

Development Homework 1 – Results

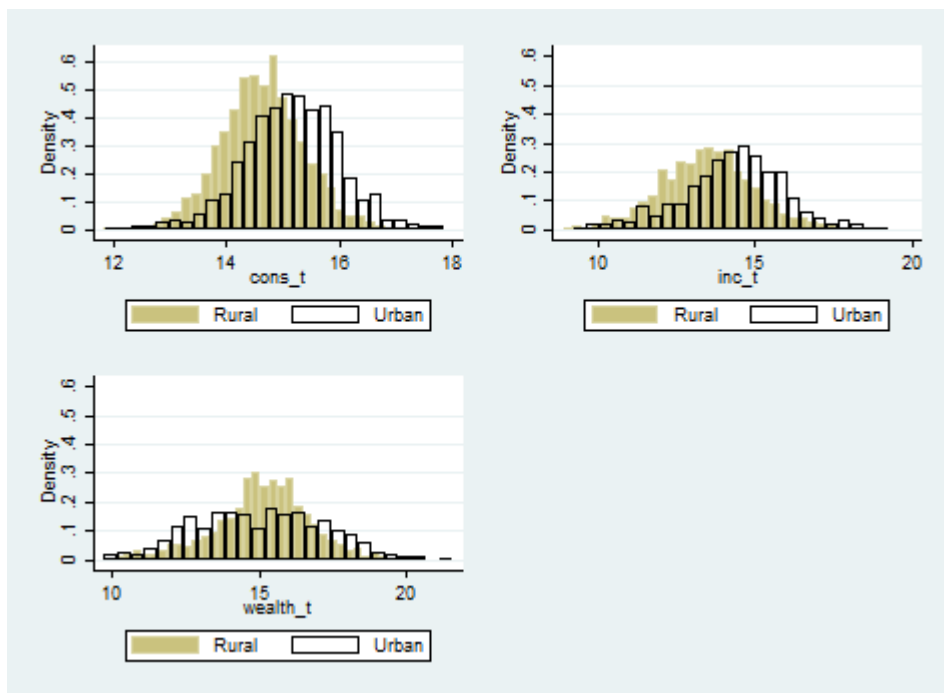
Q1.

1. Levels by area (rural/urban)

urban_x	cons	inc	wealth
Rural	1440.436	1112.879	5721.255
Urban	2967.788	3092.073	15135.3
Total	1705.041	1454.658	7361.815

Levels are similar to those found for Malawi in relative terms, although the magnitudes differ. It is noticeable that consumption is in general higher than income, but that this pattern reverses in the urban areas. Besides, we can also see that people living in urban areas have higher income, consumption and wealth.

2. Histograms and variance of logs by area



urban_x	cons_t	inc_t	wealth_t
Rural	.5609858	2.380699	2.636156
Urban	.658172	2.813194	4.813054
Total	.6450916	2.585853	3.011432

The histograms confirm what the means were telling us in the former question, that is, that in urban areas people are economically better off in mean. However, variation is there much higher, which brings along a risk component, that is, you might earn more on average but chances of you earning very few are higher in cities. The variance of logs confirms this, being the CIW much more unequal in rural areas, specially in wealth.

Consumption doesn't show this pattern too strongly, maybe because the differences in income are translated into durables, which are excluded from the variable.

These findings are consistent with those for Malawi.

3. Cross-correlations

- Whole sample:

	cons_t	inc_t	wealth_t
cons_t	1.0000		
inc_t	0.5181	1.0000	
wealth_t	0.4984	0.3914	1.0000

- Only rural:

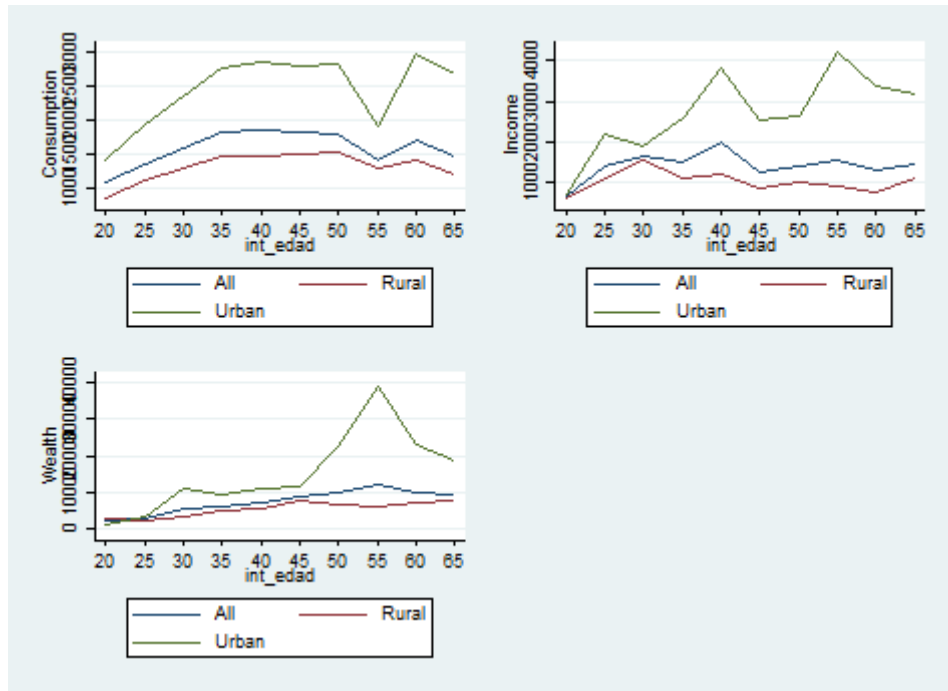
	cons_t	inc_t	wealth_t
cons_t	1.0000		
inc_t	0.4522	1.0000	
wealth_t	0.5155	0.3763	1.0000

- Only urban

	cons_t	inc_t	wealth_t
cons_t	1.0000		
inc_t	0.5937	1.0000	
wealth_t	0.5459	0.4727	1.0000

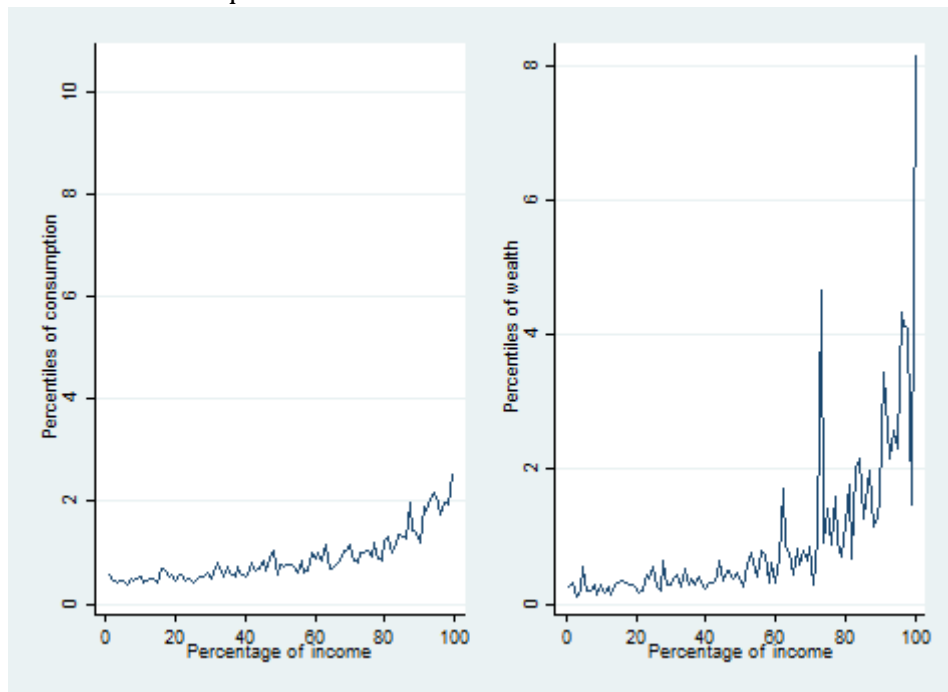
When we observe how CIW correlate with each other, we find that urban areas have higher figures, that is, they translate more their income into consumption and wealth. In the rural table we find the smallest number for the transmission of income to wealth, which might be reflecting the impossibility to save that people face. There, income and consumption are also less correlated, maybe because of the not so big variety of goods available for them to purchase.

4. Lifetime CIW



The graph shows that the lifetime behavior of CIW depends greatly on whether you are in urban or rural areas. In rural (and also in the aggregate of the country), CIW doesn't almost change over the life of the individual, except for a steadily small increase in wealth and a slight humpshape in consumption. However, these changes are negligible when compared to urban areas, where consumption or income are double as high already when people are 25, and the gap increases with age. Similarly, wealth increases much more rapidly in urban areas, and after 45 years old, there is a peak which can represent the acquisition of an important asset like a house in the city, a car, etc.

5. CIW and income quantiles



In the graphs we see how much consumption and wealth those people belonging to each percentile of income in Uganda have. As we can see, as we move further right to the top 1% of the income distribution, the percentiles start to have an exponentially higher share of consumption, but the differences between top and bottom are not very high. However, when looking at wealth, we see that shares grow at a much faster rate, and the top 20% of the population in terms of income already have four times more than the bottom 20%. As expected, after seeing data from Malawi, the top 1% accumulates a lot of wealth, but this is still a more even distribution than the one found, for example, in the US.

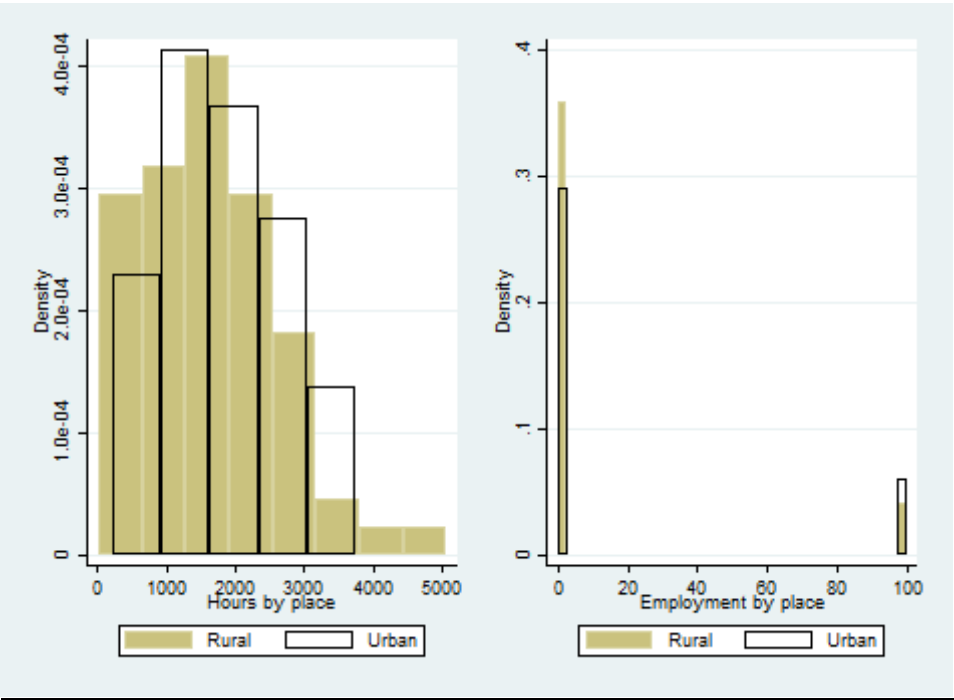
Q2.

1. Labor supply

Levels by urban/rural

urban_x	hours	employed
Rural	1602.014	10.04358
Urban	1832.387	16.98227
Total	1672.723	11.73454

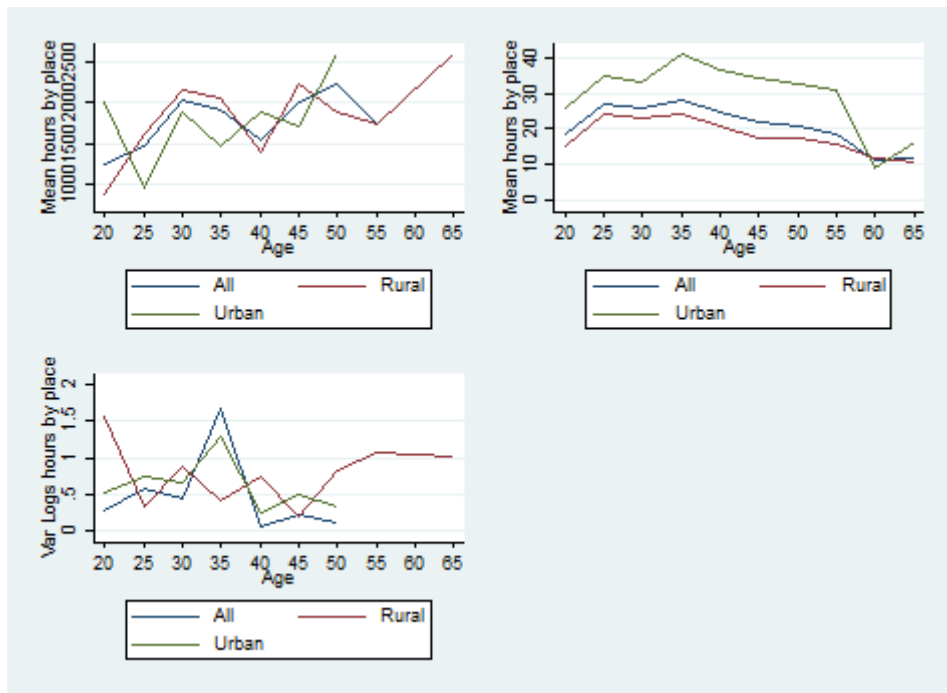
Histogram by urban/rural



Variance of logs

urban_x	variance
Rural	.909601
Urban	.3757728
Total	.7574356

Lifetime profile



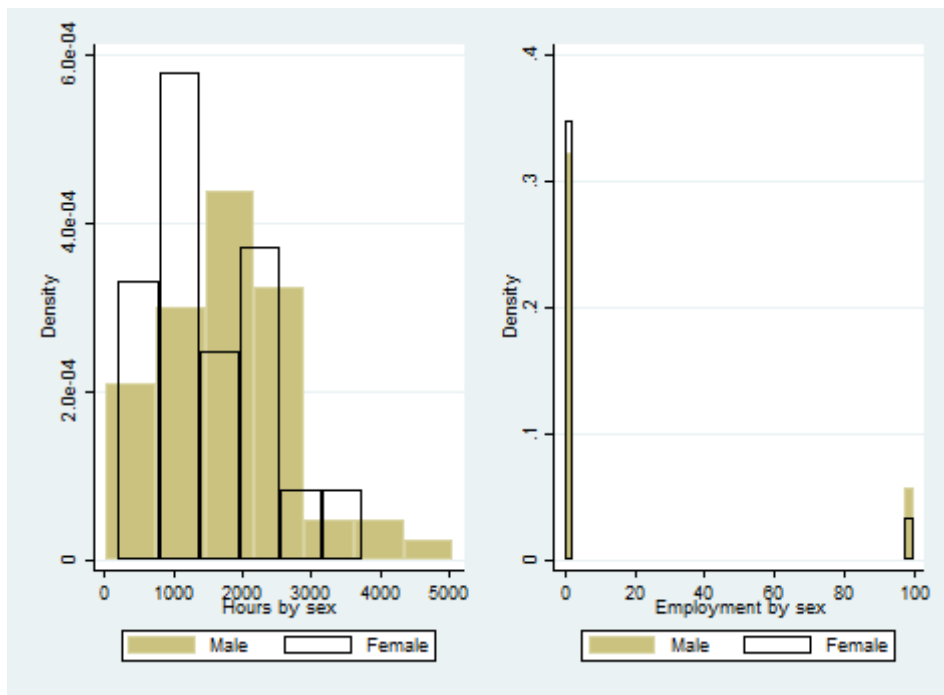
Urban areas work more in both the intensive and extensive margin, there are more differences among the individuals there in terms of labor supply and only participation (upper right graph) has a clear different trend over time for urban and rural, where participation in urban zones is double as high compared to rural ones.

2. A) Labor supply by sex

Levels by sex

h2q3	hours	employed
MALE	1795.183	15.10022
FEMALE	1493.512	8.457424
Total	1672.723	11.73454

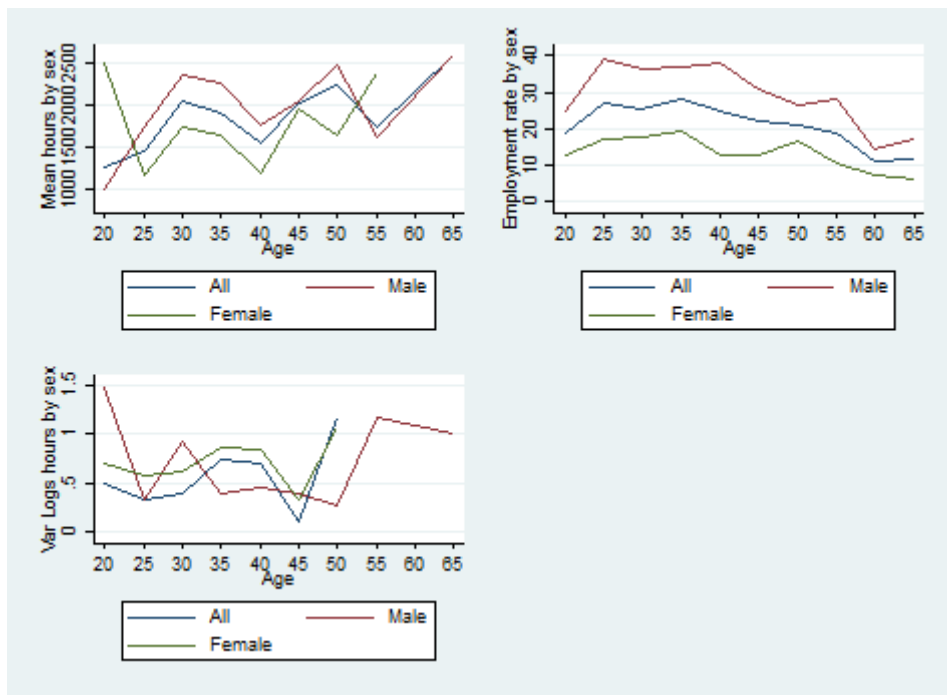
Histogram by sex



Variance of logs

h2q3	variance
MALE	.9077764
FEMALE	.5448732
Total	.7574356

Lifetime profile



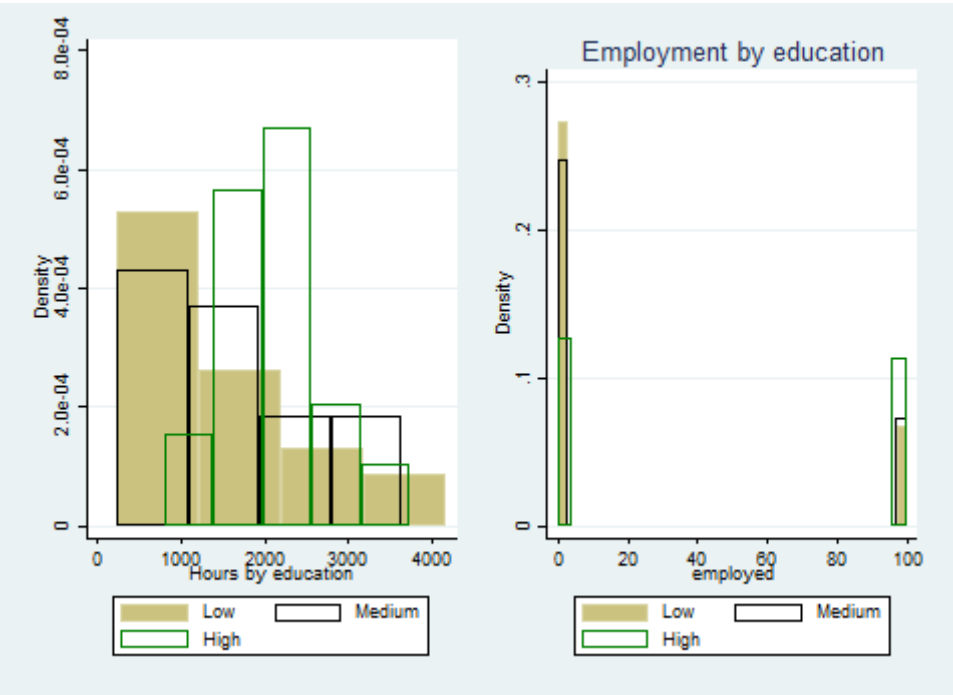
More men work and they work higher hours. There is less variation in women because, if they work, they work not that much. Over the lifecycle, participation rates decline by age, and those of men are four times higher than for women.

2. B) Labor supply by education

Levels by education

educ	hours	employed
1	1509.696	19.77983
2	1630.526	22.71689
3	2068.242	47.16667
Total	1786.067	23.95511

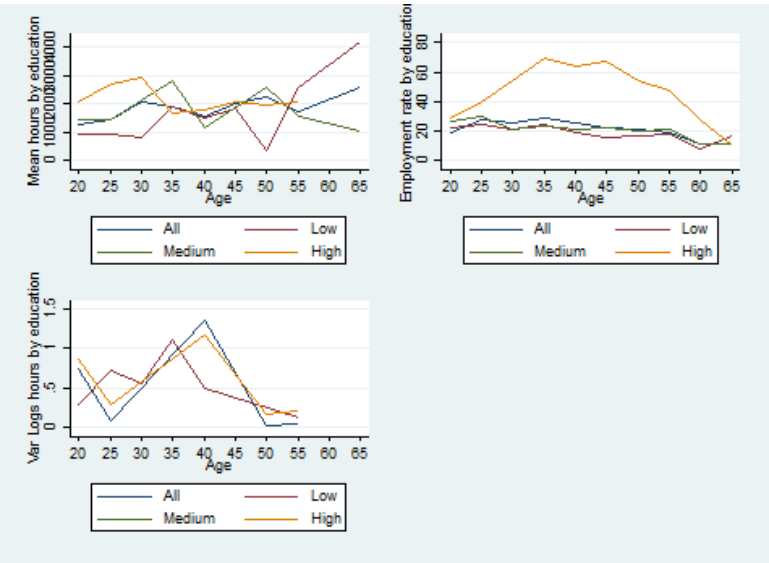
Histogram by education



Variance of logs

educ	variance
1	.5913604
2	.5528352
3	.1007577
Total	.4102342

Lifetime profile



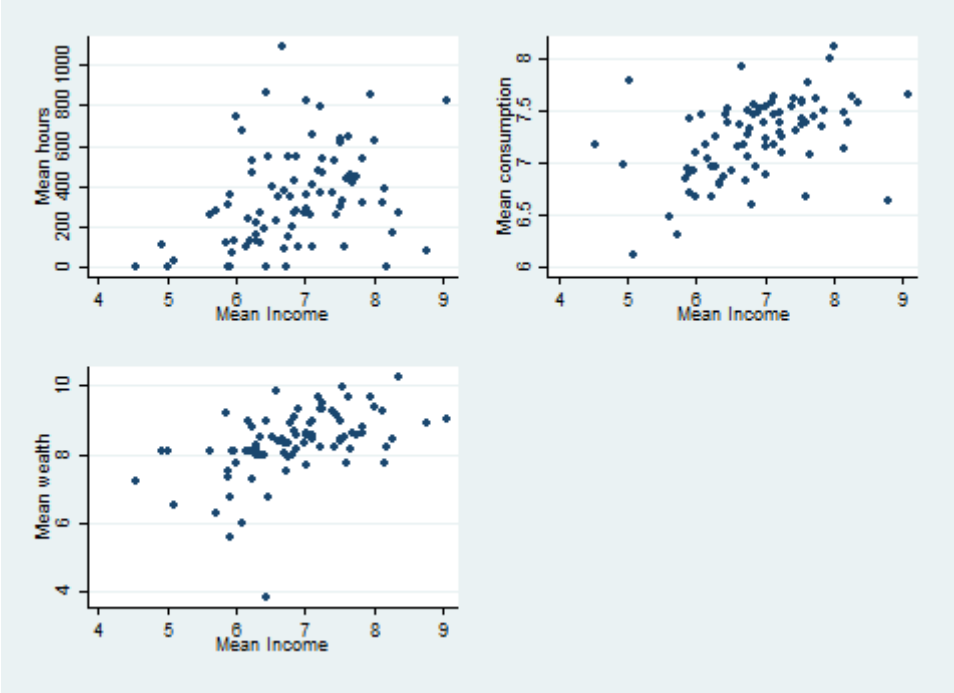
Higher education here means higher employment share and more hours worked, pattern that is very stable across everyone with this level of education. There are no significant

differences among low and medium education, most likely because it doesn't represent an important change in the ability of the individual.

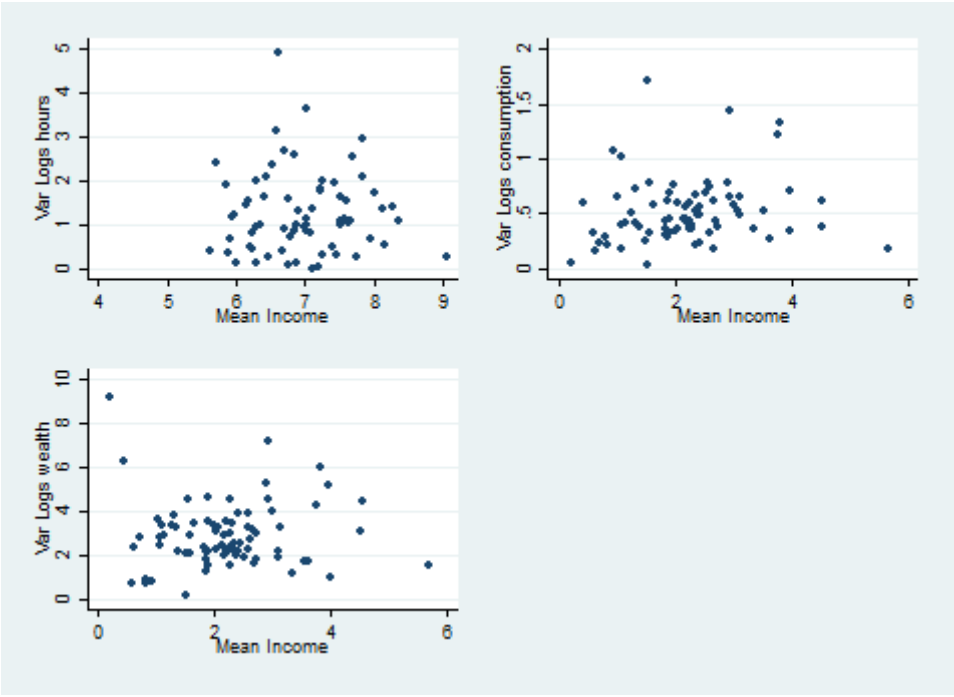
(Note: I did not include correlations in this question because, given the smaller sample, some of them were absent, so an analysis could not go through.)

Q3.

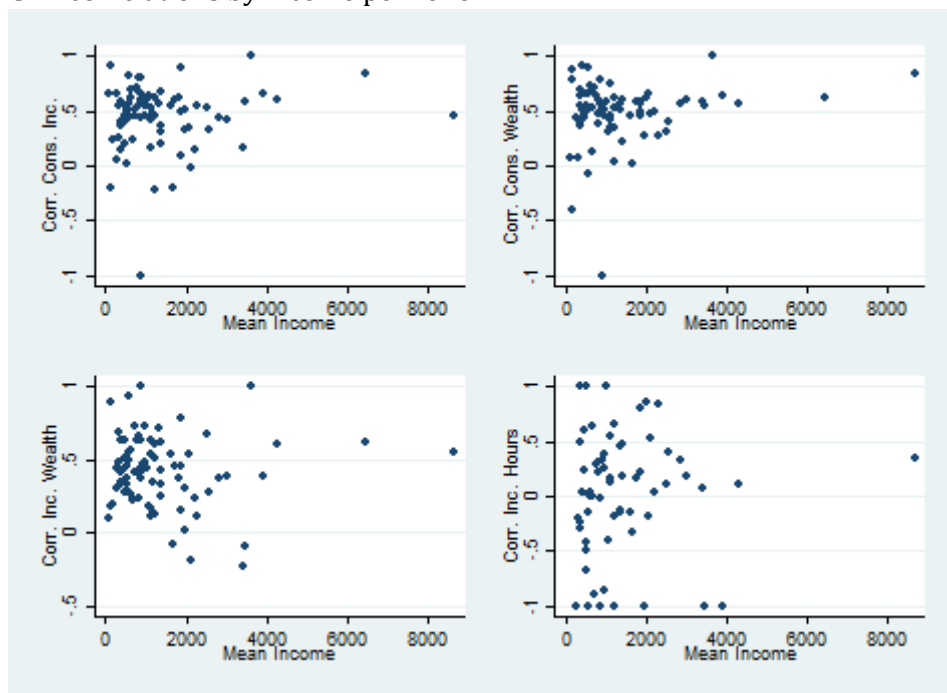
1. CIW level by income per zone



2. CIW inequality by income per zone



3. CIW correlations by income per zone



In the three sets of graphs shown above, we see that there are substantial differences between the districts in Uganda regarding all the analysis undertaken in the first two questions. A relationship is apparent in terms of wealth and consumption with income, but the labor supply doesn't seem to have a clear relationship with income, at much a slightly positive one. This could give us a hint of the labor supply inelasticity of Uganda.

When paying attention to the variance of logs we see that inequality is also very different depending on the district you live in, and it seems connected to the characteristics of the zone, since again there is no clear relationship of the variables with income.

Finally, in terms of labor supply elasticity, last graph of part 3 evidences a clear lack of homogeneous relation between mean hours worked and mean income across the country. In some regions labor is very elastic, while in some others they barely respond to changes in income. It is also interesting to note that the elasticity is negative in some cases and positive in other. CIW are in general positively correlated, regardless of the zone.

4. Bick et al. (2018) replication.

	<code>l_hours</code>	Coef.	Robust Std. Err.
Specification 1	<code>iph</code>	<code>-.043168</code>	<code>.1050232</code>
	<code>l_hours</code>	Coef.	Robust Std. Err.
Specification 2	<code>wph</code>	<code>.0837349</code>	<code>.0955402</code>

	l_hours	Coef.	Robust Std. Err.
Specification 3	iph	-.0768454	.2460505
	wph	.1357666	.1785319
	l_hours	Coef.	Robust Std. Err.
Specification 4	wph	-.1603785	.0079037

The sign of the coefficient for income per hour (iph) is the same as Bick et al. are getting, but the one for wage per hour (wph) is the opposite. Magnitudes are not too far away from their results, but I only get significance when controlling for zones, when elasticity of labor becomes negative, in line with their findings.