**Development Economics: Homework 3**

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main.do delivers the solutions to question 1-3.

**Question 1**

hist\_beta.gph and hist\_phi.gph are the graphs needed. Mean & median of *β*: .0430788, .0394283; mean & median of *φ*: .0019529, 0.

Discussion: Full insurance is the case that *β* is close to 0 and *φ* is significantly greater than 0. However, in our case, neither is close to 0 (compared to *φ*, *β* seems to be large in terms of both mean and median), nor is *φ* significantly greater than 0 (compared to *β*, *φ* seems to be small in terms of both mean and median). Therefore, we can hardly see the full insurance mechanism.

**Question 2**

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| --- | --- | --- | --- |
|  | Quintile | Mean | Median |
| *β* | 1st | 6.787704 | .0476274 |
| 2nd | .0210753 | .0436433 |
| 3rd | .4705233 | .0443208 |
| 4th | 1.984134 | .0404551 |
| 5th | -.4355032 | .005508 |
| log income | 1st | 5.128576 | 5.518684 |
| 2nd | 6.991032 | 7.025493 |
| 3rd | 7.576129 | 7.584539 |
| 4th | 7.973314 | 7.964783 |
| 5th | 8.78868 | 8.684662 |

We do not see a clear evolution pattern of *β* across the income quintiles. It actually changes a lot. I think that in the first quintile there are some outliers driving the statistics to look unreasonable, since the standard deviation of *β* in this group is 174.4975. Also, maybe if we did a cross-region (instead of cross-country) analysis, the results would be much more explainable.

The distribution of log income across *β* seems to indicate that more risk sharing is correlated with less income, which is different from what is told by the first panel but reasonable, because higher income households rely more on income to survive.

**Question 3**

The estimated *β* is .048764 with a standard error .003736 and the estimated *φ* is .0028745 with a standard error .0050157. Still similar to question 1, I cannot find the full risk sharing pattern.

urban.do and rural.do will deliver the urban / rural counterpart solutions to the above three questions, but I am running out of time now.