Subject: Using weight in Econometric model using DHS data
Posted by wangsonne@merit.unu.edu on Thu, 28 May 2015 14:32:06 GMT

Hi ,
I was wondering whether it is compulsory to take in account sampling weight in all regressions
runned using DHS data. If not, When is it then necessary to use weights?
With best regards

Subject: Re: Using weight in Econometric model using DHS data
Posted by user-rhs on Wed, 03 Jun 2015 20:08:37 GMT

It depends on what you are trying to accomplish. If you're trying to make inference to the sample,
then it's not necessary to weight. However, if you are trying to make inference to the population
from which the sample was drawn, then in general it is necessary to weight your estimates using
the "population weight" or "sampling weight" option in your statistical package.

Think about the logic behind weighting. When we do not weight our estimates, we assumed that
the data were collected using simple random sampling. That is, we assume that everyone had an
equal probability of being selected into the survey. We know this is not the case in
nationally-representative samples. Often, logistics and operational costs will force us to use some
kind of non-SRS design for our survey. The DHS generally employes a (stratified) two-stage
cluster sampling design. Sometimes some areas are oversampled in order to ensure adequate
sample size for estimation. Failing to weight the estimates would result in an over-representation
of oversampled areas relative to the country as a whole, so your unweighted estimates for that
country would be biased. In simplistic terms, weighting will restore the "population representation"
of your sample.

It is not sufficient only to weight your estimates. You need to correct also for the sampling design
so you get correct standard errors. Weighting only corrects the point estimates, as I mentioned
above. You need to take into account the clusters and strata to get the correct standard errors for
your point estimates.

Of course, nothing in life (and statistics) is as simple as a "Yes" or "No" answer. For an
enlightening and technical discussion around weighting, I invite you to read Solon, Haider, and
Wooldridge's recent (2015) paper "What are we weighting for?" Reference to follow.

HTH,
RHS

Reference:
Solon, G., Haider, S. J., & Wooldridge, J. M. (2015). What are we weighting for? The Journal of
Human Resources, 50(2), 301316. http://doi.org/10.3368/jhr.50.2.301 (Working paper version
here if you cannot access the journal article:

http://econ.tulane.edu/seminars/Solon_Weighting.pdf)