Development Economics

Homework 3
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Question 1

Figure 1: Histogram of β_i and φ_i

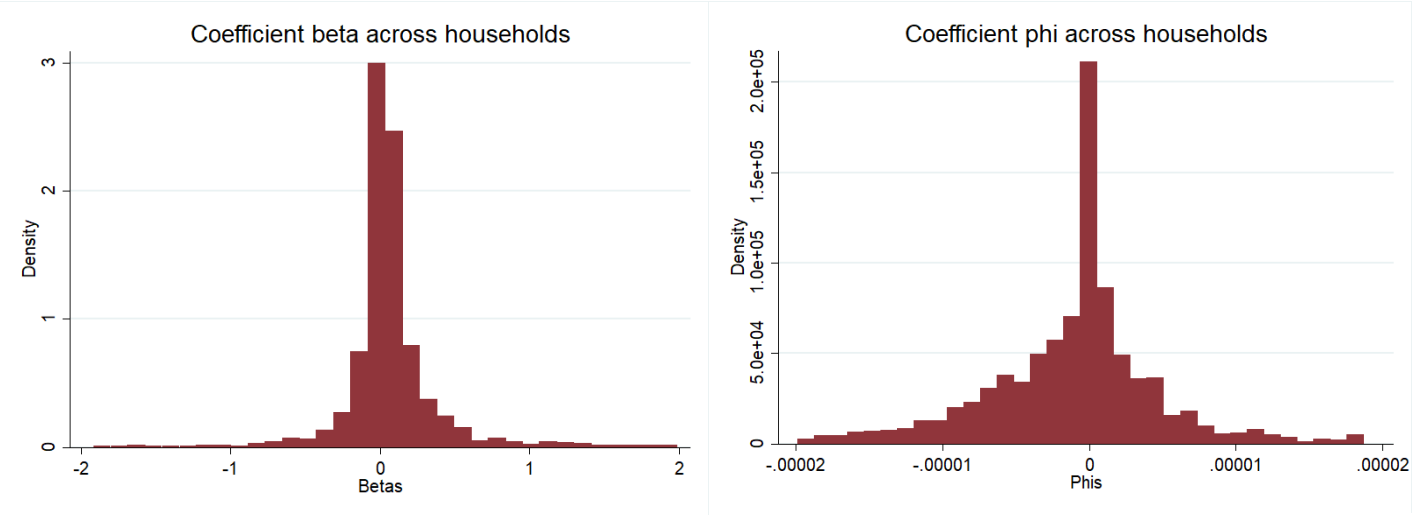

Table 1. Mean and Medians of β_i and φ_i

	Mean	**Median**
$\boldsymbol{\beta_i}$	.0705275	.0368387
$\boldsymbol{\varphi_i}$	-1.04e-06	-1.94e-22

Full risk sharing would be achieved when $\beta_i \approx 0$ and $\varphi_i > 0$. That means, when what matters in determining individual consumption is aggregate consumption and not the individual income. That would imply that there is some redistribution mechanism that allowed individuals be fully insured from individual income shocks.

Clearly this is not we see from these results. Here the average $\beta_i > 0$, so individual income seems important in determining consumption. And average $\varphi_i \approx 0$, so aggregate consumption seems irrelevant for individual consumption. Therefore, there seems to be no risk sharing.

One thing to notice is that we are using as aggregate consumption the aggregate consumption for all the country. Maybe if we used region/district/village aggregate consumption we would find some risk sharing. It is more likely that risk-sharing is taking place at village level than at country level.

Question 2

Table 2. Mean and medians β_i by income group, and mean and median income by β_i group

	Group	Mean	Median
β_i	1st	.0440307	.0208941
	2nd	.0392014	.0323387
	3rd	.054303	.0507627
	4th	.1309663	.0536938
	5th	.1666759	.0520851
$lny_{i,t}$	1st	7.142468	7.461186
	2nd	7.247264	7.562748
	3rd	7.140375	7.449161
	4th	7.357734	7.621355
	5th	7.310751	7.697758

Regarding the first part of table 2 (Mean and medians βi by income group): the richer are individuals the higher is βi, so the richer are the individual the more important seems to be individual income in determining individual consumption. This seems to indicate that there is more risk sharing for poor households than rich households.

Regarding the second part of table 2 (mean and median income by βi): For those individuals with higher β_i (so probably those for which there is less risk sharing since they rely more on individual income) the income is also higher. This is in line with the previous results.

Question 3

Table 3. Results for regression (2)

Depndnt var.	$\Delta lnc_{i,t}$
β	0.0513***
se(β)	(0.00169)
φ	-1.81e-06***
se(φ)	(2.08e-07)
Observations	14,475
R-squared	0.063

The coefficients of β and φ are similar to the mean and median results of β_i and φ_i of part 1. I think this is reasonable.

The interpretation is exactly the same as in 1. There seems to be no risk sharing. However, maybe by using aggregate consumption at village/region level results are different. Refer to question 1 for more explanation.

Question 4.1

Figure 2: Histogram of β_i and φ_i - Rural

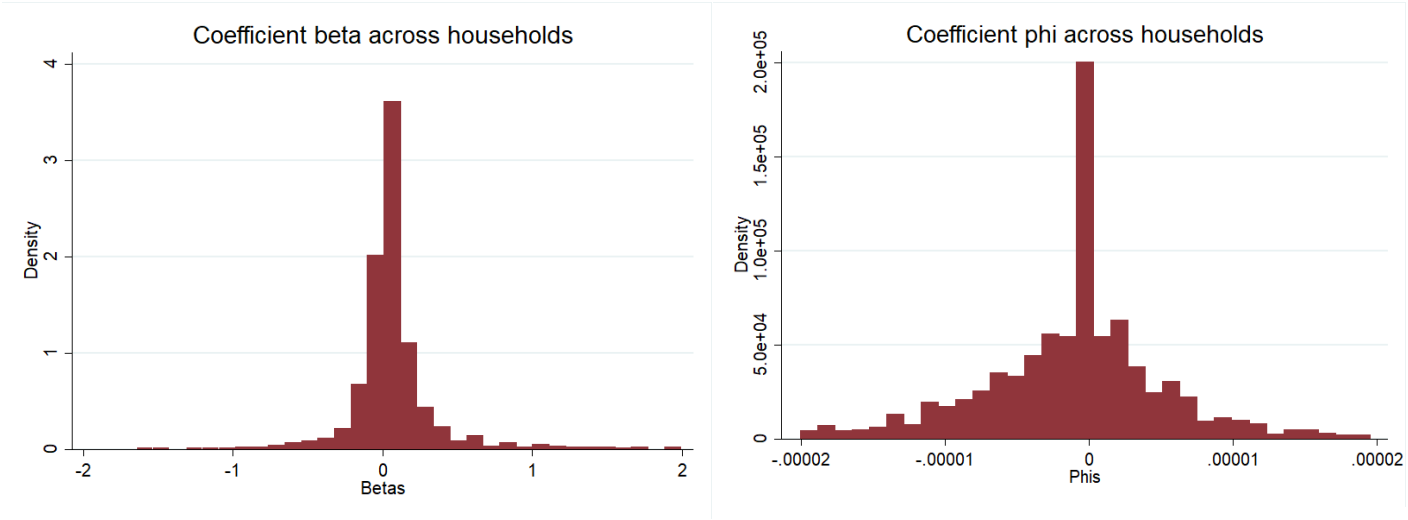

Figure 3: Histogram of β_i and φ_i - Urban

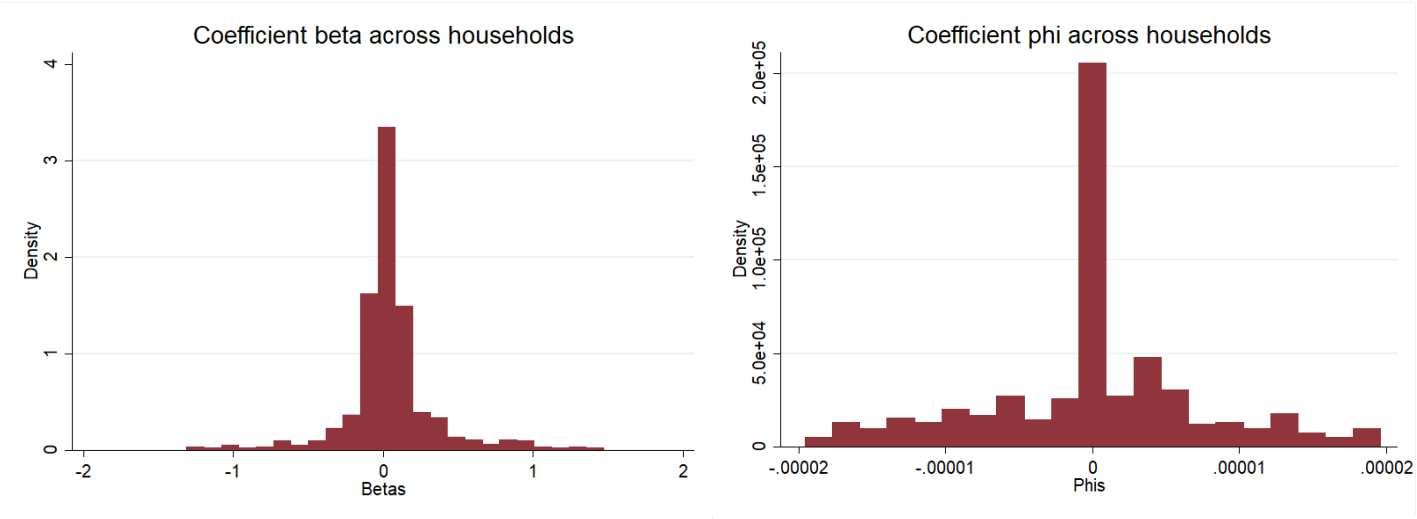

Table 4. Mean and Medians of β_i and φ_i – Urban & Rural

	Urban		**Rural**	
	Mean	Median	Mean	Median
β_i	.0502229	.0253321	.0622319	.0366803
φ_i	-4.06e-08	0	-9.98e-07	-2.50e-22

Regarding β_i's they seem to be larger in rural than urban areas. That means, income seems to have stronger effects in consumption in rural than in urban areas. The reasons cannot be observed. Maybe in urban areas there is some risk-sharing and redistribution and because of that income is not so influential consumption. However, the coefficients of φ_i are close to 0 both for rural and urban areas, so the risk sharing story does not fit perfectly well here. Maybe redistribution happens at the city/region level, but we do not know. Furthermore, from my point

of view it is strange that risk sharing is more significant in urban than rural areas. From this exercise it is impossible to tell what is driving this counter intuitive results.

Question 4.2

Table 5. Mean and medians β_i by income group, and mean and median income by β_i group – Urban & Rural

		Urban		Rural	
	Group	Mean	Median	Mean	Median
β_i	1st	.0407079	.0239025	.0531637	.0193986
	2nd	.0123238	.0247667	.02992	.0274978
	3rd	.148154	.0320223	.104942	.0439269
	4th	.0500605	.0237673	.1588964	.0530522
	5th	.0196935	.0248096	.061756	.0525387
$lny_{i,t}$	1st	7.737637	7.836784	7.134032	7.510934
	2nd	7.212472	7.581296	7.041716	7.369972
	3rd	6.937386	7.281227	7.15586	7.476838
	4th	7.558867	7.624016	7.322277	7.595161
	5th	7.519954	7.821862	7.26236	7.683129

Regarding the first part of table 2 (Mean and medians βi by income group): the richer are individuals the higher is βi, so the richer are the individual the more important seems to be individual income in determining individual consumption. This seems to indicate that there is more risk sharing for poor households than rich households. Also this risk sharing seems to be stronger in urban than rural areas for any income level (despite the noisiness due to the small sample size). That is, as indicated in 4.1 β_i's are larger in rural than urban areas, and this is true for any income group.

Regarding the second part of table 2 (mean and median income by βi): For those individuals with higher β_i (so probably those for which there is less risk sharing since they rely more on individual income) the income is also higher. For any β_i group it seems to be that income is on average higher in urban than rural areas. This could be probably because income is on average higher in urban than rural.

Question 4.3

Table 6. Results for regression (2)

	Urban	Rural
Depndnt var.	$\Delta lnc_{i,t}$	$\Delta lnc_{i,t}$
β	0.0290***	0.0437***
se(β)	(0.00320)	(0.00173)
φ	-7.31e-06***	-2.01e-06***
se(φ)	(1.82e-06)	(2.78e-07)
Observations	3,075	11,195
R-squared	0.029	0.056

In line with the results of part 3 and 4.1 the results of specification (2) are similar to the average coefficients of individual β_i and φ_i, both for rural and urban areas. This makes sense from my point of view since are using exactly the same observations.