```
  ___  ____  ____  ____  ____ (R)
 /__    /   ____/   /   ____/
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Notes:
      1.  Unicode is supported; see   help unicode_advice .

running c:\ado\personal\profile.do ...

. doedit "C:\Users\lutib\Dropbox\PEP_distance_Poverty Course (Exercises)\2019\weeks_semaines 7-8
> -9\version\BLOC3_COPY1.do"

. use "C:\Users\lutib\Dropbox\PEP_distance_Poverty Course (Exercises)\2019\weeks_semaines 7-8-9\
> version\data_b3_1.dta"

. do "C:\Users\lutib\AppData\Local\Temp\STD36fc_000000.tmp"

.
. // EXERCICE 1
.
. // Q1
. /* Use the non parametric regression approach to predict the perceveid minimum well-being */
. *use data_b3_1.dta, replace
. cnpe ae_exp  min_ae_exp, xvar(ae_exp) min(0) max(60000)     hs(hsize)       ///
> legend(order( 1 "Perceived  minimum  well-being " 2 "Observed well-being"))  ///
> subtitle("") title(The subjective poverty line)
>        ///
>  xtitle(Observed well-being)
>                ///
>  ytitle(Predicted level of the perceived  minimum  well-being )              ///
>  vgen(yes)
WAIT: Estimation of in progress: ==>>
: . : . : . : . : . 10%
: . : . : . : . : . 20%
: . : . : . : . : . 30%
: . : . : . : . : . 40%
: . : . : . : . : . 50%
: . : . : . : . : . 60%
: . : . : . : . : . 70%
: . : . : . : . : . 80%
: . : . : . : . : . 90%
: . : . : . : . : . 100%
<== END
WAIT: Estimation of in progress: ==>>
: . : . : . : . : . 10%
: . : . : . : . : . 20%
: . : . : . : . : . 30%
: . : . : . : . : . 40%
: . : . : . : . : . 50%
: . : . : . : . : . 60%
: . : . : . : . : . 70%
: . : . : . : . : . 80%
```

```
: . : . : . : . : . 90%
: . : . : . : . : . 100%
<== END

.
. /* Estimate the level of ae_exp where the difference between the predicted minimum well-being
> and the observed well-being is nil */
. cap drop dif

. gen dif = _npe_min_ae_exp- ae_exp

. cnpe ae_exp, hs(hsize) xvar(dif) xval(0) vgen(yes)
In progress ...
   Household size     :  hsize
   Sampling weight    :  sweight
```

Variable(s)	Estimated value
ae_exp	**22922.419922**

```
.
. /*Show the subjective poverty line  */
. cnpe ae_exp  min_ae_exp, xvar(ae_exp) min(0) max(60000)    hs(hsize)        ///
> legend(order( 1 "Perceived  minimum  well-being " 2 "Observed well-being"))  ///
> subtitle("") title(The subjective poverty line)
>        ///
> xline(22922.419922) xtitle(Observed well-being)
>        ///
> ytitle(Predicted level of the perceived  minimum  well-being )

.
.
.
. //  Q2:
.
. ifgt  ae_exp, alpha(1) hsize(hsize) pline(22922.42)

    Poverty index   :  FGT index
    Household size  :  hsize
    Sampling weight :  sweight
    Parameter alpha :  1.00
```

Variable	Estimate	STE	LB	UB	Pov. line
ae_exp	**0.125943**	**0.007783**	**0.110667**	**0.141218**	22922.42

```
. ifgt  ae_exp, alpha(1) hsize(hsize) pline(21000)

    Poverty index   :  FGT index
    Household size  :  hsize
    Sampling weight :  sweight
    Parameter alpha :  1.00
```

Variable	Estimate	STE	LB	UB	Pov. line
ae_exp	**0.102046**	**0.007282**	**0.087753**	**0.116339**	21000.00

```
. ifgt  ae_exp, alpha(1) hsize(hsize) opl(mean) prop(50)

    Poverty index   :  FGT index
    Household size  :  hsize
    Sampling weight :  sweight
    Parameter alpha :  1.00
```

Variable	Estimate	STE	LB	UB	Pov. line
ae_exp	**0.059656**	**0.006487**	**0.046924**	**0.072387**	17119.96

```
.
.
. //  Q3:
. /*
> The use of the relative poverty line is more appropriate for the developed countries.
> This can be justified by the rapid increase in well-being in average and the standard of livin
> gs over time.
> */
.
.
end of do-file

. do "C:\Users\lutib\AppData\Local\Temp\STD36fc_000000.tmp"

.
.
.
. // EXERCICE 2
.
.
. // Q1
.
end of do-file

. do "C:\Users\lutib\AppData\Local\Temp\STD36fc_000000.tmp"

. dfgtg ae_exp, hgroup(sex) hsize(hsize) alpha(0) pline(21000)

    Decomposition of the FGT index by groups
    Poverty index   :  FGT index
    Household size  :  hsize
    Sampling weight :  sweight
    Group variable  :  sex
    Parameter alpha :  0.00
```

Group	FGT index	Population share	Absolute contribution	Relative contribution
Male	**0.334968**	**0.774717**	**0.259505**	**0.741378**
	0.018325	0.013552	0.014879	0.025128
Female	**0.401831**	**0.225283**	**0.090526**	**0.258622**
	0.032614	0.013552	0.009948	0.025128
Population	**0.350031**	**1.000000**	**0.350031**	**1.000000**
	0.016666	0.000000	0.016666	0.000000

```
. /*
> We can conclude that the poverty within the female-headed households is more pronounced.
> However, their relative and absolute contribution to the total poverty is lower than man-heade
> d households.
> This is because of the much lower population share of female-headed households in the total po
> pulation.
> */
.
.
. //  Q3:
. ifgt ae_exp, hgroup(region) hsize(hsize) alpha(0) pline(21000)

    Poverty index   :  FGT index
    Household size  :  hsize
    Sampling weight :  sweight
    Group variable  :  region
    Parameter alpha :  0.00
```

Group	Estimate	STE	LB	UB	Pov. lin
1: central	**0.238141**	**0.025688**	**0.187721**	**0.288562**	21000.
2: eastern	**0.356487**	**0.029508**	**0.298570**	**0.414404**	21000.
3: northern	**0.625147**	**0.039117**	**0.548369**	**0.701926**	21000.
4: western	**0.246394**	**0.028467**	**0.190520**	**0.302269**	21000.
Population	0.350031	0.016666	0.317320	0.382743	21000.

```
.
.
. //  Q3:
. gen     ae_exp2=ae_exp

. replace ae_exp2=ae_exp2*(1+0.10) if region==3
(525 real changes made)

. replace ae_exp2=ae_exp2*(1-0.06) if region==2
(791 real changes made)

.
.
. //  Q4:
```

```
. dfgtgr ae_exp ae_exp2, alpha(1) pline(21000) hsize1(hsize) hsize2(hsize)
```

Decomposition of the variation in the FGT index into growth and redistribution.
Parameter alpha : 1.00
Poverty line : 21000.00

	Estimate	STE	LB	UB
Distribution_1	**0.102046**	**0.007282**	**0.087753**	**0.116339**
Distribution_2	**0.099618**	**0.006934**	**0.086007**	**0.113228**
Difference: (d2-d1)	-0.002428	0.001030	-0.004450	-0.000406
	Datt & Ravallion approach: reference period t1			
Growth	0.001151	0.000406	0.000354	0.001948
Redistribution	-0.003618	0.000895	-0.005375	-0.001861
Residue	0.000039	---	---	---
	Datt & Ravallion approach: reference period t2			
Growth	0.001190	0.000427	0.000352	0.002028
Redistribution	-0.003579	0.000897	-0.005339	-0.001818
Residue	-0.000039	---	---	---
	Shapley approach			
Growth	0.001170	0.007077	-0.012720	0.015061
Redistribution	-0.003598	0.000896	-0.005356	-0.001840

```
.
. //  Q5:
. dfgtg2d ae_exp ae_exp2, alpha(1) hgroup(region) pline(21000) hsize1(hsize) hsize2(hsize) ref(0
> )
```

Decomposition of the FGT index by groups
Group variable : region
Parameter alpha : 1.00

Population shares and FGT indices

Group	Initial Pop. share	Initial FGT index	Final Pop. share	Final FGT index	Difference in FGT index
central	**0.271279**	**0.054521**	**0.271279**	**0.054521**	**0.000000**
	0.015086	0.007091	0.015086	0.007091	0.000000
eastern	**0.277255**	**0.094075**	**0.277255**	**0.111385**	**0.017310**
	0.016460	0.010901	0.016460	0.011666	0.001326
northern	**0.198947**	**0.239558**	**0.198947**	**0.203230**	**-0.036328**
	0.014995	0.023578	0.014995	0.022679	0.002369
western	**0.252519**	**0.053512**	**0.252519**	**0.053512**	**0.000000**
	0.013810	0.007864	0.013810	0.007864	0.000000
Population	**1.000000**	**0.102046**	**1.000000**	**0.099618**	**-0.002428**
	0.000000	0.007282	0.000000	0.006934	0.001030

Decomposition components

Group	Poverty Component	Population Component	Interaction Component
central	**0.000000**	**0.000000**	**0.000000**
	0.000000	.	0.000000
eastern	**0.004799**	**0.000000**	**0.000000**
	0.000495	0.000000	0.000000
northern	**-0.007227**	**0.000000**	**0.000000**
	0.000812	0.000000	0.000000
western	**0.000000**	**0.000000**	**0.000000**
	0.000000	.	0.000000
Population	**-0.002428**	**0.000000**	**0.000000**
	===	===	===

```
.
.
.
. // EXERCICE 3
.
.
. //  Q1:
. clear

. input identifier        weight  inc_t1  inc_t2

     identif~r     weight     inc_t1     inc_t2
  1. 0       0       0.00    0.00
  2. 1       0.1     1.50    1.54
  3. 2       0.1     4.50    3.85
  4. 3       0.1     7.50    6.60
  5. 4       0.1     3.00    2.75
  6. 5       0.1     4.50    4.40
  7. 6       0.1     9.00    7.70
  8. 7       0.1     10.50   8.80
  9. 8       0.1     15.00   7.70
 10. 9       0.1     12.00   6.60
 11. 10      0.1     13.50   6.60
 12.
. end

.
. sort inc_t1

. gen perc=sum(weight)

.
. //  Q2:
. qui sum inc_t1 [aw=weight]
```

```
. scalar mean1=r(mean)

. qui sum inc_t2 [aw=weight]

. scalar mean2=r(mean)

. scalar g_mean = (mean2-mean1)/mean1

. gen g_mean  = (mean2-mean1)/mean1

. dis "Mean 1              =" mean1
Mean 1              =8.1

. dis "Mean 2             = " mean2
Mean 2             = 5.6539999

. dis "Growth in averages = " g_mean
Growth in averages = -.30197531

.
. //  Q3:
. gen g_inc =(inc_t2-inc_t1)/inc_t1
(1 missing value generated)

. replace g_inc = 0 in 1
(1 real change made)

.
. //  Q4:
. line g_inc g_mean perc, title(Growth Incidence Curve) yline(`g_mean') ///
> legend(order( 1 "GIC curve" 2 "Growth in average income")) ///
> xtitle(Percentiles (p)) ytitle(Growth in incomes)  ///
> plotregion(margin(zero))

.
.
. //  Q5:
. drop in 1
(1 observation deleted)

. cap drop temp

. gen temp = g_inc

. sum temp [aw=weight] if (inc_t1<10.2)

    Variable |      Obs      Weight        Mean   Std. Dev.       Min        Max
-------------+---------------------------------------------------------------------
        temp |        6   .600000009   -.0812963   .0701759  -.1444445   .0266666

. dis = r(mean)
-.08129631
```

```
. ipropoor inc_t1 inc_t2, pline(10.2)
   Poverty line    :        10.20
   Parameter alpha :         0.00
```

Pro-poor indices	Estimate	STE	LB	UB
Growth rate(g)	**-0.301975**	**0.068365**	**-0.456627**	**-0.14732**
Ravallion & Chen (2003) index	**-0.081296**	**0.027568**	**-0.143659**	**-0.01893**
Ravallion & Chen (2003) - g	**0.220679**	**0.075578**	**0.049710**	**0.39164**
Kakwani & Pernia (2000) index	**1.333333**	**0.423542**	**0.375216**	**2.29145**
PEGR index	**-0.402634**	**0.184119**	**-0.819140**	**0.01387**
PEGR - g	**-0.100658**	**0.138512**	**-0.413995**	**0.21267**

```
. 
. 
. //  Q6:
. dfgtgr inc_t1 inc_t2, alpha(1) pline(10.2)

   Decomposition of the variation in the FGT index into growth and redistribution.
   Parameter alpha :         1.00
   Poverty line    :        10.20
```

	Estimate	STE	LB	UB
Distribution_1	**0.305882**	**0.105336**	**0.067595**	**0.544170**
Distribution_2	**0.445686**	**0.073902**	**0.278508**	**0.612864**
Difference: (d2-d1)	0.139804	0.042347	0.044007	0.235601
	Datt & Ravallion approach: reference period t1			
Growth	0.142455	0.035167	0.062901	0.222008
Redistribution	-0.060105	0.028402	-0.124355	0.004145
Residue	0.057455	---	---	---
	Datt & Ravallion approach: reference period t2			
Growth	0.199909	0.060038	0.064093	0.335725
Redistribution	-0.002651	0.008859	-0.022690	0.017389
Residue	-0.057455	---	---	---
	Shapley approach			
Growth	0.171182	0.045998	0.067126	0.275238
Redistribution	-0.031378	0.011738	-0.057931	-0.004825

```
.
end of do-file

.
```