -0.14 0.885 -.018099 .0156244

\_cons | .1492914 .0228799 6.53 0.000 .1043545 .1942284

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

Regresión talla para la edad por izquierda. Ancho de banda 6

Source | SS df MS Number of obs = 898

-------------+------------------------------ F( 1, 896) = 33.43

Model | 10.3577823 1 10.3577823 Prob > F = 0.0000

Residual | 277.639709 896 .309865747 R-squared = 0.0360

-------------+------------------------------ Adj R-squared = 0.0349

Total | 287.997491 897 .321067438 Root MSE = .55666

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0735289 .0127178 5.78 0.000 .0485688 .098489

\_cons | .5256127 .0371293 14.16 0.000 .4527421 .5984833

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

Regresión talla para la edad por derecha. Ancho de banda 6

Source | SS df MS Number of obs = 689

-------------+------------------------------ F( 1, 687) = 23.31

Model | 7.74221584 1 7.74221584 Prob > F = 0.0000

Residual | 228.177129 687 .332135559 R-squared = 0.0328

-------------+------------------------------ Adj R-squared = 0.0314

Total | 235.919345 688 .342906024 Root MSE = .57631

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0501938 .0103962 4.83 0.000 .0297817 .070606

\_cons | .3621642 .0351361 10.31 0.000 .2931772 .4311512

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

Regresión talla para probabilidad de participación por izquierda. Ancho de banda 6

Source | SS df MS Number of obs = 898

-------------+------------------------------ F( 1, 896) = 0.19

Model | .044205557 1 .044205557 Prob > F = 0.6602

Residual | 204.757576 896 .228524081 R-squared = 0.0002

-------------+------------------------------ Adj R-squared = -0.0009

Total | 204.801782 897 .228318597 Root MSE = .47804

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

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

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

sisbenalin | .0048036 .0109217 0.44 0.660 -.0166315 .0262387

\_cons | .6602495 .0318857 20.71 0.000 .5976701 .722829

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

Regresión talla para probabilidad de participación por derecha. Ancho de banda 6

Source | SS df MS Number of obs = 689

-------------+------------------------------ F( 1, 687) = 0.05

Model | .005804745 1 .005804745 Prob > F = 0.8311

Residual | 87.5965175 687 .127505848 R-squared = 0.0001

-------------+------------------------------ Adj R-squared = -0.0014

Total | 87.6023222 688 .127328957 Root MSE = .35708

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

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

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

sisbenalin | .0013744 .0064414 0.21 0.831 -.0112729 .0140217

\_cons | .1458655 .0217701 6.70 0.000 .1031216 .1886095

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

Regresión talla para la edad por izquierda. Ancho de banda 7

Source | SS df MS Number of obs = 1049

-------------+------------------------------ F( 1, 1047) = 65.21

Model | 19.4116723 1 19.4116723 Prob > F = 0.0000

Residual | 311.687555 1047 .29769585 R-squared = 0.0586

-------------+------------------------------ Adj R-squared = 0.0577

Total | 331.099227 1048 .315934377 Root MSE = .54562

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0656707 .0081325 8.08 0.000 .0497127 .0816286

\_cons | .5094971 .0308071 16.54 0.000 .4490465 .5699477

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

Regresión talla para la edad por derecha. Ancho de banda 7

Source | SS df MS Number of obs = 739

-------------+------------------------------ F( 1, 737) = 40.91

Model | 13.719546 1 13.719546 Prob > F = 0.0000

Residual | 247.173005 737 .335377211 R-squared = 0.0526

-------------+------------------------------ Adj R-squared = 0.0513

Total | 260.892551 738 .353512941 Root MSE = .57912

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0588621 .0092031 6.40 0.000 .0407948 .0769295

\_cons | .3481565 .0343914 10.12 0.000 .2806396 .4156734

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

Regresión talla para probabilidad de participación por izquierda. Ancho de banda 7

Source | SS df MS Number of obs = 1049

-------------+------------------------------ F( 1, 1047) = 1.67

Model | .375045195 1 .375045195 Prob > F = 0.1962

Residual | 234.80894 1047 .224268328 R-squared = 0.0016

-------------+------------------------------ Adj R-squared = 0.0006

Total | 235.183985 1048 .224412199 Root MSE = .47357

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

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

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

sisbenalin | -.0091281 .0070587 -1.29 0.196 -.0229789 .0047227

\_cons | .6316785 .0267392 23.62 0.000 .57921 .6841469

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

Regresión talla para probabilidad de participación por derecha. Ancho de banda 7

Source | SS df MS Number of obs = 739

-------------+------------------------------ F( 1, 737) = 0.20

Model | .024777952 1 .024777952 Prob > F = 0.6552

Residual | 91.4826645 737 .124128446 R-squared = 0.0003

-------------+------------------------------ Adj R-squared = -0.0011

Total | 91.5074425 738 .123993825 Root MSE = .35232

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

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

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

sisbenalin | -.0025015 .0055989 -0.45 0.655 -.0134932 .0084902

\_cons | .1521289 .0209228 7.27 0.000 .1110535 .1932042

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

Regresión talla para la edad por izquierda. Ancho de banda 8

Source | SS df MS Number of obs = 1159

-------------+------------------------------ F( 1, 1157) = 79.72

Model | 22.9665275 1 22.9665275 Prob > F = 0.0000

Residual | 333.314632 1157 .288085248 R-squared = 0.0645

-------------+------------------------------ Adj R-squared = 0.0637

Total | 356.281159 1158 .307669395 Root MSE = .53674

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .058021 .0064983 8.93 0.000 .0452713 .0707707

\_cons | .4920335 .0283716 17.34 0.000 .436368 .5476991

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

Regresión talla para la edad por derecha. Ancho de banda 8

Source | SS df MS Number of obs = 922

-------------+------------------------------ F( 1, 920) = 87.38

Model | 29.4434033 1 29.4434033 Prob > F = 0.0000

Residual | 309.994069 920 .336950075 R-squared = 0.0867

-------------+------------------------------ Adj R-squared = 0.0857

Total | 339.437472 921 .368553173 Root MSE = .58047

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0617385 .0066046 9.35 0.000 .0487767 .0747003

\_cons | .3427602 .0322854 10.62 0.000 .2793986 .4061218

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

Regresión talla para probabilidad de participación por izquierda. Ancho de banda 8

Source | SS df MS Number of obs = 1159

-------------+------------------------------ F( 1, 1157) = 1.44

Model | .322453523 1 .322453523 Prob > F = 0.2304

Residual | 259.094285 1157 .223936288 R-squared = 0.0012

-------------+------------------------------ Adj R-squared = 0.0004

Total | 259.416739 1158 .224021363 Root MSE = .47322

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

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

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

sisbenalin | -.006875 .0057293 -1.20 0.230 -.0181159 .004366

\_cons | .6368222 .0250141 25.46 0.000 .5877441 .6859004

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

Regresión talla para probabilidad de participación por derecha. Ancho de banda 8

Source | SS df MS Number of obs = 922

-------------+------------------------------ F( 1, 920) = 5.02

Model | .696573089 1 .696573089 Prob > F = 0.0252

Residual | 127.581084 920 .138675091 R-squared = 0.0054

-------------+------------------------------ Adj R-squared = 0.0043

Total | 128.277657 921 .139280844 Root MSE = .37239

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

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

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

sisbenalin | .0094961 .004237 2.24 0.025 .0011807 .0178115

\_cons | .1296206 .020712 6.26 0.000 .0889722 .1702689

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

Regresión talla para la edad por izquierda. Ancho de banda 9

Source | SS df MS Number of obs = 1304

-------------+------------------------------ F( 1, 1302) = 112.06

Model | 32.0937719 1 32.0937719 Prob > F = 0.0000

Residual | 372.89084 1302 .286398494 R-squared = 0.0792

-------------+------------------------------ Adj R-squared = 0.0785

Total | 404.984612 1303 .310809372 Root MSE = .53516

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0551842 .005213 10.59 0.000 .0449573 .065411

\_cons | .4848458 .0265554 18.26 0.000 .4327497 .5369419

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

Regresión talla para la edad por derecha. Ancho de banda 9

Source | SS df MS Number of obs = 1133

-------------+------------------------------ F( 1, 1131) = 102.81

Model | 34.5838942 1 34.5838942 Prob > F = 0.0000

Residual | 380.447547 1131 .336381562 R-squared = 0.0833

-------------+------------------------------ Adj R-squared = 0.0825

Total | 415.031441 1132 .366635549 Root MSE = .57998

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .053413 .0052678 10.14 0.000 .0430773 .0637487

\_cons | .3617736 .0309548 11.69 0.000 .3010384 .4225088

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

Regresión talla para probabilidad de participación por izquierda. Ancho de banda 9

Source | SS df MS Number of obs = 1304

-------------+------------------------------ F( 1, 1302) = 0.45

Model | .101992003 1 .101992003 Prob > F = 0.5007

Residual | 292.720094 1302 .224823421 R-squared = 0.0003

-------------+------------------------------ Adj R-squared = -0.0004

Total | 292.822086 1303 .224729153 Root MSE = .47416

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

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

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

sisbenalin | -.0031109 .0046188 -0.67 0.501 -.0121719 .0059501

\_cons | .6463594 .0235282 27.47 0.000 .6002021 .6925167

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

Regresión talla para probabilidad de participación por derecha. Ancho de banda 9

Source | SS df MS Number of obs = 1133

-------------+------------------------------ F( 1, 1131) = 4.21

Model | .591926322 1 .591926322 Prob > F = 0.0403

Residual | 158.871445 1131 .14046989 R-squared = 0.0037

-------------+------------------------------ Adj R-squared = 0.0028

Total | 159.463372 1132 .140868703 Root MSE = .37479

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

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

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

sisbenalin | .0069879 .0034041 2.05 0.040 .0003088 .0136669

\_cons | .1353488 .0200034 6.77 0.000 .0961009 .1745966

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

Regresión talla para la edad por izquierda. Ancho de banda 10

Source | SS df MS Number of obs = 1426

-------------+------------------------------ F( 1, 1424) = 132.70

Model | 38.2117573 1 38.2117573 Prob > F = 0.0000

Residual | 410.03505 1424 .287945962 R-squared = 0.0852

-------------+------------------------------ Adj R-squared = 0.0846

Total | 448.246807 1425 .314559163 Root MSE = .53661

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0517709 .0044941 11.52 0.000 .0429551 .0605867

\_cons | .4751963 .0255353 18.61 0.000 .4251054 .5252871

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

Regresión talla para la edad por derecha. Ancho de banda 10

Source | SS df MS Number of obs = 1189

-------------+------------------------------ F( 1, 1187) = 111.07

Model | 37.397105 1 37.397105 Prob > F = 0.0000

Residual | 399.658529 1187 .336696317 R-squared = 0.0856

-------------+------------------------------ Adj R-squared = 0.0848

Total | 437.055634 1188 .367891947 Root MSE = .58026

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0525932 .0049903 10.54 0.000 .0428023 .062384

\_cons | .364062 .0306058 11.90 0.000 .3040144 .4241096

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

Regresión talla para probabilidad de participación por izquierda. Ancho de banda 10

Source | SS df MS Number of obs = 1426

-------------+------------------------------ F( 1, 1424) = 1.42

Model | .317784719 1 .317784719 Prob > F = 0.2329

Residual | 317.783898 1424 .22316285 R-squared = 0.0010

-------------+------------------------------ Adj R-squared = 0.0003

Total | 318.101683 1425 .223229251 Root MSE = .4724

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

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

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

sisbenalin | -.0047212 .0039564 -1.19 0.233 -.0124822 .0030397

\_cons | .641807 .02248 28.55 0.000 .5977095 .6859045

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

Regresión talla para probabilidad de participación por derecha. Ancho de banda 10

Source | SS df MS Number of obs = 1189

-------------+------------------------------ F( 1, 1187) = 3.99

Model | .562359119 1 .562359119 Prob > F = 0.0459

Residual | 167.119727 1187 .140791682 R-squared = 0.0034

-------------+------------------------------ Adj R-squared = 0.0025

Total | 167.682086 1188 .141146537 Root MSE = .37522

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

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

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

sisbenalin | .0064494 .003227 2.00 0.046 .0001181 .0127806

\_cons | .1368519 .0197913 6.91 0.000 .0980221 .1756816

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

. mat coln IL=IL

. mat list IL

IL[10,1]

IL

r1 .17595339

r2 .34070657

r3 .3938328

r4 .29894756

r5 .30405385

r6 .31775577

r7 .33644205

r8 .29430759

r9 .24084074

r10 .22008738

.

Podemos ver entonces que los resultados quedan almacenados en el vector IL. Cada fila es un ancho de banda diferente. Si se desea ver los resultados de las constantes estimadas utilizando el comando "scalar list" se pueden ver todas las estimaciones de las constante.

.

. II. Kernel triangular

.

A diferencia de la metodología de Imbens y Lemieux, el kernel triangular nos permite estimar la discontinuidad en una variable haciendo uso de una sola regresión. Los resultados quedan almacenados en el vector KT, los resultados de la discontinuidad en la talla para la edad son guardados en el vector T y los resultados de la discontinuidad en la probabilidad de participación quedan almacenados en el vector T.

.

. mat KT=J(10,1,0)

. mat Y=J(1,10,0)

. mat T=J(1,10,0)

.

. Debemos generar una variable que nos indique si el individuo está encima o debajo del umbral:

.

. gen W=0 if sisben>=10

(1426 missing values generated)

. replace W=1 if sisben<10

(1426 real changes made)

.

. Así mismo, generamos la interacción entre esta variable recién creada y el puntaje de sisben alineado.

.

. gen W\_sisbenalin=W\*sisbenalin

.

. La variable k será la que contenga los pesos de cada observación.

.

. gen k=.

(4000 missing values generated)

. gen norm1=.

(4000 missing values generated)

.

.

. local h=1

. while `h'<=10 {

2. replace norm1=1-abs(sisbenalin/`h')

3. replace k=0 if norm1<0

4. replace k=norm1 if norm1>=0

5. display "Ancho de banda `h'"

6. reg ha\_nchs W sisbenalin W\_sisbenalin [aw=k], robust

7. mat define A\_`h'=e(b)

8. mat Y[1,`h']=el(A\_`h',1,1)

9. mat drop A\_`h'

10. display "Ancho de banda `h'"

11. reg D W sisbenalin W\_sisbenalin [aw=k], robust

12. mat define A\_T\_`h'=e(b)

13. mat T[1,`h']=el(A\_T\_`h',1,1)

14. mat drop A\_T\_`h'

15. mat KT[`h',1]=el(Y,1,`h')/el(T,1,`h')

16. local h=`h'+1

17. }

(4000 real changes made)

(3480 real changes made)

(520 real changes made)

Ancho de banda 1

(sum of wgt is 1.7000e+02)

Linear regression Number of obs = 170

F( 0, 169) = 0.00

Prob > F = .

R-squared = 0.0000

Root MSE = .56653

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

W | (dropped)

sisbenalin | (dropped)

W\_sisbenalin | (dropped)

\_cons | .3641602 .0434505 8.38 0.000 .2783844 .4499359

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

Ancho de banda 1

(sum of wgt is 1.7000e+02)

Linear regression Number of obs = 170

F( 0, 169) = 0.00

Prob > F = .

R-squared = 0.0000

Root MSE = .34923

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

| Robust

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

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

W | (dropped)

sisbenalin | (dropped)

W\_sisbenalin | (dropped)

\_cons | .1411765 .0267849 5.27 0.000 .0883004 .1940525

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

(3830 real changes made)

(0 real changes made)

(350 real changes made)

Ancho de banda 2

(sum of wgt is 3.4500e+02)

Linear regression Number of obs = 520

F( 2, 517) = 1.31

Prob > F = 0.2704

R-squared = 0.0053

Root MSE = .58224

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

W | .1078202 .1267477 0.85 0.395 -.1411836 .356824

sisbenalin | .0204756 .096019 0.21 0.831 -.1681598 .2091111

W\_sisbenalin | (dropped)

\_cons | .3641602 .0434481 8.38 0.000 .2788037 .4495166

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

Ancho de banda 2

(sum of wgt is 3.4500e+02)

Linear regression Number of obs = 520

F( 2, 517) = 85.18

Prob > F = 0.0000

R-squared = 0.2516

Root MSE = .41704

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

| Robust

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

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

W | .5860002 .0841597 6.96 0.000 .4206632 .7513372

sisbenalin | .0895928 .0644275 1.39 0.165 -.0369791 .2161647

W\_sisbenalin | (dropped)

\_cons | .1411765 .0267834 5.27 0.000 .0885589 .1937941

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

(3830 real changes made)

(0 real changes made)

(709 real changes made)

Ancho de banda 3

(sum of wgt is 5.2300e+02)

Linear regression Number of obs = 879

F( 3, 875) = 1.41

Prob > F = 0.2388

R-squared = 0.0055

Root MSE = .57502

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

W | .146382 .0893841 1.64 0.102 -.0290504 .3218143

sisbenalin | .0541045 .0315946 1.71 0.087 -.0079055 .1161146

W\_sisbenalin | .0018213 .0605016 0.03 0.976 -.1169239 .1205666

\_cons | .3610486 .0422527 8.54 0.000 .27812 .4439771

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

Ancho de banda 3

(sum of wgt is 5.2300e+02)

Linear regression Number of obs = 879

F( 3, 875) = 110.13

Prob > F = 0.0000

R-squared = 0.2631

Root MSE = .42155

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

| Robust

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

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

W | .4397679 .070116 6.27 0.000 .3021527 .5773831

sisbenalin | -.0039626 .0192313 -0.21 0.837 -.0417074 .0337822

W\_sisbenalin | -.0440205 .0475923 -0.92 0.355 -.1374289 .049388

\_cons | .1498328 .0261575 5.73 0.000 .098494 .2011717

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

(3830 real changes made)

(0 real changes made)

(922 real changes made)

Ancho de banda 4

(sum of wgt is 6.6525e+02)

Linear regression Number of obs = 1092

F( 3, 1088) = 4.79

Prob > F = 0.0025

R-squared = 0.0098

Root MSE = .57104

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

W | .1805597 .0702568 2.57 0.010 .0427056 .3184138

sisbenalin | .0553791 .0278941 1.99 0.047 .0006468 .1101113

W\_sisbenalin | .0291605 .0394201 0.74 0.460 -.0481876 .1065085

\_cons | .3605867 .0416731 8.65 0.000 .278818 .4423553

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

Ancho de banda 4

(sum of wgt is 6.6525e+02)

Linear regression Number of obs = 1092

F( 3, 1088) = 135.98

Prob > F = 0.0000

R-squared = 0.2588

Root MSE = .42622

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

| Robust

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

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

W | .4767937 .0532656 8.95 0.000 .3722787 .5813087

sisbenalin | -.0042974 .0167556 -0.26 0.798 -.0371743 .0285796

W\_sisbenalin | -.01216 .0290268 -0.42 0.675 -.0691149 .044795

\_cons | .1499542 .0258464 5.80 0.000 .0992396 .2006687

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

(3830 real changes made)

(0 real changes made)

(1162 real changes made)

Ancho de banda 5

(sum of wgt is 7.9860e+02)

Linear regression Number of obs = 1332

F( 3, 1328) = 8.96

Prob > F = 0.0000

R-squared = 0.0133

Root MSE = .56737

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

W | .1649211 .0620076 2.66 0.008 .0432776 .2865645

sisbenalin | .046368 .0192058 2.41 0.016 .008691 .0840449

W\_sisbenalin | .0303838 .0275061 1.10 0.270 -.0235763 .084344

\_cons | .3655657 .0393251 9.30 0.000 .2884195 .4427118

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

Ancho de banda 5

(sum of wgt is 7.9860e+02)

Linear regression Number of obs = 1332

F( 3, 1328) = 160.07

Prob > F = 0.0000

R-squared = 0.2548

Root MSE = .4285

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

| Robust

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

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

W | .4898312 .0464204 10.55 0.000 .398766 .5808965

sisbenalin | .000779 .0117699 0.07 0.947 -.0223106 .0238685

W\_sisbenalin | -.0097605 .0205039 -0.48 0.634 -.0499841 .0304631

\_cons | .1471493 .0244978 6.01 0.000 .0990907 .1952078

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

(3830 real changes made)

(0 real changes made)

(1271 real changes made)

Ancho de banda 6

(sum of wgt is 9.0567e+02)

Linear regression Number of obs = 1441

F( 3, 1437) = 13.43

Prob > F = 0.0000

R-squared = 0.0185

Root MSE = .56762

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

W | .1616883 .0584236 2.77 0.006 .0470836 .2762931

sisbenalin | .049294 .015819 3.12 0.002 .0182631 .0803249

W\_sisbenalin | .0239319 .0230493 1.04 0.299 -.021282 .0691458

\_cons | .3633446 .0380027 9.56 0.000 .2887978 .4378914

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

Ancho de banda 6

(sum of wgt is 9.0567e+02)

Linear regression Number of obs = 1441

F( 3, 1437) = 171.00

Prob > F = 0.0000

R-squared = 0.2519

Root MSE = .42955

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

| Robust

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

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

W | .5022503 .0434936 11.55 0.000 .4169327 .587568

sisbenalin | -.0001306 .0096895 -0.01 0.989 -.0191377 .0188765

W\_sisbenalin | -.0003755 .0172393 -0.02 0.983 -.0341923 .0334414

\_cons | .1478397 .0236767 6.24 0.000 .1013952 .1942843

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

(3830 real changes made)

(0 real changes made)

(1417 real changes made)

Ancho de banda 7

(sum of wgt is 1.0030e+03)

Linear regression Number of obs = 1587

F( 3, 1583) = 21.21

Prob > F = 0.0000

R-squared = 0.0261

Root MSE = .56703

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

W | .1622779 .0550971 2.95 0.003 .0542069 .2703488

sisbenalin | .0497072 .0122409 4.06 0.000 .025697 .0737173

W\_sisbenalin | .0236344 .0190888 1.24 0.216 -.0138076 .0610764

\_cons | .3629507 .0362311 10.02 0.000 .2918847 .4340167

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

Ancho de banda 7

(sum of wgt is 1.0030e+03)

Linear regression Number of obs = 1587

F( 3, 1583) = 184.45

Prob > F = 0.0000

R-squared = 0.2513

Root MSE = .42956

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

| Robust

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

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

W | .5063368 .0408835 12.38 0.000 .4261452 .5865283

sisbenalin | .0005604 .0075335 0.07 0.941 -.0142163 .0153372

W\_sisbenalin | .0009606 .0144856 0.07 0.947 -.0274524 .0293736

\_cons | .1471809 .022584 6.52 0.000 .1028832 .1914785

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

(3830 real changes made)

(0 real changes made)

(1618 real changes made)

Ancho de banda 8

(sum of wgt is 1.1011e+03)

Linear regression Number of obs = 1788

F( 3, 1784) = 38.51

Prob > F = 0.0000

R-squared = 0.0390

Root MSE = .56553

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

W | .1592941 .0501797 3.17 0.002 .0608769 .2577113

sisbenalin | .053037 .0104878 5.06 0.000 .0324673 .0736066

W\_sisbenalin | .0165242 .0147961 1.12 0.264 -.0124952 .0455437

\_cons | .3590849 .0351692 10.21 0.000 .2901077 .428062

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

Ancho de banda 8

(sum of wgt is 1.1011e+03)

Linear regression Number of obs = 1788

F( 3, 1784) = 209.96

Prob > F = 0.0000

R-squared = 0.2534

Root MSE = .42917

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

| Robust

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

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

W | .4955349 .0366898 13.51 0.000 .4235754 .5674943

sisbenalin | -.0005532 .0064693 -0.09 0.932 -.0132414 .0121349

W\_sisbenalin | -.0031738 .010901 -0.29 0.771 -.0245538 .0182062

\_cons | .1484738 .0219154 6.77 0.000 .1054912 .1914565

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

(3830 real changes made)

(0 real changes made)

(1911 real changes made)

Ancho de banda 9

(sum of wgt is 1.2100e+03)

Linear regression Number of obs = 2081

F( 3, 2077) = 71.59

Prob > F = 0.0000

R-squared = 0.0582

Root MSE = .56384

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

W | .1548178 .0466551 3.32 0.001 .063322 .2463135

sisbenalin | .0568845 .0079619 7.14 0.000 .0412703 .0724986

W\_sisbenalin | .0076999 .0113634 0.68 0.498 -.014585 .0299848

\_cons | .3538456 .0333742 10.60 0.000 .2883953 .419296

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

Ancho de banda 9

(sum of wgt is 1.2100e+03)

Linear regression Number of obs = 2081

F( 3, 2077) = 234.02

Prob > F = 0.0000

R-squared = 0.2519

Root MSE = .42963

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

| Robust

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

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

W | .4989354 .0340513 14.65 0.000 .4321572 .5657137

sisbenalin | .0038902 .0049848 0.78 0.435 -.0058855 .013666

W\_sisbenalin | -.0089748 .0084786 -1.06 0.290 -.0256022 .0076525

\_cons | .1424231 .0208056 6.85 0.000 .101621 .1832251

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

(3830 real changes made)

(0 real changes made)

(2267 real changes made)

Ancho de banda 10

(sum of wgt is 1.3327e+03)

Linear regression Number of obs = 2437

F( 3, 2433) = 120.64

Prob > F = 0.0000

R-squared = 0.0795

Root MSE = .56249

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

W | .1443667 .0440047 3.28 0.001 .0580761 .2306574

sisbenalin | .0554045 .0062431 8.87 0.000 .0431622 .0676469

W\_sisbenalin | .0053457 .0089779 0.60 0.552 -.0122594 .0229509

\_cons | .3562146 .0319554 11.15 0.000 .2935519 .4188773

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

Ancho de banda 10

(sum of wgt is 1.3327e+03)

Linear regression Number of obs = 2437

F( 3, 2433) = 262.14

Prob > F = 0.0000

R-squared = 0.2505

Root MSE = .42981

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

| Robust

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

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

W | .5027463 .0320806 15.67 0.000 .4398383 .5656543

sisbenalin | .0052108 .003966 1.31 0.189 -.0025663 .0129879

W\_sisbenalin | -.0094904 .006783 -1.40 0.162 -.0227915 .0038107

\_cons | .1403092 .0199125 7.05 0.000 .1012619 .1793564

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

.

. mat coln KT=KT

. mat list KT

KT[10,1]

KT

r1 .

r2 .18399349

r3 .33286186

r4 .37869564

r5 .33668957

r6 .32192781

r7 .32049394

r8 .32145892

r9 .31029619

r10 .28715624

.

.

.

. III. Kernel triangular con la metodología Imbens Lemieux

.

. El Kernel triangular con metodología Imebns y Lemieux es una combinación de la metodología propuesta por Imbens y Lemieux pero con una ponderación dada por un kernel triangular. Los resultados de las estimaciones para el efecto del programa serán almacenados en el vector IL\_KT,los resultados de la discontinuidad en la talla para la edad quedan en la matriz Y y del tratamiento en la matriz T. La metodología es idéntica a la propuesta en el primer capítulo, lo único que cambia es que cada observación será ponderada de acuerdo a su distancia frente al umbral. Los pesos de cada observación serán almacenados en la variable k. Note que en el caso donde h=1 o h=2 la estimación es la misma que bajo la metodología de IL dado que los pesos para observaciones diferentes a aquellas con puntaje sisben 9, 10 u 11 es cero.

.

.

. mat IL\_KT=J(10,1,0)

. mat Y=J(1,10,0)

. mat T=J(1,10,0)

.

.

.

.

. local h=2

. while `h'<=10 {

2. replace norm1=1-abs(sisbenalin/`h')

3. replace k=0 if norm1<0

4. replace k=norm1 if norm1>=0

5.

. display " Regresión talla para la edad por izquierda. Ancho de banda `h'"

6. reg ha\_nchs sisbenalin if sisben<10 & sisben>=10-`h' [aw=k], robust

7. mat define A\_10=e(b)

8. scalar define alfa\_`h'l=el(A\_10,1,2)

9. mat drop A\_10

10.

. display " Regresión talla para la edad por derecha. Ancho de banda `h'"

11. reg ha\_nchs sisbenalin if sisben>=10 & sisben<=10+`h' [aw=k], robust

12. mat define A\_10=e(b)

13. scalar define alfa\_`h'r=el(A\_10,1,2)

14. mat drop A\_10

15.

. display " Regresión probabilidad participación por izquierda. Ancho de banda `h'"

16. reg D sisbenalin if sisben<10 & sisben>=10-`h' [aw=k], robust

17. mat define A\_10=e(b)

18. scalar define alfa\_d`h'l=el(A\_10,1,2)

19. mat drop A\_10

20.

. display " Regresión probabilidad participación por derecha. Ancho de banda `h'"

21. reg D sisbenalin if sisben>=10 & sisben<=10+`h' [aw=k], robust

22. mat define A\_10=e(b)

23. scalar define alfa\_d`h'r=el(A\_10,1,2)

24. mat drop A\_10

25.

. mat IL\_KT[`h',1]=(alfa\_`h'l-alfa\_`h'r)/(alfa\_d`h'l-alfa\_d`h'r)

26.

. local h=`h'+1

27. }

(3830 real changes made)

(1558 real changes made)

(709 real changes made)

Regresión talla para la edad por izquierda. Ancho de banda 2

(sum of wgt is 1.4900e+02)

Linear regression Number of obs = 298

F( 0, 297) = 0.00

Prob > F = .

R-squared = 0.0000

Root MSE = .5928

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | (dropped)

\_cons | .4515047 .0343402 13.15 0.000 .3839237 .5190858

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

Regresión talla para la edad por derecha. Ancho de banda 2

(sum of wgt is 1.9600e+02)

Linear regression Number of obs = 222

F( 1, 220) = 0.05

Prob > F = 0.8316

R-squared = 0.0001

Root MSE = .57445

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0204756 .0961759 0.21 0.832 -.1690683 .2100196

\_cons | .3641602 .043519 8.37 0.000 .2783926 .4499277

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

Regresión probabilidad participación por izquierda. Ancho de banda 2

(sum of wgt is 1.4900e+02)

Linear regression Number of obs = 298

F( 0, 297) = 0.00

Prob > F = .

R-squared = 0.0000

Root MSE = .48151

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

| Robust

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

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

sisbenalin | (dropped)

\_cons | .6375839 .0278929 22.86 0.000 .5826911 .6924767

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

Regresión probabilidad participación por derecha. Ancho de banda 2

(sum of wgt is 1.9600e+02)

Linear regression Number of obs = 222

F( 1, 220) = 1.93

Prob > F = 0.1664

R-squared = 0.0071

Root MSE = .36039

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

| Robust

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

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

sisbenalin | .0895928 .0645327 1.39 0.166 -.0375887 .2167742

\_cons | .1411765 .0268271 5.26 0.000 .0883055 .1940475

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

(3830 real changes made)

(0 real changes made)

(709 real changes made)

Regresión talla para la edad por izquierda. Ancho de banda 3

(sum of wgt is 2.6333e+02)

Linear regression Number of obs = 492

F( 1, 490) = 1.18

Prob > F = 0.2788

R-squared = 0.0017

Root MSE = .57953

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0559258 .0515842 1.08 0.279 -.0454277 .1572794

\_cons | .5074306 .0787477 6.44 0.000 .3527056 .6621555

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

Regresión talla para la edad por derecha. Ancho de banda 3

(sum of wgt is 2.5967e+02)

Linear regression Number of obs = 387

F( 1, 385) = 2.93

Prob > F = 0.0877

R-squared = 0.0060

Root MSE = .57044

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0541045 .0316044 1.71 0.088 -.0080343 .1162433

\_cons | .3610486 .0422658 8.54 0.000 .2779478 .4441494

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

Regresión probabilidad participación por izquierda. Ancho de banda 3

(sum of wgt is 2.6333e+02)

Linear regression Number of obs = 492

F( 1, 490) = 1.22

Prob > F = 0.2708

R-squared = 0.0019

Root MSE = .47769

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

| Robust

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

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

sisbenalin | -.0479831 .0435231 -1.10 0.271 -.1334981 .0375319

\_cons | .5896008 .0650383 9.07 0.000 .4618125 .717389

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

Regresión probabilidad participación por derecha. Ancho de banda 3

(sum of wgt is 2.5967e+02)

Linear regression Number of obs = 387

F( 1, 385) = 0.04

Prob > F = 0.8369

R-squared = 0.0001

Root MSE = .35563

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

| Robust

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

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

sisbenalin | -.0039626 .0192372 -0.21 0.837 -.0417858 .0338606

\_cons | .1498328 .0261657 5.73 0.000 .0983874 .2012783

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

(3830 real changes made)

(0 real changes made)

(922 real changes made)

Regresión talla para la edad por izquierda. Ancho de banda 4

(sum of wgt is 3.6525e+02)

Linear regression Number of obs = 671

F( 1, 669) = 9.22

Prob > F = 0.0025

R-squared = 0.0108

Root MSE = .56932

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0845396 .0278448 3.04 0.002 .0298658 .1392134

\_cons | .5411464 .0565436 9.57 0.000 .4301221 .6521706

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

Regresión talla para la edad por derecha. Ancho de banda 4

(sum of wgt is 3.0000e+02)

Linear regression Number of obs = 421

F( 1, 419) = 3.94

Prob > F = 0.0479

R-squared = 0.0084

Root MSE = .57321

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0553791 .0279093 1.98 0.048 .0005194 .1102388

\_cons | .3605867 .0416958 8.65 0.000 .2786276 .4425457

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

Regresión probabilidad participación por izquierda. Ancho de banda 4

(sum of wgt is 3.6525e+02)

Linear regression Number of obs = 671

F( 1, 669) = 0.48

Prob > F = 0.4876

R-squared = 0.0006

Root MSE = .47703

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

| Robust

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

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

sisbenalin | -.0164573 .0236944 -0.69 0.488 -.0629816 .0300669

\_cons | .6267479 .0465586 13.46 0.000 .5353293 .7181665

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

Regresión probabilidad participación por derecha. Ancho de banda 4

(sum of wgt is 3.0000e+02)

Linear regression Number of obs = 421

F( 1, 419) = 0.07

Prob > F = 0.7978

R-squared = 0.0001

Root MSE = .35459

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

| Robust

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

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

sisbenalin | -.0042974 .0167648 -0.26 0.798 -.0372509 .0286561

\_cons | .1499542 .0258606 5.80 0.000 .0991216 .2007867

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

(3830 real changes made)

(0 real changes made)

(1162 real changes made)

Regresión talla para la edad por izquierda. Ancho de banda 5

(sum of wgt is 4.5260e+02)

Linear regression Number of obs = 802

F( 1, 800) = 15.20

Prob > F = 0.0001

R-squared = 0.0157

Root MSE = .56252

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0767518 .0196857 3.90 0.000 .0381101 .1153936

\_cons | .5304867 .0479302 11.07 0.000 .436403 .6245705

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

Regresión talla para la edad por derecha. Ancho de banda 5

(sum of wgt is 3.4600e+02)

Linear regression Number of obs = 530

F( 1, 528) = 5.82

Prob > F = 0.0161

R-squared = 0.0097

Root MSE = .57368

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .046368 .0192132 2.41 0.016 .0086243 .0841117

\_cons | .3655657 .0393403 9.29 0.000 .2882829 .4428484

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

Regresión probabilidad participación por izquierda. Ancho de banda 5

(sum of wgt is 4.5260e+02)

Linear regression Number of obs = 802

F( 1, 800) = 0.29

Prob > F = 0.5927

R-squared = 0.0003

Root MSE = .47664

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

| Robust

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

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

sisbenalin | -.0089816 .016785 -0.54 0.593 -.0419294 .0239663

\_cons | .6369805 .0394197 16.16 0.000 .5596022 .7143588

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

Regresión probabilidad participación por derecha. Ancho de banda 5

(sum of wgt is 3.4600e+02)

Linear regression Number of obs = 530

F( 1, 528) = 0.00

Prob > F = 0.9473

R-squared = 0.0000

Root MSE = .35575

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

| Robust

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

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

sisbenalin | .000779 .0117744 0.07 0.947 -.0223515 .0239094

\_cons | .1471493 .0245072 6.00 0.000 .0990056 .1952929

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

(3830 real changes made)

(0 real changes made)

(1271 real changes made)

Regresión talla para la edad por izquierda. Ancho de banda 6

(sum of wgt is 5.1967e+02)

Linear regression Number of obs = 855

F( 1, 853) = 19.09

Prob > F = 0.0000

R-squared = 0.0190

Root MSE = .56057

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0732259 .0167602 4.37 0.000 .0403297 .106122

\_cons | .5250329 .044365 11.83 0.000 .4379556 .6121103

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

Regresión talla para la edad por derecha. Ancho de banda 6

(sum of wgt is 3.8600e+02)

Linear regression Number of obs = 586

F( 1, 584) = 9.70

Prob > F = 0.0019

R-squared = 0.0147

Root MSE = .57699

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .049294 .0158241 3.12 0.002 .0182149 .080373

\_cons | .3633446 .0380149 9.56 0.000 .2886821 .4380071

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

Regresión probabilidad participación por izquierda. Ancho de banda 6

(sum of wgt is 5.1967e+02)

Linear regression Number of obs = 855

F( 1, 853) = 0.00

Prob > F = 0.9717

R-squared = 0.0000

Root MSE = .47719

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

| Robust

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

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

sisbenalin | -.0005061 .0142554 -0.04 0.972 -.0284859 .0274737

\_cons | .65009 .0364763 17.82 0.000 .5784962 .7216839

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

Regresión probabilidad participación por derecha. Ancho de banda 6

(sum of wgt is 3.8600e+02)

Linear regression Number of obs = 586

F( 1, 584) = 0.00

Prob > F = 0.9893

R-squared = 0.0000

Root MSE = .35538

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

| Robust

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

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

sisbenalin | -.0001306 .0096926 -0.01 0.989 -.0191672 .018906

\_cons | .1478397 .0236842 6.24 0.000 .1013231 .1943564

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

(3830 real changes made)

(0 real changes made)

(1417 real changes made)

Regresión talla para la edad por izquierda. Ancho de banda 7

(sum of wgt is 5.7371e+02)

Linear regression Number of obs = 898

F( 1, 896) = 25.08

Prob > F = 0.0000

R-squared = 0.0239

Root MSE = .55967

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0733415 .0146451 5.01 0.000 .0445988 .1020843

\_cons | .5252285 .0415029 12.66 0.000 .4437743 .6066827

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

Regresión talla para la edad por derecha. Ancho de banda 7

(sum of wgt is 4.2929e+02)

Linear regression Number of obs = 689

F( 1, 687) = 16.48

Prob > F = 0.0001

R-squared = 0.0212

Root MSE = .57672

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0497072 .0122433 4.06 0.000 .0256685 .0737459

\_cons | .3629507 .0362381 10.02 0.000 .2918 .4341013

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

Regresión probabilidad participación por izquierda. Ancho de banda 7

(sum of wgt is 5.7371e+02)

Linear regression Number of obs = 898

F( 1, 896) = 0.02

Prob > F = 0.9022

R-squared = 0.0000

Root MSE = .47737

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

| Robust

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

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

sisbenalin | .001521 .0123707 0.12 0.902 -.0227579 .0257999

\_cons | .6535177 .0340747 19.18 0.000 .5866421 .7203932

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

Regresión probabilidad participación por derecha. Ancho de banda 7

(sum of wgt is 4.2929e+02)

Linear regression Number of obs = 689

F( 1, 687) = 0.01

Prob > F = 0.9407

R-squared = 0.0000

Root MSE = .3557

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

| Robust

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

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

sisbenalin | .0005604 .007535 0.07 0.941 -.0142339 .0153548

\_cons | .1471809 .0225883 6.52 0.000 .1028305 .1915313

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

(3830 real changes made)

(0 real changes made)

(1618 real changes made)

Regresión talla para la edad por izquierda. Ancho de banda 8

(sum of wgt is 6.3313e+02)

Linear regression Number of obs = 1049

F( 1, 1047) = 44.44

Prob > F = 0.0000

R-squared = 0.0336

Root MSE = .55675

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0695612 .0104352 6.67 0.000 .0490849 .0900376

\_cons | .518379 .035787 14.49 0.000 .4481566 .5886013

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

Regresión talla para la edad por derecha. Ancho de banda 8

(sum of wgt is 4.6800e+02)

Linear regression Number of obs = 739

F( 1, 737) = 25.56

Prob > F = 0.0000

R-squared = 0.0301

Root MSE = .57721

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .053037 .0104903 5.06 0.000 .0324426 .0736313

\_cons | .3590849 .0351775 10.21 0.000 .2900249 .4281448

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

Regresión probabilidad participación por izquierda. Ancho de banda 8

(sum of wgt is 6.3313e+02)

Linear regression Number of obs = 1049

F( 1, 1047) = 0.18

Prob > F = 0.6710

R-squared = 0.0001

Root MSE = .47659

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

| Robust

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

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

sisbenalin | -.0037271 .0087724 -0.42 0.671 -.0209405 .0134864

\_cons | .6440087 .0294205 21.89 0.000 .5862788 .7017386

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

Regresión probabilidad participación por derecha. Ancho de banda 8

(sum of wgt is 4.6800e+02)

Linear regression Number of obs = 739

F( 1, 737) = 0.01

Prob > F = 0.9319

R-squared = 0.0000

Root MSE = .35502

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

| Robust

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

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

sisbenalin | -.0005532 .0064708 -0.09 0.932 -.0132567 .0121502

\_cons | .1484738 .0219206 6.77 0.000 .1054396 .1915081

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

(3830 real changes made)

(0 real changes made)

(1911 real changes made)

Regresión talla para la edad por izquierda. Ancho de banda 9

(sum of wgt is 6.9156e+02)

Linear regression Number of obs = 1159

F( 1, 1157) = 63.47

Prob > F = 0.0000

R-squared = 0.0416

Root MSE = .55313

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0645844 .008107 7.97 0.000 .0486784 .0804904

\_cons | .5086634 .0325984 15.60 0.000 .4447047 .572622

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

Regresión talla para la edad por derecha. Ancho de banda 9

(sum of wgt is 5.1844e+02)

Linear regression Number of obs = 922

F( 1, 920) = 51.03

Prob > F = 0.0000

R-squared = 0.0487

Root MSE = .57782

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0568845 .0079629 7.14 0.000 .0412569 .072512

\_cons | .3538456 .0333783 10.60 0.000 .2883392 .4193521

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

Regresión probabilidad participación por izquierda. Ancho de banda 9

(sum of wgt is 6.9156e+02)

Linear regression Number of obs = 1159

F( 1, 1157) = 0.55

Prob > F = 0.4586

R-squared = 0.0004

Root MSE = .47594

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

| Robust

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

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

sisbenalin | -.0050846 .0068577 -0.74 0.459 -.0185396 .0083704

\_cons | .6413585 .0269532 23.80 0.000 .588476 .694241

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

Regresión probabilidad participación por derecha. Ancho de banda 9

(sum of wgt is 5.1844e+02)

Linear regression Number of obs = 922

F( 1, 920) = 0.61

Prob > F = 0.4354

R-squared = 0.0006

Root MSE = .35863

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

| Robust

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

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

sisbenalin | .0038902 .0049854 0.78 0.435 -.0058939 .0136743

\_cons | .1424231 .0208082 6.84 0.000 .101586 .1832601

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

(3830 real changes made)

(0 real changes made)

(2267 real changes made)

Regresión talla para la edad por izquierda. Ancho de banda 10

(sum of wgt is 7.5280e+02)

Linear regression Number of obs = 1304

F( 1, 1302) = 88.67

Prob > F = 0.0000

R-squared = 0.0514

Root MSE = .5501

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0607503 .0064515 9.42 0.000 .0480937 .0734068

\_cons | .5005813 .0302518 16.55 0.000 .4412338 .5599288

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

Regresión talla para la edad por derecha. Ancho de banda 10

(sum of wgt is 5.7990e+02)

Linear regression Number of obs = 1133

F( 1, 1131) = 78.75

Prob > F = 0.0000

R-squared = 0.0637

Root MSE = .57817

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

| Robust

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0554045 .0062435 8.87 0.000 .0431544 .0676547

\_cons | .3562146 .0319574 11.15 0.000 .2935121 .4189171

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

Regresión probabilidad participación por izquierda. Ancho de banda 10

(sum of wgt is 7.5280e+02)

Linear regression Number of obs = 1304

F( 1, 1302) = 0.60

Prob > F = 0.4368

R-squared = 0.0004

Root MSE = .4756

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

| Robust

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

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

sisbenalin | -.0042796 .0055024 -0.78 0.437 -.0150742 .006515

\_cons | .6430555 .0251513 25.57 0.000 .593714 .6923969

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

Regresión probabilidad participación por derecha. Ancho de banda 10

(sum of wgt is 5.7990e+02)

Linear regression Number of obs = 1133

F( 1, 1131) = 1.73

Prob > F = 0.1892

R-squared = 0.0015

Root MSE = .36181

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

| Robust

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

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

sisbenalin | .0052108 .0039662 1.31 0.189 -.0025712 .0129928

\_cons | .1403092 .0199137 7.05 0.000 .1012371 .1793812

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

.

. mat IL\_KT[1,1]=IL[1,1]

. mat coln IL\_KT=IL\_KT

. mat list IL\_KT

IL\_KT[10,1]

IL\_KT

r1 .17595339

r2 .17595339

r3 .33286186

r4 .37869564

r5 .33668957

r6 .32192781

r7 .32049394

r8 .32145892

r9 .31029619

r10 .28715624

.

.

.

. IV.Comando RD:

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El comando rd es bastante fácil de manejar. Utiliza una estimación mediante regresión local polinómica de grado uno y presenta su gráfica si uno desea observarla. Veamos un ejemplo con un ancho de banda de 4:

.

rd ha\_nchs D sisben, bw(4) mbw(100) k(gau) z0(10) gr

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 4; Local Wald Estimate: .28356266





.

Se especifican, en respectivo orden, la variable de resultado (ha\_nchs), la variable que indica si el individuo fue o no tratado (D) y la variable en donde que indica el umbral de la discontinuidad (sisben). En caso de una regresión discontinua nítida no será necesario especificar una variable de tratamiento ya que todos los individuos a la derecha del umbral son tratados y a la izquierda no lo serán.

.

En este caso estamos utilizando un kernel gaussiano. Sin embargo, la estimación se puede hacer con otro tipo de kernel. La opción gr nos permite ver los dos gráficos(en la talla para la edad y en la probabilidad de participación) con su respectiva continuidad. z0(10) nos indica que la discontinuidad se presenta en el nivel de sisben 10. Dado que estamos utilizando un método no paramétrico de estimación, no hay un método sencillo para estimar los errores estándar. Por esta razón debemos hacer bootstrap.

.

En este caso guardaremos los resultados de la estimación del efecto del programa en el vector RD. Los errores estándar serán almacenados en el vector EE y los estadísticos t de cada estimación en el vector ET.

.

.

. mat RD=J(10,1,0)

. mat EE=J(10,1,0)

. mat ET=J(10,1,0)

.

. local h=1

. while `h'<=10 {

2. rd ha\_nchs D sisben, bw(`h') mbw(100) k(gau) z0(10)

3. mat define A\_10=e(b)

4. mat RD[`h',1]=el(A\_10,1,3)

5. bs: rd ha\_nchs D sisben, bw(`h') mbw(100) k(gau) z0(10)

6. mat define B\_10=e(se)

7. mat EE[`h',1]=el(B\_10,1,3)

8. mat ET[`h',1]=el(A\_10,1,3)/el(B\_10,1,3)

9.

.

.

. local h=`h'+1

10. }

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 1; Local Wald Estimate: .34395754

(running rd on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

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

| Bootstrap

ha\_nchs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

numer | -.155931 .085751 -1.82 0.069 -.3239999 .0121379

denom | -.4533437 .0727195 -6.23 0.000 -.5958713 -.310816

lwald | .3439575 .2086428 1.65 0.099 -.0649748 .7528899

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

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 2; Local Wald Estimate: .34049029

(running rd on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

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

| Bootstrap

ha\_nchs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

numer | -.1665924 .0663467 -2.51 0.012 -.2966295 -.0365553

denom | -.4892721 .0410326 -11.92 0.000 -.5696946 -.4088497

lwald | .3404903 .1405772 2.42 0.015 .064964 .6160166

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

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 3; Local Wald Estimate: .30974193

(running rd on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

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

| Bootstrap

ha\_nchs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

numer | -.1548902 .0406909 -3.81 0.000 -.2346429 -.0751374

denom | -.500062 .031477 -15.89 0.000 -.5617558 -.4383682

lwald | .3097419 .0816253 3.79 0.000 .1497592 .4697246

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

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 4; Local Wald Estimate: .28356266

(running rd on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

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

| Bootstrap

ha\_nchs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

numer | -.1422419 .0460501 -3.09 0.002 -.2324984 -.0519855

denom | -.5016243 .035807 -14.01 0.000 -.5718048 -.4314438

lwald | .2835627 .0958274 2.96 0.003 .0957444 .4713809

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

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 5; Local Wald Estimate: .26655274

(running rd on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

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

| Bootstrap

ha\_nchs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

numer | -.13321 .042674 -3.12 0.002 -.2168495 -.0495705

denom | -.499751 .0357416 -13.98 0.000 -.5698031 -.4296988

lwald | .2665527 .0936686 2.85 0.004 .0829656 .4501399

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

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 6; Local Wald Estimate: .25779828

(running rd on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

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

| Bootstrap

ha\_nchs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

numer | -.1279021 .0444826 -2.88 0.004 -.2150864 -.0407179

denom | -.4961326 .0331146 -14.98 0.000 -.5610361 -.4312291

lwald | .2577983 .0882145 2.92 0.003 .084901 .4306956

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

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 7; Local Wald Estimate: .25380917

(running rd on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

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

| Bootstrap

ha\_nchs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

numer | -.1250389 .0417408 -3.00 0.003 -.2068493 -.0432284

denom | -.4926491 .0303253 -16.25 0.000 -.5520857 -.4332125

lwald | .2538092 .087553 2.90 0.004 .0822084 .4254099

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

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 8; Local Wald Estimate: .25209334

(running rd on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

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

| Bootstrap

ha\_nchs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

numer | -.1235138 .0373191 -3.31 0.001 -.1966579 -.0503697

denom | -.4899526 .0291462 -16.81 0.000 -.5470781 -.4328272

lwald | .2520933 .076784 3.28 0.001 .1015995 .4025872

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

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 9; Local Wald Estimate: .25139959

(running rd on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

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

| Bootstrap

ha\_nchs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

numer | -.1226871 .0382599 -3.21 0.001 -.197675 -.0476992

denom | -.4880163 .0272804 -17.89 0.000 -.5414849 -.4345477

lwald | .2513996 .0832728 3.02 0.003 .0881878 .4146113

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

Three variables specified; jump in treatment

at Z=10 will be estimated. Local Wald Estimate

is the ratio of jump in outcome to jump in treatment.

Assignment variable Z is sisben

Treatment variable X\_T is D

Outcome variable y is ha\_nchs

Command used: lpoly; Kernel used: gau

Bandwidth: 10; Local Wald Estimate: .25116076

(running rd on estimation sample)

Bootstrap replications (50)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

.................................................. 50

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

| Bootstrap

ha\_nchs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

numer | -.1222282 .035409 -3.45 0.001 -.1916285 -.0528278

denom | -.4866531 .0231389 -21.03 0.000 -.5320045 -.4413018

lwald | .2511608 .0780315 3.22 0.001 .0982218 .4040997

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

.

. mat coln RD=RD

. mat list RD

RD[10,1]

RD

r1 .34395754

r2 .34049029

r3 .30974193

r4 .28356266

r5 .26655274

r6 .25779828

r7 .25380917

r8 .25209334

r9 .25139959

r10 .25116076

. mat list EE

EE[10,1]

c1

r1 .20864278

r2 .14057722

r3 .08162533

r4 .0958274

r5 .09366864

r6 .08821454

r7 .087553

r8 .07678397

r9 .08327283

r10 .07803151

. mat list ET

ET[10,1]

c1

r1 1.6485475

r2 2.4220872

r3 3.7946789

r4 2.9590979

r5 2.8456989

r6 2.9224013

r7 2.8989201

r8 3.2831505

r9 3.0189871

r10 3.2187097

.

. Finalmente creamos la variable EFECTO donde las columnas indican el estimador para cada programa

. y las filas el ancho de banda.

.

. mat EFECTO=(IL,KT,IL\_KT,RD)

.

. mat list EFECTO

EFECTO[10,4]

IL KT IL\_KT RD

r1 .17595339 . .17595339 .34395754

r2 .34070657 .18399349 .17595339 .34049029

r3 .3938328 .33286186 .33286186 .30974193

r4 .29894756 .37869564 .37869564 .28356266

r5 .30405385 .33668957 .33668957 .26655274

r6 .31775577 .32192781 .32192781 .25779828

r7 .33644205 .32049394 .32049394 .25380917

r8 .29430759 .32145892 .32145892 .25209334

r9 .24084074 .31029619 .31029619 .25139959

r10 .22008738 .28715624 .28715624 .25116076

.

.

.

.

. V. Selección de h

.

.

Como hemos visto, todas las metodologías de estimación necesitan un h especificado. En este punto presentamos la metodología propuesta por Imbens y Lemieux para la selección del ancho de banda. Los valores de los Cross-validation Criteria quedarán almacenados en el vector CR\_V para la talla para la edad y en el vector CR\_V\_T para el tratamiento.

.

. mat define C=J(1,10,0)

. mat define CR\_V=J(10,1,0)

.

En el siguiente programa comparamos la distancia de las observaciones frente al límite de la discontinuidad estimado y seleccionamos el que minimice la distancia promedio.

.

. local h=1

. while `h'<=10 {

2. gen cv\_`h'=.

3.

. display "Ancho de banda `h'"

4. reg ha\_nchs sisbenalin if sisben<10 & sisben>=10-`h'

5. mat define A\_`h'=e(b)

6. mat C[1,`h']=el(A\_`h',1,2)

7. mat drop A\_`h'

8. replace cv\_`h'=(ha\_nchs-el(C,1,`h'))\*(ha\_nchs-el(C,1,`h')) if sisben<10 & sisben>=10-`h'

9.

.

. display "Ancho de banda `h'"

10. reg ha\_nchs sisbenalin if sisben<=10+`h' & sisben>=10

11. mat define A\_`h'=e(b)

12. mat C[1,`h']=el(A\_`h',1,2)

13. mat drop A\_`h'

14. replace cv\_`h'=(ha\_nchs-el(C,1,`h'))\*(ha\_nchs-el(C,1,`h')) if sisben<=10+`h' & sisben>=10

15.

.

. sum cv\_`h'

16. mat CR\_V[`h',1]=r(mean)

17. drop cv\_`h'

18. local h=`h'+1

19. }

(4000 missing values generated)

Ancho de banda 1

Source | SS df MS Number of obs = 298

-------------+------------------------------ F( 0, 297) = 0.00

Model | 0 0 . Prob > F = .

Residual | 104.370944 297 .35141732 R-squared = 0.0000

-------------+------------------------------ Adj R-squared = 0.0000

Total | 104.370944 297 .35141732 Root MSE = .5928

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | (dropped)

\_cons | .4515047 .0343402 13.15 0.000 .3839237 .5190858

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

(298 real changes made)

Ancho de banda 1

Source | SS df MS Number of obs = 222

-------------+------------------------------ F( 1, 220) = 0.05

Model | .016694546 1 .016694546 Prob > F = 0.8239

Residual | 73.9519119 220 .336145054 R-squared = 0.0002

-------------+------------------------------ Adj R-squared = -0.0043

Total | 73.9686065 221 .334699577 Root MSE = .57978

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0204756 .0918785 0.22 0.824 -.1605989 .2015502

\_cons | .3641602 .0444671 8.19 0.000 .2765241 .4517962

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

(222 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_1 | 520 .3429705 .73954 1.72e-07 6.437418

(4000 missing values generated)

Ancho de banda 2

Source | SS df MS Number of obs = 492

-------------+------------------------------ F( 1, 490) = 1.13

Model | .367517343 1 .367517343 Prob > F = 0.2891

Residual | 159.877167 490 .326279932 R-squared = 0.0023

-------------+------------------------------ Adj R-squared = 0.0003

Total | 160.244684 491 .326363919 Root MSE = .57121

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0559258 .0526949 1.06 0.289 -.04761 .1594617

\_cons | .5074306 .0778553 6.52 0.000 .3544591 .660402

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

(492 real changes made)

Ancho de banda 2

Source | SS df MS Number of obs = 387

-------------+------------------------------ F( 1, 385) = 3.41

Model | 1.09905811 1 1.09905811 Prob > F = 0.0654

Residual | 123.92778 385 .321890337 R-squared = 0.0088

-------------+------------------------------ Adj R-squared = 0.0062

Total | 125.026838 386 .323903725 Root MSE = .56735

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0572835 .0310008 1.85 0.065 -.0036686 .1182357

\_cons | .3592775 .0420492 8.54 0.000 .2766026 .4419523

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

(387 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_2 | 879 .3293521 .6909198 3.21e-08 6.724336

(4000 missing values generated)

Ancho de banda 3

Source | SS df MS Number of obs = 671

-------------+------------------------------ F( 1, 669) = 12.37

Model | 3.84203017 1 3.84203017 Prob > F = 0.0005

Residual | 207.738218 669 .310520506 R-squared = 0.0182

-------------+------------------------------ Adj R-squared = 0.0167

Total | 211.580248 670 .315791415 Root MSE = .55724

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .091801 .0260983 3.52 0.000 .0405566 .1430455

\_cons | .5521156 .0522063 10.58 0.000 .4496076 .6546237

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

(671 real changes made)

Ancho de banda 3

Source | SS df MS Number of obs = 421

-------------+------------------------------ F( 1, 419) = 4.41

Model | 1.47725985 1 1.47725985 Prob > F = 0.0362

Residual | 140.236497 419 .33469331 R-squared = 0.0104

-------------+------------------------------ Adj R-squared = 0.0081

Total | 141.713757 420 .337413706 Root MSE = .57853

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0565729 .026928 2.10 0.036 .0036422 .1095036

\_cons | .3596734 .0418732 8.59 0.000 .2773656 .4419812

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

(421 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_3 | 1092 .3423631 .6908418 1.57e-08 6.958082

(4000 missing values generated)

Ancho de banda 4

Source | SS df MS Number of obs = 802

-------------+------------------------------ F( 1, 800) = 16.75

Model | 5.06878102 1 5.06878102 Prob > F = 0.0000

Residual | 242.090252 800 .302612815 R-squared = 0.0205

-------------+------------------------------ Adj R-squared = 0.0193

Total | 247.159033 801 .308563088 Root MSE = .5501

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0720838 .0176128 4.09 0.000 .0375109 .1066566

\_cons | .5223306 .0430033 12.15 0.000 .437918 .6067432

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

(802 real changes made)

Ancho de banda 4

Source | SS df MS Number of obs = 530

-------------+------------------------------ F( 1, 528) = 5.62

Model | 1.85761004 1 1.85761004 Prob > F = 0.0182

Residual | 174.647253 528 .330771312 R-squared = 0.0105

-------------+------------------------------ Adj R-squared = 0.0087

Total | 176.504863 529 .333657586 Root MSE = .57513

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0399311 .0168499 2.37 0.018 .00683 .0730321

\_cons | .3724044 .0384655 9.68 0.000 .2968402 .4479686

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

(530 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_4 | 1332 .3348228 .6595536 8.63e-11 6.801834

(4000 missing values generated)

Ancho de banda 5

Source | SS df MS Number of obs = 855

-------------+------------------------------ F( 1, 853) = 21.15

Model | 6.52356977 1 6.52356977 Prob > F = 0.0000

Residual | 263.142361 853 .308490458 R-squared = 0.0242

-------------+------------------------------ Adj R-squared = 0.0230

Total | 269.665931 854 .315768069 Root MSE = .55542

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0689719 .0149986 4.60 0.000 .0395334 .0984103

\_cons | .5168933 .0400816 12.90 0.000 .4382231 .5955635

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

(855 real changes made)

Ancho de banda 5

Source | SS df MS Number of obs = 586

-------------+------------------------------ F( 1, 584) = 13.83

Model | 4.76208687 1 4.76208687 Prob > F = 0.0002

Residual | 201.150609 584 .344435975 R-squared = 0.0231

-------------+------------------------------ Adj R-squared = 0.0215

Total | 205.912696 585 .351987515 Root MSE = .58689

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0528542 .0142146 3.72 0.000 .0249362 .0807722

\_cons | .3586745 .0378824 9.47 0.000 .2842722 .4330768

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

(586 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_5 | 1441 .350428 .6760821 8.82e-08 6.773502

(4000 missing values generated)

Ancho de banda 6

Source | SS df MS Number of obs = 898

-------------+------------------------------ F( 1, 896) = 33.43

Model | 10.3577823 1 10.3577823 Prob > F = 0.0000

Residual | 277.639709 896 .309865747 R-squared = 0.0360

-------------+------------------------------ Adj R-squared = 0.0349

Total | 287.997491 897 .321067438 Root MSE = .55666

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0735289 .0127178 5.78 0.000 .0485688 .098489

\_cons | .5256127 .0371293 14.16 0.000 .4527421 .5984833

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

(898 real changes made)

Ancho de banda 6

Source | SS df MS Number of obs = 689

-------------+------------------------------ F( 1, 687) = 23.31

Model | 7.74221584 1 7.74221584 Prob > F = 0.0000

Residual | 228.177129 687 .332135559 R-squared = 0.0328

-------------+------------------------------ Adj R-squared = 0.0314

Total | 235.919345 688 .342906024 Root MSE = .57631

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0501938 .0103962 4.83 0.000 .0297817 .070606

\_cons | .3621642 .0351361 10.31 0.000 .2931772 .4311512

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

(689 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_6 | 1587 .3572943 .6677701 1.66e-07 6.818964

(4000 missing values generated)

Ancho de banda 7

Source | SS df MS Number of obs = 1049

-------------+------------------------------ F( 1, 1047) = 65.21

Model | 19.4116723 1 19.4116723 Prob > F = 0.0000

Residual | 311.687555 1047 .29769585 R-squared = 0.0586

-------------+------------------------------ Adj R-squared = 0.0577

Total | 331.099227 1048 .315934377 Root MSE = .54562

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0656707 .0081325 8.08 0.000 .0497127 .0816286

\_cons | .5094971 .0308071 16.54 0.000 .4490465 .5699477

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

(1049 real changes made)

Ancho de banda 7

Source | SS df MS Number of obs = 739

-------------+------------------------------ F( 1, 737) = 40.91

Model | 13.719546 1 13.719546 Prob > F = 0.0000

Residual | 247.173005 737 .335377211 R-squared = 0.0526

-------------+------------------------------ Adj R-squared = 0.0513

Total | 260.892551 738 .353512941 Root MSE = .57912

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0588621 .0092031 6.40 0.000 .0407948 .0769295

\_cons | .3481565 .0343914 10.12 0.000 .2806396 .4156734

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

(739 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_7 | 1788 .3688674 .6829928 3.66e-08 7.27799

(4000 missing values generated)

Ancho de banda 8

Source | SS df MS Number of obs = 1159

-------------+------------------------------ F( 1, 1157) = 79.72

Model | 22.9665275 1 22.9665275 Prob > F = 0.0000

Residual | 333.314632 1157 .288085248 R-squared = 0.0645

-------------+------------------------------ Adj R-squared = 0.0637

Total | 356.281159 1158 .307669395 Root MSE = .53674

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .058021 .0064983 8.93 0.000 .0452713 .0707707

\_cons | .4920335 .0283716 17.34 0.000 .436368 .5476991

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

(1159 real changes made)

Ancho de banda 8

Source | SS df MS Number of obs = 922

-------------+------------------------------ F( 1, 920) = 87.38

Model | 29.4434033 1 29.4434033 Prob > F = 0.0000

Residual | 309.994069 920 .336950075 R-squared = 0.0867

-------------+------------------------------ Adj R-squared = 0.0857

Total | 339.437472 921 .368553173 Root MSE = .58047

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0617385 .0066046 9.35 0.000 .0487767 .0747003

\_cons | .3427602 .0322854 10.62 0.000 .2793986 .4061218

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

(922 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_8 | 2081 .385229 .7121375 8.85e-11 8.344787

(4000 missing values generated)

Ancho de banda 9

Source | SS df MS Number of obs = 1304

-------------+------------------------------ F( 1, 1302) = 112.06

Model | 32.0937719 1 32.0937719 Prob > F = 0.0000

Residual | 372.89084 1302 .286398494 R-squared = 0.0792

-------------+------------------------------ Adj R-squared = 0.0785

Total | 404.984612 1303 .310809372 Root MSE = .53516

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0551842 .005213 10.59 0.000 .0449573 .065411

\_cons | .4848458 .0265554 18.26 0.000 .4327497 .5369419

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

(1304 real changes made)

Ancho de banda 9

Source | SS df MS Number of obs = 1133

-------------+------------------------------ F( 1, 1131) = 102.81

Model | 34.5838942 1 34.5838942 Prob > F = 0.0000

Residual | 380.447547 1131 .336381562 R-squared = 0.0833

-------------+------------------------------ Adj R-squared = 0.0825

Total | 415.031441 1132 .366635549 Root MSE = .57998

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .053413 .0052678 10.14 0.000 .0430773 .0637487

\_cons | .3617736 .0309548 11.69 0.000 .3010384 .4225088

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

(1133 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_9 | 2437 .3972101 .7302243 2.79e-07 8.235299

(4000 missing values generated)

Ancho de banda 10

Source | SS df MS Number of obs = 1426

-------------+------------------------------ F( 1, 1424) = 132.70

Model | 38.2117573 1 38.2117573 Prob > F = 0.0000

Residual | 410.03505 1424 .287945962 R-squared = 0.0852

-------------+------------------------------ Adj R-squared = 0.0846

Total | 448.246807 1425 .314559163 Root MSE = .53661

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0517709 .0044941 11.52 0.000 .0429551 .0605867

\_cons | .4751963 .0255353 18.61 0.000 .4251054 .5252871

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

(1426 real changes made)

Ancho de banda 10

Source | SS df MS Number of obs = 1189

-------------+------------------------------ F( 1, 1187) = 111.07

Model | 37.397105 1 37.397105 Prob > F = 0.0000

Residual | 399.658529 1187 .336696317 R-squared = 0.0856

-------------+------------------------------ Adj R-squared = 0.0848

Total | 437.055634 1188 .367891947 Root MSE = .58026

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

ha\_nchs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

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

sisbenalin | .0525932 .0049903 10.54 0.000 .0428023 .062384

\_cons | .364062 .0306058 11.90 0.000 .3040144 .4241096

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

(1189 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_10 | 2615 .4041268 .73193 1.29e-08 8.22217

.

. mat list CR\_V

CR\_V[10,1]

c1

r1 .34297049

r2 .32935205

r3 .34236307

r4 .33482275

r5 .350428

r6 .35729426

r7 .3688674

r8 .38522897

r9 .3972101

r10 .40412679

.

.

Ahora hacemos este mismo procedimiento para la probabilidad de tratamiento y evaluamos qué nivel de ancho de banda reporta el menor Cross Validation Criteria.

.

.

. mat define C\_T=J(1,10,0)

. mat define CR\_V\_T=J(10,1,0)

.

.

. local h=1

. while `h'<=10 {

2. gen cv\_t\_`h'=.

3.

. display "Ancho de banda `h'"

4. reg D sisbenalin if sisben<10 & sisben>=10-`h'

5. mat define A\_`h'=e(b)

6. mat C\_T[1,`h']=el(A\_`h',1,2)

7. mat drop A\_`h'

8. replace cv\_t\_`h'=(D-el(C\_T,1,`h'))\*(D-el(C\_T,1,`h')) if sisben<10 & sisben>=10-`h'

9.

.

. display "Ancho de banda `h'"

10. reg D sisbenalin if sisben<=10+`h' & sisben>=10

11. mat define A\_`h'=e(b)

12. mat C\_T[1,`h']=el(A\_`h',1,2)

13. mat drop A\_`h'

14. replace cv\_t\_`h'=(D-el(C\_T,1,`h'))\*(D-el(C\_T,1,`h')) if sisben<=10+`h' & sisben>=10

15.

.

. sum cv\_t\_`h'

16. mat CR\_V\_T[`h',1]=r(mean)

17. drop cv\_t\_`h'

18. local h=`h'+1

19. }

(4000 missing values generated)

Ancho de banda 1

Source | SS df MS Number of obs = 298

-------------+------------------------------ F( 0, 297) = 0.00

Model | 0 0 . Prob > F = .

Residual | 68.8590604 297 .231848688 R-squared = 0.0000

-------------+------------------------------ Adj R-squared = 0.0000

Total | 68.8590604 297 .231848688 Root MSE = .48151

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

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

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

sisbenalin | (dropped)

\_cons | .6375839 .0278929 22.86 0.000 .5826911 .6924767

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

(298 real changes made)

Ancho de banda 1

Source | SS df MS Number of obs = 222

-------------+------------------------------ F( 1, 220) = 2.36

Model | .319628226 1 .319628226 Prob > F = 0.1262

Residual | 29.8425339 220 .135647882 R-squared = 0.0106

-------------+------------------------------ Adj R-squared = 0.0061

Total | 30.1621622 221 .136480372 Root MSE = .3683

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

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

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

sisbenalin | .0895928 .0583656 1.54 0.126 -.0254345 .20462

\_cons | .1411765 .0282476 5.00 0.000 .0855059 .1968471

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

(222 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_t\_1 | 520 .1906134 .2053728 .0199308 .7375779

(4000 missing values generated)

Ancho de banda 2

Source | SS df MS Number of obs = 492

-------------+------------------------------ F( 1, 490) = 1.20

Model | .27053896 1 .27053896 Prob > F = 0.2743

Residual | 110.678648 490 .225874792 R-squared = 0.0024

-------------+------------------------------ Adj R-squared = 0.0004

Total | 110.949187 491 .225965758 Root MSE = .47526

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

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

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

sisbenalin | -.0479831 .0438437 -1.09 0.274 -.134128 .0381618

\_cons | .5896008 .0647779 9.10 0.000 .462324 .7168775

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

(492 real changes made)

Ancho de banda 2

Source | SS df MS Number of obs = 387

-------------+------------------------------ F( 1, 385) = 0.45

Model | .054932984 1 .054932984 Prob > F = 0.5033

Residual | 47.1285295 385 .122411765 R-squared = 0.0012

-------------+------------------------------ Adj R-squared = -0.0014

Total | 47.1834625 386 .12223695 Root MSE = .34987

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

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

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

sisbenalin | -.0128067 .0191175 -0.67 0.503 -.0503944 .0247811

\_cons | .1547601 .0259308 5.97 0.000 .1037764 .2057437

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

(387 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_t\_2 | 879 .1824763 .1804204 .0239507 .7144306

(4000 missing values generated)

Ancho de banda 3

Source | SS df MS Number of obs = 671

-------------+------------------------------ F( 1, 669) = 0.14

Model | .03260486 1 .03260486 Prob > F = 0.7047

Residual | 151.75279 669 .226835262 R-squared = 0.0002

-------------+------------------------------ Adj R-squared = -0.0013

Total | 151.785395 670 .226545366 Root MSE = .47627

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

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

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

sisbenalin | -.0084568 .022306 -0.38 0.705 -.0522551 .0353414

\_cons | .6388335 .0446204 14.32 0.000 .5512206 .7264464

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

(671 real changes made)

Ancho de banda 3

Source | SS df MS Number of obs = 421

-------------+------------------------------ F( 1, 419) = 0.08

Model | .009813229 1 .009813229 Prob > F = 0.7790

Residual | 52.151707 419 .124467081 R-squared = 0.0002

-------------+------------------------------ Adj R-squared = -0.0022

Total | 52.1615202 420 .124194096 Root MSE = .3528

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

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

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

sisbenalin | -.0046109 .0164213 -0.28 0.779 -.0368893 .0276675

\_cons | .150194 .0255353 5.88 0.000 .1000008 .2003872

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

(421 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_t\_3 | 1092 .1869214 .1913629 .0225582 .7221702

(4000 missing values generated)

Ancho de banda 4

Source | SS df MS Number of obs = 802

-------------+------------------------------ F( 1, 800) = 0.09

Model | .019758544 1 .019758544 Prob > F = 0.7679

Residual | 181.308172 800 .226635215 R-squared = 0.0001

-------------+------------------------------ Adj R-squared = -0.0011

Total | 181.32793 801 .226376942 Root MSE = .47606

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

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

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

sisbenalin | -.0045005 .0152423 -0.30 0.768 -.0344201 .025419

\_cons | .64481 .0372153 17.33 0.000 .5717588 .7178611

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

(802 real changes made)

Ancho de banda 4

Source | SS df MS Number of obs = 530

-------------+------------------------------ F( 1, 528) = 0.18

Model | .02260753 1 .02260753 Prob > F = 0.6752

Residual | 67.9019208 528 .128602123 R-squared = 0.0003

-------------+------------------------------ Adj R-squared = -0.0016

Total | 67.9245283 529 .128401755 Root MSE = .35861

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

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

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

sisbenalin | .0044051 .0105065 0.42 0.675 -.0162345 .0250448

\_cons | .1432967 .0239845 5.97 0.000 .0961799 .1904136

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

(530 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_t\_4 | 1332 .1872076 .1992528 .020534 .7339405

(4000 missing values generated)

Ancho de banda 5

Source | SS df MS Number of obs = 855

-------------+------------------------------ F( 1, 853) = 0.57

Model | .129548116 1 .129548116 Prob > F = 0.4520

Residual | 195.199107 853 .228838343 R-squared = 0.0007

-------------+------------------------------ Adj R-squared = -0.0005

Total | 195.328655 854 .228722078 Root MSE = .47837

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

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

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

sisbenalin | .0097195 .012918 0.75 0.452 -.0156352 .0350742

\_cons | .6696558 .0345214 19.40 0.000 .6018988 .7374127

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

(855 real changes made)

Ancho de banda 5

Source | SS df MS Number of obs = 586

-------------+------------------------------ F( 1, 584) = 0.02

Model | .002609777 1 .002609777 Prob > F = 0.8855

Residual | 73.3762298 584 .125644229 R-squared = 0.0000

-------------+------------------------------ Adj R-squared = -0.0017

Total | 73.3788396 585 .125433914 Root MSE = .35446

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

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

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

sisbenalin | -.0012373 .0085852 -0.14 0.885 -.018099 .0156244

\_cons | .1492914 .0228799 6.53 0.000 .1043545 .1942284

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

(586 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_t\_5 | 1441 .1867859 .2080543 .0222879 .7237051

(4000 missing values generated)

Ancho de banda 6

Source | SS df MS Number of obs = 898

-------------+------------------------------ F( 1, 896) = 0.19

Model | .044205557 1 .044205557 Prob > F = 0.6602

Residual | 204.757576 896 .228524081 R-squared = 0.0002

-------------+------------------------------ Adj R-squared = -0.0009

Total | 204.801782 897 .228318597 Root MSE = .47804

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

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

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

sisbenalin | .0048036 .0109217 0.44 0.660 -.0166315 .0262387

\_cons | .6602495 .0318857 20.71 0.000 .5976701 .722829

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

(898 real changes made)

Ancho de banda 6

Source | SS df MS Number of obs = 689

-------------+------------------------------ F( 1, 687) = 0.05

Model | .005804745 1 .005804745 Prob > F = 0.8311

Residual | 87.5965175 687 .127505848 R-squared = 0.0001

-------------+------------------------------ Adj R-squared = -0.0014

Total | 87.6023222 688 .127328957 Root MSE = .35708

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

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

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

sisbenalin | .0013744 .0064414 0.21 0.831 -.0112729 .0140217

\_cons | .1458655 .0217701 6.70 0.000 .1031216 .1886095

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

(689 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_t\_6 | 1587 .1843387 .2085254 .0212768 .7295457

(4000 missing values generated)

Ancho de banda 7

Source | SS df MS Number of obs = 1049

-------------+------------------------------ F( 1, 1047) = 1.67

Model | .375045195 1 .375045195 Prob > F = 0.1962

Residual | 234.80894 1047 .224268328 R-squared = 0.0016

-------------+------------------------------ Adj R-squared = 0.0006

Total | 235.183985 1048 .224412199 Root MSE = .47357

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

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

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

sisbenalin | -.0091281 .0070587 -1.29 0.196 -.0229789 .0047227

\_cons | .6316785 .0267392 23.62 0.000 .57921 .6841469

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

(1049 real changes made)

Ancho de banda 7

Source | SS df MS Number of obs = 739

-------------+------------------------------ F( 1, 737) = 0.20

Model | .024777952 1 .024777952 Prob > F = 0.6552

Residual | 91.4826645 737 .124128446 R-squared = 0.0003

-------------+------------------------------ Adj R-squared = -0.0011

Total | 91.5074425 738 .123993825 Root MSE = .35232

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

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

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

sisbenalin | -.0025015 .0055989 -0.45 0.655 -.0134932 .0084902

\_cons | .1521289 .0209228 7.27 0.000 .1110535 .1932042

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

(739 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_t\_7 | 1788 .1832273 .1907822 .0231432 .7188855

(4000 missing values generated)

Ancho de banda 8

Source | SS df MS Number of obs = 1159

-------------+------------------------------ F( 1, 1157) = 1.44

Model | .322453523 1 .322453523 Prob > F = 0.2304

Residual | 259.094285 1157 .223936288 R-squared = 0.0012

-------------+------------------------------ Adj R-squared = 0.0004

Total | 259.416739 1158 .224021363 Root MSE = .47322

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

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

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

sisbenalin | -.006875 .0057293 -1.20 0.230 -.0181159 .004366

\_cons | .6368222 .0250141 25.46 0.000 .5877441 .6859004

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

(1159 real changes made)

Ancho de banda 8

Source | SS df MS Number of obs = 922

-------------+------------------------------ F( 1, 920) = 5.02

Model | .696573089 1 .696573089 Prob > F = 0.0252

Residual | 127.581084 920 .138675091 R-squared = 0.0054

-------------+------------------------------ Adj R-squared = 0.0043

Total | 128.277657 921 .139280844 Root MSE = .37239

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

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

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

sisbenalin | .0094961 .004237 2.24 0.025 .0011807 .0178115

\_cons | .1296206 .020712 6.26 0.000 .0889722 .1702689

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

(922 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_t\_8 | 2081 .1872688 .2119404 .0168015 .7575604

(4000 missing values generated)

Ancho de banda 9

Source | SS df MS Number of obs = 1304

-------------+------------------------------ F( 1, 1302) = 0.45

Model | .101992003 1 .101992003 Prob > F = 0.5007

Residual | 292.720094 1302 .224823421 R-squared = 0.0003

-------------+------------------------------ Adj R-squared = -0.0004

Total | 292.822086 1303 .224729153 Root MSE = .47416

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

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

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

sisbenalin | -.0031109 .0046188 -0.67 0.501 -.0121719 .0059501

\_cons | .6463594 .0235282 27.47 0.000 .6002021 .6925167

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

(1304 real changes made)

Ancho de banda 9

Source | SS df MS Number of obs = 1133

-------------+------------------------------ F( 1, 1131) = 4.21

Model | .591926322 1 .591926322 Prob > F = 0.0403

Residual | 158.871445 1131 .14046989 R-squared = 0.0037

-------------+------------------------------ Adj R-squared = 0.0028

Total | 159.463372 1132 .140868703 Root MSE = .37479

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

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

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

sisbenalin | .0069879 .0034041 2.05 0.040 .0003088 .0136669

\_cons | .1353488 .0200034 6.77 0.000 .0961009 .1745966

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

(1133 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_t\_9 | 2437 .1862246 .2163897 .0183193 .7476217

(4000 missing values generated)

Ancho de banda 10

Source | SS df MS Number of obs = 1426

-------------+------------------------------ F( 1, 1424) = 1.42

Model | .317784719 1 .317784719 Prob > F = 0.2329

Residual | 317.783898 1424 .22316285 R-squared = 0.0010

-------------+------------------------------ Adj R-squared = 0.0003

Total | 318.101683 1425 .223229251 Root MSE = .4724

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

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

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

sisbenalin | -.0047212 .0039564 -1.19 0.233 -.0124822 .0030397

\_cons | .641807 .02248 28.55 0.000 .5977095 .6859045

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

(1426 real changes made)

Ancho de banda 10

Source | SS df MS Number of obs = 1189

-------------+------------------------------ F( 1, 1187) = 3.99

Model | .562359119 1 .562359119 Prob > F = 0.0459

Residual | 167.119727 1187 .140791682 R-squared = 0.0034

-------------+------------------------------ Adj R-squared = 0.0025

Total | 167.682086 1188 .141146537 Root MSE = .37522

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

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

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

sisbenalin | .0064494 .003227 2.00 0.046 .0001181 .0127806

\_cons | .1368519 .0197913 6.91 0.000 .0980221 .1756816

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

(1189 real changes made)

Variable | Obs Mean Std. Dev. Min Max

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

cv\_t\_10 | 2615 .1865354 .212773 .0187284 .7450247

.

. mat list CR\_V\_T

CR\_V\_T[10,1]

c1

r1 .19061344

r2 .18247635

r3 .1869214

r4 .1872076

r5 .18678594

r6 .18433873

r7 .18322732

r8 .18726879

r9 .18622462

r10 .18653538

. mat list CR\_V

CR\_V[10,1]

c1

r1 .34297049

r2 .32935205

r3 .34236307

r4 .33482275

r5 .350428

r6 .35729426

r7 .3688674

r8 .38522897

r9 .3972101

r10 .40412679

.

.

. Podemos ver que en ambos casos el "Cross Validation Criteria"

. nos indica que lo óptimo es utilizar un ancho de banda de 2.

. Ahora veamos cual es el nivel de ancho de banda que minimiza

. el Cross Validation Criteria para el tratamiento.

.