Subject: Land as negative loading in 1st principal component/wealth index?
Posted by mkaur on Tue, 16 Jun 2015 17:53:56 GMT

I've been looking at the loadings for the first principal component on the DHS Wealth Index Construction page (http://www.dhsprogram.com/topics/wealth-index/Wealth-Index-Construction.cfm), which I've found really helpful.

I'm finding that in several countries that land owned (yes/no), amount of land owned, and number of livestock owned have negative loadings in the first principal component. Some example countries where I've seen this include: Benin, Congo (Brazzaville), and Ethiopia. This is not the case for all countries, but I've found a few where it is. I performed my own PCA on a similar set of assets, and had the same direction of loadings.

I find this odd because I would imagine ownership of land would be positively correlated with household wealth. Has anyone else come across this?

Would this warrant using land and animal ownership as variables separately from the wealth index if we wanted to control for wealth?

I couldn't find any discussion on this in the forum, so any thoughts would be appreciated.