Assignment weeks 1 and 2

To answer all the questions below, you must use Stata (and, specifically, DASP, if requested). Be concise and clear in your answers.

*The assignment is divided into three exercises (the points assigned to each exercise are indicated next to each exercise). Please answer (A) directly in this file after each question (Q) and please attach the *.do file (do-file) that you generated. Rename both files as: "Assignment weeks 1-2 - Name, Surname". Please submit this completed file and the *.do through the virtual drop box (boîte de dépôt) in the course portal, no later than Tuesday, February 2 11:59 p.m. (Québec time).*

Exercise 1 (4%)

Assume that the population is of composed 10 households that live in regions *A, B and C*.

identifier	*region*	*income*	*hhsize*
1	A	310	4
2	A	460	6
3	A	300	5
4	A	220	3
5	B	560	2
6	B	400	4
7	C	140	3
8	C	250	2
9	C	340	2
10	C	220	2

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

A:

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

A:

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:

Q 1.4: Redo the question Q 1.3 using DASP.

A:

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:

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

A:

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:

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:

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

A:

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:

Exercise 3 (5.5%)

Q 3.1 Use the data_2.dta data file, and then compute the population size of the sampled households.

A:

Q 3.2 Rank the per capita expenditures in ascending order and then generate the variable population share (*ps*) that includes the proportion of the population with corresponding per capita expenditures. Based on this, generate the variables percentiles (*p*) and quantiles (*q*).

A:

Q 3.3 Draw the cumulative distribution curve (X-Axis: the percentiles and Y-Axis: the corresponding per capita expenditures) (range of percentiles: min=0 and max=0.95).

A:

Q 3.4 Plot the quantile curve (X-axis percentiles (0 to 0.95) and Y-axis quantiles), and briefly discuss the results.

A:

Q 3.5 Using DASP, draw the quantile curves by the sex of the household head (percentiles (0 to 0.95)), and briefly discuss the results.

A:

Q 3.6 Using DASP, draw the density curves of the per capita expenditures for each of the rural and urban regions (range of per capita expenditures: min=0 and max=1000000), and briefly discuss the results.

A: