Problem Set
Development Economics

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1 Consumption Insurance Tests

1.1

We estimate the individual β and ϕ coefficients from equation (1) and report the distribution of the estimated coefficients in Figure 1. In line with the complete market hypothesis, β is relatively symmetrically distributed around zero. As shown in Table 1 the mean and median of β is roughly 0.05 which implies that changes in individual consumption are hardly related to changes in individual income i.e. there is almost full risk-sharing. ϕ is more skewed to the left with a mean of 0.19 and a median of 0.48 suggesting that individual consumption fluctuates with aggregate consumption. This might be influenced by the way aggregate consumption is computed: We take as a measure consumption at the regional level. It might be the case however that redistribution happens more on the village than regional level. Taken together, the results do not fully coincide with the predictions of the complete market hypothesis which postulates $\beta = 0$ and $\phi = 1$.

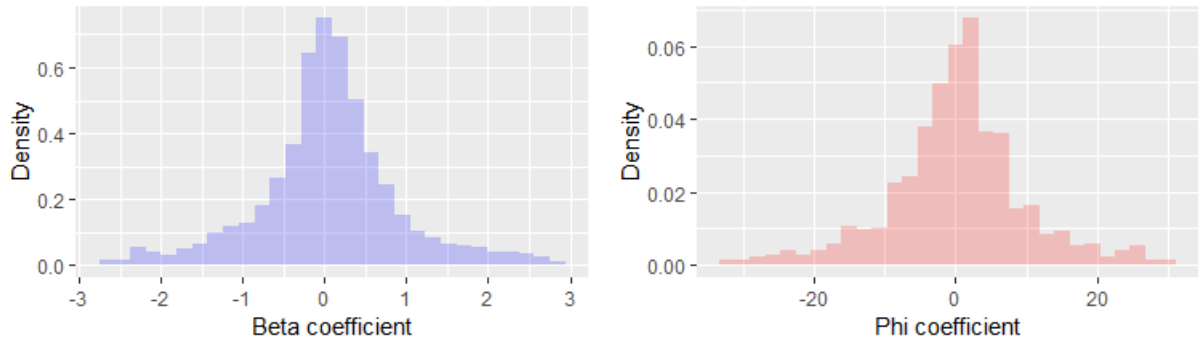

Figure 1

Table 1

	β	ϕ
Mean	0.054	0.190
Median	0.056	0.480

1.2

(a) Table 2 shows the degree of insurance β by income. We can see that the most insured are within the third quintile while the lower and upper income quintiles are somewhat less insured.
(c) Table 3 depicts the mean and median income by degree of insurance β. The least and most insured households have on average lower income than medium value β households.

Table 2

	Mean	Median
1	0.049	0.053
2	0.072	0.083
3	0.020	0.002
4	0.060	0.068
5	0.056	0.072

Table 3

	Mean	Median
1	1,366.836	858.740
2	1,425.606	866.922
3	1,573.348	930.043
4	1,529.291	903.698
5	1,326.226	888.870

1.3

In Table 4 we report the estimates from equation (2). The results are very similar to the median estimates in part 1. Again β suggests there is almost full risk sharing. ϕ however is not in line with the complete market hypothesis as it is far from 1.

Table 4

Intercept	Income	Aggregate consumption
-0.005	0.061	0.537

1.4

When repeating part 1 for both rural and urban areas, we can first notice from Figure 2 that the individual β and ϕ are more widespread for rural than urban areas.

As shown in Table 5 median and mean β are similar for rural and urban areas whereas the mean ϕ is positive for rural and strongly negative for urban areas which is an odd result (however, possible due to extremely low sample size). The median ϕ is higher for urban than rural areas.

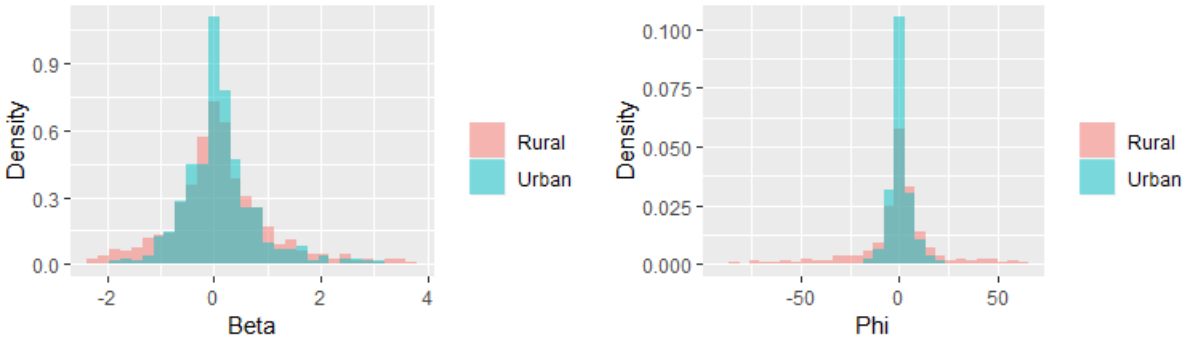

Figure 2

Table 5

	Rural	Urban
Mean beta	0.129	0.130
Median beta	0.061	0.059
Mean phi	0.601	−1.902
Median phi	0.385	0.516

Tables 6 to 9 show the replication of part 2 for rural and urban areas. In general, there is no clear pattern visible.

Table 6: Beta by income quintiles - urban

	Mean	Median
1	-0.021	-0.012
2	0.110	0.058
3	0.197	0.101
4	0.266	0.110
5	0.096	0.045

Table 7: Income by beta quintiles - urban

	Mean	Median
1	1,689.455	873.854
2	1,570.798	949.650
3	2,072.947	771.231
4	1,636.519	903.928
5	1,811.897	1,054.976

Table 8: Beta by income quintiles - rural

	Mean	Median
1	0.165	0.084
2	0.077	0.023
3	0.142	0.013
4	0.222	0.103
5	0.043	0.060

Table 9: Income by beta quintiles - rural

	Mean	Median
1	1,147.195	693.890
2	1,149.301	741.000
3	1,214.433	738.747
4	1,244.309	698.390
5	1,072.242	695.184

The regressions in Tables 10 and 11 imply higher risk-sharing in rural than urban areas which is in line with the literature.

Table 10: Regression - urban

Intercept	Income	Aggregate consumption
-0.006	0.076	0.135

Table 11: Regression - rural

Intercept	Income	Aggregate consumption
-0.013	0.054	0.701