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Subject: fixed effects and inflation factors

Posted by [AdrianeW](#) on Sat, 25 May 2013 18:26:54 GMT

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Hello:

I'm trying to run a fixed-effects logistic regression to look at the association between marital status and hiv testing. I'm looking for advice on what regional variable I can use as a fixed effect? When I use the variable for state (v101), I get the error "Hessian is not negative semidefinite" and when I use the psu (s021), many observations get dropped because the # of women who get tested is limited.

Also, I recoded the marital status variable to be 3 dummies: never married, currently married, and formerly married. Do I need to use the inflation facto (AWFACTT)? If so, how do I incorporate this?

Thank you for your consideration.

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Subject: Re: fixed effects and inflation factors

Posted by [Reduced-For\(u\)m](#) on Sun, 26 May 2013 20:03:31 GMT

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I think it probably depends on how you are trying to interpret your coefficients and what kind of variation you are hoping to use. Disclaimer out of the way, I generally do use V101 (region of residence) as a regional fixed-effect. You say you are losing a lot of observations, but the only way the regional fixed effect is causing that problem is if you have only 1 observation in that region, which seems pretty unlikely. Otherwise, you'd be losing all the observations anyway since the women weren't tested. Am I missing something?

How many women do you have who have been tested. Maybe make a "tested" variable, and "bysort V101: tab tested"... if you have more than 10 or 20 women per region, it's not the regional fixed-effects which are the problem. But I've never worked with the HIV testing data, so maybe there are just so few tested observations that you are not going to be able to run the FE estimator.

Are you doing it by `reg Y `X' i.region?` or `xtreg Y `X', fe` (or something like that)? Maybe you've defined your panel/time vars wrong in your `xtset` somehow? It seems odd to me that V101 wouldn't have enough observations to handle a fixed-effect.

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