

Homework 1, Development Economics

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Question 1 - Inequality in consumption, income and wealth (CIW)

1.1) Report average CIW per household separately for rural and urban areas.

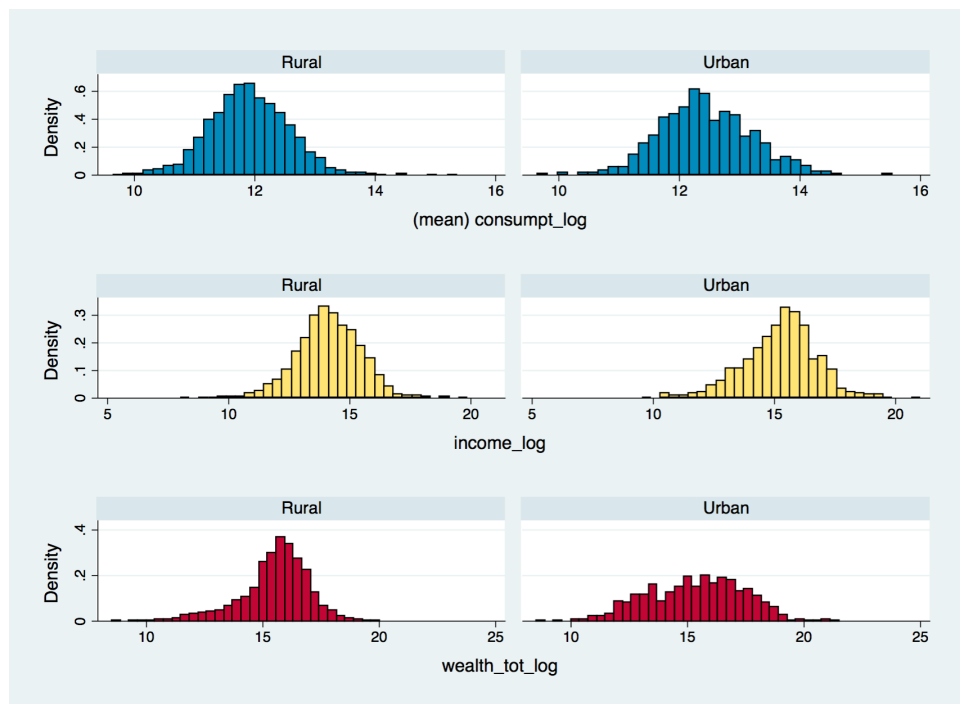
We can see the average value of consumption, income and wealth in the following table:

(1)	
	mean
Rural	
consumpt	186335.4
income_tot	3332773.0
wealth_tot	12691312.4
Urban	
consumpt	338493.9
income_tot	12728374.0
wealth_tot	27689453.4
Total	
consumpt	226120.2
income_tot	5789434.8
wealth_tot	16612866.7
<i>N</i>	3117

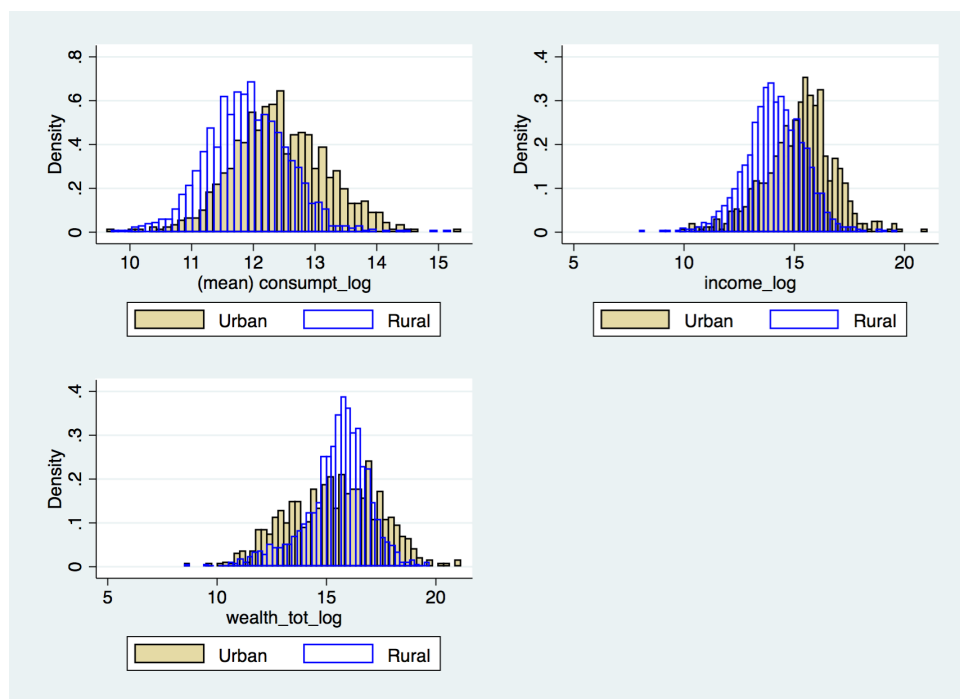
The first thing we notice from this graph is that the level of consumption, income and wealth are higher for urban people.

Nevertheless, the difference between consumption in urban vs rural parts is lower than the same difference for what concern income and wealth. These results are very similar to the ones that we already saw in class, about Malawi.

2.1) Show histogram for CIW separately for rural and urban areas



From these pictures, it is possible to notice that, overall, the rural graphs are more shifted over the left side (i.e., the quantities for average household are more little). In order to have a cleared picture on how the distribution differs, we can have a look to the overlaid histograms:



In addition, from these pictures it is possible to see that the histogram for wealth in the urban case is more widespread than the histogram for wealth in the rural case. This means that wealth is more unevenly distributed, in cities.

2.2) Report the variance of logs for CIW separately for rural and urban areas.

	Rural	Urban	Total
(mean) consumpt_log	0.416	0.571	0.509
income_log	1.730	2.300	2.110
wealth_tot_log	2.132	4.114	2.647

We can see that the urban zones always have an higher variance, in all the three measures. Nevertheless, while consumption have a small difference, between urban and rural areas, wealth variance for urban areas is almost the double, of wealth variance for rural areas. This again confirm the previous result, that wealth is definitely much more widespread in cities. This results have the same feature (variance difference higher for wealth, ranking of the magnitudes of the variances) of the results we saw for Malawi and US.

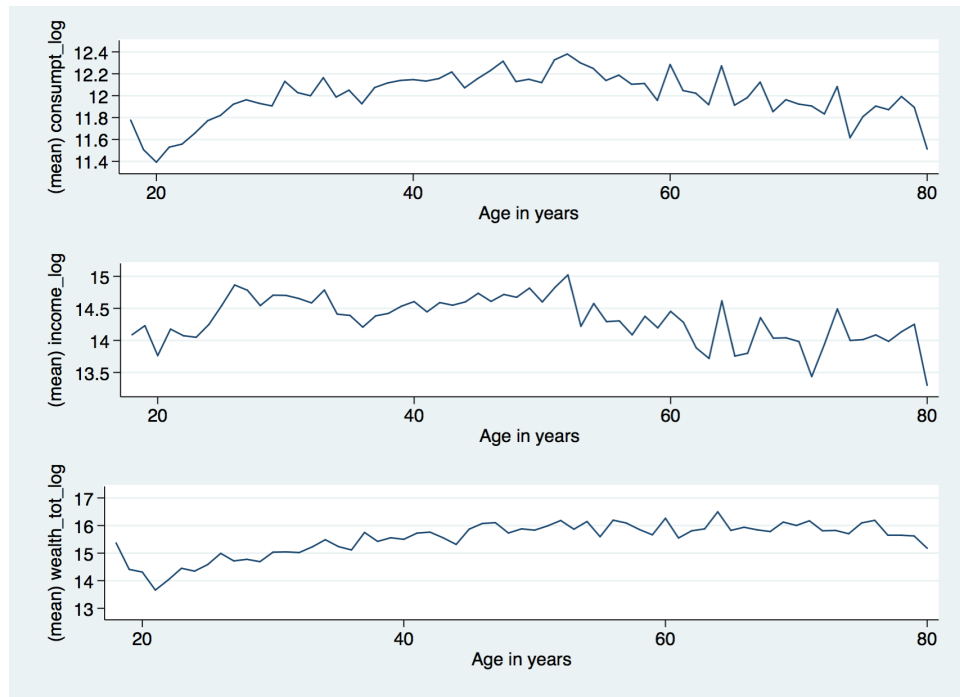
3) Describe the joint cross-sectional behavior of CIW

	(mean) consumpt_log	income_log	wealth_tot_log
(mean) consumpt_log	1		
income_log	0.617	1	
wealth_tot_log	0.473	0.274	1

All the variables moves together in the same direction. Nevertheless, while the correlation between income and consumption is higher than 0.6, the correlation between wealth and income is pretty low (around 0.27)

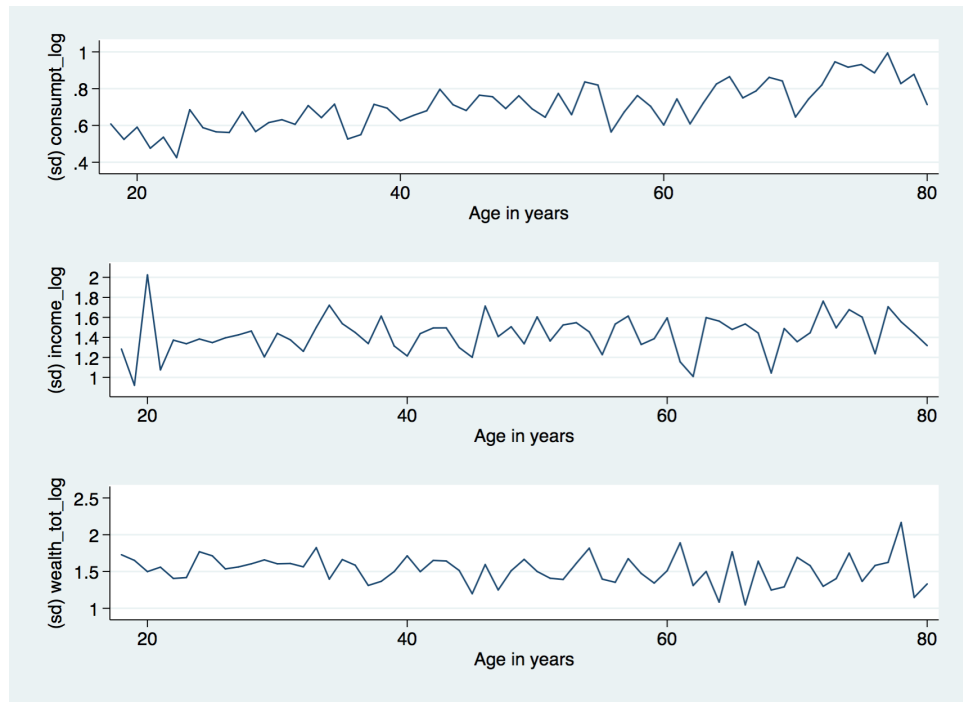
4) Describe the CIW level, inequality, and covariances over the lifecycle.

Means,by age:



Overall, from this graph we can see that wealth experiences an increase, through the lifecycle. Income does not display any particular trend, while consumption seems to initially increase, and then decrease in the last part of the lifecycle.

Variances, by age:



Overall, the only variance that increase over the lifecycle is the one of consumption. The variances for income and wealth have peaks up and down, but they don't exhibit any particular trend.

Question 2 - Inequality in Labor Supply

1) Redo Question 1 for intensive and extensive margins of labor supply.

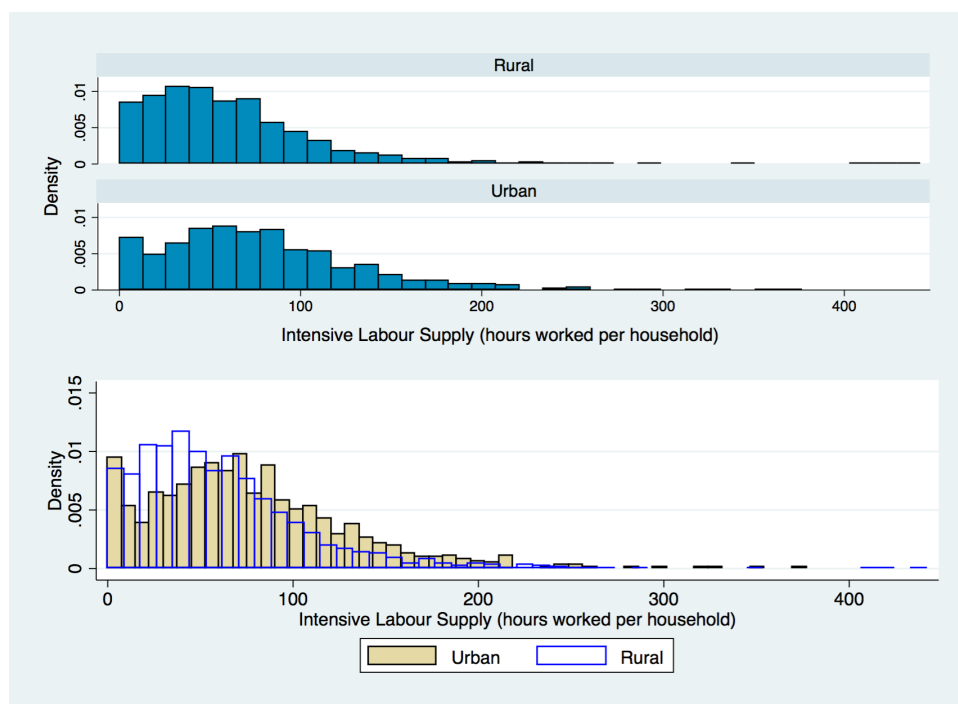
i) Report average intensive and extensive labour supply per household, separately for rural and urban areas.

(1)	
	mean
Rural	
int_labour	59.14
ext_labour	0.960
Urban	
int_labour	76.85
ext_labour	0.937
Total	
int_labour	63.77
ext_labour	0.954
<i>N</i>	3117

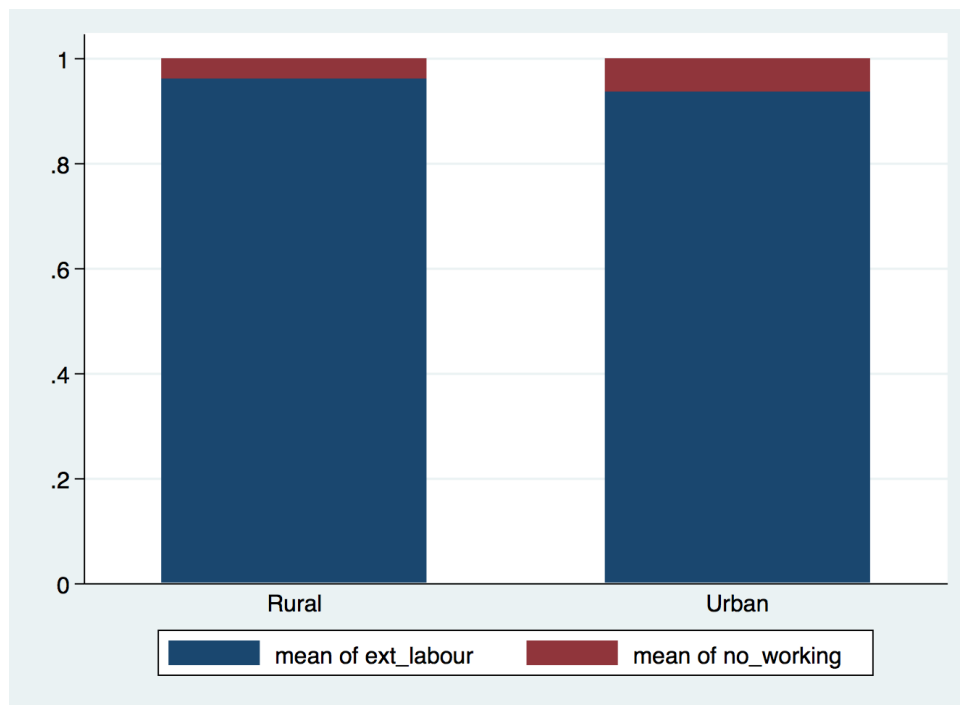
We can see that, overall, households work more hours in the urban zones (around 76.85 hours per week, at the household level). Nevertheless, only 94% of household work at all in urban areas, compared to 96% of rural households. There are more households in urban areas, that do not work at all (i.e.: they don't have any component of the family that works.)

ii.i) Show histogram for intensive, and extensive labour supply, separately for rural and urban areas.

Intesive Labour Supply:



Extensive Labour Supply:



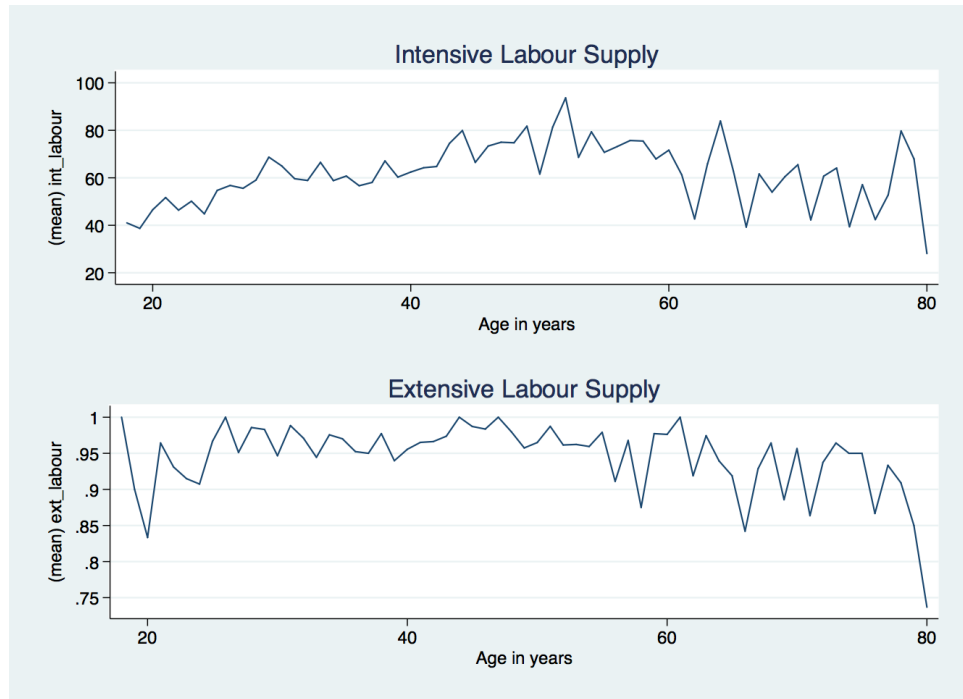
From these two graphs we have a confirmation of the previous comment: the distribution for intensive labour supply for urban areas is more shifted toward the right (i.e. on average, people in urban areas works more - conditional on working). But the proportion of household with no component working at all is higher for urban zones.

ii.ii) Report the variance of logs for CIW separately for rural and urban areas.

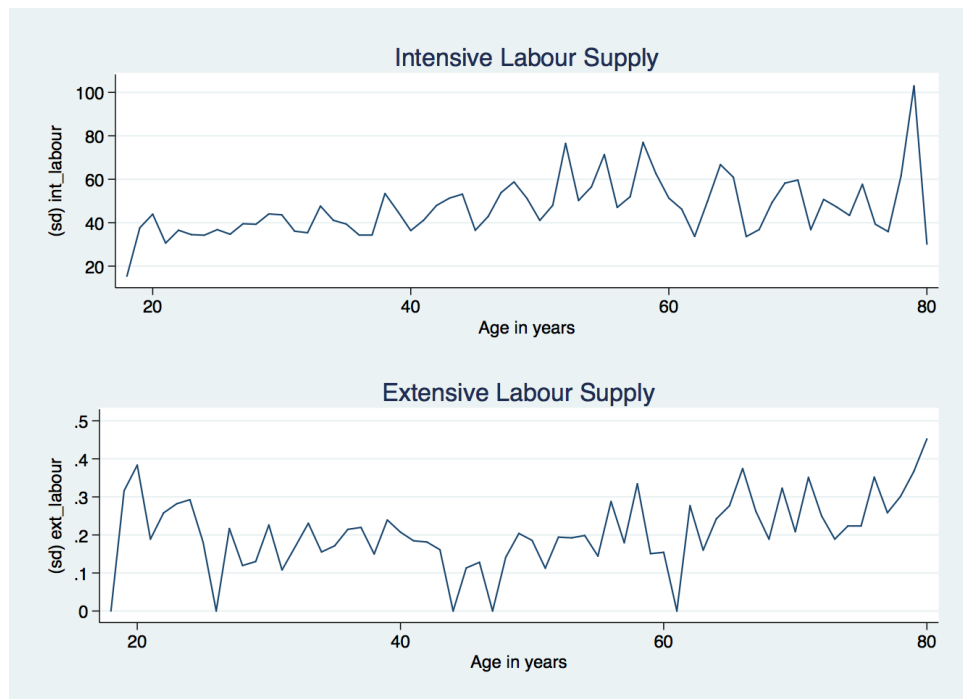
(1)	
	variance
Rural	0.660
Urban	0.530
Total	0.648
<i>N</i>	2974

iv) Level and variances of Intensive Labour supply, through the lifecycle

Level of Labour Supply, through the lifecycle



Variance of Labour Supply, through the lifecycle



2.2) Redo separately for women and men, and by education groups (less than primary school completed, primary school completed, and secondary school completed or higher).

First of all: **females and males.**

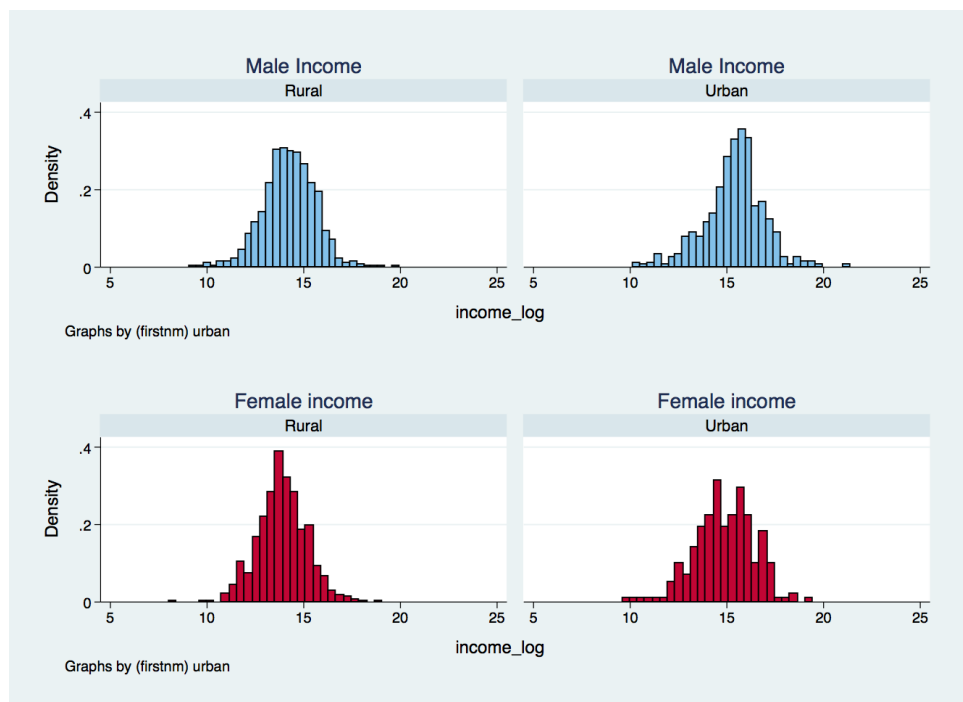
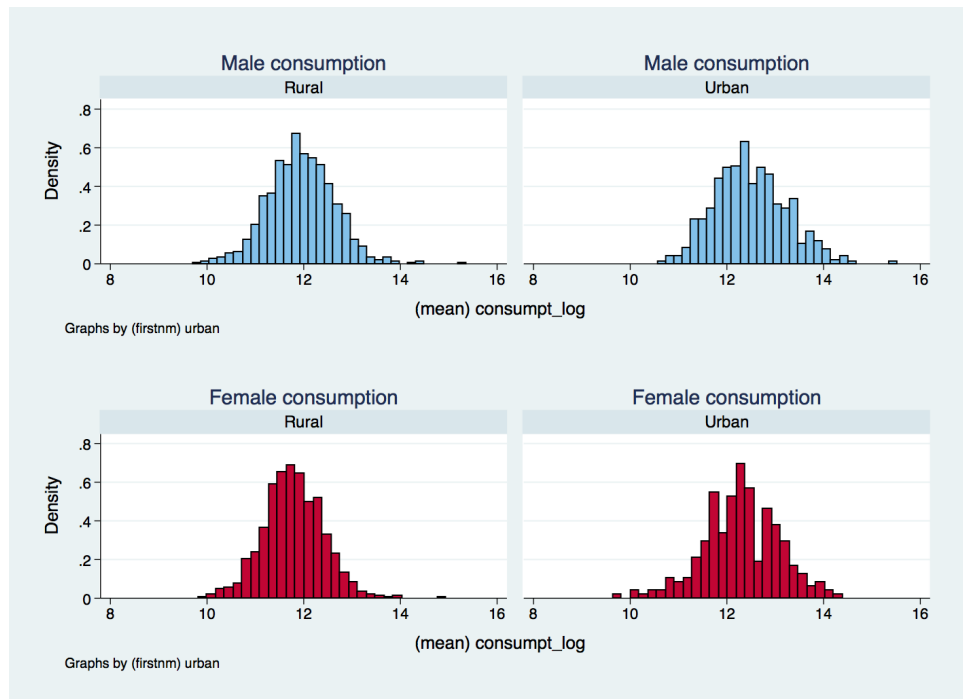
2.2.1.a) Averages values of CIW, divided by urban and rural:

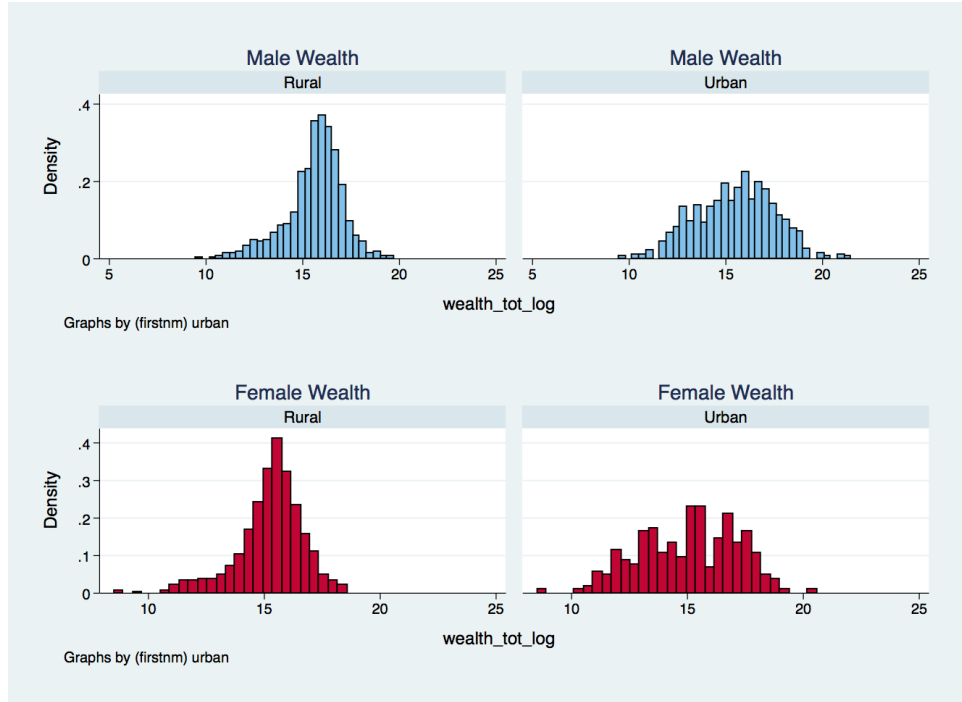
For females and males, we have the following values:

Table 1: Consumption, Income and Wealth divided by sex

Table 2: Females' Values		Table 3: Males' Values	
(1)		(1)	
	mean		mean
Rural		Rural	
consumpt	165873.5	consumpt	195875.6
income_tot	2536047.4	income_tot	3704240.0
wealth_tot	9238045.1	wealth_tot	14301370.8
Urban		Urban	
consumpt	294280.9	consumpt	359206.3
income_tot	8238736.4	income_tot	14831627.6
wealth_tot	18520611.0	wealth_tot	31984766.9
Total		Total	
consumpt	199528.7	consumpt	238533.7
income_tot	4030703.8	income_tot	6610451.8
wealth_tot	11670975.7	wealth_tot	18919857.8
<i>N</i>	992	<i>N</i>	2125

2.2.2.1.a) Show histogram for CIW separately for rural and urban areas.





Overall, I would say that the distributions and the histogram for consumption and income, divided by females and males, are kind of pretty similar. The distributions that differ substantially are those for wealth, that are shifted more toward the left for what concern females' distributions. This means that females, overall (on average) have lower values of wealth (irrespectively of whether they are in urban or rural zones).

2.2.2.2.a) Report the variance of logs for CIW separately for rural and urban areas.

Table 4: Variances of Consumption, Income and Wealth, divided by sex

Table 5: Females' Values

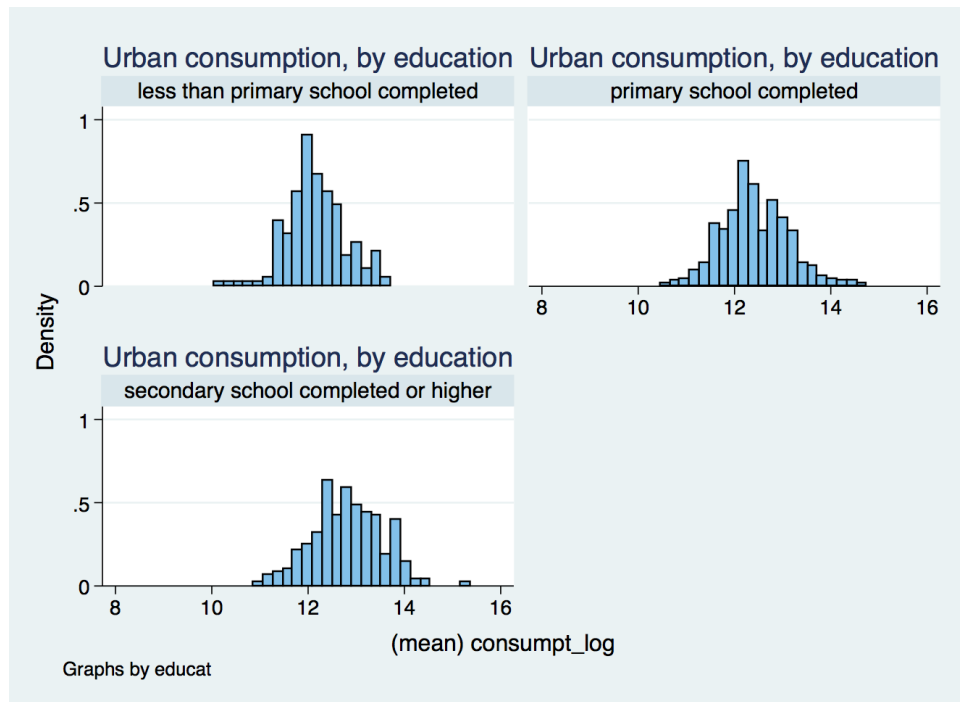
(1)	
variance	
Rural	
consumpt_log	0.379
income_log	1.649
wealth_tot_log	2.024
Urban	
consumpt_log	0.609
income_log	2.326
wealth_tot_log	4.407
Total	
consumpt_log	0.490
income_log	2.019
wealth_tot_log	2.653
N	945

Table 6: Males' Values

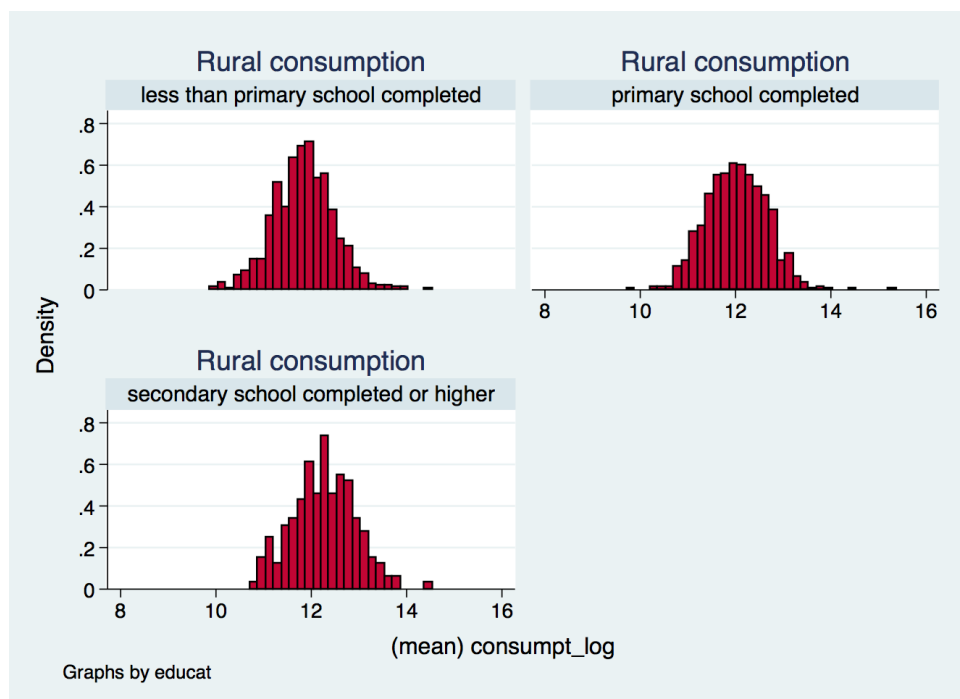
(1)	
variance	
Rural	
consumpt_log	0.426
income_log	1.729
wealth_tot_log	2.147
Urban	
consumpt_log	0.545
income_log	2.207
wealth_tot_log	3.932
Total	
consumpt_log	0.511
income_log	2.106
wealth_tot_log	2.606
N	2038

2.2) CIW levels by education groups (less than primary school completed, primary school completed, and secondary school completed or higher).

Urban consumption, divided by classes of education:



Rural consumption, divided by classes of education:

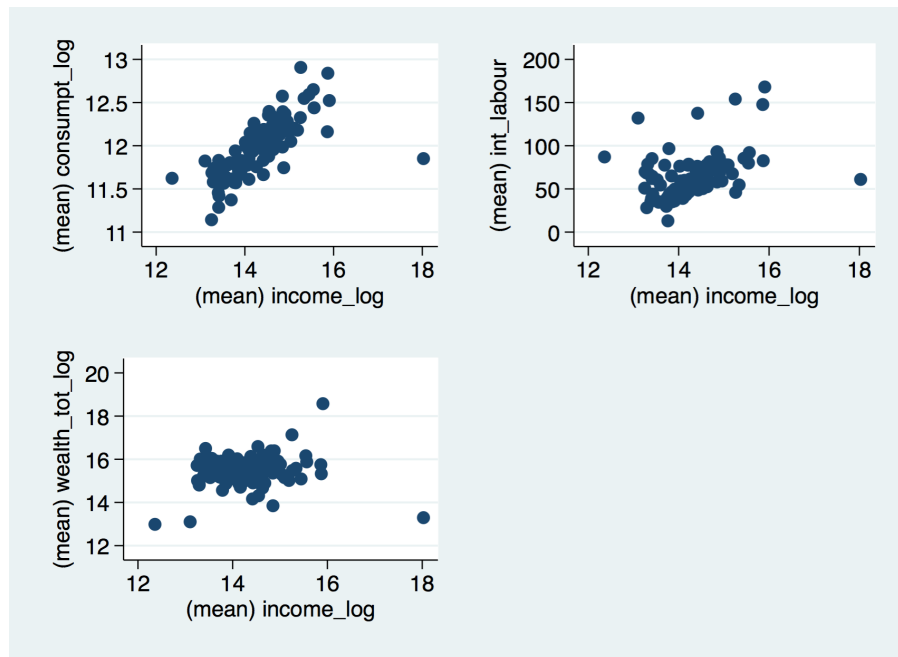


We can see that, for what concern urban consumption, the distributions for more educated people are shifter toward the right side of the graph (that is, they have higher values, on the average). This does not happen for rural consumption. One possible explanation is that higher

education takes to higher income jobs in the urban zones, but not in the rural zones. In this way, we have higher consumption (as a consequence of the higher income) for higher education levels only in urban areas.

Question 3. Inequality Across Space

3.1) Plot the level of CIW and labor supply by zone (or district) against the level of household income by zone.



Districts with higher income have also higher levels of consumption, higher level of intensive labour demand, and higher levels of wealth. The strongest relationship is the one with consumption.

3.2) Plot the inequality of CIW and labor supply by zone (or district) against the level of household income by zone.

