## **The Answer of assignment weeks 1 and 2**

## **Exercise 1 (4%)**

\*Using the file **“Data\_Exercise1-(Assigment weeks 1 and 2)”**

## \*Assignment weeks 1 and 2

## \*Exercise 1 (4%)

\*Q 1.1: Using Stata, generate per capita income (*pcinc*).

\*A:

gen pcinc = income/hhsize

\*Q 1.2: Using Stata, estimate the average per capita income and the total income of our population.

**\*A:**

summarize pcinc income



**\*Q 1.3:** Assume that, the poverty line is equal to 120, generate the variable per capita poverty gap (*pgap*), and then estimate its average (the per capita poverty gap should be normalized by the poverty line).

**\*A:**

gen pgap= 120-pcinc

summarize pgap

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**\*Q 1.4:** Redo the question Q 1.3 using DASP.

**\*A:**

ifgt pcinc, alpha(0) hsize(hhsize) pline(120)



**\*Q 1.5:** Assume that the purchasing power in region B is higher than that of region A by 20% and that of region C is higher than that of region A by 40%. In the case where the region A is the region of reference, generate the variable (*deflator*) as a price deflator index, and then generate the variable real per capita income (r*pcinc*).

**\*A:**

*\*Generate the variable (deflator)*

gen deflator= 100 if region\_id == 1

replace deflator = 100+(100\*0.2) if region\_id ==2

replace deflator = 100+(100\*0.4) if region\_id ==3

*\*Generate the variable real per capita income (rpcinc)*

gen rpcinc = (pcinc/deflator)\*100

\***Q 1.6:** Redo the question 1.3 and 1.4 using the real per capita income when the poverty line is 110.

**\*A:**

\*Redo the question 1.3

gen rpgap= 110-rpcinc

summarize rpgap

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\*Redo the question 1.4

ifgt rpcinc, alpha(0) hsize(hhsize) pline(110)



**Exercise 2 (3%)**

\*2.1 Using the file **data\_2**, estimate the average per adult equivalent expenditures without using the sampling weight and by using the DASP command***imean***. What does this statistic refer to?

**\*A:**

imean ae\_exp , hsize(hhsize)



\*This statistic refers to average the total income of our population.

\*2.2 By using the variables ***strata, psu*** and the sampling weight variable, initialise the sampling design, and then estimate the average per adult equivalent expenditure.

**\*A:**

svyset \_n [pweight=sweight], strata(strata)

gen nominator = hhsize\*ae\_exp

gen denominator = hhsize

svy: ratio nominator/denominator



\*2.3 Test whether the average per adult equivalent expenditure in region 1 is higher than the double of that of region 3.

**\*A:**

dimean ae\_exp ae\_exp , hsize1(hhsize) test(2) cond1(strata==3 ) hsize2(hhsize) cond2(strata==1 ) conf(ub)



\*2.4 Using the DASP command ***dimean*** test whether the average per adult equivalent expenditure for male household heads is higher than that of female households headed. Briefly discuss your results.

**\*A**

gen sex\_id= sex

dimean ae\_exp ae\_exp , hsize1(hhsize) test(0) cond1( sex\_id ==2) hsize2(hhsize) cond2( sex\_id ==1 ) conf(ub)



\*We cannot reject H0: difference = > 0. This is because the statistical error that we make if we reject H0 = 63.21 is higher than the critical level of 5.00%.