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Subject: De-normalization; original probability weights; level of clustering

Posted by [gyamada](#) on Mon, 01 Jun 2015 10:47:47 GMT

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Hi,

I would like to know the following points.

1. When data of multiple time points are combined of the same county, is the de-normalization necessary? What is the theoretical reason behind to decide if we use original weights or de-normalized weights? I saw multiple threads in the "weighting data" section of the forum, but I have not understood it clearly.
2. Is there any way to obtain the original probability weights? (i.e. before modification accounting for non-response. I assume that no adjustment for poststratification?). I am taking bootstrap samples from DHS data, and it is recommended to use the original probability weights (Kolenikov, Stata Journal, 2010: 10 (2); 165-199).
3. When we consider clustering at PSU, can we assume that we also consider clustering at lower levels (i.e. at household and women)?

Goro Yamada

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Subject: Re: De-normalization; original probability weights; level of clustering

Posted by [Reduced-For\(u\)m](#) on Mon, 08 Jun 2015 19:02:22 GMT

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Hi,

1 - The weights for a particular survey sum up to a funny number - often (depending on the particular weight) something like the total number of households interviewed. Thus, if you took two survey rounds in a row from the same country and the sample size (sum of weights) changed from round to round, you would implicitly be weighting the observations in the larger sample (each) more than the ones in the smaller sample. One way to think about it - the DHS implicitly lays a "population" weight over a "probability weight" by making the weights sum to some particular number. De-normalizing strips off the population weight implicitly provided by DHS and then lays new, meaningful population weights onto the underlying probability of selection. Does that help? You could get some insight by summing up the weights for the two survey rounds and seeing how much they differ.

2 - No, not really - although you could, I think we have confirmed, just divide each weight by the "sum of within-survey weights" thus making each survey weight sum up to 1... that might not be pure probability weights, but it is close.

3 - If you cluster at PSU, it allows for covariances at lower levels too (i.e. at household and woman). So you can always cluster at higher levels and still get the correction at the lower levels.

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Subject: Re: De-normalization; original probability weights; level of clustering  
Posted by [gyamada](#) on Tue, 09 Jun 2015 19:14:13 GMT  
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Thank you! Together with the notes of the webinar, I think I have a better idea on what the de-normalization does and why we do. - Goro

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