Subject: Question on using weights for svyset and finding ICC in svy:melogit
Posted by jisoojoykim on Wed, 14 Jun 2017 07:53:27 GMT
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Hello DHS experts,

I have two challenges that I have been struggling with.

1. I am using the Kenyan SPA dataset and merged the facility audit and ANC client exit interview. Therefore, I have two weight variables: one for facility and one for client-level. In setting up svyset, I have been using the following command

'svyset facil, weight(facilityweight) strata(strata5) singleunit(centered) ||_n, weight(clientweight)' where facilityweight=facwt/1000000 and clientweight=clientwt/1000000

However, I got confused, whether the clientweight should be the weight of client being selected (wij) or the weight of client being selected within a facility (wi|j).

This quote is from STATA meglm manual - complex survey data (p. 21)

"it is not sufficient to use the single sampling weight wij , because weights enter the log likelihood at both the group level and the individual level. Instead, what is required for a two-level model under this sampling design is wj, the inverse of the probability that group j is selected in the first stage, and wi|j, the inverse of the probability that individual i from group j is selected at the second stage conditional on group j already being selected. You cannot use wij without making any assumptions about wj."

Is this method of weighting only applied in meglm? or does it also have to be applied in svyset as well?

2. I am trying to fit a multilevel mixed-effects logistic regression using svy:melogit. I want to find out the ICC (Intraclass correlation coefficient) for the effect of facility-level on the outcome in my model. In the regular melogit, I could use 'estat icc' to get the ICC, but 'svy' does not support 'estat icc'. I tried to include weights in my melogit model, as it would theoretically give the same answer. However, after including weight, I was also not able to get the ICC using 'estat icc'.

After ' melogit intdel [pweight=clientweight]|| facil: , pw(facweight) or', I get:

estat icc
estat icc not allowed after estimation with robust standard errors
r(321);

Is it theoretically not possible to get the ICC after multilevel mixed-effects logistic regression with survey weights? Or is there a way to find this in STATA, without using 'estat icc'?

Thank you in advance for your answer.

Subject: Re: Question on using weights for svyset and finding ICC in svy:melogit
Posted by Bridgette-DHS on Thu, 15 Jun 2017 16:52:23 GMT
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Following is a response from DHS Senior Research Associate, Shireen Assaf:

The client weight is conditional on the facility. All the clients from the same facility have the same weight. However, I would still set up the svyset as you have.
For your second question, I believe that it is not theoretically possible to obtain the ICC. However, as this is not a DHS question, perhaps posting it in the Stata user forum would provide you with some other recommendations.

Subject: Re: Question on using weights for svyset and finding ICC in svy:melogit
Posted by jisoojoykim on Fri, 16 Jun 2017 00:05:51 GMT
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Thank you so much for your answer Shireen.