



Project: UNLP Distribucion

```

name: <unnamed>
log: D:\UNLP_Maeco\Distribucion\TP-Distribucion\TP5\log_solucion.smcl
log type: smcl
opened on: 11 Nov 2024, 20:10:36

```

```

1 .
2 . *-----*
3 . ***# PREGUNTA 1
4 . *-----*
5 .
6 .           preserve

7 .           version 16: table educ_max [w=f_calib3], c(mean ithpc) replace
(frequency weights assumed)

```

Educación Máxima (padre/madre)	mean(ithpc)
0	2631.842
Prii	3217.913
Pric	4321.002
Seci	4565.452
Secc	5867.375
Supi	6512.124
Supc	7559.41

```

8 .           restore

9 .
10 .          preserve

11 .          version 16: table mujer educ_max [w=f_calib3], c(mean ithpc) replace
(frequency weights assumed)

```

=1 si es mujer	Educación Máxima (padre/madre)						
	0	Prii	Pric	Seci	Secc	Supi	Supc
Hombre	2770.375	3444.299	4560.158	4954.127	6170.864	8510.197	7834.688
Mujer	2509.781	3041.968	4119.266	4270.687	5591.159	4987.995	7314.08

```

12 .          restore

13 .
14 .          preserve

15 .          version 16: table etnia educ_max [w=f_calib3], c(mean ithpc) replace
(frequency weights assumed)

```

=1 si es descendencia de pueblo indígena (origen) o afrodescendiente	Educación Máxima (padre/madre)						
	0	Prii	Pric	Seci	Secc	Supi	Supc
0	2719.155	3160.641	4323.504	4554.646	5846.835	6619.009	7594.623
1	1860.485	3682.946	3424	4025.387	6622.486	4190.081	6990.502

16 . restore

17 .

18 .

19 . *-----*

20 . *** PREGUNTA 2: Estimación paramétrica

21 . *-----*

22 . * Obtenemos las distribución predichas para cada tipo

23 .

24 . * Sexo

25 . reg lipcf mujer [pw = f_calib3], robust
(sum of wgt is 11,765,730)

Linear regression	Number of obs	=	8,093
	F(1, 8091)	=	9.09
	Prob > F	=	0.0026
	R-squared	=	0.0023
	Root MSE	=	.84247

lipcf	Coefficient	Robust std. err.	t	P> t	[95% conf. interval]	
mujer	-.0817738	.0271212	-3.02	0.003	-.1349383	-.0286093
_cons	8.154023	.0198115	411.58	0.000	8.115188	8.192859

26 . predict yhat1, xb
(1 missing value generated)

27 . replace yhat1 = exp(yhat1)
(8,093 real changes made)

28 .

29 . *Sexo etnia

30 . reg lipcf mujer etnia [pw = f_calib3], robust
(sum of wgt is 11,479,266)

Linear regression	Number of obs	=	7,921
	F(2, 7918)	=	5.50
	Prob > F	=	0.0041
	R-squared	=	0.0042
	Root MSE	=	.84426

lipcf	Coefficient	Robust std. err.	t	P> t	[95% conf. interval]	
mujer	-.0796714	.0276241	-2.88	0.004	-.133822	-.0255209
etnia	-.1645667	.0972856	-1.69	0.091	-.3552722	.0261387
_cons	8.155887	.0201591	404.58	0.000	8.11637	8.195404

31 . predict yhat2, xb
(173 missing values generated)

32 . replace yhat2 = exp(yhat2)
(7,921 real changes made)

33 .

```

34 . *Sexo etnia educación
35 .       reg lipcf mujer etnia i.educ_max [pw = f_calib3], robust
    (sum of wgt is 10,533,253)

```

```

Linear regression              Number of obs   =      7,204
                              F(8, 7195)        =      59.27
                              Prob > F          =      0.0000
                              R-squared         =      0.1201
                              Root MSE      =      .78984

```

lipcf	Coefficient	Robust std. err.	t	P> t	[95% conf. interval]	
mujer	-.0999219	.0272093	-3.67	0.000	-.1532601	-.0465838
etnia	-.1174227	.0905422	-1.30	0.195	-.2949121	.0600666
educ_max						
Prii	.1937873	.0653441	2.97	0.003	.0656936	.321881
Pric	.4862541	.0612095	7.94	0.000	.3662655	.6062427
Seci	.5375194	.0751022	7.16	0.000	.3902969	.6847418
Secc	.7859892	.0665408	11.81	0.000	.6555497	.9164287
Supi	.8608942	.1210352	7.11	0.000	.6236296	1.098159
Supc	1.070605	.0698341	15.33	0.000	.9337094	1.2075
_cons	7.639334	.0591788	129.09	0.000	7.523327	7.755342

```

36 .       predict yhat3, xb
    (890 missing values generated)

```

```

37 .       replace yhat3 = exp(yhat3)
    (7,204 real changes made)

```

```

38 .
39 . *Sexo etnia educación lugar de nacimiento
40 .       reg lipcf mujer etnia i.educ_max i.nacimiento [pw = f_calib3], robust
    (sum of wgt is 10,312,109)

```

```

Linear regression              Number of obs   =      7,059
                              F(16, 7042)      =      76.69
                              Prob > F          =      0.0000
                              R-squared         =      0.2217
                              Root MSE      =      .7452

```

lipcf	Coefficient	Robust std. err.	t	P> t	[95% conf. interval]	
mujer	-.0880466	.0258843	-3.40	0.001	-.1387876	-.0373056
etnia	-.1652939	.0870294	-1.90	0.058	-.3358978	.00531
educ_max						
Prii	.1298067	.0584078	2.22	0.026	.0153098	.2443035
Pric	.3375426	.0547517	6.16	0.000	.2302127	.4448725
Seci	.4081943	.0696803	5.86	0.000	.2716001	.5447886
Secc	.6277345	.0591486	10.61	0.000	.5117854	.7436835
Supi	.6870699	.1128652	6.09	0.000	.4658201	.9083197
Supc	.8523873	.0658155	12.95	0.000	.7233691	.9814054
nacimiento						
CABA	.2816836	.051273	5.49	0.000	.1811731	.382194
Cuyo	-.5553123	.04541	-12.23	0.000	-.6443295	-.466295
Pampeana	-.1477818	.0518477	-2.85	0.004	-.249419	-.0461447
Centro	-.2668333	.0429205	-6.22	0.000	-.3509704	-.1826961
NEA	-.5827261	.049774	-11.71	0.000	-.6802981	-.4851542
NOA	-.6525561	.0482561	-13.52	0.000	-.7471526	-.5579596
Patagonia	.0231305	.0626369	0.37	0.712	-.0996567	.1459178
Otro Pais	-.0830992	.0646172	-1.29	0.198	-.2097683	.0435699
_cons	7.993755	.061454	130.08	0.000	7.873287	8.114224


```
50 .         local gini_yhat2 = r(gini)
51 .
52 .         gini_yhat1 [w = f_calib3], reps(200) bs
(frequency weights assumed)
```

```
gini yhat1 = 0.0204
```

Bootstrapping...

```
Command:   hacebs_gini yhat1 , w(f_calib3)
Statistic: _bs_1      = r(gini)
```

Bootstrap statistics	Number of obs	=	8093
	Replications	=	200

Variable	Reps	Observed	Bias	Std. err.	[95% conf. interval]		
_bs_1	200	.0203924	-6.79e-06	.0000329	.0203276	.0204572	(N)
					.0203158	.0204367	(P)
					.0203188	.0204374	(BC)

Key: N: Normal
P: Percentile
BC: Bias-corrected

```
53 .         local gini_yhat3 = r(gini)
54 .
55 .         gini_yhat1 [w = f_calib3], reps(200) bs
(frequency weights assumed)
```

```
gini_yhat1 = 0.0204
```

Bootstrapping...

```
Command:   hacebs_gini yhat1 , w(f_calib3)
Statistic:  _bs_1      = r(gini)
```

Bootstrap statistics	Number of obs	=	8093
	Replications	=	200

Variable	Reps	Observed	Bias	Std. err.	[95% conf. interval]		
_bs_1	200	.0203924	-7.68e-06	.0000346	.0203242	.0204605	(N)
					.0203023	.0204333	(P)
					.0203063	.0204356	(BC)

Key: N: Normal
P: Percentile
BC: Bias-corrected

```
56 .         local gini_yhat4 = r(gini)
57 .
58 . * La desigualdad de oportunidades es:
59 . * Recordemos que esto es una medida absoluta para cada grupo
60 .
```

```

61 .      di " D. de oportunidades (sexo) =" `gini_yhat1'
    D. de oportunidades (sexo) =.02039238

62 .      di " D. de oportunidades (sexo y etnia) =" `gini_yhat2'
    D. de oportunidades (sexo y etnia) =.02039238

63 .      di " D. de oportunidades (sexo, etnia y educación) =" `gini_yhat3'
    D. de oportunidades (sexo, etnia y educación) =.02039238

64 .      di " D. de oportunidades (sexo, etnia, educacion y region de nacimiento) =" `
> gini_yhat4'
    D. de oportunidades (sexo, etnia, educacion y region de nacimiento) =.02039238

65 .
66 . * Ahora calculamos cuánto de esta desigualdad es producto de la desigualdad de oportu
> nidades.
67 .
68 . * Para ello, calculamos la desigualdad total:
69 .
70 .      gini ithpc [w = f_calib3], reps(200) bs
(frequency weights assumed)

```

gini ithpc = 0.4387

Bootstrapping...

```

Command:      hacebs_gini ithpc , w(f_calib3)
Statistic:    _bs_1      = r(gini)

```

```

Bootstrap statistics                                Number of obs    =      8094
                                                    Replications      =      200

```

Variable	Reps	Observed	Bias	Std. err.	[95% conf. interval]		
_bs_1	200	.4386865	-.0001843	.0047545	.4293108	.4480621	(N)
					.4291857	.4479702	(P)
					.4292972	.4481567	(BC)

Key: N: Normal
P: Percentile
BC: Bias-corrected

```

71 .      local gini_ipcf = r(gini)

72 .
73 . * Calculamos la desigualdad relativa
74 .
75 .      di " D. de oportunidades relativa (sexo) =" `gini_yhat1'/'`gini_ipcf'
    D. de oportunidades relativa (sexo) =.0464851

76 .      di " D. de oportunidades relativa (sexo y etnia) =" `gini_yhat1'/'`gini_ipcf'
    D. de oportunidades relativa (sexo y etnia) =.0464851

77 .      di " D. de oportunidades relativa (sexo, etnia y educación) =" `gini_yhat1'/'`
> gini_ipcf'
    D. de oportunidades relativa (sexo, etnia y educación) =.0464851

78 .      di " D. de oportunidades relativa (sexo, etnia, educacion y region de nacimie
> nto) =" `gini_yhat1'/'`gini_ipcf'
    D. de oportunidades relativa (sexo, etnia, educacion y region de nacimiento) =.0464851

```

```

79 .
80 .      drop yhat1 yhat2 yhat3

81 .      rename yhat4 yhat

82 . *-----*
83 . **# PREGUNTA 3: Estimación NO paramétrica
84 . *-----*
85 .
86 .      gen ipcf2 = .
      (8,094 missing values generated)

87 .
88 . * Iteramos por cada uno de los posibles grupos. Recordemos la madlcion de la dimensio
  > nalidad como el mayor problema. Intensivo en datos.
89 .      qui {

90 .
91 . * Gini de yhat
92 .      gini ipcf2 [w=f_calib3], reps(200) bs
      (frequency weights assumed)

gini ipcf2 = 0.2278

Bootstraping...

Command:      hacebs_gini ipcf2 , w(f_calib3)
Statistic:    _bs_1      = r(gini)

Bootstrap statistics                                Number of obs    =      6684
                                                    Replications    =      200


```

Variable	Reps	Observed	Bias	Std. err.	[95% conf. interval]		
_bs_1	200	.2278131	-.0001153	.0027329	.222424	.2332022	(N)
					.2223497	.2335064	(P)
					.2232735	.2338514	(BC)

```

Key:  N: Normal
      P: Percentile
      BC: Bias-corrected

93 .      local gini_ipcf2 = r(gini)

94 .
95 . * Desigualdad de oportunidades:
96 .
97 .      di " D. de oportunidades (no parametrica) =" `gini_ipcf2'
D. de oportunidades (no parametrica) =.22781313

98 .      di " D. de oportunidades (parametrica) =" `gini_yhat4'
D. de oportunidades (parametrica) =.02039238

99 .
100 . * Desigualdad de oportunidades relativa:
101 .
102 .      di " D. de oportunidades relativa (no parametrica) =" `gini_ipcf2'/'gini_ipcf
  > '
D. de oportunidades relativa (no parametrica) =.51930742

```

```

103 .      di " D. de oportunidades relativa (parametrica) =" `gini_yhat4'/'gini_ipcf'
      D. de oportunidades relativa (parametrica) =.0464851

104 .
105 . *Botton line: NO hay mucha diferencia entre la esti,ación paramétrica y no parametri
> ca.
106 .
107 . *-----*
108 . **# PREGUNTA 4
109 . *-----*
110 .
111 .      gen gini_iop = .
      (8,094 missing values generated)

112 .      gen gini_iop_se = .
      (8,094 missing values generated)

113 .      gen gini_t =.
      (8,094 missing values generated)

114 .
115 .
116 . * Por regiones:
117 .
118 .      forval i = 1(1)8 {
2.          gini yhat [w=f_calib3] if region == `i', reps(200) bs
3.          replace gini_iop = r(gini) if region == `i'
4.          replace gini_iop_se = _se[_bs_1] if region == `i'
5.
119 .          /* Para la desigualdad relativa*/
120 .          gini ithpc [w = f_calib3] if region == `i'
6.          replace gini_t = r(gini) if region == `i'
7.      }
      (frequency weights assumed)

gini yhat = 0.1616

Bootstraping...

Command:      hacebs_gini yhat , w(f_calib3)
Statistic:    _bs_1      = r(gini)

Bootstrap statistics                                Number of obs    =      767
                                                    Replications    =      200


```

Variable	Reps	Observed	Bias	Std. err.	[95% conf. interval]		
_bs_1	200	.1616036	-.0006252	.0057694	.1502267	.1729805	(N)
					.1497862	.1726274	(P)
					.1520759	.1728136	(BC)

```

Key:  N: Normal
      P: Percentile
      BC: Bias-corrected
(858 real changes made)
(858 real changes made)
(frequency weights assumed)

gini ithpc = 0.3779
(858 real changes made)
(frequency weights assumed)

gini yhat = 0.1741

Bootstraping...

Command:      hacebs_gini yhat , w(f_calib3)
Statistic:    _bs_1      = r(gini)

```


Bootstrap statistics Number of obs = **528**
 Replications = **200**

Variable	Reps	Observed	Bias	Std. err.	[95% conf. interval]		
_bs_1	200	.1740535	-.0009779	.0065775	.161083	.187024	(N)
					.1605774	.1854879	(P)
					.1618711	.1874473	(BC)

Key: N: Normal
 P: Percentile
 BC: Bias-corrected
 (626 real changes made)
 (626 real changes made)
 (frequency weights assumed)

gini ithpc = 0.3700
 (626 real changes made)
 (frequency weights assumed)

gini yhat = 0.1653

Bootstrapping...

Command: hacebs_gini yhat , w(f_calib3)
 Statistic: _bs_1 = r(gini)

Bootstrap statistics Number of obs = **1011**
 Replications = **200**

Variable	Reps	Observed	Bias	Std. err.	[95% conf. interval]		
_bs_1	200	.165252	-.0001054	.0052048	.1549884	.1755155	(N)
					.154859	.1753297	(P)
					.1549259	.1753516	(BC)

Key: N: Normal
 P: Percentile
 BC: Bias-corrected
 (1,130 real changes made)
 (1,130 real changes made)
 (frequency weights assumed)

gini ithpc = 0.3979
 (1,130 real changes made)
 (frequency weights assumed)

gini yhat = 0.1469

Bootstrapping...

Command: hacebs_gini yhat , w(f_calib3)
 Statistic: _bs_1 = r(gini)

Bootstrap statistics Number of obs = **944**
 Replications = **200**

Variable	Reps	Observed	Bias	Std. err.	[95% conf. interval]		
_bs_1	200	.1469148	-.0006133	.0052661	.1365304	.1572992	(N)
					.1350422	.1552223	(P)
					.1371288	.1556175	(BC)

Key: N: Normal
 P: Percentile
 BC: Bias-corrected
 (1,079 real changes made)
 (1,079 real changes made)
 (frequency weights assumed)


```

124 .      serrbar table1 table2 region, ///
>          scale(2) ytitle("Desigualdad de Oportunidades") xtitle("") xlabel(1(1
> )8, valuelabel) ///
>          ylabel(, angle(horizontal)) legend(position(6)) scale(1.3)

125 .      graph export "${output}/iop_region.pdf", replace
file D:\UNLP_Maeco\Distribucion\TP-Distribucion\TP5/output/iop_region.pdf saved as
      PDF format

126 .      graph export "${output}/iop_region.png", replace
file D:\UNLP_Maeco\Distribucion\TP-Distribucion\TP5/output/iop_region.png saved as
      PNG format

127 . restore

128 .
129 . *-----*
130 . **# PREGUNTA 5
131 . *-----*
132 .
133 . *Gini relativo
134 .
135 .      gen gini_r = gini_iop/gini_t

136 .
137 . preserve

138 .      version 16: table region, c(mean gini_r) replace

```

region	mean(gini_r)
GBA	.4276724
CABA	.4703675
Cuyo	.4153107
Pampeana	.3589037
Centro	.3624235
NEA	.3734377
NOA	.4340938
Patagonia	.3892498

```

139 .      replace table1 = table1*100
(8 real changes made)

140 .      graph hbar table1, over(region) ytitle("Desigualdad Relativa(%)") ///
>          ylabel(, angle(horizontal)) legend(position(6)) scale(1.3)

141 .      graph export "${output}/iop_region_relativa.pdf", replace
file D:\UNLP_Maeco\Distribucion\TP-Distribucion\TP5/output/iop_region_relativa.pdf
      saved as PDF format

142 .      graph export "${output}/iop_region_relativa.png", replace
file D:\UNLP_Maeco\Distribucion\TP-Distribucion\TP5/output/iop_region_relativa.png
      saved as PNG format

143 . restore

144 .
145 . log close _all
      name: <unnamed>
      log: D:\UNLP_Maeco\Distribucion\TP-Distribucion\TP5/log_solucion.smcl
      log type: smcl
      closed on: 11 Nov 2024, 20:10:47

```
