
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 (w_{ij}).

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

"it is not sufficient to use the single sampling weight w_{ij} , 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 w_j , the inverse of the probability that group j is selected in the first stage, and w_{ij} , 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 w_{ij} without making any assumptions about w_j ."

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.
